# DELTA'S to the Next Generation TOEFL Test Advanced Skill Practice for the iBT

## NANCY GALLAGHER

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## INTRODUCTION

## The Next Generation TOEFL® Test

The Test of English as a Foreign Language\* (TOEFL\*) is a standardized test that measures the English proficiency of students who wish to enter college and university programs in the United States and Canada. The TOEFL is produced and administered by Educational Testing Service, a professional test development organization in Princeton, New Jersey, USA.

The Next Generation TOEFL\* Test is the Internet-based test introduced worldwide in September 2005. This new version of the test replaces the earlier computer-based TOEFL Test (CBT). The new test has four sections covering the language skills of reading, listening, speaking, and writing. The test is approximately 3½ hours long, with one 10-minute break after the Listening section.

	NEXT GENERATION	N TOEFL® TEST	
Section	Content	Number of Questions	Approximate Time
Reading	3 passages	36-42	60 minutes
Listening	2 conversations 4 lectures	34	50 minutes
Speaking	2 independent tasks 4 integrated–skills tasks	6	20 minutes
Writing	1 integrated-skills task 1 independent task	2	60 minutes

In the Reading section, students read three passages and answer questions about them. In the Listening section, students listen to two conversations and four lectures and answer questions about them. In the Speaking section, students speak in response to two questions about their own experience and four questions about texts that they listen to or read during the test. In the Writing section, students write in response to two questions. One question is about a reading passage and a lecture, and the other question is about a general topic.

The most important differences between the new TOEFL test and previous versions of the test are:

- Note taking is allowed throughout the test.
- Speaking skills are evaluated.
- Some questions involve integrated skills, such as reading-listening-speaking.
- Knowledge of grammar is not tested separately but is tested indirectly in all sections of the test.

The content of the new TOEFL test reflects the language that is used in real academic settings. The content is based on a collection of spoken and written language that Educational Testing Service obtained from educational institutions throughout the United States. The spoken language came from lectures, class discussions, office hours, study groups, and service interactions such as conversations at the library. The written language was collected from textbooks and other course materials.

The Speaking and Writing sections of the test include some tasks that integrate, or combine, language skills. For example, a student might read a passage, listen to a lecture, and then write or speak in response. The integrated–skills tasks reflect how people use language in real life; thus, they give academic programs a more realistic measure of how well prospective students will be able to communicate in an English–speaking environment.

For the most current information about the TOEFL test, including information on test dates and how to register to take the test, visit the official TOEFL Web site at: www.ets.org/toefl.

#### SCORING ON THE NEW TEST

TOEFL scores help the admissions staff of colleges and universities to determine if a student's English skills are adequate for enrollment in a specific program of study. There is no single passing score; rather, institutions set their own standards for admission.

The TOEFL score report will show:

- a separate score of 0 to 30 for each of the four language skills;
- a total test score of 0 to 120; and
- a TOEFL CBT score comparison.

In the Reading section, most correct answers will earn 1 raw point each, but some questions are worth 2, 3, or 4 points. In the Listening section, most correct answers will earn 1 raw point, but some questions are worth 2 points. In the Speaking section, each of the six responses will earn a raw score of 1 to 4 points. In the Writing section, the two responses will each earn a raw score of 1 to 5 points. In each section of the test, the total number of raw points earned will be converted to a scaled section score of 0 to 30.

Section	Number of Questions	Raw Points per Question	Total Raw Points	Scaled Section Score
Reading	36-42	1–4	42–46	30
Listening	34	1–2	34–36	30
Speaking	6	1–4	24	30
Writing	2	1–5	10	30
			Total Test Score	120

The four section scores will be combined to obtain the total test score, which is on a scale of 0 to 120. The score report will also show a comparison between the total score and a score on the previous version of the test, the TOEFL CBT. For example, a total score of 100 on the Next Generation TOEFL test is equivalent to a score of 250 on the TOEFL CBT.

1	TOTAL SCORE COMPARIS	50N
Next Generation TOEFL* Test	TOEFL* CBT Test	Paper-based TOEFL* Test
120	300	677
100	250	600
80	213	550
61	173	500
46	133	450

#### How to USE THIS BOOK

Delta's Key to the Next Generation TOEFL\* Test: Advanced Skill Practice is a complete test preparation course for high intermediate to advanced learners of English. The course has two objectives: (1) to prepare students to take the TOEFL test, and (2) to build the language skills necessary for success in college and university.

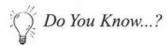
Advanced Skill Practice contains 36 skill units and four full-length practice tests, with more than 1,200 test questions that are similar in form and content to those on the real TOEFL test. There is enough material for approximately 15 weeks of study. The book can be used in a number of ways:

- as the primary text in a comprehensive TOEFL test preparation course;
- as the primary or secondary text for courses in reading, listening, speaking, or writing skills; or
- as a resource for independent study, laboratory, or tutoring.

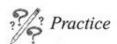
Advanced Skill Practice is inspired by cognitive learning theory and designed around how people learn language. Its organizing scheme is the five-part unit composed of Focus, Do You Know...?, Practice, Extension, and Progress.



Each unit opens with an exercise to focus attention, activate prior learning, and help students predict the content. Focus begins with an English text—a reading passage, a conversation, part of a lecture, or an essay paragraph—and challenges the learner to identify a relevant principle. Focus stimulates inductive thinking. These exercises can be done in class or as homework.



Do You Know...? provides instruction in one of the four skill areas: reading, listening, speaking, or writing. It defines relevant terms and concepts, explains how the skill will be tested, provides examples, and identifies useful strategies. Do You Know...? can be the subject of classroom lectures and discussions, or it can be studied as homework.



Practice consists of sets of test questions that challenge students to apply their skills. Practice exercises foster ease with TOEFL test form and content and build confidence and skill retention. They can be done in class as individual, pair, or group exercises, or they can be assigned as homework.

#### INTRODUCTION



People acquire language through social interaction, and Extension presents ideas for classroom activities that foster cooperation, stimulate discussion, extend skill practice, guide peer review, and link the classroom with the real world. Extension activities are student-centered, and many engage students in finding or creating their own TOEFL-like texts.

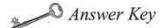


#### **Progress**

Because regular assessment is an integral part of skill building, the skills are tested throughout the course. Thirty—four timed quizzes simulate parts of the TOEFL test, with each quiz covering the skills studied in one or more units. Quiz content builds cumulatively, with some quizzes integrating and reviewing several units.



Four full-length practice tests contain questions that are similar in form and content to the questions on the new version of the TOEFL test. The tests can be used to review course material and to assess student readiness to take the real TOEFL test.



The Answer Key provides the correct answers for all Practice exercises and Progress quizzes as well as the four full-length Tests. The Answer Key provides references to relevant units for review and study. The Answer Key can easily be removed from the book.

## Audio Scripts

The Audio Scripts include the transcripts for all listening material in the book. The scripts can be used in several ways in addition to TOEFL test preparation. For example, students can read the conversations aloud or perform them as skits. They can use the conversations and lectures to learn vocabulary and idioms in context. The Audio Scripts can easily be removed from the book.

## Progress Charts

Students can graph their scores for all quizzes and tests on the Progress Charts beginning on page 692. The charts motivate students and encourage them to set goals for achievement. The charts can be removed from the book and included in the student's portfolio of work.



The companion set of audio CD is the listening component of the course. The CD contains all of the audio texts for the Listening, Speaking, and Writing sections of the book and for the four Tests. In addition to TOEFL test preparation, the recordings can be used for practice in note taking, summarizing, pronunciation, and intonation, as well as the study of vocabulary and idioms in context and English through academic content.

### SAMPLE COURSE OUTLINE

Week	Units	Topics	Quiz or Test
1	1.1 – 1.2 2.1– 2.2	Reading: Facts and Details; Negative Facts Listening: Topic and Main Idea; Details	Reading Quiz 1 Listening Quiz 1
2	1.3 2.3	Reading: Referents Listening: Attitude and Purpose	Reading Quiz 2 Listening Quiz 2 & 3
3	1.4	Reading: Vocabulary in Context	Reading Quiz 3 & 4
4	1.5 – 1.6 2.4	Reading: Inferences; Purpose Listening: Inferences and Predictions	Reading Quiz 5 & 6 Listening Quiz 4 & 5
5	1.7 – 1.8 2.5 – 2.6	Reading: Paraphrases; Coherence Writing: Categorizing Information; Summarizing a Process	Reading Quiz 7 & 8 Listening Quiz 6
6	1.9 – 1.10	Reading: Summarizing Important Ideas; Organizing Information	Reading Quiz 9 & 10 Listening Quiz 7 & 8
7	3.1 – 3.4	Speaking: Developing a Topic; Stating and Supporting an Opinion; Speaking Clearly and Coherently; Evaluating Independent Speaking	Speaking Quiz 1, 2 & 3
8	4.1 – 4.4	Writing: Connecting Information; Taking Notes; Developing Ideas; Sentence Structure	_
9	3.5 – 3.7 4.5	Speaking: Connecting Information; Taking Notes; Developing a Topic Writing: Evaluating the Response	Writing Quiz 1, 2 & 3
10	3.8 – 3.10	Speaking: Summarizing a Problem; Summarizing Important Ideas; Evaluating Integrated Speaking	Speaking Quiz 4, 5 & 6
11	4.6 – 4.9	Writing: Prewriting; Stating and Supporting an Opinion; Writing Coherently; Sentence Variety and Word Choice	Speaking Quiz 7 & 8
12	4.10	Writing: Evaluating the Essay	Writing Quiz 4, 5, & 6 Writing Quiz 7 & 8
13 14 15		Review and Evaluation	Test 1 – Test 4

## PART 1 - READING

The Reading section of the TOEFL measures your ability to read and understand passages in English. You will be tested on your comprehension of major ideas, important information, vocabulary, and relationships among ideas in the passages. You will be required to:

20	identify	major	ideas	and	distinguish	them	from	minor	idea
-	identity	major	ideas	and	aistinguisn	tnem	irom	minor	100

- verify what information is true and what information is not true or not included in the passage;
- define words and phrases as they are used the passage;
- make inferences about information that is not directly stated;
- identify the author's purpose;
- connect ideas within sentences and among sentences; and
- summarize and organize important ideas from across the passage.

The passages are about subjects that students commonly study in their first and second year of university, such as natural sciences, social sciences, business, and the arts. The language is generally formal and academic rather than informal or conversational. The rhetorical purpose of the passages may be expository, argumentative, historical, or biographical. All of the questions are based on the information in the passage. You do not need special knowledge of the topics to answer the questions.

Students in North American schools are required to do a lot of reading in their courses. Success in college and university depends on being able to read effectively, so reading is an essential academic skill. In an academic program, you will be expected to read extensively, understand important and supporting ideas in the material, and discuss the ideas in class. You will also be required to paraphrase and summarize ideas when you write reports and term papers.

	READING	G SECTION	
Reading Text	Time Allowed	Length of Passage	Number of Questions
Passage 1	20 minutes	600 – 700 words	12 – 14
Passage 2	20 minutes	600 – 700 words	12 – 14
Passage 3	20 minutes	600 – 700 words	12 – 14
Passage 4*	20 minutes	600 – 700 words	12 – 14

<sup>\*</sup>There may be four reading passages in some versions of the test.

#### THE TEST EXPERIENCE

The time allowed for the entire Reading section is 60 minutes. In some versions of the test, it is 80 minutes. The time allowed includes the time that you spend reading the passages and answering the questions.

You may take notes and you may use your notes to help you answer the questions. However, at the end of the test, you must give all of your notes to the test supervisor. Your notes will not be scored.

A few words in the passages, especially technical terms, may be defined in a glossary that is available to you during the test. If a word is highlighted in the text, click on the word to read a definition of it.

There are three types of reading comprehension questions. For each type of question, you will use the mouse to click on an answer or to move text. Some questions will be worth more than one point. These questions have special directions that indicate how many points you can receive.

The computer will give you one question at a time. You will be able to see the passage while you are answering the questions. You may skip questions and return to them later by clicking either the **Back** button or the **Review** button at the top of the screen. The **Back** button will take you to the previous question. The **Review** button will take you to a list of all reading questions on the test. From this list, you may return to any previous question to review or change your answer.

#### READING SKILLS ON THE TEST

Unit in Delta's Key	Skill	Number of Questions (test with 3 passages)
1.1	Understanding Facts and Details	8 – 10
1.2	Identifying Negative Facts	2 – 3
1.3	Locating Referents	2 – 3
1.4	Understanding Vocabulary in Context	8 – 10
1.5	Making Inferences	3
1.6	Determing Purpose	3
1.7	Recognizing Paraphrases	- 3
1.8	Recognizing Coherence	3.
1.9	Summarizing Important Ideas	2 – 3
1.10	Organizing Information	1
	Total Number of Questions	36 – 42

#### READING PASSAGES AND QUESTIONS

The Reading section contains three passages. In some versions of the test, there may be four passages. Each passage is approximately 600 to 700 words long and is followed by a set of comprehension questions. Here is an example.

#### ACIDS AND BASES

Acids and bases are substances that form compounds and solutions with an electrical charge. When acids dissolve in water, they donate additional hydrogen ions to the solution. An acid, therefore, is a substance that increases the hydrogen ion concentration of a solution. A base, on the other hand, reduces the hydrogen ion concentration of a solution.

The strength of acids and bases is measured by using a numeric scale known as pH, a measurement that represents the number of hydrogen ions in a solution. pH is measured with a pH meter or with paper strips that have color indicators. The pH scale runs from 0 to 14, with the midpoint at 7. A neutral solution, such as pure water, has a pH of 7.0. A pH value of less than 7.0 denotes an acidic solution, and a value above 7.0 denotes a basic, or alkaline, solution. The pH of a solution declines as the concentration of hydrogen ions increases; the lower the number, the more acidic the solution. For example, a solution with a pH of 4.5 is far more acidic than one with a pH of 6.0. The pH for bases, or alkalis, is above 7.0, and the higher the number, the greater the basicity or alkalinity. A pH of 8.5 is more alkaline than a pH of 7.5.

The internal pH of most living cells is close to 7.0. Most biological fluids measure within the pH range of 6.0 to 8.0. There are a few exceptions, however, including the strongly acidic digestive juice of the human stomach, which has a pH of about 2.0. The chemical processes of living cells are very sensitive to the concentrations of hydrogen ions. Biological fluids resist changes to their pH when acids or bases are introduced because of the presence of buffers, substances that minimize changes in the concentrations of these ions. Buffers in human blood, for example, normally maintain the blood pH very close to 7.4 because a person cannot survive very long if the blood pH drops to 7.0 or rises to 7.8.

Acids and bases are used in food preparation and in industrial processes. They can be very dangerous, causing burns and other injuries to people and animals, as well as damage to the environment, so they must be used properly and handled with care.

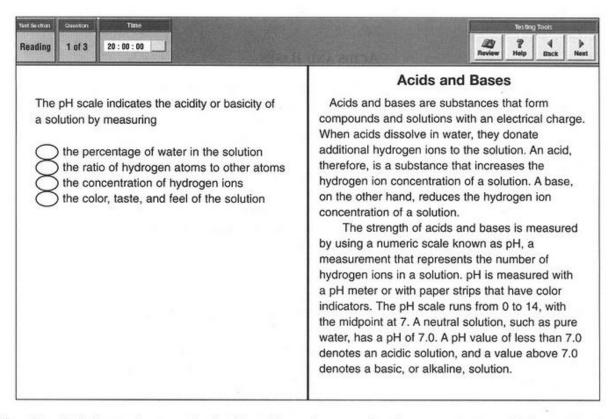
Acids are very important substances. They cause lemons to taste sour, they digest food in the stomach, and they dissolve rock to make fertilizer. They also dissolve tooth enamel to form cavities. Vinegar is a weak acid, a dilute solution of acetic acid used in food preservation. Lemon juice, citric acid, is added to foods and beverages to give them a sour flavor. Other acids have agricultural uses, such as hydrochloric acid—also known as muriatic acid—which is used as a fertilizer for acid—loving plants.

Bases, or alkalis, have a bitter taste and a slippery feel. Most hand soaps and commercial products for unclogging drains are highly basic. Household ammonia and lye are bases. Slaked lime, calcium hydroxide, is a base that is used in cements and paints.

Most plants and animals have preferred pH ranges, where they attain their best growth and health. Acid materials can be made less acidic by adding basic materials to them. In the pH management of soil, compounds that are basic—like slaked lime or crushed limestone—are added to the soil to raise its pH. Limestone has a pH of about 8.2, which will lower the acidity of acid soil.

#### Question Type 1 - Click on One Answer

For this multiple-choice type of question, you will choose the best of four possible answers. You will see:

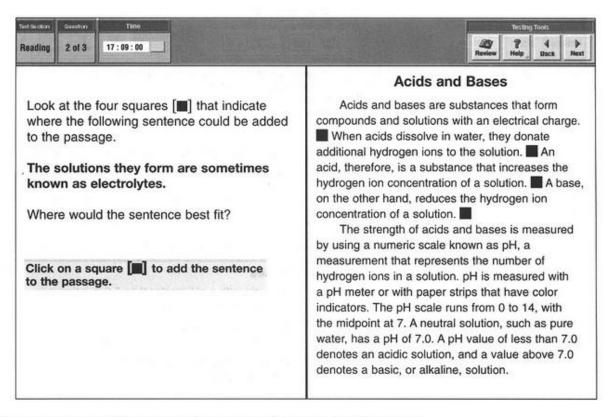


The pH scale indicates the strength of acids and bases by measuring the concentration of hydrogen ions in a solution. Therefore, you should click on the oval next to the third answer.

When you click on an oval, the oval will darken. To change your answer, click on a different oval. When you are satisfied that you have chosen the right answer, click on **Next**. The computer will move to the next question.

#### Question Type 2 - Add a Sentence

For this type of question, you will click on a square to add a sentence to the passage. You will see:



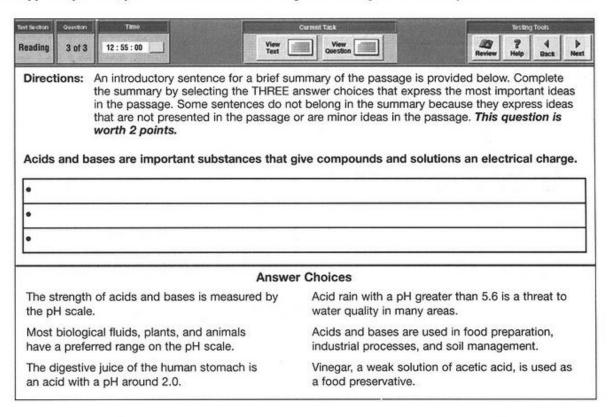
The sentence would fit best at the first square. The paragraph should read:

Acids and bases are substances that form compounds and solutions with an electrical charge. The solutions they form are sometimes known as electrolytes. When acids dissolve in water, they donate additional hydrogen ions to the solution. An acid, therefore, is a substance that increases the hydrogen ion concentration of a solution. A base, on the other hand, reduces the hydrogen ion concentration of a solution.

When you click on a square, the sentence will appear there. To change your answer, click on a different square. The sentence will then appear at this new location. When you are ready to proceed, click on Next. The computer will move to the next question.

#### Question Type 3 - Drag Answer Choices

For this type of question, you will use the mouse to drag text to complete a summary or table. You will see:



The three most important ideas in the passage are:

The strength of acids and bases is measured by the pH scale.

Most biological fluids, plants, and animals have a preferred range on the pH scale.

Acids and bases are used in food preparation, industrial processes, and soil management.

To complete the summary, move the cursor to the answer choice that you want to move. Click and hold to drag the sentence to the space where it belongs. The sentence will appear in that space. To change an answer, click on it. Then drag your new choice to the correct space.

If you choose all three correct answers, you will receive two points. If you choose two correct answers, you will receive one point. If you choose only one correct answer, or no correct answers, you will receive no points.

#### STRATEGIES FOR THE READING SECTION

#### Before the Test

200	Read on a variety of topics to build your English vocabulary. Most of the TOEFL reading passages are about topics in the natural sciences, the social sciences, business, and the arts. Read as much as you can in these subject areas, particularly from textbooks, journals, magazines, and newspapers.
	Practice trying to guess the meaning of unfamiliar words from how they are used in context. Use other words in the sentence, your understanding of the passage, and your general knowledge as clues to the meaning of unfamiliar words.
20	Become familiar with the various ways that the incorrect answers on the TOEFL may confuse you.
0	Become familiar with the various types of questions and how to answer them.
200	Become familiar with the testing tools, such as Next, Back, and Review. Practice using the mouse to click on and drag text.
-0	Your own best strategy:
Dur ~	Begin each passage by skimming it. <i>Skimming</i> is reading quickly for a general understanding of the topic and organization of the passage. To skim a passage, read the first two or three sentences of the first paragraph, and the first sentence of each paragraph after that. Notice key words and phrases that are repeated throughout the passage.
-0	Identify exactly what each question wants to know. Does it ask you about  information that is stated in the passage?  information that is NOT stated directly in the passage?  the meaning of a word?  the author's purpose for making a particular statement?  the major and minor ideas in the passage?
<u></u> 0	When a question asks about specific information, scan the passage to find this information. <i>Scanning</i> is looking for specific information: key words and phrases. Sometimes the computer will highlight text to help you scan a specific place in the text.

In questions about vocabulary, look for context clues in the passage. Use your knowledge of sentence

Think carefully about questions that ask you to make an inference. Eliminate answer choices that you

structure, punctuation, word parts, and other ideas in the passage.

cannot reasonably infer from the information in the passage.

#### READING

200	Do not leave any questions unanswered. It is best to answer all questions about one passage before you move on to the next passage.
-0	Work as quickly as you can. Pay attention to the number of questions and the amount of time you have left. You can review previous questions and change previous answers as long as you have time left.
_0	If you do not find the correct answer right away, use the <i>process of elimination</i> . This means you should omit the choices you know are incorrect. If you can eliminate one or two choices, you will improve your chance of selecting the correct answer. Your score is based on the number of questions you answer correctly, and incorrect answers are not subtracted.
20	Your own best strategy:

## 1.1 Understanding Facts and Details



Read the following passage and answer the question:

In one study, 83 percent of 140 male and female executives in a variety of businesses report having a mentor when they were younger. Generally, they view the mentor–protégé relationship as an important aspect of the initial phase of their careers. Mentors are given credit for teaching protégés the key elements of the job, and for providing a key relationship in the young adult's shift from dependence on parents to complete independence.

Within organizations, protégés are more likely to be promoted, get larger raises, and have more opportunities within a company, law firm, or other group than are young workers who have no mentor. But it is difficult to know whether these advantages arise from the mentoring process itself, since those who are selected as protégés are usually the most strongly motivated or best skilled among the younger workers.

According to the passage, one way in which mentors help protégés is by

0	giving them credit for excellent work
$\bigcirc$	encouraging them to aim for executive positions
$\bigcirc$	teaching them important aspects of the job
$\bigcirc$	arranging for them to receive a larger salary

The question asks about a *detail* in the passage: one way in which mentors help protégés. The correct answer is *teaching them important aspects of the job*. A key idea in the first paragraph is *Mentors are given credit for teaching protégés the key elements of the job*.

Now answer another question:

Why is it difficult to kr having a mentor?	now whether certain advantages for a protégé are the result of
Mentors do n Having a men	chosen as protégés are already highly motivated and skilled. not have direct control over workers' promotions and salaries. ntor is a fairly common experience for junior executives. h has been done concerning why protégés are successful.

The question asks about a *fact* in the passage. The answer to a *Why*—question will be a reason. The correct answer is both a reason and a fact: *Most people chosen as protégés are already highly motivated and skilled*. What key words provide clues to help you find the answer?

# ODO YOU KNOW ...?

A fact is a real occurrence, event, or phenomenon—something that happens or has happened. Facts
are information that is presented as real and true. Sometimes a fact functions as a supporting detail
in a passage.

A *detail* is a specific bit of information, such as an example, a reason, a statistic, a description, or an illustration. In written English, both facts and details are used to support the thesis or main idea of the work. Facts and details are evidence that make main ideas stronger and more convincing.

Fact and detail questions on the TOEFL test your ability to answer questions about information that is stated directly in the passage. Questions about facts and details look like this:

According to the passage,	what	_?			
application or sampled	which	?			
	why	_?			
	how	?			
	who	?			
	where_	9			
	when				
According to the passage,	which of th	ne following	statements	is true?	
In paragraph, what does	the autho	r say about			politication
What point does the author	make abo				
What is the main cause of	?				
What reason is given for _	?				
The author argues that	. 100				
The author argues that The author mentions	as an exa	ample of			
is an example of					
is a type of					
Which of the following sta	tements ap	oplies to	?		or constituents and
Which statement best desc					

3. Three skills that will help you answer fact questions are skimming, scanning, and scrolling.

**Skimming** is reading quickly to understand the general message of a passage. Skimming involves looking at key sentences that give you an idea of the passage's major ideas and overall organization. When you skim, your eyes move quickly through the passage, and you do not read every word or every sentence.

**Scanning** is looking through a passage to find specific information. The test question usually tells you what kind of information to scan for, such as reasons, examples, causes, effects, or characteristics. Scanning is searching for the facts and details that will help you answer the question.

**Scrolling** is moving quickly through text on the computer by using the scroll bar. You must scroll through a passage when it is too long for you to see all of it on the screen at the same time. Scrolling is a useful skill when you skim a passage for overall meaning and when you scan a passage for specific details.

4. Certain expressions are clues that can help you understand the relationships between ideas within sentences and paragraphs. These words and phrases are called *transitions*. Can you add any others to the list below?

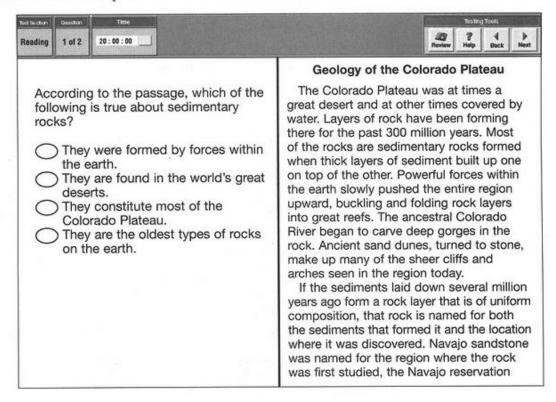
FUNCTION	Oueslays of the O	TRANSITIONS				
Illustrate	for example for instance	next to illustrate	such such as			
Explain	at this point because	furthermore how	in fact in this case			
Give Reasons	as a result of because	because of due to	one reason is since			
Show Result	accordingly as a result	consequently otherwise	therefore thus			
Compare	both equally important	like the same	similarly similar to			
Contrast	although conversely however in contrast	instead nevertheless on the contrary on the other hand	rather unlike whereas while			
Add	also another as well as	finally first, second, third furthermore	moreover not onlybut also too			
Limit and making	although but	except for even though	however			
Emphasize certainly clearly		indeed in fact	most importantly surely			

5. In questions about facts and details, the correct answer may paraphrase information from the passage. To *paraphrase* means to restate the same information by using different words.

The incorrect answer choices may be incorrect because they:

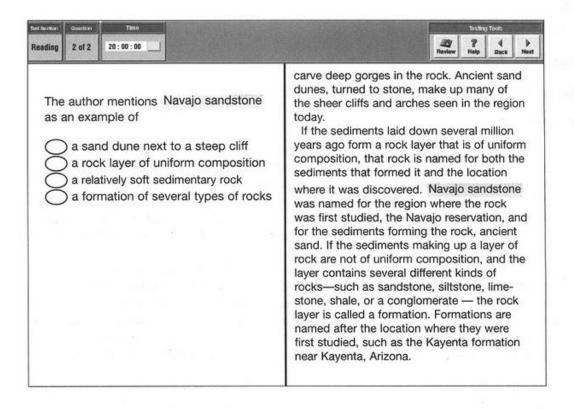
- repeat information from the passage but do not answer the question;
- incorrectly state information or ideas from the passage;
- are inaccurate or untrue according to the passage; or
- are irrelevant or not mentioned in the passage.

#### 6. Here are some examples:



The question asks you to identify a fact from the passage. The key phrase sedimentary rocks enables you to scan the passage for the needed information. The correct answer is They constitute most of the Colorado Plateau. The first paragraph introduces the topic of the Colorado Plateau and also states that Most of the rocks are sedimentary rocks—a statement that is paraphrased in the correct answer.

Why are the other three answers incorrect? They were formed by forces within the earth repeats information from the passage but does not describe sedimentary rocks. They are found in the world's great deserts and They are the oldest types of rocks on earth are not mentioned in the passage, so you do not know whether these statements are true or not.



The question is about a detail, *Navajo sandstone*. If you scan the passage, you can find where *Navajo sandstone* is mentioned. Sometimes the computer highlights text to help you scan quickly. If you read the previous sentence, you will see that Navajo sandstone is an example of a rock layer that is of uniform composition, ... named for both the sediments that formed it and the location where it was discovered. Therefore, the correct answer is a rock layer of uniform composition.

Why are the other three answers incorrect? A sand dune next to a steep cliff is inaccurate because the author says nothing about Navajo sandstone being next to a steep cliff. A relatively soft sedimentary rock is not mentioned in the passage. A formation of several types of rocks is untrue because it describes a rock layer that is not of uniform composition.



Exercise 1.1.A

Read the passages and choose the best answer to each question.

#### **QUESTIONS 1-2**

Before television and computers, our most powerful communication tool was language. However, the supremacy of language has been challenged by the introduction of images—powerful, realistic, moving images—into our everyday communication. The advent of television and computing in the twentieth century marked a new period in communication technology, the Information Age. The marriage of words and images offered by television, together with the interactive power of the computer, have profoundly affected the nature of our society.

In its short life of half a century, the computer has revolutionized the way we communicate. In the workplace, businesses rely on computers for communication and for performing routine tasks such as record keeping, accounting, and inventory. Computing has spawned new forms of media, such as the worldwide network of millions of computers called the Internet. By the mid–1990s, the general public was using the Internet for education, entertainment, and business, making it the fastest–growing medium today.

- According to the passage, how has the technology of the Information Age changed our daily communication?
  - (A) It helps us learn language more easily.
  - B It combines language with visual images.
  - C It improves our ability to think logically.
  - D It makes routine tasks more interesting.
- 2. What new communication medium did the computer generate?
  - A Language
  - B Television
  - © Record keeping
  - D The Internet

#### QUESTIONS 3-4

It was not until enterprising sea captains imported exotic animals to sell to traveling showmen that words such as *lion* or *polar bear* had much meaning to Americans. In 1789 the first large collection of exotic wild animals was put on permanent exhibit in New York. By the 1830s, most circuses had a collection of animals that generally included elephants, camels, lions, tigers, kangaroos, and apes. These animal shows served as traveling zoos where many Americans saw their first exotic animal. The creatures made such an impression that American English began to acquire new phrases.

To monkey around and monkey business are expressions of the early 1800s, and to make a monkey out of someone is from 1899, all being terms based on the increasing number of monkeys seen in circuses and zoos. A large or uncouth man was called a big ape by 1831, and gorilla was used to mean a hairy, tough man by the 1860s and a thug by 1926.

- 3. According to the passage, what was one effect of traveling animal shows?
  - New laws regulated the importation of exotic animals.
  - B There was an increase in popular forms of entertainment.
  - © People worked to improve the living conditions of animals.
  - American English acquired many new words and phrases.

- 4. What point does the author make in paragraph 2?
  - Monkeys were the most popular animals in circuses and zoos.
  - B Several expressions reflect an interest in monkeys and apes.
  - © There are many similarities between monkeys and humans.
  - Many words to describe large men are considered vulgar.

#### QUESTIONS 5-7

The cells of a plant are organized into three tissue systems: dermal, vascular, and ground tissue. Each tissue system is continuous throughout the plant's body. The specific characteristics of each tissue, however, are different in the different organs of the plant.

The dermal tissue system is the "skin" of the plant. The dermal system, or epidermis, is a single layer of cells covering the entire body of the plant. The main function of the epidermis is to protect the plant. The epidermis also has specialized characteristics for the particular organs it covers. For example, the epidermis of leaves and stems has a waxy coating that helps the plant conserve water, and the epidermal cells near the tips of the plant's roots help the plant absorb water and nutrients from the soil.

The second tissue system—the vascular system—is the transportation system for water and nutrients. Vascular tissue also helps to support the plant's structure. The third system—the ground tissue—makes up the bulk of a plant, filling all of the spaces between the dermal and vascular tissue systems. Ground tissue functions in photosynthesis, storage, and support.

- 5. How are the three tissue systems of a plant similar to each other?
  - (A) They all continue throughout the plant's body.
  - (B) They all have a protective waxy coating.
  - They all consist of a single layer of cells.
  - (D) They all perform the same bodily functions.
- 6. Which of the following statements best describes the plant's epidermis?
  - (A) It helps the plant to stand upright.
  - (B) It transports water and nutrients.
  - (c) It covers the plant's entire body.
  - D It is found only in young plants.

- 7. Which type of tissue does a plant's body mainly consist of?
  - (A) Dermal
  - B Vascular
  - © Epidermis
  - O Ground

#### **QUESTIONS 8-10**

By the decades just before the Civil War of the 1860s, the Southern states had developed an economic culture distinct from that of the North. The economy of the South depended largely on two things: cotton and slave labor. Because of the rising demand for cotton from the mills of England, and the invention of the cotton gin in 1793, the cotton production of the South increased tremendously. In 1790, cotton output had been 9,000 bales a year, but by the 1850s, output had soared to five million bales. In the South, cotton was "king." The most readily available source of labor was the institution of slavery. Thus, cotton and slavery became interdependent, and the South grew more reliant on both.

This was in sharp contrast to the North, where farming was becoming more mechanized and diversified. Northern farmers would boast of improvements in the form of new roads, railways, and machinery, and of the production of a variety of crops. In the South, however, farmers bought laborers instead of equipment, and a man's social status depended on the number of slaves he owned. The economic differences between the two regions would ultimately lead to armed conflict and the social restructuring of the South.

- 8. Why did the Southern output of cotton greatly increase between 1790 and 1850?
  - (A) Southern farmers invested in transportation.
  - B Mills in England demanded more cotton.
  - (c) The South was trying to dominate the North.
  - D Southern cotton was superior to Northern cotton.
- 9. What was associated more with the North in the period discussed?
  - (A) Farm machinery
  - (B) Slave labor
  - (c) Military service
  - (D) Reliance on one crop

- The author argues that the Civil War between the North and the South
  - was a conflict over control of the cotton trade
  - B began in 1790 and lasted almost seventy years
  - was largely the result of economic differences
  - D forced the South to produce different crops

#### Exercise 1.1.B

Read the passages and choose the best answer to each question.

#### QUESTIONS 1-3

Erik Erikson believed that personality development is a series of turning points, which he described in terms of the tension between desirable qualities and dangers. He emphasized that only when the positive qualities outweigh the dangers does healthy psychosocial development take place.

An important turning point occurs around age six. A child entering school is at a point in development when behavior is dominated by intellectual curiosity and performance. He or she now learns to win recognition by producing things. The child develops a sense of industry. The danger at this stage is that the child may experience feelings of inadequacy or inferiority. If the child is encouraged to make and do things, allowed to finish tasks, and praised for trying, a sense of industry is the result. On the other hand, if the child's efforts are unsuccessful, or if they are criticized or treated as bothersome, a sense of inferiority is the result. For these reasons, Erikson called the period from age six to eleven *Industry vs. Inferiority*.

- 1. According to Erikson's theory, what desirable quality should develop in a child who is six to eleven years old?
  - A liking for school
  - B A feeling of inadequacy
  - C An ability to finish tasks
  - A sense of industry
- 2. According to Erikson's theory, what will happen if a child's efforts are criticized?
  - (A) The child will dislike his teacher.
  - (B) The child will avoid other children.
  - C The child will try harder to win recognition.
  - The child will feel inferior.

- 3. Industry vs. Inferiority is an example of
  - the tension between a positive quality and a danger
  - B) a personality disorder in children
  - c the difference between a child of six and a child of eleven
  - (D) an educational strategy

#### **QUESTIONS 4-6**

In the storytelling traditions of West Africa, the tiny rabbit appears frequently as a rascal who teases or plays jokes on bigger animals. In one story, Mr. Rabbit tricks Mr. Elephant and Mrs. Whale into a tug of war with each other. Such tales about Mr. Rabbit continue to be part of the oral traditions of the Wollof people of Senegal.

The African-American folktales of the U.S. South also feature a trickster rabbit in the character of Brer Rabbit. In his American incarnation, Brer Rabbit uses his wits to overcome circumstances and even to enact playful revenge on his larger, stronger adversaries, Brer Fox, Brer Wolf, and Brer Bear. Although he is not always successful, Brer Rabbit's efforts make him both a folk hero and a friendly comic figure. Joel Chandler Harris, a journalist in Georgia, had heard old men tell Brer Rabbit tales by the fireside when he was a young boy. Harris wrote down and published many of the stories, popularizing them for the general public.

A folklorist named Alcée Fortier recorded very similar versions of the same stories in southern Louisiana, where the rabbit character was known as Compair Lapin in Creole French. Today, the rabbit enjoys another incarnation as the cartoon character Bugs Bunny—a rascally rabbit who causes trouble, tricks the hunter, and always gets the final word.

- 4. What trait belongs to the rabbit character in tales of West African origin?
  - (A) Storytelling ability
  - B) Very keen eyesight
  - C Ability to fool others
  - D Strong, athletic body
- 5. How did a wide audience of people know about the Brer Rabbit stories?
  - (A) They studied the oral traditions of West Africa.
  - (B) They heard old men tell the stories by the fireside.
  - They read the stories published by a journalist.
  - D They listened to recordings from southern Louisiana.

- 6. What do Brer Rabbit, Compair Lapin, and Bugs Bunny have in common?
  - A) All are cartoon characters.
  - B) All play tricks on others.
  - C All save others from trouble.
  - All speak Creole French.

#### QUESTIONS 7-10

A hot spot is a giant underground caldron of molten rock in one of the world's many volcanically active areas. The steamy geysers, thermal pools, and mud pots of Yellowstone National Park owe their origins to hot spots.

Annually, more than 200 geysers erupt in Yellowstone, making this one of the most interesting places in the world for geologists. Over 100 geysers lie within the Upper Geyser Basin, a one–square–mile area near Old Faithful, the most famous geyser in the world. The Yellowstone hot spot was created around ten million years ago, and the center of the park is still volcanically active, with molten rock only a mile or two beneath the Earth's surface.

When rain and melted snow seep down through tiny cracks in the Earth, the water eventually reaches underground chambers of lava-heated rock. The rock heats the water, and the boiling water and steam often make their way back up to the surface in the form of a geyser, a thermal pool, or a mud pot.

In a geyser, water trapped in an underground chamber heats up beyond the boiling point and forms steam. Since steam takes up 1,500 times more space than water, pressure builds up, eventually forcing the superheated water to burst to the surface as a geyser. A thermal pool is formed when the water from the hot spot reaches the surface before cooling off. If the water does not make it all the way to the surface, steam and gases may dissolve rocks and form a bubbling mud pot instead.

- 7. Where do hot spots occur?
  - (A) In rocky regions near the equator
  - B Below the ground near active volcanoes
  - C About a mile above a volcano's crater
  - D In the center of ancient volcanoes
- 8. According to the passage, why is Yellowstone National Park an interesting place for geologists?
  - (A) There are 100 square miles of hot spots.
  - B Over 200 geysers erupt there each year.
  - There are more than 100 different kinds of geysers.
  - More than 200 types of rock are found there.

- 9. How do hot spots contribute to the formation of geysers?
  - A Hot spots melt all of the snow falling into a volcano's crater.
  - B Water is trapped in an underground chamber and cannot escape.
  - C Hot rocks create boiling water, steam, and pressure underground.
  - D Water from hot spots rises to the surface before it cools off.
- 10. When do mud pots form?
  - When steam and gases dissolve rocks near the surface
  - B When underground water exceeds the boiling point
  - © When snow melts in Yellowstone's geyser basins
  - (D) When superheated water bursts to the surface

#### Exercise 1.1.C

Read the passages and choose the best answer to each question.

#### QUESTIONS 1-3

Most matter exists as compounds—combinations of atoms or oppositely charged ions of two or more different elements held together in fixed proportions by chemical bonds. Compounds are classified as organic or inorganic. Organic compounds contain atoms of the element carbon, usually combined with itself and with atoms of one or more other elements such as hydrogen, oxygen, nitrogen, sulfur, phosphorus, and chlorine. Many materials important to us—food, vitamins, blood, skin, cotton, wool, paper, oil, plastics—are organic compounds.

Larger and more complex organic compounds, called polymers, consist of a number of basic structural units linked together by chemical bonds. Important organic polymers include carbohydrates, proteins, and nucleic acids. Carbohydrates, such as the complex starches in rice and potato plants, are composed of a number of simple sugar molecules. Proteins are produced in plant and animal cells by the linking of different numbers and sequences of about twenty different structural units known as amino acids. Most animals, including humans, can manufacture about ten of these amino acids in their cells, but the other ten, called essential amino acids, must be obtained from food in order to prevent protein deficiency. Nucleic acids are composed of hundreds to thousands of four different units called nucleotides linked together in different numbers and sequences. DNA and RNA in plant and animal cells are nucleic acids.

- 1. Which of the following statements applies to all organic compounds?
  - They are composed of carbon and one or more other elements.
  - B They contain atoms of the seven most abundant elements.
  - © They have stronger chemical bonds than inorganic compounds do.
  - D They are produced by linking several simple sugar molecules.
- Carbohydrates, proteins, and nucleic acids are types of
  - (A) elements
  - B) inorganic compounds
  - (c) polymers
  - (D) amino acids

- 3. Why is it important for humans to obtain some amino acids from food?
  - Without certain amino acids, humans store too much fat.
  - B Organically grown food is the only source of amino acids.
  - © Sufficient amino acids are necessary for DNA production.
  - D Humans cells cannot make the ten essential amino acids.

#### **QUESTIONS 4-6**

By the 1840s, British North America had developed a vibrant commercial economy based on its abundant natural resources and a growing international trade. Fish, furs, timber, and grains represented over 90 percent of all economic activity. The oldest of the resource commodities, fish, was traditionally associated with Newfoundland and continued to dominate that colony's economy throughout the nineteenth century. The other traditional resource, fur, had a much smaller economic value compared to other resources. However, the fur trade was of tremendous value politically because it provided the means for Great Britain to retain its claim over much of Canada, and also formed the basis of the relationship between the British and the aboriginal peoples.

Timber and grain eventually replaced fish and fur in economic importance. Every province of British North America except Newfoundland was involved in the timber trade. In New Brunswick, the timber industry controlled every aspect of life, and settlement was closely connected to the opening of new timber territory. In the extensive agricultural lands of the St. Lawrence Valley and Upper Canada, wheat quickly became the dominant crop. Wheat met a growing demand abroad and it transported well as either grain or flour.

- 4. Which resource was the earliest to contribute to the economy of British North America?
  - (A) Timber from New Brunswick
  - B) Fur from across Canada
  - © Fish from Newfoundland
  - Wheat from Upper Canada
- 5. According to the passage, what is the main reason for the importance of the fur trade?
  - A Fur had more economic value than any other natural resource.
  - B Fur formed the basis of the local economy everywhere in Canada.
  - © The fur trade supplied all of the fur needed in Great Britain.
  - The fur trade allowed Great Britain to control a large part of Canada.

- 6. Which statement best describes the British North American economy around 1840?
  - Four important resources supported most of the commercial activity.
  - B The economy was based mainly on the exportation of timber and wheat.
  - © Economic activity varied greatly from one province to another.
  - D Great Britain maintained strict control over all aspects of the economy.

#### QUESTIONS 7-10

The youngest child of a prosperous Midwestern manufacturing family, Dorothy Reed was born in 1874 and educated at home by her grandmother. She graduated from Smith College and in 1896 entered Johns Hopkins Medical School. After receiving her M.D. degree, she worked at Johns Hopkins in the laboratories of two noted medical scientists. Reed's research in pathology established conclusively that Hodgkin's disease, until then thought to be a form of tuberculosis, was a distinct disorder characterized by a specific blood cell, which was named the Reed cell after her.

In 1906, her marriage to Charles Mendenhall took Reed away from the research laboratory. For ten years, she remained at home as the mother of young children before returning to professional life. She became a lecturer in Home Economics at the University of Wisconsin, where her principal concerns were collecting data about maternal and child health and preparing courses for new mothers.

Dorothy Reed Mendenhall's career interests were reshaped by the requirements of marriage. Her passion for research was redirected to public health rather than laboratory science. Late in life, she concluded that she could not imagine life without her husband and sons, but she hoped for a future when marriage would not have to end a career of laboratory research.

- 7. What was Dorothy Reed's area of research at Johns Hopkins?
  - (A) Manufacturing
  - B Pathology
  - © Tuberculosis
  - (D) Maternal health
- 8. Why did Reed stop working in the research laboratory?
  - (A) Marriage required that she remain at home.
  - B She became more interested in public health.
  - © Johns Hopkins did not like women doing research.
  - D Her work on Hodgkin's disease was completed.

- 9. What did Dorothy Reed Mendenhall conclude about marriage?
  - A Marriage inspired her passion for laboratory research.
  - B It was a mistake for her to give up her career for marriage.
  - Marriage need not keep women from careers in laboratory science.
  - Women cannot have both a happy marriage and a successful career.
- 10. Which fact should be included in a biography of Dorothy Reed Mendenhall?
  - A She was the first woman in her family to earn a degree in medicine.
  - B Marriage and motherhood prevented her from resuming her career.
  - She proved that Hodgkin's disease was characterized by a certain blood cell.
  - D Her career was devoted to finding a cure for tuberculosis in children.

Answers to Exercises 1.1.A through 1.1.C are on page 559.



- Outside of class, look in a newspaper, a magazine, or a university textbook. Select a short passage
  of one to three paragraphs. Make a photocopy and bring it to class. In class, work with a partner.
  Read the passage and underline the most important ideas. Circle the important facts, details, and
  examples. With your partner, practice asking each other questions and giving answers about the
  facts.
- 2. Outside of class, work with a partner. Look in a magazine or a university textbook. Select a short passage of around 100 words. Write two questions about facts and details in the passage. You do not have to write the answers. For examples of how to write the questions, see the list of questions on page 16. Write the passage and questions on an overhead projector transparency, or make enough copies of the passage and questions for everyone in your class. Your class now has a reading test made entirely by students! As a class, take the test by either writing or discussing answers to the questions. Can you answer all of the questions about each passage by using only the information provided in the passage?

## 1.2 Identifying Negative Facts



Read the following passage and answer the question:

Like air and water, soil is also vulnerable to pollution from several sources. One source is the atmosphere, as many harmful air pollutants leach through the soil into groundwater supplies. Another source is hazardous waste, the deadly byproducts of industrial processes, buried in landfills or dumped in fields. One of the most critical soil–quality problems is the increase in concentration of dissolved salts, commonly referred to as salinization.
Natural processes or human activities can salinize lands. Irrigation water contains large quantities of salt, and as this water evaporates, it leaves the salt behind, thus contaminating the soil.
All of the following are given as causes of soil pollution EXCEPT
the leaching of air pollutants the decomposition of organic matter the increasing amount of dissolved salts the dumping of hazardous waste

The question asks you to identify which *three* causes of soil pollution are mentioned in the passage and which *one* is not mentioned. The correct answer is the one choice that is NOT mentioned in the passage: *the decomposition of organic matter*. All of the other choices are given as causes of soil pollution.

Some TOEFL questions ask about negative facts: information that is not given in the passage.

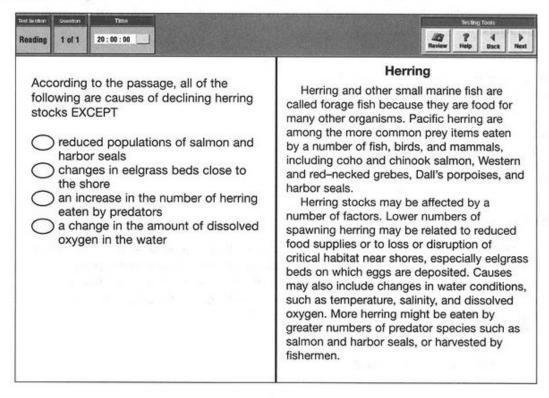


## DO YOU KNOW ...?

- A fact is a real occurrence, event, phenomenon, or other type of information that is presented as true. A negative fact is information that is not presented as true. A negative fact may be presented as false, or it may be omitted from the passage.
- Negative fact questions on the TOEFL test your ability to verify what information is true and what information is not true, or not included, in the passage. Questions about negative facts look like this:

The passage discusses all of the following EXCEPT
All of the following are mentioned in the passage EXCEPT
All of the following describe EXCEPT
All of the following are examples of EXCEPT
involves all of the following EXCEPT
are characterized by all of the following EXCEPT
According to the passage, all of the following statements are true EXCEPT
Which of the following is NOT mentioned as?
Which of the following is NOT given as a reason for?

- 3. In questions with the word EXCEPT or NOT, three of the answers will be true, and one answer will be either false or not mentioned in the passage. Look for the one answer containing information that is:
  - or
    not true according to the passage.
- 4. Scanning is a skill that will help you answer negative fact questions. The question and answer choices tell you what information to scan for, such as examples, reasons, causes, effects, or characteristics. Scanning is searching for the specific facts and details that will help you answer the question.
- Here is an example:



An important word in the question is *EXCEPT*. It tells you to look for the one answer that is *not* given as a cause of declining herring stocks. Begin by scanning the passage for key words from each answer choice. Which answer is *not* a cause of declining herring stock?

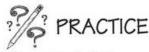
The correct answer is reduced populations of salmon and harbor seals because it is not true according to the passage. The passage states: More herring might be eaten by greater numbers of predator species such as salmon and harbor seals....

The other three answers are given as causes of declining herring stocks:

Lower numbers of spawning herring may be related to...loss or disruption of critical habitat near shores, especially eelgrass beds on which eggs are deposited. More herring might be eaten by greater numbers of predator species....

Causes may also include changes in water conditions, such as...dissolved oxygen.

# 1.2 NEGATIVE FACTS



Exercise 1.2.A

Read the passages and choose the best answer to each question.

## QUESTION 1

An important element of drama is that it is a presentation by performers in front of an audience—for example, a ceremony conducted by civic leaders before members of a community. Another aspect is costumes, such as those worn by tribal chiefs who impersonate animals or gods. Moreover, drama involves storytelling—recitation of myths or legends, teaching lessons through stories—to a group of listeners. Sometimes the storyteller imitates the characters in the story by changing his or her voice for different characters.

- 1. The passage mentions all of the following as aspects of drama EXCEPT
  - (A) wearing costumes
  - B performing before an audience
  - c writing dialogue for characters
  - narrating a story

# QUESTION 2

Skin cancer is the most prevalent of all cancers. The principal cause of skin cancer is overexposure to sunlight, according to most medical experts. Chronic sun exposure—especially when it causes sunburn or blistering—results in more skin cancer than does any other risk factor, including exposure to x-rays and a family history of the disease. The most effective preventative measure is sun avoidance.

- 2. All of the following are factors that can cause skin cancer EXCEPT
  - A exposure to x-rays
  - B sun blistering
  - c family history of skin cancer
  - sun avoidance

## QUESTIONS 3-4

Laughter is a key to a good life and good health: it can diminish feelings of tension, anger, and sadness. Just as exercise conditions our bodies, frequent laughter can train our bodies to be healthier. When laughter is a regular experience, it lowers blood pressure and boosts brain chemicals that fight pain. It can also reduce stress hormones that increase vulnerability to illness, as well as increase hormones that have been shown to help produce restful sleep. Laughter is like an instant vacation in the way it changes our psychobiology.

To make laughter a regular part of your life, try keeping a humor journal in which you record some of the amusing things that happen to you. Another technique is to create a weekly fun time to look forward to, such as watching a comedy video or having a dinner with friends that features joke telling. Another sure source of laughter is spending time with children and animals.

- According to the passage, laughter provides all of the following benefits EXCEPT
  - A elevating brain chemicals that prevent pain
  - B increasing the body's vulnerability to illness
    C promoting a more restful kind of sleep
  - D reducing feelings of stress and anger
- 4. The author recommends all of the following EXCEPT
  - playing tricks on family and friends
  - B planning a special fun time every week
    c enjoying time with pets and children
  - D writing down humorous experiences

## QUESTIONS 5-6

About 300 genera and 3,000 species of the *Apiaceae* family exist in the Northern Hemisphere. Nearly a quarter of these genera are native to the United States, with several large genera in the West.

Members of this family are usually aromatic herbs with hollow stems, fern-like leaves, and small flowers in flat-topped or rounded umbels that are further grouped into a compound cluster. The family is important for such foods as carrots, parsnips, and celery and such spices and seasonings as coriander, caraway, anise, parsley, and dill. However, some species are very poisonous.

- All of the following statements describe the Apiaceae family EXCEPT
  - This family has three thousand species in the Northern Hemisphere.
  - B Plants in this family are native to one-fourth of the United States.
  - This family includes vegetables, herbs, spices, and poisons.
  - Most members of this family have small flowers grouped in clusters.

- All of the following are members of the Apiaceae family EXCEPT
  - (A) parsnips
  - B potatoes
  - carrots
  - parsley

## QUESTIONS 7-8

Indian filmmaker Satyajit Ray is still regarded by many film critics as one of the world's great directors. Ray's films are known for their compassion, honesty, and quiet dignity. His Apu Trilogy, three films about Bengali life, was hailed as a national epic in the 1950s. The first film, *Pather Panchali*, is the story of a Bengali family's noble struggle against poverty and the heartbreaks of life. It was followed by *Aparajito*, in which the son of the family, Apu, grows to manhood. In the final film, *The World of Apu*, the young man marries, but fails at his life's ambitions, and then, after losing his wife, he wanders across the country for several years before returning home to claim his son.

Satyajit Ray's movies have never been very popular in India itself, but those who appreciate his unobtrusive technique and his compassion for his characters view his films as a poetic record of Indian life.

- According to the passage, the films of Satyajit Ray are characterized by all of the following EXCEPT
  - (A) adventure
  - B honesty
  - c compassion
  - D dignity

- The third film of the Apu Trilogy deals with all of the following themes EXCEPT
  - (A) failure at a major goal
  - B) loss of a spouse
  - c struggle against poverty
  - D going home after a long absence

## QUESTIONS 9-10

Archeology is the study of prehistoric and historic cultures through the analysis of material remains. Archeologists interpret the past from the objects made by past peoples. Often these objects lie buried in the ground, so our image of the archeologist is of a scientist who is always digging. Archaeological digs include ruins of buildings and monuments, and also objects made by people who often had no written language and therefore no other record of their way of life. Tools, weapons, body ornaments, household furnishings, and items used in religious ceremonies are all examples of artifacts that typically turn up in digs.

Like historians, archeologists establish the sequence of events that occurred in a given place and time period. But unlike historians, they take on a time span of roughly half a million years. Archeologists try not only to piece together what happened in a particular setting but also to fit these small pieces into a much bigger picture. They aim to document how big changes occurred in the way peoples exploited their environment and one another.

- The passage mentions all of the following as studied by archaeologists EXCEPT
  - (A) weapons
  - B religious objects
  - c diaries
  - premains of buildings

- Archaeologists do all of the following EXCEPT
  - A plan and design more efficient uses for objects and materials
  - (B) determine what took place in a specific place and time period
  - © dig up the remains of objects that are buried in the ground
  - explain how past humans related to others and their environment

# 1.2 NEGATIVE FACTS

## Exercise 1.2.B

Read the passages and choose the best answer to each question.

## QUESTIONS 1-2

Political parties are necessary in the exercise of democracy in nation states. The enlargement of the electorate—the body of qualified voters—has increased the importance of parties to the point where it is practically impossible for a candidate to get elected without the support of a party organization. This is because the variety of issues facing nation states has complicated the problem of creating an informed electorate that can use its vote responsibly. The job of influencing popular opinion through newspapers, television, the Internet, and other mass media is too complicated and costly for an individual candidate to undertake. Although individual candidates continue to appear at public meetings—to answer questions and shake hands with voters—the influencing of public opinion on a mass scale has become a specialized technique. Building political support on a nation—wide scale carries a high cost, and it requires nationally organized and well—financed parties. Party organizations thus have come to occupy a prominent place in the functioning of democracies.

- According to the passage, what is one effect of the enlargement of the electorate?
  - A There are more political parties than ever before.
  - B Candidates need political parties to get elected.
  - © Political parties control all forms of mass media.
  - D It is impossible to have a perfect democracy.

- All of the following are given as reasons for the necessity of political parties EXCEPT
  - Influencing popular opinion through the media is a large and complex job.
  - B It is difficult to inform voters about the variety of important issues.
  - © Building nation-wide support is too expensive for individual candidates.
  - D Voters prefer candidates that express the values of an established party.

## QUESTIONS 3-4

Coral reefs are one of the earth's most ancient ecosystems and also the richest, most diverse, and most beautiful ecosystems in any ocean. The huge cities built by corals provide shelter and food for billions of other marine animals. A quarter of all sea creatures depend on coral reefs during some part of their life cycles.

In the past century, the ocean's surface temperature has risen an average of 1.8 degrees Fahrenheit. It has taken only this slight increase in sea-surface temperature to sicken the world's coral reefs. The brilliant blue, purple, green, gold, and pink have begun to disappear as a disease called bleaching drains the color and the life from the reefs. Scientists have reported mass bleaching on reefs in the Caribbean, in southern Japan, in Indonesia, and on the world's largest coral reef, the Great Barrier Reef, where the corals have bleached to a dirty white.

Bleaching has killed more corals than all other causes combined. More than 16 percent of the world's corals have sickened and died from bleaching. Millions of aquatic animals that depend directly or indirectly on corals have died as well—anemones, sponges, mollusks, shrimp, crabs, fish, turtles, and seabirds—making the loss of corals a catastrophe for the natural world.

- 3. Which of the following is NOT stated about coral reefs?
  - They are among the oldest ecosystems in the world.
  - B They have caused sea—surface temperatures to rise.
  - © They are brilliantly colored when they are healthy.
  - They supply shelter for a diversity of marine life.

- All of the following are effects of the bleaching of coral reefs EXCEPT
  - (A) fading colors
  - B loss of dependent animals
  - c death of corals
  - rising water level

## QUESTIONS 5-7

What made Native American and European subsistence cycles so different from one another in colonial America had less to do with their use of plants than with their use of animals. Domesticated grazing animals and the plow were the most distinguishing characteristics of European agricultural practices. The Native Americans' relationship to the deer, moose, and beaver they hunted was far different from that of the Europeans to the pigs, cows, sheep, and horses they owned.

Where Natives had contented themselves with burning the woods and concentrating their hunting in the fall and winter months, the English sought a much more total and year-round control over their animals' lives. The effects of that control could be seen in most aspects of New England's rural economy. By the end of the colonial period, the Europeans were responsible for a host of changes in the New England landscape: endless miles of fences, a system of country roads, and new fields covered with grass, clover, and buttercups.

- 5. What point does the author make about Native Americans and Europeans?
  - They competed over the same plants and animals.
  - B They both tried to control New England's animals.
  - They taught each other techniques for hunting animals.
  - D They differed in their attitudes toward animals.
- European settlers raised all of the following animals EXCEPT
  - (A) deer
  - (B) sheep
  - (c) horses
  - (D) pigs

- All of the following were agricultural practices of Europeans in New England EXCEPT
  - (A) constructing fences
  - B) burning the woods
  - c plowing fields
  - planting grass and clover

## QUESTIONS 8-10

Landscape architects design landscapes in residential areas, public parks, and commercial zones. They are hired by many types of organizations, from real estate firms starting new developments to municipalities constructing airports or parks. They usually plan the arrangement of vegetation, walkways, and other natural features of open spaces.

In planning a site, landscape architects first consider the nature and purpose of the project, the funds available, and the proposed elements. Next, they study the site and map such features as the slope of the land, the positions of existing buildings, existing utilities, roads, fences, walkways, and trees. Then, working either as the leader of a design team or in consultation with the project architect or engineer, they draw up plans to develop the site. If the plans are approved, they prepare working drawings to show all existing and proposed features. They outline the methods of constructing features and draw up lists of building materials.

Newcomers to the field usually start as junior drafters, tracing drawings and doing other simple drafting work for architectural, landscape architectural, or engineering firms. After two or three years, they can carry a design through all stages of development. Highly qualified landscape architects may become associates in private firms, but usually those who progress this far open their own offices.

- 8. Landscape architects do all of the following EXCEPT
  - design landscapes in residential and commercial zones
  - decide where to build walkways in public parks
  - © draw or paint scenes from the natural environment
  - plan the arrangement of vegetation and other natural features
- All of the following are listed as stages in the landscape design process EXCEPT
  - (A) thinking about the project's purpose and the funding
  - (B) building a fence around the construction site
  - c making drawings that include old and new features
  - preparing lists of building materials and methods

- 10. How do most landscape architects begin their careers?
  - They lead the design team of a small landscaping project.
  - B They apply for a position as an associate in a private company.
  - They do drafting work for an architectural or engineering firm.
  - D They open their own business as a landscape architect.

Answers to Exercise 1.2.A through 1.2.B are on page 559.

## 1.2 NEGATIVE FACTS



1. Fact or Opinion? Select a passage from each of the following sources:

a science textbook

the international page of a newspaper

a book of essays

the editorial page of a newspaper

Make enough copies of each passage for everyone in your class. In class, identify statements in the passages that are facts and statements that are opinions. Discuss the following questions:

- a. What is a fact?
- b. Is a fact always true for every person?
- c. What is an opinion?
- d. How do writers use facts and opinions?
- e. How can you distinguish a fact from an opinion?



# PROGRESS - 1.1 through 1.2

Quiz 1

Time - 15 minutes

Read the passages and choose the best answer to each question. Answer all questions about a passage on the basis of what is stated or implied in that passage.

#### EFFECTS OF IONIZING RADIATION

Everyone on Earth is continually exposed to small, relatively harmless amounts of ionizing radiation, known as background radiation, from natural sources such as soil and rock. However, other types of ionizing radiation—X-rays, ultraviolet radiation from the sun, and alpha, beta, and gamma radiation emitted by radioactive isotopes—have the potential to harm the human body. Ionizing radiation has enough energy to remove one or more electrons from the atoms it hits to form positively charged ions that can react with and damage living tissue. Most damage occurs in tissues with rapidly dividing cells, such as the bone marrow, where blood cells are made, and the digestive tract, whose lining must be constantly renewed.

Exposure to ionizing radiation can damage cells in two ways. The first is genetic damage, which alters genes and chromosomes. This can show up as a genetic defect in children or in later generations. The second type of damage is somatic, which causes victims direct harm in the form of burns, miscarriages, eye cataracts, some types of leukemia, or cancers of the bone, thyroid, breast, skin, and lung. Small doses of ionizing radiation over a long period of time cause less damage than the same total dosage given all at once. Exposure to a large dose of ionizing radiation over a short time can be fatal within a few minutes to a few months later.

- According to the passage, what is one difference between background radiation and other types of ionizing radiation?
  - A Background radiation is rare in nature, while other types are not.
  - B Background radiation is less likely to harm the human body.
  - Background radiation cannot form positively charged ions.
  - Background radiation causes more damage to the environment.
- 2. What types of tissues are harmed most by ionizing radiation?
  - A Tissues with cells that divide quickly
  - B Tissues on the outside surface of the body
  - © Tissues exposed to background radiation
  - (D) Tissues with a large number of chromosomes

- All of the following are examples of somatic damage EXCEPT
  - (A) genetic defects
  - B eye cataracts
  - c radiation burns
  - D lung cancer
- 4. Which exposure to ionizing radiation causes the most serious damage to humans?
  - A Continuous exposure to background radiation in the environment
  - B Small doses of ionizing radiation over a long period of time
  - © A single dose of a moderate amount of ionizing radiation
  - Exposure to a large amount of ionizing radiation in a short period

## THE COYOTE

All North American canids have a doglike appearance characterized by a graceful body, long muzzle, erect ears, slender legs, and bushy tail. Most are social animals that travel and hunt in groups or pairs. After years of persecution by humans, the populations of most North American canids, especially wolves and foxes, have decreased greatly. The coyote, however, has thrived alongside humans, increasing in both numbers and range.

Its common name comes from *coyotl*, the term used by Mexico's Nahuatl Indians, and its scientific name, *canis latrans*, means "barking dog." The coyote's vocalizations are varied, but the most distinctive are given at dusk, dawn, or during the night and consist of a series of barks followed by a prolonged howl and ending with short, sharp yaps. This call keeps the band alert to the locations of its members. One voice usually prompts others to join in, resulting in the familiar chorus heard at night throughout the West.

The best runner among the canids, the coyote is able to leap fourteen feet and cruise normally at 25–30 miles per hour. It is a strong swimmer and does not hesitate to enter water after prey. In feeding, the coyote is an opportunist, eating rabbits, mice, ground squirrels, birds, snakes, insects, many kinds of fruit, and carrion—whatever is available. To catch larger prey, such as deer or antelope, the coyote may team up with one or two others, running in relays to tire prey or waiting in ambush while others chase prey toward it. Often a badger serves as involuntary supplier of smaller prey: while it digs for rodents at one end of their burrow, the coyote waits for any that may emerge from an escape hole at the other end.

Predators of the coyote once included the grizzly and black bears, the mountain lion, and the wolf, but their declining populations make them no longer a threat. Man is the major enemy, especially since coyote pelts have become increasingly valuable, yet the coyote population continues to grow, despite efforts at trapping, shooting, and poisoning the animals.

- 5. According to the passage, the coyote is unlike other North American canids in what way?
  - A The coyote's body is not graceful.
  - (B) The coyote is not hunted by humans.
  - (c) The coyote population has not decreased.
  - The coyote does not know how to swim.
- All of the following statements describe the coyote's vocalizations EXCEPT
  - A Vocalizations communicate the locations of other coyotes.
  - B The coyote uses its distinctive call to trick and catch prey.
  - C A group of coyotes will often bark and howl together.
  - The coyote's scientific name reflects its manner of vocalizing.

- According to the passage, the coyote is an opportunist because it
  - (A) knows how to avoid being captured
  - (B) likes to team up with other coyotes
  - (c) has better luck than other predators
  - takes advantage of circumstances
- 8. Which animal sometimes unknowingly helps the coyote catch food?
  - (A) Wolf
  - B) Rodent
  - C Deer
  - D Badger

- According to the passage, the chief predator of the coyote is
  - (A) the wolf
  - B) the mountain lion
  - c the human
  - the grizzly bear

- According to the passage, all of the following statements are true EXCEPT
  - A The coyote is a serious threat to human activities.
  - (B) The coyote is a skillful and athletic predator.
  - The coyote hunts cooperatively with other coyotes.
  - The coyote survives despite persecution by humans.

Answers to Reading Quiz 1 are on page 560.

Record your score on the Progress Chart on page 693.

# 1.3 Locating Referents



Read the following paragraph:

When the temperature of hydrogen atoms is raised high enough, a helium atom is formed from four hydrogen atoms. In the center of our sun and other stars, hydrogen is being transformed into helium as hydrogen atoms fuse together to form helium. Fusion is a process in which atomic nuclei collide so fast that they stick together and emit a great deal of energy.

Look at the word they in the passage. What word or phrase could replace they and still make sense?

In the passage, they refers to things that stick together and emit a great deal of energy. Logic tells you that they refers to atomic nuclei. You can verify this by putting atomic nuclei in place of they in the sentence. The sentence will read: Fusion is a process in which atomic nuclei collide so fast that atomic nuclei stick together and emit a great deal of energy. The sentence still makes sense in the context of the passage.

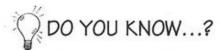
Atomic nuclei is the referent of they. The author uses they to avoid unnecessary repetition of atomic nuclei.

Now read another paragraph:

Because human behavior is so complex, research psychologists must concentrate on specific types of behavior and restrict themselves to examining one facet of behavior at a time. Thus, most research reports provide specific information about a particular aspect of behavior. All descriptions of behavior, even those appearing in multi-volume texts, are based on selected information that writers interpret in their own way.

Look at the word those in the passage. What noun could replace those and still make sense? If you change those to descriptions, the sentence will have the same meaning. The sentence will read: All descriptions of behavior, even descriptions appearing in multi-volume texts, are based on selected information that writers interpret in their own way.

Descriptions, or descriptions of behavior, is the referent of those. Those is used to avoid unnecessary repetition.



Referents are words in a passage that other words refer to. Pronouns such as they and those refer to
nouns elsewhere in the passage—these nouns are the referents of the pronouns. The noun referents
are the words that the pronouns replace.

Usually the referent is mentioned before the pronoun in the passage, often immediately before it, but sometimes the referent appears after the pronoun. The referent may be in the same sentence as the pronoun, or it may be in another sentence.

Words such as *this*, *that*, *many*, and *some* can also have noun referents in a passage. The referent may be in the same sentence as the referring word, or it may be in another sentence.

2. TOEFL questions about referents look like this:

d in line refers to
ise in line refers to

3. Some words and phrases that have referents are:

Subject Pronouns	he he	she de alq	nsit på de	they
Object Pronouns	him	her	it	them
Possessive Adjectives	his	her	its	their
<b>Demonstrative Pronouns</b>	this	that	these	those
Relative Pronouns	who	whom	which	whose
Other Pronouns	all another any both each	either a few many most neither	none one others several some	the first the last the former the latter the other

4. Look at some examples of pronouns and referents. The referent for each highlighted word is shown in *italics*.

Because she was essentially a realist, Willa Cather made human nature the subject of her novels.

The refraction of light by the moonstone's internal layers gives it a milky sheen.

Although songbirds have no commercial value, they freely give us their music.

Driving while intoxicated is illegal, but this is not the only reason to avoid drinking and driving.

The tallest peak of the Rockies is twice as high as that of the Appalachians.

The thyroid gland, which is part of the endocrine system, regulates the body's metabolic rate.

## 1.3 REFERENTS

Three common herbs are effective remedies for a sore throat: angelica, sage, and vervain; all are available in health food stores.

Electromagnetism is the relationship between *electricity* and *magnetism*; either can be used to produce the other.

Most daisies are perennials, but some bloom for only one or two seasons.

Only two *elements* are liquids at normal temperatures; one is mercury and the other is bromine.

5. The referent questions most commonly seen on the TOEFL ask you to locate the referent of a pronoun. However, sometimes you must identify the referent of a specified term or phrase. Look at the highlighted phrase in the following passage:

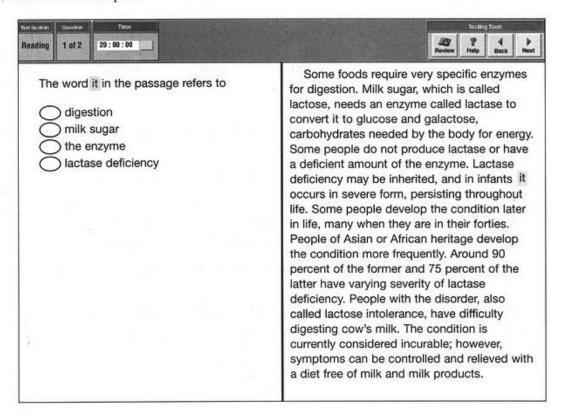
Like the gray and fox squirrels, the Eastern chipmunk often feeds on acorns and hickory nuts. Essentially a ground species, this pert rodent does not hesitate to climb large oak trees when the acorns are ripe.

This pert rodent refers to the Eastern chipmunk, which is the subject of the previous sentence.

6. The meaning of the sentence can help you answer referent questions. The function of the pronoun or referring word—for example, whether it is a subject or object—can help you find the correct referent. Grammatical structures are often clues that point to the identity of referents. Sentence structure, logic, and common sense can help you locate referents.

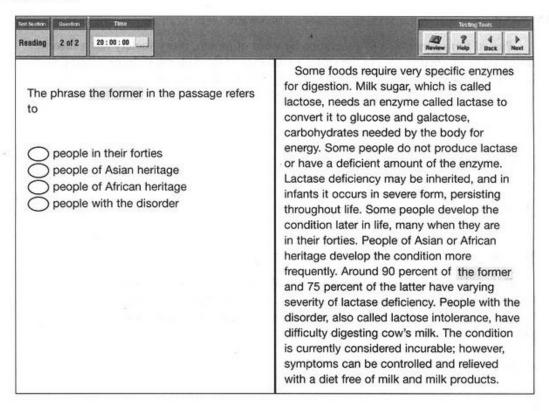
You can check your answer by putting it in the sentence in place of the pronoun or referring word. If the sentence still makes sense according to the passage, your answer is correct.

7. Here are some examples:



The referent of it is something that occurs in severe form in infants. The subject of the sentence is Lactase deficiency. Logic tells you that it refers to lactase deficiency, which is the correct answer.

You can check the answer by reading the sentence with lactase deficiency in place of it: Lactase deficiency may be inherited, and in infants lactase deficiency occurs in severe form, persisting throughout life.



What is the referent of the former? In all cases where two things are mentioned, the former refers to the first thing, and the latter refers to the second thing. In this passage, the former refers to people of Asian heritage because this phrase is mentioned first in the previous sentence. The latter refers to people of African heritage because this phrase is mentioned second.

The correct answer is people of Asian heritage. You can check this by reading the sentence with people of Asian heritage in place of the former and people of African heritage in place of the latter. The passage will read: People of Asian or African heritage develop the condition more frequently. Around 90 percent of people of Asian heritage and 75 percent of people of African heritage have varying severity of lactase deficiency.



Exercise 1.3.A

Read the passages and choose the best answer to each question.

## QUESTION 1

Passed from generation to generation by word of mouth, every society has a favorite imagined figure that is seen in the surface markings of the full moon. In Asia and Europe, it is commonly a hare, while North Americans see the "man in the moon" or the "lady in the moon."

- 1. The word it in the passage refers to
  - (A) word of mouth
  - B) society
  - c) favorite imagined figure
  - full moon

# QUESTION 2

Energy is the real currency of the world. We depend on energy to grow our food, to keep us alive, and to warm and cool our bodies and the buildings where we live and work. We also use it to move people and other objects as well as to change matter from one physical or chemical form to another.

- 2. The word another in the passage refers to

  - B) energy
  - c) matter

# QUESTION 3

Young potential leaders should gain exceptional command, in both writing and speaking, of their own language. In addition, they should have workable knowledge of a second language. Leadership requires strong public speaking skills. Courses in public speaking do not enjoy high status in the academic world today; however, many bright young people are poor speakers, and they must develop their ability in this area.

- 3. The phrase this area in the passage refers to
  - (A) a second language
  - B) leadership
  - c) public speaking b) the academic world

# **QUESTION 4**

At least one central quality of music—rhythmic organization—can exist apart from the ability of people to hear it. Some composers, such as Scriabin, have emphasized the importance of the rhythmic aspect of music by translating their works into rhythmic series of colored forms. Others, such as Stravinsky, have stressed the significance of seeing music performed by an orchestra or a dance troupe. Thus, certain aspects of the musical experience are accessible even to deaf individuals who cannot appreciate its auditory qualities.

- 4. The word Others in the passage refers to
  - A people
  - B composers
  - © works
  - o forms

## QUESTIONS 5-6

Stratified societies are marked by differences among people that identify them as being "higher" or "lower." The simplest forms of inequality are based on age and sex. For example, old people may have a high or a low position; women may be ranked below men. But in every society there is another form of inequality that ranks families rather than individuals. If a large number of families are similar to each other in education, income, and values, they constitute a social class.

- 5. The word them in the passage refers to
  - (A) societies
  - B) differences
  - © people
  - D) forms

- 6. The word they in the passage refers to
  - (A) stratified societies
  - B) individuals
  - c large number of families
  - D education, income, and values

## QUESTIONS 7-8

Most Americans still get married at some point in their lives, but even that group is shrinking. Among current generations of adults—starting with those born in the 1920s—more than 90 percent have married or will marry at some point in their lives. However, based on recent patterns of marriage and mortality, demographers calculate that a growing share of the younger generation is postponing marriage for so long that an unprecedented number will never marry at all. Data on cohabitation and unmarried childbearing suggests that marriage is becoming less relevant to Americans. 2.8 million of the nation's households are unmarried couples, and one—third of them are caring for children, according to the Census Bureau.

7. The word those in the passage refers to	8. The word them in the passage refers to
A Americans B lives C adults D 90 percent	A younger generations B data C Americans U unmarried couples
QUESTIONS 9–10	
Pesticides temporarily increase the produce genetic resistance to them. Traces of chemic on pesticide–treated soils, in the groundwat we breathe.  The effects of pesticides occur mostly a selectively inhibit the action of specific enzabsorbed from an organism's environment at the agricultural insecticides DDT and paratinervous system of animals.	cal pesticides appear in many foods grown er that many people drink, and in the air at the cellular level. Certain chemicals symes in plant and animal cells. Some are and act as metabolic poisons. For example,
9. The word them in paragraph 1 refers to	10. The word Some in paragraph 2 refers to
A pesticides B crops C insects D soils	A effects B chemicals C enzymes D cells

## Exercise 1.3.B

Read the passages and choose the best answer to each question.

## QUESTIONS 1-2

In the final decades of the nineteenth century, the guiding principles for the applied arts were sensitive handcrafting, simplicity, and respect for indigenous designs. These were promoted in books, magazines, newspapers, and art schools of the period. The philosophy encouraged the development of an artistic setting for home life and a substantial role for women in fostering that environment. More women began to study drawing, painting and the creation of art objects—pottery, jewelry, and textiles—and to exhibit their works more often in public. In cultivating the home, women also began to associate more with one another, founding art societies and social—reform clubs that empowered them. Many of the great art museums can trace their origins to that period and those women.

- 1. The word These in the passage refers to
  - (A) final decades
  - B guiding principles
  - applied arts
  - D indigenous designs

- 2. The word them in the passage refers to
  - works
  - B women
    C societies
  - clubs

# QUESTIONS 3-4

The great tulip grower E.H. Krelage of Holland changed forever the way we look at tulips in our gardens. At the world trade fair in Paris in 1889, he introduced his new Darwin tulips, which were planted in brilliant bands of color under the Eiffel Tower and alongside the Seine. In that one brilliant marketing ploy, Krelage changed the tulip from a flower that was carefully and individually displayed to one that was planted in mass beddings of beautiful color.

Gardeners all over the world fell in love with Krelage's tulips, which were tall, strong, and weatherproof. In New York, the public parks of the Bronx blazed with red tulips, as did Golden Gate Park in San Francisco and the St. Louis Botanic Garden. Although the wildly differing climatic zones of North America did not always suit them, tulips have proved to be forgiving plants and have thus remained garden favorites.

- 3. The word one in paragraph 1 refers to
  - A ploy B tulip
  - flower
  - color

- 4. The word them in paragraph 2 refers to
  - (A) gardeners
  - B parks
  - tulips
    p favorites

# **QUESTIONS 5-6**

The philosophy of existentialism is based on the belief that individual human beings face a meaningless, absurd, and science-oriented world. Individuals must therefore find or construct meaning for their existence and answer their own questions about self-identity and truth. The philosophy of phenomenology is the study of human experience and the interpretation of experience. Phenomenology is a close cousin to existentialism. Both echo many of the themes of earlier philosophies, particularly realism and transcendentalism, and in turn had an effect on other ways of thinking. Existentialism and phenomenology influenced theological and humanist thinkers, such as Martin Buber and Abraham Maslow. The former focused on the I-Thou and teacher-student relationships, while the latter theorized about the hierarchy of human needs and the ultimate need for self-actualization.

- 5. The word Both in the passage refers to
  - (A) self-identity and truth
  - B phenomenology and existentialism
  - 6 human experience and the interpretation of experience
  - (D) realism and transcendentalism

- 6. The phrase the latter in the passage refers to
  - (A) existentialism
  - B phenomenology
  - Martin Buber
  - Abraham Maslow

# QUESTIONS 7-10

Vitamin D increases the efficiency of the intestine to absorb calcium and phosphorus from food in order to mineralize the bones in the body. It also increases the activity of bone cells that make and lay down bone matrix. The bone matrix is like the frame of a building. If the body has adequate amounts of calcium and phosphorus, they are incorporated into the bone matrix, and the result is a strong, healthy skeleton. Our skin can make vitamin D when it is exposed to sunlight. However, most people living in North America do not get enough sunlight in the winter to make adequate amounts of the vitamin.

Young children who do not get enough calcium and vitamin D are unable to properly mineralize the bone matrix. Consequently, when gravity pushes on the skeleton, it causes the typical bowing of the legs seen in a child with the disease called rickets.

In adults, a deficiency in both calcium and vitamin D will increase the risk of bone fracture. Vitamin D is necessary to increase the body's ability to absorb calcium. If the body does not have enough vitamin D, it can absorb only 10 to 15 percent of the calcium it receives. If the bloodstream does not have enough calcium, it will draw it out of the bones, which causes osteoporosis. With osteoporosis, the bones break down as bone cells called osteoclasts dissolve the matrix and release calcium from the bones. A vitamin D deficiency will increase the severity of the disease because it increases the number of holes in the bones.

- 7. The word they in paragraph 1 refers to
  - (A) vitamin D and calcium
  - B bones
  - c bone cells
  - calcium and phosphorus

- 8. The word it in paragraph 1 refers to
  - (A) skin
  - B vitamin D
  - c skeleton
  - D) North America

- 9. The word it in paragraph 2 refers to
  - A calcium
  - B vitamin D

    bone matrix
  - gravity

- 10. The phrase the disease in paragraph 3 refers to
  - (A) rickets
  - B) bone fracture
  - c) osteoporosis
  - vitamin D deficiency

Answers to Exercises 1.3.A through 1.3.B are on page 561.



- Outside of class, look in a newspaper, a magazine, or a university textbook. Select a short passage of one to three paragraphs. Make a photocopy and bring it to class. In class, work with a partner. Read the passage and circle all pronouns that refer to other words or ideas in the passage. Then identify the referent of each pronoun. Draw a line between each pronoun and its noun referent. Check your answers by reading the sentence aloud, putting the noun in place of each pronoun. Does the sentence make sense? With your partner, discuss why the writer probably chose to use the pronouns.
- 2. In reading done outside class, select a short passage of no more than 100 words. In the passage, locate pronouns/referring words and their noun referents. Write the passage on an overhead projector transparency, but omit the pronouns and referents. Leave a blank space where each pronoun and referent should be. Below the passage, write the missing words in mixed—up order. Your class must fill in the blanks correctly. Is there only one correct answer for each space?

Here is an example:

	burn uncontrolled in a forested, woo	oded, or scrubby area.
Forest fires oc	cur chiefly in old growth or second-growt	h forest. Brush fires
are	_ that occur in scrub areas. Fires inject tre	mendous amounts of
microscopic _	into the atmosphere.	may be considered
pollutants by p	people living downwind from a fire, but	are essential
to the generati	on of clouds and precipitation.	

ASH PARTICLES THEY WILDFIRES THESE PARTICLES THOSE



# PROGRESS - 1.1 through 1.3

Quiz 2

Time - 40 minutes

Read the passages and choose the best answer to each question. Answer all questions about a passage on the basis of what is stated or implied in that passage.

## GERMAN EXPRESSIONISM

The Cabinet of Dr. Caligari, directed by Robert Wiene in 1919, remains the supreme example of expressionistic filmmaking. The film is narrated by a young man who suspects Dr. Caligari, a mountebank who is part of a traveling fair, of being responsible for a series of violent crimes. Caligari's instrument of crime is Cesare, a sleepwalker who is under the control of the evil doctor. Cesare captures a young woman, but she escapes, and in the subsequent search for the doctor we learn that he is really the director of a local insane asylum, in which the narrator is a patient. The film's expressionistic sets and lighting reflect the narrator's madness. Walls are slanted and windows triangular. Surreal effects of light and shadow are painted directly on the sets. Furniture is distorted and oversized, evoking a nightmare world of insanity. Dr. Caligari is a unique film with a secure place in film history.

The so-called expressionistic "street films" dealing with the lives of common people had a great influence on the popular imagination. Director Fritz Lang's *Metropolis* (1926) presents a chilling vision of life in the twenty-first century in which the rich live luxuriously in skyscrapers while the workers toil as slaves below the ground. *Metropolis* is another spectacular exercise in German expressionism, and the screen is filled with stylized shadows, sloping camera angles, and nightmarish underground chambers.

Glossary:

mountebank: a seller of false medicines who attracts customers with lies or tricks insane asylum: mental hospital

- According to the passage, the plot of The Cabinet of Dr. Caligari is mainly about
  - a young man who is responsible for several violent acts
  - an evil doctor who uses another man to commit crimes
  - a young woman who looks for a doctor to help her
  - the terrible conditions in a hospital for the insane
- 2. The word he in paragraph 1 refers to
  - (A) Robert Wiene
  - B) Dr. Caligari
  - C Cesare
  - the narrator

- 3. How do the walls, windows, and furniture in *The Cabinet of Dr. Caligari* contribute to the film?
  - (A) They reveal the doctor's lies and tricks.
  - B They portray the popular styles of the period.
  - (c) They display the director's artistic vision.
  - D They express the insanity of the narrator.

- 4. How does the author characterize Metropolis?
  - A street film about the lives of common people
  - B A documentary about life in the twentyfirst century
  - © A criticism of unfair working conditions
  - An imperfect example of German expressionism

- All of the following are characteristics of expressionistic film EXCEPT
  - A surreal effects of light and shadow
  - B nightmarish imagery
  - c luxurious sets and furniture
  - slanting and distortion

## RURAL CANADA

In the 1880s, over three–fourths of Canada's population lived outside urban centers. One view of rural Canada at that time portrays it as a vast wasteland of isolated farm communities. However, a more accurate view shows that rural Canadians had access to considerable information. The postal service was efficient and inexpensive and connected rural Canadians with the outside world. Many farm families received at least one newspaper through the mail, usually within a day of publication. The daily newspapers of the period were more substantial than those of today, and many reproduced precise accounts of court trials and public events. Rural Canadians read magazines and books and held discussions about them at club meetings.

Rural Canadians were also able to get together socially. The local school served other functions besides providing formal education, and school districts were often the only sign of political organization in vast regions of the country. Every community valued its one—room schoolhouse as a meeting place, especially during the winter, when work on the farm was much lighter and people had moretime for a variety of social and cultural events. People of all ages got together to sing and play musical instruments, perform skits, and play parlor games.

Between 1880 and 1920, there was a growing exodus from farms to the city, mainly because smaller farms could not afford to modernize their technology and were no longer able to support the entire family. However, most Canadians continued to hold rural values, and artists and writers romanticized the family farm. In the novel *Anne of Green Gables* (1908), Lucy Maud Montgomery wrote about a young woman who strove to reconcile the beauty and peace of the rural landscape with the need to leave it in order to fulfill her ambitions. For large numbers of young Canadians, growing up meant leaving the farm to find work in the city.

- According to the passage, rural Canada in the 1880s was not an isolated wasteland because
  - (A) most farms were close to the city
  - B) education was inexpensive
  - c the rural population was growing
  - (D) information was available to farmers
- 7. The word those in paragraph 1 refers to
  - A rural Canadians
  - B) farm families
  - c daily newspapers
  - (D) magazines
- 8. The word them in paragraph 1 refers to
  - (A) court trials
  - B) public events
  - c rural Canadians
  - (D) magazines and books

- According to the passage, the rural school provided all of the following services EXCEPT
  - (A) formal education
  - B) public health clinics
  - political organization
  - (D) social and cultural events
- 10. What reason is given for large numbers of people leaving the family farm?
  - There was not enough work on the farm during the winter.
  - B People grew tired of the social isolation of rural life.
  - © Small farms could no longer support the whole family.
  - Modern farm technology was not available in many areas.

- 11. Which statement best describes the period from 1880 to 1920?
  - A Literature portrayed a romanticized view of life on the farm.
  - B More Canadians lived in urban areas than in rural areas.
  - © Rural communities began to acquire characteristics of the city.
  - People gave up their rural values when they moved to the city.

#### ICE

Two conditions are necessary for the formation of ice: the presence of water and temperatures below freezing. Ice in the atmosphere and on the ground can assume various forms, depending on the conditions under which water is converted to its solid state. Ice that forms in the atmosphere can fall to the ground as snow, sleet, or hail. Snow is an assemblage of ice crystals in the form of flakes; sleet is a collection of frozen raindrops, which are actually ice pellets. Hail consists of rounded or jagged lumps of ice, often in layers like the internal structure of an onion. Ice also forms directly on the ground or on bodies of water. In North America, ice forms in late autumn, winter, and early spring. On very large bodies of water, it may not form until late winter because there must be several months of low temperatures to chill such large amounts of water.

On puddles and small ponds, ice first freezes in a thin layer with definite crystal structure that becomes less apparent as the ice thickens. On lakes large enough to have waves, such as the Great Lakes, the first ice to form is a thin surface layer of slush, sometimes called grease ice, which eventually grows into small floes of pancake ice. If the lake is small enough or the weather cold enough, the floes may freeze together into a fairly solid sheet of pack ice. Pack ice may cover the entire lake or be restricted to areas near the shore.

Because water expands when it freezes, ice is less dense than liquid water and therefore floats rather than sinks in water. As ice floats on the surface of a lake, ocean, or river, it acts as an insulator and is thus important in maintaining the balance of the ecosystem. Without the insulating effect of floating ice sheets, surface water would lose heat more rapidly, and large bodies of water such as the Arctic Ocean and Hudson Bay might freeze up completely.

- 12. What condition is necessary for water in the atmosphere to change to its solid state?
  - A solid cloud cover that absorbs the sun's heat
  - B A weather forecast for snow, sleet, or hail
  - © A position directly above a large body of water
  - A temperature below water's freezing point
- Ice that forms in the atmosphere in the form of layered lumps is known as
  - (A) snow
  - B) pack ice
  - (c) hail
  - (D) grease ice

- All of the following are forms of ice that form on bodies of water EXCEPT
  - (A) sleet
  - (B) slush
  - c pancake ice
  - (D) pack ice
- 15. Why does ice form later on very large bodies of water?
  - Most large bodies of water are located at low elevations or low latitudes.
  - B It takes several months of cold temperatures to cool a large body of water.
  - C Large bodies of water are fed by underground springs of warmer water.
  - The waves on large bodies of water prevent the water from freezing quickly.

- 16. The word it in paragraph 3 refers to
  - (A) water
  - B) ice
  - c surface
  - (D) river

- 17. Which of the following is an effect of the density of ice?
  - A Ice that forms on large lakes has a greasy consistency.
  - B) Each ice crystal is unique, but all are six-sided structures.
  - C Pack ice is restricted to areas near the shore of a lake.
  - D Floating ice sheets prevent bodies of water from losing heat.

#### THE ROLE OF GOVERNMENT IN THE ECONOMY

Because most people do not volunteer to pay taxes or police their own financial affairs, governments cannot influence economic activity simply by asking people to pollute less, to give money to the poor, or to be innovative. To accomplish these things, governments have to pass laws. Since the early twentieth century, governments of countries with advanced industrial or service economies have been playing an increasing role in economics. This can be seen in the growth of government taxation and spending, in the growing share of national income devoted to income—support payments, and by the enormous increase in the control of economic activity.

The large-scale organization of business, as seen in mass production and distribution, has led to the formation of large-scale organizations—corporations, labor unions, and government structures—that have grown in importance in the past several decades. Their presence and growing dominance have shifted capitalist economies away from traditional market forces and toward government administration of markets.

In the United States, government provides a framework of laws for the conduct of economic activity that attempt to make it serve the public interest. For instance, the individual states and the federal government have passed laws to shield investors against fraud. These laws specify what information has to be disclosed to prospective investors when shares of stocks or bonds are offered for sale. Another important area of law concerns the labor force, such as regulation of work hours, minimum wages, health and safety conditions, child labor, and the rights of workers to form unions, to strike, to demonstrate peacefully, and to bargain collectively through representatives of their own choosing.

In other nations, the ways in which governments intervene in their economies has varied; however, governments everywhere deal with essentially the same issues and participate in economic activity. Even governments that are reluctant to regulate commerce directly have undertaken large—scale projects such as hydroelectric and nuclear energy developments, transportation networks, or expansion of health, education, and other public services.

- 18. According to the passage, why do governments intervene in economic activity?
  - A People do not willingly regulate their own business affairs.
  - B Governments understand the economy better than anyone else does.
  - © Businesses pay governments to participate in economic activity.
  - The economy would fail without the help of government.
- The word This in paragraph 1 refers to
  - A economic activity
  - (B) asking people to pollute less
  - c the early twentieth century
  - (D) increasing role in economics

- 20. According to the passage, how has the growth of large–scale organizations such as corporations and labor unions affected capitalist economies?
  - A It has forced governments to pass laws protecting traditional markets.
  - B It has destroyed capitalism and replaced it with government ownership.
  - C It has led to the increasing role of government in economic activity.
  - D It has caused unfair competition between large and small businesses.
- 21. The author mentions laws to shield investors against fraud in paragraph 3 as an example of
  - A laws that organize business
  - B laws that serve the public interest
  - c laws that protect the labor force
  - D laws that set the price of stocks

- 22. The word their in paragraph 3 refers to
  - (A) individual states
  - B) laws
  - c workers
  - (D) unions
- All of the following are given as issues concerning the labor force EXCEPT
  - A stock ownership
  - B health and safety
  - c hours of work
  - the right to strike

- 24. What point does the author make about governments that do not want to regulate business directly?
  - They cannot compete effectively with government-controlled economies.
  - They have capitalist economies based on traditional market forces.
  - © They have no laws for protecting the environment and public health.
  - They participate in the economy through public projects and services.
- According to the passage, all of the following are examples of government participation in economic activity EXCEPT
  - A taxation and spending
  - B small business ownership
  - c income-support payments
  - (D) transportation networks

Answers to Reading Quiz 2 are on page 561.

Record your score on the Progress Chart on page 693.

# 1.4 Understanding Vocabulary in Context



Read the following passage and answer the question:

A 1625 map of North America drawn by Henry Briggs is one of the most notorious maps in the history of North American cartography. It was the first printed map to show California as an island. Briggs based his map on information from the 1602 Spanish expedition to the West Coast in search of a safe haven for the Spanish colonial fleets. Briggs also wrote a treatise based on the Spanish account, in which he described California as a "goodly islande." The map and treatise initiated one of the most famous and persistent of all cartographical misconceptions, and California was still being depicted as an island in atlases issued in Amsterdam as late as the 1790s.

What is cartography?

geography
exploration
printing
mapmaking

Look at the word cartography in the passage. What other words in the passage help you understand the meaning of this word? Some possible clues are map, drawn, history of, and printed map. These clues will help you see that the correct answer is mapmaking.

Now answer another question:

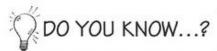
The word depicted in the passage is closest in meaning to

promised drawn developed sought

Some clues to the meaning of depicted are:

- ...the first printed map to show California as an island.
- ... California was still being depicted as an island in atlases....

In the passage, depicted means shown or drawn. Therefore, the correct answer is drawn.



- The context is the setting—the sentence and paragraph—in which a word or phrase appears. The
  meaning of a word or phrase in context is its meaning in the particular sentence and paragraph in
  which it is used. A single English word can have many different meanings. Its precise meaning
  always depends on the context in which it is used.
- 2. TOEFL questions about vocabulary in context look like this:

The word/phrase	in the passage is closest in meaning to
The word/phrase	in the passage means HTAD TRUATO A MITSHAA HUAD
The word/phrase	in paragraph refers to a type of
What is?	muranaga nguaza

- 3. To understand the meaning of a word in context, you can use different types of context clues: your knowledge of structure, punctuation, and the meaning of other words in the same sentence or paragraph. In the reading that you do in class and the real world, there may not always be context clues to help you. However, sometimes you can guess the probable meaning of an unfamiliar word by using your overall understanding of the ideas in a passage as well as your common sense and knowledge of the world.
- 4. Structural clues are one type of context clue. Structural clues are certain words, phrases, and grammatical structures that point to the relationships among the various parts of a sentence. These clues help you understand the meaning of an unfamiliar word by showing how the word relates to other words and ideas in the sentence. The structural clues below can help you understand vocabulary in context.
- 5. CLUE: BE

#### Example

A supernova is a massive star that undergoes a gravitational collapse, then a gigantic explosion, blasting away the outer layers into space.

Everyone faces times when one goal or another has to come first; deciding which goals are most important *is* setting priorities.

## 6. CLUE: OR

#### Example

The inclination or tilt of the earth's axis with respect to the sun determines the seasons.

A skyscraper, *or* building more than twenty stories high, is built on a foundation of concrete supported by piles driven into the ground.

#### Explanation

The meaning of *supernova* is given by the information after the verb *is*. A *supernova* is a massive star that collapses and then explodes.

The meaning of *priorities* is given by the information before the verb *is*. *Priorities* are the most important goals.

#### Explanation

The meaning of *inclination* is given by the information after the conjunction *or*. *Inclination* means tilt.

The meaning of *skyscraper* is given by the information after the conjunction *or*. A *skyscraper* is a building more than twenty stories high.

#### 7. CLUE: APPOSITIVE

#### Example

Thermal power stations are designed to pass as much energy as possible from the fuel to the turbines, machines whose blades are turned by the movement of the steam.

# Explanation

The meaning of *turbines* is given by the appositive, the noun phrase after the comma. *Turbines* are machines with blades that are turned by the movement of the steam.

## 8. Clue: Adjective Clause or Phrase

## Example

The sun crosses the equator twice a year at the equinoxes, when day and night are nearly equal in length.

Prescribed fire, ignited by forest rangers under controlled conditions to restore balance in the forest, is a safe way to mimic natural fire conditions.

The radiating surface of the sun is called the photosphere, and just above it is the chromosphere, which is visible to the naked eye only during total solar eclipses, appearing then to be a pinkish-violet layer.

## Explanation

The meaning of *equinoxes* is given in the adjective clause beginning with *when*. *Equinoxes* are times when day and night are nearly equal in length.

The meaning of *prescribed* is given in the adjective phrase beginning with *ignited*. *Prescribed* describes something done under controlled conditions to restore balance.

The meaning of *chromosphere* is given in the adjective clause beginning with *which* and in the adjective phrase beginning with *appearing*. The *chromosphere* is a pinkish-violet layer that is visible to the naked eye only during total solar eclipses.

#### 9. CLUE: LIST OR SERIES

#### Example

Because of their similar teeth, seals and walruses are believed to have evolved from the same ancestral groups as the weasels, badgers, and other mustelids.

If someone is said to have "a chip on his shoulder," he is angry, pugnacious, sullen, and looking for trouble.

#### Explanation

Items in a list or series are related in some way. The meaning of *mustelids* is suggested by the other words in the list: *weasels*, *badgers*, *and other*. *Mustelids* are animals like weasels and badgers.

The meaning of *pugnacious* is suggested by the other words and phrases in the list: angry, sullen, and looking for trouble. Pugnacious means inclined to fight.

#### 10. CLUE: EXAMPLE

for example for instance like such as

#### Example

Several personnel managers complain about the lag of business colleges in eliminating obsolete skills. For instance, shorthand is still taught in many secretarial programs although it is rarely used.

Intangible assets, *such as* a company's recognized name and its goodwill, are neither physical nor financial in nature.

## Explanation

The meaning of *obsolete* is given by the information after *for instance*. Shorthand is an example of an obsolete skill. *Obsolete* describes something that is no longer useful.

The meaning of *intangible assets* is given by the information after *such as*. A company's name and goodwill are examples of intangible assets. More information is provided after the verb *are*. *Intangible assets* are not physical and not financial.

#### 11. CLUE: CONTRAST

alternatively	different	instead	rather
but	however	nevertheless	unlike
conversely	in contrast	on the contrary	whereas
despite	in spite of	on the other hand	while

## Example

Twilight rays are nearly parallel, but because of the observer's perspective, they appear to diverge.

Songbirds are early risers and remain active throughout the day, except during the warmest hours in summer. Owls, on the other hand, are primarily nocturnal.

Unlike sun pillars, which are caused by reflection of light, arcs and haloes are caused by refraction of light through ice crystals.

## Explanation

The meaning of *diverge* is given by *but* and *parallel*. From this, you know that *diverge* is different from *parallel*.

The meaning of nocturnal is given by on the other hand and active throughout the day. From this, you know that nocturnal is different from active throughout the day. Nocturnal means active at night.

The meaning of *refraction* is given by *unlike* and *reflection*. From this, you know that *refraction* is different from *reflection*.

 Punctuation clues are another type of context clue that can help you understand the meaning of unfamiliar words. Punctuation marks often show that one word identifies, renames, or defines another word.

comma	2	parentheses	()	
dash	TO TONINER IN	quotation marks	""	
colon	meaning of ed	brackets demos and	nnel[n]anag	Several perso

#### Example

Crepuscular rays—alternating bright and dark rays in the sky—appear to radiate from the sun.

Virtually every community college now offers contract education: short-term programs, ranging from a few hours to several days, for employees of specific companies, which pay a share of the cost.

Folate supplementation before and during pregnancy can prevent certain defects of the brain and spine, such as anacephaly (absence of a major part of the brain).

## Explanation

The meaning of *crepuscular rays* is given by the information between the dashes. *Crepuscular rays* are alternating bright and dark rays in the sky.

The meaning of *contract education* is given by the information after the colon. *Contract education* is short–term programs for employees of specific companies.

The meaning of *anacephaly* is given by the information inside the parentheses. *Anacephaly* is absence of a major part of the brain.

13. Key words in a sentence or passage can be context clues. Use the meanings of key words and your understanding of the sentence or paragraph as a whole to help you guess the meaning of an unfamiliar word.

#### Example

Accessories add interest to a room. They can accent or highlight an area and give a room beauty and personality.

Light output, measured in lumens, depends on the amount of electricity used by a bulb.

#### Explanation

The meaning of accessories is suggested by other words in the sentence: interest, accent, highlight, beauty, and personality. From these key words, you know that accessories are things that improve a room.

The meaning of *lumens* is suggested by other words in the sentence: *light* output, measured, and electricity. From these key words, you know that a *lumen* is a unit of measurement of light output.

14. Word parts are clues that can help you understand the meaning of unfamiliar words. Many English words are made up of parts of older English, Greek, and Latin words. If you know the meanings of some of these word parts, you will have a general understanding of some unfamiliar words, especially in context.

There are three types of word parts: prefixes, stems, and suffixes. A prefix is a word beginning. A prefix affects the meaning of a word. A stem is the basic, underlying form of a word. Groups of words that have the same stem are related in meaning. A suffix is a word ending. A suffix affects the function of a word, for example, making it a noun or a verb.

Prefix	Stem	Suffix	Word
con	feder	ate	confederate
intro	duc	tion	introduction
syn	chron	ize	synchronize

On the TOEFL, use both context clues and word parts to help you understand the meaning of unfamiliar words and phrases.

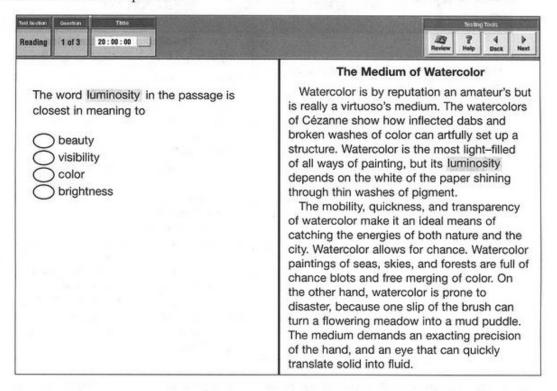
15. Study the following lists of common prefixes and stems. Can you add any more examples?

Prefix	Meaning	Examples
ab- not contest and	away, from	abolish, abnormal, abstract
ad-	to, toward	advance, admire, adhere
anti-	against	antiwar, antipathy, antibiotic
auto-	self, same	autobiography, autoimmune
bene-, bon-	good	benefit, benevolence, bonus
bi-	two	bilingual, binary, bilateral
co-, com-, con-	with, together	cooperate, compose, convene
contra-, counter-	against	contrary, contradict, counteract
de-	down, from, away	descend, derive, dehydration
dia-		dialogue, diagram, diagonal
dis-	not, take away	disease, disability, disappear
e-, ec-, ex-	out	emigrate, ecstasy, export
fore-	front, before	forehead, forecast, foreshadow
in-, im-	in, into, on	invade, immigrate, impose
in-, im-, il-, ir-	not	inequality, illegal, irrational
inter-	between	international, intersect
intro-, intra-	within, inside	introspection, intravenous
micro-		microchip, microscope
mis-	bad, wrong	misprint, misunderstand
mono-	one standards a	
multi-	many	multiply, multinational
ob-, op-, of-	against, facing	object, opposite, offend
out-	beyond	outlive, outnumber, outspend
over-	too much	overbearing, overcompensate
para-	beside, alongside	parallel, paraphrase, paragraph
post-	after	postwar, posterior, postpone
pre-	before	prepare, prevent, preview
pro-	forward	process, promote, produce
re-	back, again	return, replay, reunite
se-	apart, aside	separate, secede, segregate
sub-, sup-, sus-	below, under, after	subsidize, support, suspend
syn-, sym-, syl-	with, together	synthesis, symbol, syllabus
tele-	far, distant	telephone, telepathy
trans-	across	translate, transmit, transaction
un-	not	unable, unreal, unreasonable
uni–	one	unit, uniform, universe

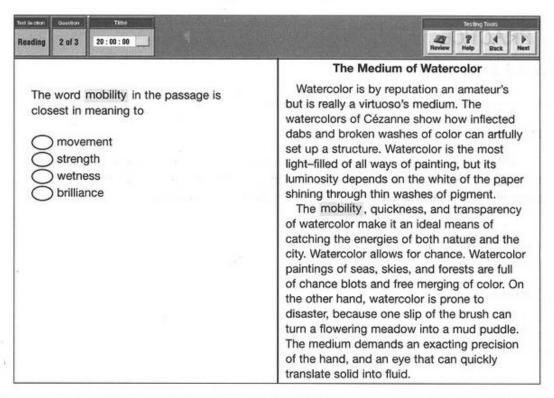
Stem	Meaning	Examples
-bio-	life	biology, biodiversity, antibiotic
-cap-, -capit-	head, chief	captain, capital, decapitate
-cede-, -ceed-, -cess-	go, move	concede, proceed, success
-chron-	time aren brow bus a	chronicle, anachronism
-cred-	believe	credit, incredible, creed
-dic-, -dict-	say, speak	dictator, predict, jurisdiction
-dorm-	sleep	dormant, dormitory
-duc-, -duct-	lead	duct, introduce, reduction
-fact-, -fect-	make, do	factory, manufacture, effect
-fid-, -feder-	trust, faith	confidence, federation
-flect-, -flex-	bend	deflect, reflect, flexible
-geo-	earth	geology, geothermal
-graph-, -gram-	write, draw	graphic, photography, grammar
-hydro-	water	hydroelectric, dehydrate
-log-, -ology-	word, study	logic, catalog, psychology
-luc-, -lum-, -lus-	light	translucent, illuminate, luster
-man-, -manu-	hand	manual, manager, manuscript
-mit-, -miss-	send	transmit, omit, mission
-mob-, -mot-, -mov-	move	automobile, emotion, remove
-mort-	death	mortality, immortal, mortify
-nov-	new	novice, innovation, renovate
-phon-, -son-	sound	microphone, supersonic
-polis-, -polit-	city	metropolis, politics, police
-pon-, -pos-	put, place	postpone, position, deposit
-port-	carry	portable, reporter, import
-rect- and a making of	right, straight	correct, rectangle, rectify
-scrib-, -script-	write	describe, script, inscription
-secut-, -sequ-	follow	consecutive, sequence
-spec-, -spect-	look at, see, observe	spectator, spectacle, inspector
-struct-	build	structure, instruct, destructive
-therm-	heat	thermometer, hypothermia
-ven-, -vene-	come	convention, intervene
on-ver-about of particular	true	verify, conversation, universal
-vid-, -vis-	see	video, visit, invisible
-viv-, -vita-	alive, life	vivid, revive, vitamin
-voc-, -vok-	call, voice	vocal, vocabulary, revoke

400

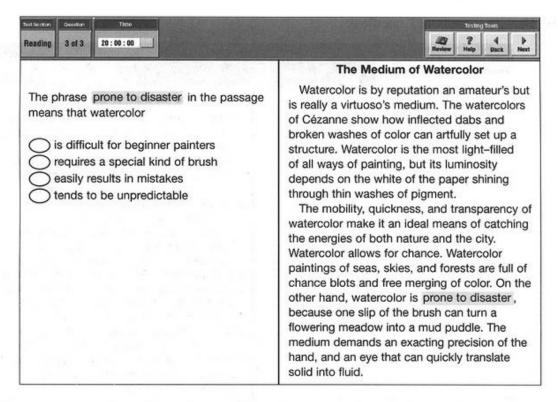
#### 16. Here are some TOEFL questions:



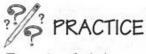
The correct answer is *brightness*. Some context clues in the sentence are *light-filled* and *shining*. Also, *luminosity* contains the stem *-lum-*, which means light.



The correct answer is *movement*. Some context clues in the sentence are *quickness* and *energies* of both nature and the city. Also, mobility contains the stem –mob–, which means move.



The correct answer is easily results in mistakes. Some context clues in the passage are chance blots; on the other hand; and one slip of the brush can turn a flowering meadow into a mud puddle.



Exercise 1.4.A

Read the passages and choose the best answer to each question.

#### QUESTION 1

Although the sensory receptors and brain pathways for taste and smell are independent, the two senses do interact. A great deal of what we consider taste is actually smell. If the sense of smell is obstructed, as by a head cold, the perception of taste is sharply reduced.

- The word obstructed in the passage is closest in meaning to
  - (A) involved
  - B increased
  - © developed
  - D) blocked

#### **QUESTION 2**

A water molecule consists of two hydrogen atoms attached to a single, larger oxygen atom. The angle between the two hydrogen atoms is 120 degrees—the same angle as the angles of a hexagon—which accounts for the characteristic six-sided structure of ice crystals.

- 2. The phrase accounts for in the passage means
  - (A) explains
  - (B) decreases
  - c) connects
  - summarizes

## QUESTION 3

Reports on an organization's projects may fill several major functions at the same time. A report can be used to educate and gain support from key people and groups, to facilitate and inform decision—making about current and future projects, and to provide documentation for the organization's records. The employees who are responsible for preparing the report must have a clear understanding of how the report will be used before they compile it.

- 3. The word compile in the passage is closest in meaning to
  - (A) agree with
  - B put together
  - c ask about
  - D look forward to

#### **QUESTION 4**

The evolutionary origins of music are wrapped in mystery. There is ample concrete evidence of musical instruments dating back to the Stone Age and much presumptive evidence about the role of music in organizing work groups, hunting parties, and religious rites. Many scholars suspect that musical and linguistic expression had common origins but then split off from one another several hundred thousand years ago.

- The phrase split off in the passage is closest in meaning to
  - A separated
  - B borrowed
  - © evolved
  - D learned

# QUESTIONS 5-6

Modern tourism began with the transition from a rural to an industrial society, the rise of the automobile, and the expansion of road and highway systems. Before the Second World War, travel for pleasure was limited to the wealthy, but since then, improved standards of living and the availability of transportation have allowed more people to indulge. In the 1960s, improvements in aircraft technology and the development of commercial jet airlines enabled fast international travel. The tourism industry exploded. Today, airports in nearly every country can accommodate jumbo jets full of tourists seeking exotic destinations.

5. The word indulge in the passage is closest in meaning to	<ol><li>The word exploded in the passage is closes in meaning to</li></ol>
(A) participate	(A) was competitive
B migrate	B) expanded rapidly
© survive	c was expensive
© change	became dangerous
QUESTIONS 7–8	
Individuals who will guide the future of their understanding of the world. This means cove science to literature to mathematics to histor of economic realities and the political process	ering the whole range of the liberal arts, from y. Today's executives must have some grasp ss, as well as some comprehension of the basic hological changes take place. They must gain
7. The word grasp in the passage is closest in meaning to	8. The word pitfalls in the passage is closest in meaning to
(A) understanding	(A) benefits
B communication	B stages
© criticism	© causes

(D) hazards

D prediction

10. The word masked in the passage is closest

# QUESTIONS 9-10

9 The word foliage in the passage means

random D simple

It is a popular notion that autumn leaves are tinted by freezing temperatures. In truth, the foliage is dulled, not colored, by frost. Red leaves such as maples are brightest when sunny days are followed by cool—but not freezing—nights. Under such conditions, sun—made sugars are trapped in the leaves, where they form the red pigment anthocyanin. Leaves that appear yellow in autumn are no less yellow in spring and summer. However, in spring and summer the yellow pigments—carotenoid and xanthophyll—are masked by the green pigment chlorophyll, which breaks down with the diminishing sunlight of fall.

7. The word forlage in the passage means	in meaning to
(A) season of year	
B) type of chemical	(A) created
© mass of leaves	B) colored
D species of tree	© captured
	© concealed
Exercise 1.4.B	
Read the passages and choose the best answer to	each question.
QUESTIONS 1–2	
is a thin crescent—is sunlight reflected from Earthshine is variable because the earth's rego. The moon with its earthshine acts as a simple way, the general state of terrestrial of from the earth depends on the amount of common varies.  As the phase of the moon progresses betwo. This is because the amount of sunlit e	eflectivity changes as large cloud masses come and crude weather satellite by reporting, in a very cloudiness. Because the amount of light reflected loud cover, the brightness of the dark side of the eyond a thin crescent, earthshine fades in a day or arth available to make earthshine diminishes as the creasing glare of the moon's growing crescent,
1. The word crude in paragraph 1 is closest	2. The word glare in paragraph 2 is closest
in meaning to	in meaning to
(A) false	(A) cloud cover
(B) stormy	B bright light

c wave frequency

(D) dark sphere

## QUESTIONS 3-4

Cool has withstood the fleeting nature of most slang. As a modifier, as a noun, and as a verb, cool has been around a long time. Shakespeare used cool as a verb, and the word later evolved into other parts of speech. It has been used as an adjective since 1728 to describe large sums of money, as in "worth a cool ten million."

Cool, meaning "excellent" or "first-rate," was popularized in jazz circles, and jazz musicians and jazz lovers still refer to great works as "cool." As long as Miles Davis' classic 1949 album, Birth of the Cool, remains one of the best-selling jazz recordings of all time, cool will stay cool—it will carry the same weight as it did more than 50 years ago. One reason for the endurance of cool is that its meaning continues to evolve. While it meant "wow!" two decades ago, today it is more often used to mean, "That's OK with me," as in "I'm cool with that."

3.	The	word	fleeting	in	paragraph	1	is closest
	in m	neanin	g to				

- A temporary

  B youthful
- © emotional
- popular

- The phrase carry the same weight in paragraph 2 means
  - A refer to great music
  - B) refer to a large sum of money
  - c have the same importance
  - D have the same meaning

# QUESTIONS 5-6

The dominant feature on the map of Canada is the two-million-square-mile mass of ancient rock known as the Canadian Shield. The shield sweeps in a great arc around Hudson Bay from far northwest to far northeast, touching the Great Lakes on the south and extending eastward deep into Quebec. The rock of the shield consists mainly of granite and gneiss formed nearly four billion years ago. During the ice ages, huge glaciers advanced and retreated over the region, scouring the surface, removing most of the existing soil, and hollowing out countless lakes.

Clay soils exist in a few areas on the shield's southern edge, but attempts to bring them into agricultural use have been largely unsuccessful. However, the region's mineral wealth has sustained both temporary and permanent settlements during the past century, and more recently, some of its vast potential for hydroelectric power has been tapped.

5.	The word	scouring	in	paragraph	1	is	closest
	in meanin	g to					

- A freezing
- B uplifting
- improving
- scraping

- The word sustained in paragraph 2 is closest in meaning to
  - A prevented
  - B protected
  - © supported
  - D ruined

# QUESTIONS 7-10

A growing number of companies are finding that small-group discussions allow them to develop healthier ways to think about work. People at all levels of the corporate structure are starting groups that meet weekly or monthly to talk over ways to make workplaces more ethical and just.

Several factors must be present for small-group discussions to be successful. First, it is important to put together the right group. Groups work best when they consist of people who have similar duties, responsibilities, and missions. This does not mean, however, that everyone in the group must think in lockstep.

All participants should agree on the group's purpose. Finding the right subject matter is essential. There are several ways to fuel the discussion: by using the company's mission statement, by finding readings on work and ethics by experts in the topic, or by analyzing specific workplace incidents that have affected the company or others like it.

Finally, the dynamics of the group should be balanced, and the discussion leader must not be allowed to overwhelm the conversation or the agenda. Groups work best when the same person is not always in charge. It is better to rotate the leadership for each meeting and let that leader choose the material for discussion.

<ol><li>The word fuel in paragraph 3 is closes in meaning to</li></ol>
A categorize B stimulate C sequence
o conclude  10. The word overwhelm in paragraph 4 is
closest in meaning to
B plan C summarize D contradict

# 1.4 VOCABULARY IN CONTEXT

## Exercise 1.4.C

Read the passages and choose the best answer to each question.

# QUESTIONS 1-4

There is growing evidence that urbanization has a sharp impact on climate, causing changes that can wreak havoc on precipitation patterns that supply the precious resource of water. The heavy amounts of heat and pollution rising from cities both delay and stimulate the fall of precipitation, depriving some areas of rain while drenching others.

Cities are on average one to ten degrees warmer than surrounding undeveloped areas. Cities also produce large amounts of pollutants called aerosols, gaseous suspensions of dust particles or byproducts from the burning of fossil fuels. Both heat and aerosols change the dynamics of clouds. When hoisted up in the sky, the microscopic particles act as multiple surfaces on which the moisture in clouds can condense as tiny droplets. This can prevent or delay the formation of larger raindrops that fall more easily from the sky, or it can cause the rain to fall in another location.

one trillion gallons a year across the Sierra Ne	ants seem to invigorate summer storm activity
The phrase wreak havoc on in paragraph 1 means	<ol> <li>The word hoisted in paragraph 2 is closest in meaning to</li> </ol>
A disrupt B omit C strengthen D separate	A lifted B grouped C returned D pointed
2. The word drenching in paragraph 1 is closest in meaning to	<ol> <li>The word torrential in paragraph 3 is closest in meaning to</li> </ol>
A almost missing B severely damaging C thoroughly wetting D entirely avoiding	A unexpected B warm C infrequent D heavy

# QUESTIONS 5-10

So much sentimentality is attached to the rose in popular culture that it is difficult to separate the original mythological and folkloric beliefs from the emotional excess that surrounds the flower. Yet if we look into the beliefs, we find that the rose is much more than the mere symbol of romantic love invoked by every minor poet and painter.

One of the rose's most common associations in folklore is with death. The Romans often decked the tombs of the dead with roses; in fact, Roman wills frequently specified that roses were to be planted on the grave. To this day, in Switzerland, cemeteries are known as rose gardens. The Saxons equated the rose with life, and they believed that when a child died, the figure of death could be seen plucking a rose outside the house.

The rose has a long association with female beauty. Shakespeare mentions the rose more frequently than any other flower, often using it as a token of all that is lovely and good. For the Arabs, on the other hand, the rose was a symbol not of feminine but of masculine beauty.

Later the rose became a sign of secrecy and silence. The expression sub rosa, "under the rose," is traced to a Roman belief. During the sixteenth and seventeenth centuries, it was common practice to carve or paint roses on the ceilings of council chambers to emphasize the intention of secrecy.

the intention of secrecy.	
*	
5. The word sentimentality in paragraph 1 is	8. The word plucking in paragraph 2 is closest
closest in meaning to	in meaning to
(A) confusion	(A) growing
B beauty	B) smelling
© feeling	© wearing
D popularity	D picking
6. The word invoked in paragraph 1 is closest	9. The word token in paragraph 3 is closest
in meaning to	in meaning to
(A) avoided	(A) symbol
B called on	(B) proof
© criticized	© justification
taken away	D contradiction
7. The word decked in paragraph 2 is closest	10. The phrase sub rosa in paragraph 4 means
in meaning to	
	(A) romantically
(A) painted	B intentionally
B separated	© secretly
© decorated	(D) commonly
Discovised	27 / 23 4 (CLASSES) 27 CA (CLA

#### Exercise 1.4.D

Read the passages and choose the best answer to each question.

# QUESTIONS 1-5

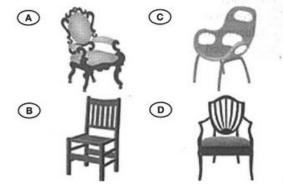
In the nineteenth century, Americans were becoming more familiar with European homes and luxuries. When "period" furniture became popular, American furniture factories attempted to duplicate various styles of French and English furniture of the seventeenth and eighteenth centuries. At the same time, designers in England were attempting a return to handicrafts as a means of self–expression. William Morris and other leaders of the English Arts and Crafts movement created home furnishings that celebrated the individuality of the designer.

In the United States, a similar movement soon followed. The American Arts and Crafts—or Craftsman—movement was based not only on individualism but also on a return to simplicity and practicality. Like the Arts and Crafts furniture in England, the Craftsman furniture in America represented a revolt from mass—produced furniture. Makers of Craftsman furniture sought inspiration in human necessity, basing their furniture on a respect for the sturdy and primitive forms that were meant for usefulness alone.

Gustav Stickley, pioneer of the Craftsman movement, believed that average working people wanted furniture that was comfortable to live with and would also be a good investment of money. Stickley felt that any American style in furniture would have to possess the essential qualities of durability, comfort, and convenience. Craftsman furniture was plain and unornamented—made to look as if the common man could build it himself in his own workshop. Locally obtained hardwoods and simple, straight lines were the hallmarks of its construction. The severity of the style departed greatly from the ornate and pretentious factory—made "period" furniture that had dominated in homes up till then.

- 1. What is "period" furniture?
  - (A) Reproductions of earlier styles
  - B) Furniture that is made by hand
  - The last pieces made in any style
  - D Nineteenth-century designer furniture
- The word revolt in paragraph 2 is closest in meaning to
  - (A) style
  - B benefit
  - c break
  - (D) inspiration
- The word primitive in paragraph 2 is closest in meaning to
  - (A) special
  - (B) beautiful
  - c) innovative
  - simple

- The word hallmarks in paragraph 3 is closest in meaning to
  - (A) features
  - B limits
  - c commands
  - plans
- 5. Which chair most closely resembles a chair in the Craftsman style?



# QUESTIONS 6-10

Zora Neale Hurston devoted five years to the collection of rural black folklore in Haiti, the West Indies, and the American South. Her ear for the rhythms of speech and her daring in seeking initiation into many voodoo cults resulted in ethnographic studies such as *Mules and Men*, which conveyed the vitality, movement, and color of rural black culture.

Hurston continued her fieldwork in the Caribbean but eventually followed her most cherished calling, that of fiction writer. *Their Eyes Were Watching God* (1937), a novel about a black woman finding happiness in simple farm life, is now her most famous book, although for thirty years after publication, it was largely unknown, unread, and dismissed by the male literary establishment. In this novel, Hurston gives us a heroic female character, Janie Crawford, who portrays freedom, autonomy, and self–realization, while also being a romantic figure attached to a man. This novel reveals an African American writer struggling with the problem of the hero as woman and the difficulties of giving a woman character such courage and power in 1937.

From the beginning of her career, Hurston was criticized for not writing fiction in the protest tradition. Her conservative views on race relations put her out of touch with the temper of the times. She argued that integration would undermine the strength and values of African American culture. Hurston died in poverty and obscurity in 1960, and it was only afterward that later generations of black and white Americans were to rediscover and revere her celebrations of black culture.

- The word vitality in paragraph 1 is closest in meaning to
  - (A) politics
  - B energy
  - c disadvantages
  - (D) humor
- The word calling in paragraph 2 is closest in meaning to
  - A profession
  - B example
  - c character description
- 8. The word autonomy in paragraph 2 is closest in meaning to
  - A independence B selfishness
  - © evil
  - o romance

- The phrase out of touch in paragraph 3 means that
  - other writers were not interested in race relations
  - B Hurston ignored the topic of race relations
  - C Hurston's opinions differed from those of most other people
  - D there was no contact between Hurston and other writers
- The word revere in paragraph 3 is closest in meaning to
  - (A) imitate
  - B be amused by
  - c disagree with
  - D honor

Answers to Exercises 1.4.A through 1.4.D are on page 562.

#### 1.4 VOCABULARY IN CONTEXT



- With your teacher and classmates, discuss ways to improve your English vocabulary. Answer these
  questions:
  - a. What is the best way to acquire new English vocabulary?
  - b. How did you learn in the past?
  - c. What method or methods work best for you now?

(Possible answers: listen to lectures; watch television and movies; have an English-speaking roommate; write down three new words every day; memorize word lists; translate words into your native language; read an English newspaper; read various types of materials; read textbooks in your major field of study.)

On the board, make a list of the various ways to learn new words. Then, decide which three ways work best for you. Practice these ways to improve your vocabulary!

- Every week, learn five prefixes and five stems from the charts on pages 67-68. In reading done outside of class, look for examples of words with these prefixes and stems. Bring examples to share in class.
- Outside of class, look in a magazine, a newspaper, or a university textbook. Find a paragraph in which you have learned a new word. Underline the word. Make four copies of the paragraph to bring to class.

In class, form groups of four students. In your group, give each classmate a copy of your paragraph. Read each paragraph from your classmates. Work as a team. Look for context clues and word parts that help you understand the meaning of each underlined word. Is the word a noun, a verb, an adjective, or some other part of speech? Write a short definition of each underlined word. Then, look up the word in an English—only dictionary. How close is your group's definition to the dictionary definition?

- 4. In reading done outside of class, find three sentences, each of which contains a word that is new for you. Bring the sentences to class. Choose one sentence to write on the board, but omit the new word, leaving a blank space where the word should be. Your classmates must think of words that would fit the context of the sentence. How many words would be correct in the sentence? Compare these words with the real missing word.
- 5. Start a vocabulary notebook to help you prepare for the TOEFL. In the notebook, write new words that you have learned through reading. Include examples of the words used in context. Organize the notebook into word categories. (Possible categories: words by subject area, such as science, business, and the arts; important terms from your major field of study; words with the same prefix or stem; words that are difficult to remember; words that have an interesting sound.)

Quiz 3

Time - 15 minutes

Read the passages and choose the best answer to each question. Answer all questions about a passage on the basis of what is stated or implied in that passage.

#### JOHNNY APPLESEED

In 1801, a 26-year-old man named John Chapman wandered the sparsely populated "western country" that was still two years away from becoming the state of Ohio. Chapman had a simple purpose: wherever he found suitable soil, he planted apple seeds. To the settlers of the Ohio frontier, Chapman became known as Johnny Appleseed, a strange man who wore odd clothes and went barefoot. He was a pacifist in a time of warfare and brutality against the Indians, treating Indians and settlers alike with respect. He killed no animals and was a vegetarian. He even opposed pruning his apple trees because he did not want to cause them pain.

Chapman spent forty years wandering as Johnny Appleseed. Journeying by foot and canoe through Ohio and Indiana, he planted seeds, sold and gave away apple saplings, and exchanged knowledge of medicinal plants with Indians and settlers. He prepared the way for farms and towns by planting apple seeds in clearings along rivers and constructing simple wooden fences to keep animals out of his primitive orchards.

The agricultural development that Chapman anticipated was in fact marching across the eastern half of the continent at an ever–increasing pace. When Chapman started his "apple seeding" in 1801, the population of Ohio was 45,000, and ninety percent of the land was still covered with elm, ash, maple, oak, and hickory trees. By the time of Chapman's death in 1845, the state's population had reached two million, and more than forty percent of the land had been cleared of trees and converted to farms. Not until 1880 did the cutting of trees subside. By then, three–quarters of Ohio had been cleared, and people were becoming aware of the limits of expansion. Only then did they begin to take seriously the tree–loving ideas of Johnny Appleseed, who had become the subject of folk tales.

- The phrase sparsely populated in paragraph 1 means that
  - (A) the area had many resources
  - B most of the people were young
  - few people lived in the region
  - D the land was undeveloped
- The word pacifist in paragraph 1 is closest in meaning to
  - (A) citizen soldier
  - B) peace advocate
  - c social scientist
  - p respected speaker

- Johnny Appleseed performed all of the following activities EXCEPT
  - (A) traveling on foot
  - B) building fences
  - c) giving away meat
  - studying medicinal plants
- The word marching in paragraph 3 is closest in meaning to
  - (A) crawling
  - B) advancing
  - c attacking
  - declining

5. The word subside in paragraph 3 is closest in meaning to	. In the say, in the
A matter B succeed C resume D decrease	
THE ORIGIN OF	F THE UNIVERSE
mainly of hydrogen, the simplest of all the natu of hydrogen was very hot and caused intense li universe expanded, its light became dimmer, ye	ght and much expanding motion. As the
galaxies, stars, and planets. As the original mass separated themselves from the parent mass. Gramechanism. Matter is subject to gravity, yet mass that determines the strength of the Scientists believe that the original mass of uniform, and there were some regions that were stronger gravitational fields than others. Since denser regions tended to become even more comass evolved into denser clouds that gradually From these clouds, the galaxies were formed.  At the end of the first phase of the universe separate entities that could start their own independent galaxies—contained variations that green.	avity played an important role in this atter is also the cause of gravity since it is also the cause of gravity since it is also the universe was not completely as slightly denser and capable of generating gravity tends to pull matter together, the impact. Thus, small variations in the original as separated from the expanding parent mass.  The agreat number of huge clouds had become appendent evolution. These turbulent clouds—we in importance over time. The clouds divided
into smaller and smaller "cloudlets" that gravit from this contraction caused the temperature to individual, luminous stars.	
6. The word primeval in paragraph 1 is closest in meaning to	8. The word uniform in paragraph 3 is closest in meaning to
A original B important C expanding D beautiful	A suitable B unusual C consistent D filled
7. The word transition in paragraph 2 is closest in meaning to	9. The word compact in paragraph 3 is closest in meaning to
A transaction B struggle C combination D change	A distinct B dense C disconnected D distant

- 10. The word luminous in paragraph 4 is closest in meaning to
  - A light-emitting

    B densely packed
  - c high-pressure
  - very beautiful

Answers to Reading Quiz 3 are on page 564.

Record your score on the Progress Chart on page 693.



# PROGRESS - 1.1 through 1.4

Quiz 4

Time - 40 minutes

Read the passages and choose the best answer to each question. Answer all questions about a passage on the basis of what is stated or implied in that passage.

#### ROAD BUILDING AND THE AUTOMOBILE

Car registrations in the United States rose from one million in 1913 to ten million in 1923. By 1927, Americans were driving some twenty-six million automobiles, one car for every five people in the country. Automobile sales in the state of Michigan outnumbered those in Great Britain and Ireland combined. For the first time in history, more people lived in cities than on farms, and they were migrating to the city by automobile.

The automobile was every American's idea of freedom, and the construction of hard—surface roads was one of the largest items of government expenditure, often at great cost to everything else. The growth of roads and the automobile industry made cars the lifeblood of the petroleum industry and a major consumer of steel. The automobile caused expansions in outdoor recreation, tourism, and related industries—service stations, roadside restaurants, and motels. After 1945, the automobile industry reached new heights, and new roads led out of the city to the suburbs, where two—car families transported children to new schools and shopping malls.

In 1956 Congress passed the Interstate Highway Act, the peak of a half-century of frenzied road building at government expense and the largest public works program in history. The result was a network of federally subsidized highways connecting major urban centers. The interstate highways stretched American mobility to new distances, and two-hour commutes, traffic jams, polluted cities, and Disneyland became standard features of life. Like almost everything else in the 1950s, the construction of interstate highways was justified as a national defense measure.

The federal government guaranteed the predominance of private transportation. Between 1945 and 1980, 75 percent of federal funds for transportation were spent on highways, while a scant one percent went to buses, trains, or subways. Even before the interstate highway system was built, the American bias was clear, which is why the United States has the world's best road system and nearly its worst public transit system.

- 1. The word those in paragraph 1 refers to
  - (A) car registrations
  - B) automobiles
  - c people
  - automobile sales

- The phrase the lifeblood in paragraph 2 is closest in meaning to
  - a supervisor
  - B an important part
  - an opponent
  - a serious threat

- 3. The word frenzied in paragraph 3 is closest in meaning to
  - (A) intense
  - B scientific
  - © disorganized
  - wasteful
- 4. Which sentence best describes road building in the 1940s and 1950s?
  - A It was the last public works project funded by the federal government.
  - B It cost more money than the government spent on national defense.
  - © It produced a network of highways that favored large cities and suburbs.
  - D It led to an increase in the demand for better public transit systems.
- The word scant in paragraph 4 is closest in meaning to
  - A more important
  - B barely sufficient
  - © very generous
  - privately funded

- According to the passage, the growth in the number of cars had a positive impact on all of the following EXCEPT
  - (A) tourism
  - B service stations
  - © subway systems
  - shopping malls
- According to the passage, the American attitude toward the automobile has resulted in
  - a preference for private cars over public transportation
  - loss of farmland and destruction of traditional farm life
  - an increase in the number of deaths due to car accidents
  - D criticism of the amount of money spent on roads

#### BIRD SONG

One instance in the animal kingdom with parallels to human music is bird song. Much has recently been discovered about the development of song in birds. Some species are restricted to a single song learned by all individuals, while other species have a range of songs and dialects, depending on environmental stimulation. The most important auditory stimuli for birds are the sounds of other birds, including family or flock members and territorial rivals. For all bird species, there is a prescribed path to development of the final song, beginning with the subsong, passing through plastic song, until the bird achieves the species song or songs. This process is similar to the steps through which young children pass as they first babble and then mimic pieces of the songs they hear around them, although the ultimate output of human singers is much vaster and more varied than even the most impressive bird **repertoire**.

Underlying all avian vocal activity is the syrinx, an organ unique to birds that is located at the first major branching of the windpipe and is linked to the brain. There are general parallels between the syrinx in birds and the larynx in humans. Both produce sound when air is forced through the windpipe, causing thin membranes to vibrate. However, compared to the human larynx, which uses only about two percent of exhaled air, the syrinx is a far more efficient sound–producing mechanism that can create sound from nearly all the air passing through it.

Possibly the most interesting aspect of bird song from the perspective of human intelligence is its foundation in the central nervous system. Like humans, birds have large brains relative to their body size. Song is a complex activity that young birds must learn, and learning implies that higher—brain activity must be complex in the control of song. This control is associated with two song—control centers in the avian brain. If the links between these centers and the syrinx are interrupted, a bird is unable to produce normal song. Moreover, bird song is one of the few instances in the animal kingdom of a skill that is lateralized; the song—control centers are located in the left side of the avian brain. A lesion there will destroy bird song, while a similar lesion in the right half of the brain will result in much less damage.

#### Glossary:

repertoire: stock of songs avian: relating to birds

windpipe: main airway to the lungs; trachea

- The word range in paragraph 1 is closest in meaning to
  - A region
  - B memory
  - © variety
  - system

- 9. How does the development of song in birds parallel its development in humans?
  - A Bird song and human music evolved during the same period in history.
  - All birds and humans are capable of learning a large number of songs.
  - © The song repertoire of both birds and humans changes over their lifetime.
  - Song development progresses through stages in both birds and humans.

- 10. The word mimic in paragraph 1 is closest in meaning to
  - (A) imitate
  - B enjoy
  - © compose
  - (D) memorize
- 11. In what way are the avian syrinx and the human larynx different?
  - A The syrinx is located near the windpipe, but the larynx is not.
  - B The syrinx is larger than the larynx relative to body size.
  - The syrinx produces a wider variety of sounds than the larynx.
  - The syrinx uses much more of the passing air to produce sound.
- 12. What aspect of bird song suggests the involvement of the brain in the control of song?
  - A The purpose of song is similar in birds and humans.
  - B Song is a complex activity that must be learned.
  - © Birds can produce two separate sounds at the same time.
  - Song consists of a wide variety of musical notes.

- The word lateralized in paragraph 3 is closest in meaning to
  - (A) linked to a specific area of the brain
  - B highly evolved
  - c shared by all species
  - (D) easily damaged or destroyed
  - 14. The word there in paragraph 3 refers to
    - (A) the central nervous system
    - B) the syrinx
    - c the animal kingdom
    - the left side of the brain
  - All of the following statements characterize bird song EXCEPT
    - A Birds learn song mainly by listening to the sounds of other birds.
    - B Birds are born with the full ability to sing their species song.
    - © Song is produced in the syrinx, which is linked to the avian brain.
    - D The central nervous system has the lead role in the control of song.

#### MACHIAVELLI

Niccolo Machiavelli, an Italian statesman and political philosopher of the early sixteenth century, is considered the founder of modern political thinking. Machiavelli was a product of Renaissance Florence, a city-state that was struggling for expansion and survival among a competing group of similar states. As a public servant and diplomat, Machiavelli came to understand power politics by observing the spectacle around him without any illusions. In 1512, he was briefly imprisoned and then forced to leave public life. He retired to his country estate, where he recorded his reflections on politics. Two of his books would become classics in political theory: *Discourses on the First Ten Books of Livy*, a set of essays on ancient and modern politics, and *The Prince*, a potent little book that would shock readers for centuries.

Machiavelli saw politics as an affair separate from religion and ethics, an activity to be practiced and studied for its own sake. Politics was simply the battle of men in search of power, and since all men were brutal, selfish, and cowardly, politics must follow certain rules. In his most famous work, *The Prince* (1532), Machiavelli described the means by which a leader may gain and maintain power. The ideal prince was the man who had studied his fellow men, both by reading history and by observing the present, and was willing to exploit their weaknesses. Machiavelli thought that his own time was too corrupt to permit any alternative to the Renaissance despots that he saw all around him.

Machiavelli's philosophy arose more from a deeply pessimistic view of human nature than from a lack of moral sense, which many readers criticized in him. He was, and still is, misunderstood to have promoted atheism over religion and criminality over other means of governing. Despite the ruthless connotation of the term "Machiavellian," many of his works, such as the *History of Florence* (1532), express republican principles. Machiavelli's supporters saw him not as a cynic who gloried in evil but as a scientist of politics who saw the world more clearly than others and reported what he saw with lucidity and honesty.

The cultural impact of Machiavelli's philosophy was far-reaching, and negative interpretations have persisted. The dramatic literature of the late sixteenth century, notably the plays of Shakespeare, often featured a villainous but humorous character type known as the Machiavel. The Machiavel character loved evil for its own sake, and this delight in evil made all other motivation unnecessary. The Machiavel had a habit of using humorous monologues to comment on his own wickedness and contempt for goodness. Shakespeare's principal Machiavel characters are the treacherous Iago in *Othello*, the ruthlessly ambitious Edmund in *King Lear*, and the murderous title character in *Richard III*.

- 16. According to the passage, what was a main influence on Machiavelli's political philosophy?
  - A The power struggles within and among city-states
  - The desire to express his anger for being imprisoned
  - © The rejection of ancient theories about politics
  - The shock and disgust he felt toward political leaders

- The word illusions in paragraph 1 is closest in meaning to
  - (A) conclusions
  - B false beliefs
  - © limits
  - good intentions

- 18. What is the subject of The Prince?
  - (A) The trial and imprisonment of Machiavelli
  - The relationship between politics and religion
  - © The ways that a ruler gains and maintains power
  - The history of the political leadership of Florence
- 19. The word their in paragraph 2 refers to
  - (A) religion and ethics
  - B certain rules
  - c fellow men
  - Renaissance despots
- The word pessimistic in paragraph 3 is closest in meaning to
  - A negative
  - B) cautious
  - c religious
  - (D) emotional
- Machiavelli's political philosophy included all of the following beliefs EXCEPT
  - A Politics is the power struggle among men who are all brutal and selfish.
  - B The ideal ruler understands and exploits the weaknesses of others.
  - © People must organize to fight against evil and corruption in politics.
  - Politics should be studied and practiced separately from religion and ethics.

- 22. According to the author, how has Machiavelli been misunderstood?
  - Some people think he was cowardly for retiring from public life.
  - B Some of his writings seem to support religion, while others oppose it.
  - © Some of his principles of republican government have been misused.
  - Some people interpret his writings as promoting evil in government.
- The word lucidity in paragraph 3 is closest in meaning to
  - A distaste
  - B clarity
  - c respect
  - (D) concern
- 24. The word monologues in paragraph 4 is closest in meaning to
  - (A) speeches
  - B) actions
  - © noises
  - costumes
- The Machiavel character in drama has all of the following characteristics EXCEPT
  - (A) dislike for goodness
  - B humorous commentary
  - c enjoyment of evil
  - o complex motivation

Answers to Reading Quiz 4 are on page 564.

Record your score on the Progress Chart on page 693.

# 1.5 Making Inferences



Read the following passage and answer the question:

When Thomas Lincoln took his family across the Ohio River into Indiana in 1816, he was searching for a permanent homestead site. He found it near Little Pigeon Creek on a plot of land he had laid claim to earlier. The family settled down and remained here for fourteen years, and it was here that Thomas's wife, Nancy Hanks, died from "milksick," an illness caused by milk from cattle that had eaten snakeroot leaves.

Today, bronze castings of sill logs and a stone hearth mark the site of the Lincoln cabin. Just beyond this, a reconstruction of the little house contains the clutter of Abraham Lincoln's boyhood home: log table and benches, a trundle bed, spinning wheels, and a fireplace with iron pots. In a shed behind the cabin the tobacco crop is dried. A few horses, sheep, and chickens complete the scene, and interpreters in period dress are at hand to answer questions. Five panels depicting scenes from Abraham Lincoln's life decorate the visitor center. A walkway leads to the small hill where the president's mother is buried, and another path has stones marking important events in Lincoln's early life.

It	can	be	inferred	from	paragraph	1	that	"milksick"

0	was a common illness on farms
	did not affect children
$\bigcirc$	was caused by a poisonous plan
$\bigcirc$	killed both people and cattle

What do you know about "milksick" from the passage? You know that it killed a woman and that it was caused by milk from cattle that had eaten snakeroot leaves. You can infer that "milksick" was caused by a poisonous plant—the correct answer. The other answer choices cannot be inferred from the passage.

Now answer another question:

Which of the following can be inferred from the passage?	
The Lincoln family was originally from Indiana. Tobacco was the only crop raised on the Lincoln farm. The Lincoln cabin was constructed of bronze and stone. The site of the Lincoln homestead is now a museum.	

You can infer that The site of the Lincoln homestead is now a museum. Some clues are:

Today...mark the site of the Lincoln cabin. ...a reconstruction of the little house...

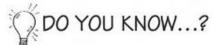
...interpreters in period dress...

...panels depicting scenes...

...the visitor center.

...stones marking important events...

The other answer choices cannot reasonably be inferred from the passage.



 An inference is a conclusion you can make from the information given in a passage. An inference is an idea that you can reasonably take to be true, based on what the author says. Some inferences can be made from a single sentence. Some inferences are based on a whole paragraph or on the entire passage.

An inference is a "hidden" idea. To make an inference, you must understand an idea that the author does not state directly. To do this, you must interpret the information that is stated directly. What the author does not state directly and openly, he or she may *imply* or *suggest* by mentioning certain facts and details. When an author implies something, you must *infer* or *conclude* the meaning based on what the author does say.

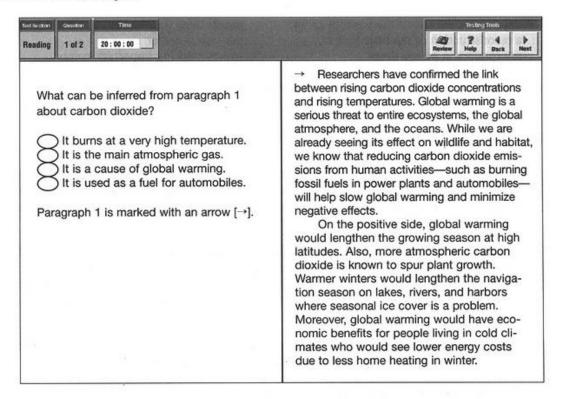
When you make inferences, use key words and ideas in the passage and your overall understanding of the author's message, as well as reason, logic, and common sense.

2. TOEFL questions about inferences look like this:

What can be inferred about?	
It can be inferred from paragraph that	
Which of the following can be inferred from paragraph?	
Which of the following statements is most likely true about?	
What probably occurred after?	
It can be inferred from the passage that the author most likely believes which of the	
following about?	
Which of the following statements most accurately reflects the author's opinion	
about?	

- 3. In inference questions, an answer choice may be incorrect because it:
  - is not supported by the information stated or implied in the passage;
  - restates information from the passage but does not answer the question;
  - is too general or vague;
  - is inaccurate or untrue according to the passage; or
  - is irrelevant or not mentioned in the passage.

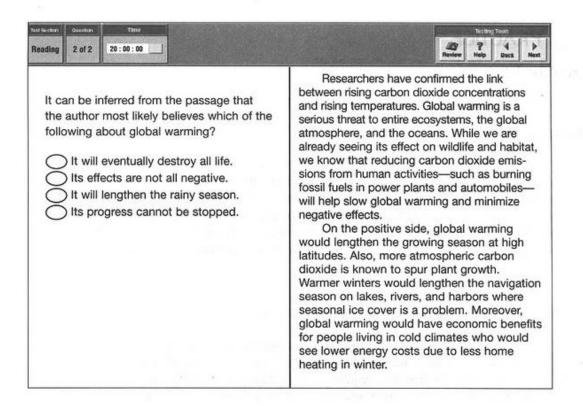
#### 4. Here are some examples:



The question asks you to make an inference about carbon dioxide. The correct answer is *It is a cause of global warming*. Some clues in paragraph 1 are:

- ...confirmed the link between rising carbon dioxide concentrations and rising temperatures...
- ...reducing carbon dioxide emissions...will help slow global warming....

The other answer choices are not supported by the information in the passage. It burns at a very high temperature is not mentioned. It is the main atmospheric gas is too vague and is not supported by the information given. It is used as a fuel for automobiles is inaccurate because carbon dioxide is a product or effect of burning fossil fuels—not a fuel itself.



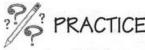
The question requires you to infer what the author probably believes about global warming. You must make this inference based on what the author says. Look at each answer choice and determine if it can reasonably be inferred from the information in the passage. Are there words or ideas in the passage that support the answer?

The author most likely believes Its effects are not all negative, and this is the correct answer. Some clues are:

On the positive side, global warming would....

Warmer winters would lengthen the navigation season on lakes, rivers, and harbors.... Moreover, global warming would have economic benefits....

It will eventually destroy all life is not supported by the information in the passage. It will lengthen the rainy season is inaccurate; according to the passage, global warming will lengthen the navigation season, not the rainy season. Its progress cannot be stopped is inaccurate; the author says that reducing carbon dioxide emissions from human activities...will help slow global warming and minimize negative effects.



Exercise 1.5.A

Read the passages and choose the best answer to each question.

#### QUESTION 1

In classical and medieval times, the study of music shared many features with the discipline of mathematics, such as an interest in proportions, special ratios, and recurring patterns. In the twentieth century, the introduction of twelve—tone music and the widespread use of computers inspired further study into the relationship between musical and mathematical abilities. Musical performances require sensitivity to ratios that are often complex, and to appreciate the operation of rhythms, a performer must have some basic numerical competence.

- 1. Which of the following can be inferred from the passage?
  - (A) The disciplines of music and mathematics originated in classical times.
  - (B) People have long been aware of links between music and mathematics.
  - © Both music and mathematics require an understanding of computers.
  - (D) Professional musicians must study mathematics at the university level.

# QUESTION 2

Corvids are sociable and tend to form social groups. This is particularly true of rooks, which stay in their flocks all year round. The raven, largest of the corvids, joins a social group as a juvenile, pairing off at around the age of three and mating for life. Courtship can involve such games as pair snow sliding and the synchronized flight test. Corvids can be found all over the world. The adaptability and intelligence of this family have made them extremely successful. For centuries, the raven and the crow have held a special place in the mythology of various cultures.

- 2. It can be inferred from the passage that corvids are
  - (A) a family of birds
  - B games for children
  - members of a sports club
  - (D) imaginary beings

# **QUESTION 3**

The input of solar energy supplies 99 percent of the energy needed to heat the earth and all buildings on it. How is this possible? Most people think of solar energy in terms of direct heat from the sun. However, broadly defined, solar energy includes direct energy from the sun as well as a number of indirect forms of energy produced by this direct input. Major indirect forms of solar energy include wind, hydropower, and biomass—solar energy converted to chemical energy in trees, plants, and other organic matter.

- 3. It can be inferred from the passage that the author most likely believes which of the following about solar energy?
  - (A) Solar energy is not used as much as it could be used.
  - B It is not possible to develop direct forms of solar energy.
  - Trees, plants, and organic matter can store solar energy.
  - D The definition of solar energy will continue to change.

# QUESTION 4

The reasons for the migration from rural to urban life were exploitation and lack of economic opportunity. The family members who would not inherit a share in the property were exploited by the laws of inheritance. The system was particularly hard on women, who usually did not share in the ownership of the farm and who rarely were paid for their labor. The workday for women was even more demanding than it was for men. Women were responsible for the kitchen garden and the small livestock as well as the care of the family. Unmarried women increasingly left the farm in search of economic opportunity in the factories that processed fish or farm products.

- 4. It can be inferred from the passage that women under this system
  - A moved from farm to farm in search of work
  - B were paid less than men for the same work
  - © did not acquire property through inheritance
  - D had to get married in order to stay on the farm

# **QUESTIONS 5-6**

One of the most significant elements of age stratification in all cultures is the pattern of experiences connected to marriage and parenting—a pattern that sociologists call the family life cycle. In North America, about 90 percent of adults marry, and the great majority of them have children and thus a family life cycle related to family experiences. When the family's first child is born, the parents embark on a sequence of experiences linked to the child's development—from infancy and toddlerhood, through school age and adolescence, and eventually, to departure from the nest. Each of these periods in the child's life makes a different set of demands on the parents.

- 5. The phrase embark on in the passage is closest in meaning to
  - (A) attempt
  - B) begin
  - c) discuss D) avoid

- 6. It can be inferred from the passage that the family life cycle
  - (A) takes place whether or not people have children
  - (B) does not occur in cultures outside of North America
  - c must be redefined from one generation to the next
  - (D) shapes several years in the lives of most adults

### QUESTIONS 7-8

Some people believe that odors and fragrances affect the body and mind and are capable of healing anxiety, stress, and other sources of disease. Interest in aromatherapy and the use of aromatherapy products such as lotions and inhalants—continues to boom. Some popular essential oils and their uses in aromatherapy include lavender and chamomile, which are reputed to ease stress and promote sleep. The scent of jasmine will uplift the mood and reduce depression. Orange eases anxiety and depression and promotes creativity. Peppermint has antibacterial and analgesic qualities, eases mental fatigue, and relieves headaches.

However, aromatherapy is not for everyone. For people who suffer from fragrance sensitivity, asthma, or allergies, aromas like perfumes can prompt disabling health problems, including headaches, dizziness, nausea and vomiting, fatigue, difficulty breathing, difficulty concentrating, flu-like symptoms, and anaphylaxis.

- 7. It can be inferred that aromatherapy is
  - (A) the main use of essential oils from plants
  - (B) the use of certain scents to promote health
  - c) not recommended for treating headaches
  - (D) not an effective method of curing disease
- 8. All of the following fragrances are believed to reduce stress EXCEPT
  - (A) lavender
  - B) jasmine
  - c) chamomile
  - **D**) orange

#### QUESTIONS 9-10

Animal behaviorists believe the orangutan is a cultured ape, able to learn new living habits and to pass them along to the next generation. Some orangutan parents teach their young to use leaves as napkins, while others demonstrate the technique of getting water from a hole by dipping a branch in and then licking the leaves. Orangutans have been observed saying goodnight with the gift of a juicy raspberry. Such social interactions lead researchers to conclude that if orangutans have culture, then the capacity to learn culture is very ancient.

In the evolutionary timeline, orangutans separated from the ancestors of humans many millions of years ago, and they may have had culture before they separated. The discovery of orangutan culture suggests that early primates—including ancestors of humans—might have developed the ability to invent new behaviors, such as tool use, as early as 14 million years ago, approximately 6 million years earlier than once believed.

- 9. What can be inferred from paragraph 1 about social interactions related to teaching and learning?
  - They are behaviors that only orangutans have displayed.
  - B They are misunderstood by animal behaviorists.
  - They indicate similarities between orangutans and other apes.
  - D They provide evidence that orangutans have culture.

- 10. Which of the following can be inferred from paragraph 2?
  - The ancestors of humans learned culture from orangutans.
  - B Orangutans were more advanced than most other early primates.
  - © Primate culture may be older than scientists used to believe.
  - Scientists have found orangutan tools that are 6 million years old.

#### Exercise 1.5.B

Read the passages and choose the best answer to each question.

#### QUESTIONS 1-2

In the early nineteenth century, most of the Europeans who immigrated to the United States were from northern and western European countries such as England, Germany, France, and Sweden. However, most of the fifteen million Europeans arriving between 1890 and 1914 came from southern and eastern Europe, with the largest numbers coming from Russia, Italy, Greece, Austria–Hungary, and Armenia.

A similar pattern occurred in Canada, where most immigrants were traditionally from England and the United States. After 1890, an increasing number came from eastern Europe, particularly Russia and Ukraine. Many of these headed for the Prairie Provinces. The Doukhobors, a pacifist sect from southern Russia, established communal settlements in Saskatchewan. Together with other immigrants, they arrived in such numbers that in the two decades between the completion of the main railroad network and the outbreak of war in 1914, the population of the prairies had increased from about 150,000 to 1.5 million.

- 1. Which of the following can be inferred from paragraph 1 about European immigration to the United States in the nineteenth century?
  - A The sources of immigrants shifted to different parts of Europe.
  - B Most of the European immigrants could not speak English.
  - © More immigrants came from Europe than from other continents.
  - Northern and western Europeans did not immigrate after 1890.

- It can be inferred from paragraph 2 that the Doukhobors
  - were the largest immigrant group in North America
  - B also immigrated to the United States
  - c mainly settled in the Canadian prairies
  - (D) helped to build Canada's railroad network

#### QUESTIONS 3-6

David Smith worked primarily in iron, exploring its possibilities more fully than any other sculptor before or since. To Smith, iron spoke of the power, mobility, and vigor of the industrial age. Smith was born in Indiana in 1906, the descendant of a nineteenth—century blacksmith. His iron sculptures flowed naturally out of the mechanized heart of America, a landscape of railroads and factories. As a child, Smith played on trains and around factories, as well as in nature on hills and near creeks. He originally wanted to be a painter, but after seeing photographs of the metal sculpture of Picasso in an art magazine, he began to realize that iron could be handled as directly as paint.

Many of Smith's sculptures are "totems" that suggest variations on the human figure. They are not large iron dolls, although several have "heads" or "legs." Still, they forcefully convey posture and gesture. Their message flows from the internal relations of the forms and from the impression of tension, spring, and alertness set up by their position in space.

Later in his career, Smith produced two series of sculptures in stainless steel: the Sentinels in the 1950s and the Cubis in the 1960s. He also began placing his sculptures outdoors, in natural light, where the highly reflective stainless steel could bring sunlight and color into the work. In the late afternoon sun, the steel planes of the Cubis reflect a golden color; at other times, they have a blue cast. The mirror–like steel creates an illusion of depth, which responds better to sunshine than it would to the static lighting of a museum.

- 3. Which of the following can be inferred from paragraph 1 about David Smith's background?
  - A He gained experience while working in a blacksmith factory.
  - B His childhood exposed him to the uses and possibilities of iron.
  - C His early sculptures revealed his desire to be a landscape painter.
  - D He first learned about metals by seeing pictures in a magazine.
- 4. The word several in paragraph 2 refers to
  - (A) sculptures
  - B variations
  - © dolls
  - (D) forms

- 5. What can be inferred about the Sentinels and the Cubis?
  - A They are the best-known examples of Smith's "totem" sculptures.
  - B Smith originally intended to use iron instead of stainless steel.
  - The Sentinels are made of blue steel, and the Cubis are of gold steel.
  - D They each consist of a number of pieces placed in outdoor settings.
- 6. It can be inferred from the passage that the author most likely believes which of the following about David Smith's works?
  - A His metal sculptures are more interesting than are those of Picasso.
  - B His sculptures attempt to portray the proportions of the human body.
  - © His pieces capture the power of industry and the beauty of natural light.
  - D His works are best appreciated when viewed all at once in a museum.

# QUESTIONS 7-10

Baseball fans love statistics. There is absolutely no doubt about it: baseball is the greatest statistics game there is. Because baseball goes back so far in history, it is embedded in most of the population. Fans really understand a home run, a batting average, and an earned run average—all those basics that have been with baseball throughout its history. The basics have never changed, so people know and love them.

In the last half century, many new statistics have evolved: hitting with runners in scoring position; the percentages of men driven in with runners on second and third base; a pitcher's saves, as opposed to the percentage of times he has the opportunity to make a save. These are the so-called sophisticated statistics.

There is a whole lore of baseball history involving statistics. One "game" is to compare the players of old with the players of today. Many times on talk shows people will say, "Could Sammy Sosa or Alex Rodriguez have played with Ty Cobb or Mickey Cochran or Joe Dimaggio?" What they have to argue with is statistics. They have to go back and examine Dimaggio's years in the big leagues. They look at what he did year by year: he was on average a .300–and some hitter; he drove in so many home runs; he did such–and–such defensively in the outfield. The statistics are all that remain of the career of that star player of the past. So, the statistics are laid out and compared with those of a player of today—this is what makes the game fun.

- It can be inferred from paragraph 1 that an earned run average is
  - (A) a statistic
  - B) difficult to achieve
  - c a baseball game
  - not well known
- 8. Which of the following can be inferred from paragraph 2?
  - A Baseball fans invented statistics about fifty years ago.
  - B Hitting with runners in scoring position is a complex statistic.
  - The pitcher is the most sophisticated player on every team.
  - D There is a limit to the possible number of statistics.

- 9. Which of the following can be inferred from paragraph 3?
  - A Baseball players are frequently guests on talk shows.
  - B Sammy Sosa could have played baseball with Ty Cobb.
  - © Joe Dimaggio's career inspired new kinds of statistics.
  - D Ty Cobb and Mickey Cochran were great baseball players.
- 10. It can be inferred from the passage that the author most likely believes which of the following about baseball statistics?
  - A Statistics will replace baseball as the greatest game there is.
  - B Baseball provides a fascinating way to look at statistics.
  - © Someone is always inventing a better statistics game.
  - D Statistics are too complex for many baseball fans to understand.

#### Exercise 1.5.C

Read the passages and choose the best answer to each question.

# QUESTIONS 1-4

The human ear contains the organ for hearing and the organ for balance. Both organs involve fluid-filled channels containing hair cells that produce electrochemical impulses when the hairs are stimulated by moving fluid.

The ear can be divided into three regions: outer, middle, and inner. The outer ear collects sound waves and directs them to the eardrum separating the outer ear from the middle ear. The middle ear conducts sound vibrations through three small bones to the inner ear. The inner ear is a network of channels containing fluid that moves in response to sound or movement.

To perform the function of hearing, the ear converts the energy of pressure waves moving through the air into nerve impulses that the brain perceives as sound. Vibrating objects, such as the vocal cords of a speaking person, create waves in the surrounding air. These waves cause the eardrum to vibrate with the same frequency. The three bones of the middle ear amplify and transmit the vibrations to the oval window, a membrane on the surface of the cochlea, the organ of hearing. Vibrations of the oval window produce pressure waves in the fluid inside the cochlea. Hair cells in the cochlea convert the energy of the vibrating fluid into impulses that travel along the auditory nerve to the brain.

The organ for balance is also located in the inner ear. Sensations related to body position are generated much like sensations of sound. Hair cells in the inner ear respond to changes in head position with respect to gravity and movement. Gravity is always pulling down on the hairs, sending a constant series of impulses to the brain. When the position of the head changes—as when the head bends forward—the force on the hair cells changes its output of nerve impulses. The brain then interprets these changes to determine the head's new position.

- 1. What can be inferred about the organs for hearing and balance?
  - A Both organs evolved in humans at the same time.
  - B Both organs send nerve impulses to the brain.
  - Both organs contain the same amount of fluid.
  - D Both organs are located in the ear's middle region.
- 2. Hearing involves all of the following EXCEPT
  - A motion of the vocal cords so that they vibrate
  - B stimulation of hair cells in fluid-filled channels
  - (c) amplification of sound vibrations
  - conversion of wave energy into nerve impulses

- It can be inferred from paragraphs 2 and 3 that the cochlea is a part of
  - (A) the outer ear
  - B) the eardrum
  - c the middle ear
  - (D) the inner ear
- 4. What can be inferred from paragraph 4 about gravity?
  - Gravity has an essential role in the sense of balance.
  - B The ear converts gravity into sound waves in the air.
  - © Gravity is a force that originates in the human ear.
  - The organ for hearing is not subject to gravity.

## QUESTIONS 5-10

The Pacific Northwest coast of North America is a temperate rain forest, where trees like the red cedar grow straight trunks more than two meters thick at the base and sixty meters high. Western red cedar is often called the canoe cedar because it supplied the native people of the region with the raw material for their seagoing dugout canoes. These extraordinary crafts, as much as twenty meters in length, were fashioned from a single tree trunk and carried as many as forty people on fishing and whaling expeditions into the open ocean.

The Haida people from the Queen Charlotte Islands off British Columbia were noted for their skill in canoe building. After felling a giant tree with controlled burning, the canoe makers split the log into lengthwise sections with stone wedges. They burned away some of the heartwood, leaving a rough but strong cedar shell. They then carved away wood from the inside, keeping the sections below the waterline thickest and heaviest to help keep the canoe upright in stormy seas. To further enhance the canoe's stability, they filled the hull with water and heated it to boiling by dropping in hot stones. This rendered the wood temporarily flexible, so the sides of the hull could be forced apart and held with sturdy wooden thwarts, which served as both cross braces and seats. The canoes were often painted with elaborate designs of cultural significance to the tribe.

The Haida raised canoe building to a high art, designing boats of such beauty and utility that neighboring tribes were willing to exchange quantities of hides, meats, and oils for a Haida canoe. These graceful vessels became the tribe's chief item of export. In their swift and staunch canoes, the first people of the Northwest were able to take full advantage of the riches provided by the sea. With harpoons of yew wood, baited hooks of red cedar, and lines of twisted and braided bark fibers, they fished for cod, sturgeon, and halibut, and hunted whales, seals, and sea otters.

- 5. The phrase These extraordinary crafts in paragraph 1 refers to
  - (A) straight trunks
  - B) native people of the region
  - c seagoing dugout canoes
  - (D) fishing and whaling expeditions
- 6. Why did the canoe makers keep the sections of the canoe below the waterline thickest and heaviest?
  - To prevent the canoe from overturning in rough water
  - To shorten the work of carving wood from the inside
  - © To avoid having to paint the bottom of the canoe
  - To make the canoe strong enough to hold forty people

- 7. Which of the following can be inferred from paragraph 2?
  - Carving changed the texture and strength of the wood.
  - B It took the canoe makers several months to build a canoe.
  - © The wood was beaten with stone tools to make it flexible.
  - Canoes were important cultural artifacts of the Haida.
- The word staunch in paragraph 3 is closest in meaning to
  - (A) silent
  - (B) strong
  - c) scented
  - (D) severe

- 9. It can be inferred from paragraph 3 that
  - canoes were the Haida's only known art form
  - B the Haida dominated trade among local tribes
  - c the people used up all of the natural resources
  - trees provided essential tools for obtaining food
- 10. Which of the following statements can be inferred from the passage?
  - The western red cedar thrives in a variety of climates.
  - B The skill of the Haida canoe makers has never been copied.
  - C Haida canoes were of great value in the regional economy.
  - People no longer use cedar canoes for fishing and whaling.

Answers to Exercises 1.5.A through 1.5.C are on page 565.



Work in a group of three or four students. Read the passage below, and write a list of statements
that can be inferred from the information in the passage. Work for ten minutes. Then, share your
inferences with the whole class. Your classmates must determine which information in the passage
supports each inference made by your group.

A distinction between two kinds of intelligence—crystallized and fluid intelligence—has been widely studied by researchers studying adult learning. Crystallized intelligence is heavily dependent on education and experience. It consists of the set of skills and knowledge that we each learn as part of growing up in any culture. It includes such skills as vocabulary, the ability to reason clearly about real—life problems, and the technical skills we learn for our jobs. Crystallized abilities are "exercised" abilities.

Fluid intelligence, in contrast, is thought to be a more "basic" set of abilities, not so dependent on specific education. These are the "unexercised" abilities. Most tests of memory tap fluid intelligence.

Crystallized abilities generally continue to rise over our lifetime, while fluid abilities begin to decline much earlier, beginning perhaps at age 35 or 40.

- 2. With your teacher and classmates, discuss the difference between facts and inferences. When someone you know makes a statement, how can you tell if it is a fact or an inference? Are facts and inferences ever the same?
- 3. Select a passage from a newspaper, a magazine or a university textbook. In class, work in a group of three or four students. Read the passage, and write a list of facts in the passage. Then write a list of statements that can be inferred or concluded from the information in the passage. In your classroom, post the passage, your facts, and your inferences where your classmates can read them.

# 1.6 Determining Purpose



Read the following passage and answer the question:

As with most economic issues, economists disagree over the exact causes of inflation. But they do generally agree that a sharp increase in the cost of one essential item is likely to be a contributing factor. When oil prices rose sharply in the mid–1970s, consumers were suddenly hit with higher prices for oil and for many other things. All the companies that used oil—to heat their buildings or run their machines—suddenly had to raise their prices to cover the increased cost of the oil. Anything transported by truck cost more. At the same time, all the consumers who bought oil in the form of gasoline for their cars had to spend a much larger portion of their paychecks on oil. These higher prices were a form of inflation.

Why does the author mention oil prices?

○ To	track the increases and decreases in oil prices in a certain period
◯ To	explain how companies determine the price of an item
◯ To	show how a price increase for one item contributes to inflation
$\bigcirc$ To	compare prices paid by consumers with prices paid by companies

The question asks about the author's purpose in mentioning a specific detail, oil prices. The correct answer is *To show how a price increase for one item contributes to inflation*. What key words and phrases help you determine this? There are several clues in the passage, especially:

- ...the exact causes of inflation.
- ... a sharp increase in the cost of one essential item is likely to be a contributing factor.
- ...higher prices for oil and for many other things.
- These higher prices were a form of inflation.

# DO YOU KNOW...?

The purpose of a passage is the reason the author wrote it. The author wants you to understand the
topic in a certain way. Every good piece of writing has a purpose. The purpose may be to inform,
define, explain, illustrate, compare, criticize, or do something else. The author's purpose is closely
related to the main points made about the topic.

Each part of a passage may have a different purpose. For example, one paragraph may define a concept, another paragraph may give examples to illustrate the concept, and yet another paragraph may compare the concept to other ideas.

2. Many questions on the TOEFL ask about the purpose of a specific detail. Some ask about why the author used a certain word or phrase. Questions about purpose look like this:

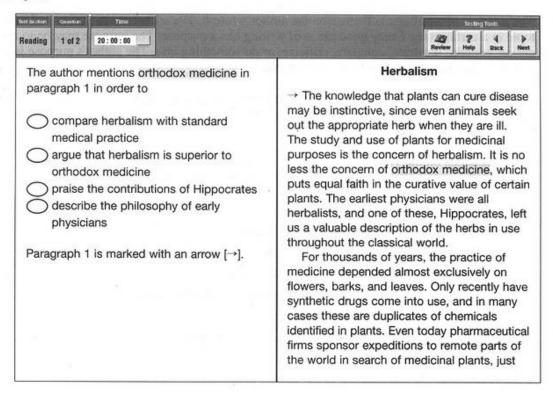
Why does the author discuss?	
Why does the author mention in paragraph?	
Why does the author compare to?	
The author mentions in order to	
The author discusses in paragraph in order to	
Why does the author order the information by?	
Why does the author use the word in discussing?	

3. Some purpose words you may see in the answer choices are:

argue	define	illustrate	mode prove prove
caution	describe	introduce	of all rishow location and
classify	emphasize	persuade	summarize
compare	explain	point out	support
contrast	give examples	praise	trace
criticize	identify	predict	warn

- 4. In questions about purpose, an answer choice may be incorrect because it is:
  - too general: a purpose that is beyond the focus of the question;
  - inaccurate: not true or only partly true according to the passage; or
  - irrelevant: not mentioned in the passage or not related to the question.

Questions about purpose require you to scan the passage for specific information. Here are some examples:

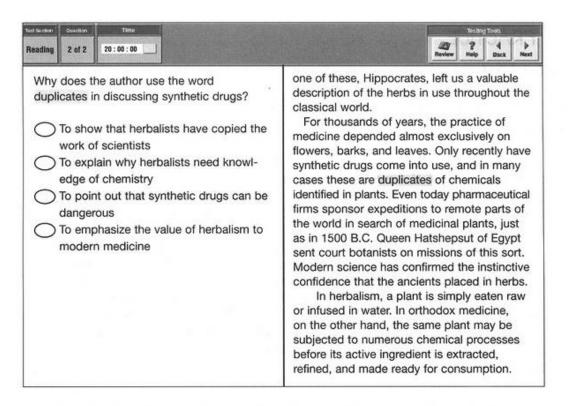


The question asks about the author's purpose in mentioning a specific detail, *orthodox medicine*. The correct answer is to *compare herbalism with standard medical practice*. Some clues in paragraph 1 are:

- ...use of plants for medicinal purposes is the concern of herbalism.
- ...no less the concern of orthodox medicine, which puts equal faith in...

The earliest physicians were all herbalists....

Why are the other three answers incorrect? Argue that herbalism is superior to orthodox medicine is inaccurate; praise the contributions of Hippocrates and describe the philosophy of early physicians are too general.



The question asks about the author's purpose in using a specific word, *duplicates*, in discussing synthetic drugs. *Duplicates* means to copy exactly. The correct answer is *To emphasize the value of herbalism to modern medicine*. Some clues in the passage are:

...the practice of medicine depended almost exclusively on...

...these are duplicates of chemicals identified in plants.

Modern science has confirmed the instinctive confidence that the ancients placed in herbs.

Why are the other three answers incorrect? To show that herbalists have copied the work of scientists and to explain why herbalists need knowledge of chemistry are inaccurate. To point out that synthetic drugs can be dangerous is not mentioned in the passage.



Exercise 1.6.A

Read the passages and choose the best answer to each question.

# QUESTIONS 1-2

In economics and finance, nothing can be measured with the precision possible in the physical sciences. However, approximate measurement is often sufficient as long as the method of measurement remains the same over time. It is important for anyone who is considering buying stock in a company to know that the usual methods of accounting have been followed.

Unfortunately, even when auditors certify that a company has prepared its financial reports properly, they cannot always be certain that all figures are 100 percent accurate. Because a company's books are not open to public scrutiny, it is possible for a company to distort its financial status. Accounting scandals occur because of dishonesty, questionable accounting practices, or outright criminal behavior. Although the accounting profession and government agencies have attempted to reform some of these abuses, the principle of *caveat emptor*—let the buyer beware—must still guide one's financial transactions.

- 1. Why does the author mention the physical sciences in paragraph 1?
  - To point out that financial measurements are not always precise
  - B To compare the physical sciences unfavorably with other sciences
  - © To explain why methods of measurement are important in different fields
  - D To argue that economics and finance should be considered physical sciences

- 2. Why does the author mention the principle in of *caveat emptor* paragraph 2?
  - A To recommend that the government review all stock purchases
  - B To criticize inadequate efforts to stop bad accounting practices
  - © To argue that buying stock is the best way to make money fast
  - D To warn potential buyers of the possibility of accounting abuses

# QUESTIONS 3-4

Lake Wissanotti, just outside the town of Mariposa, is one of Canada's most popular and enduring fictional places. The lake and town are the setting of Stephen Leacock's masterpiece, Sunshine Sketches of a Little Town, a collection of comic sketches and witty observations originally published in 1912. Leacock, one of the founders of Canadian literature, worked for most of his life as a professor of economics. His reputation as a political economist was worldwide, but it is Lake Wissanotti and Mariposa for which he is most remembered today.

Sunshine Sketches is a portrait of small-town Canadian life in the early twentieth century. Mariposa represents a past to be cherished, a pastoral and idyllic town that allows for human folly. If there is any satire, it is immediately bathed in warm sunshine. Although Sunshine Sketches has the complexity of a novel, it is more properly defined as a short-story cycle. A vital force is the book's narrator, who is at times intimately close to the comings and goings of Mariposa life, but distant enough to sustain the focus on human folly.

- 3. Why does the author discuss Stephen Leacock in paragraph 1?
  - A To give the name of the main character in a book
  - B To provide biographical information about the author
  - © To point out a relationship between literature and economics
  - D To identify the narrator of a book of stories about a town

- 4. Why does the author use the phrase bathed in warm sunshine in the passage?
  - (A) To describe the tone of the book
  - B To explain the meaning of satire
  - To compare a novel and a short story
  - (D) To illustrate the theme of human folly

# QUESTIONS 5-7

Everyone in a particular society recognizes social roles: father, mother, child, teacher, student, police officer, store clerk, doctor, judge, political leader, and so on. Every culture expects certain types of behavior from people who play certain social roles. Anyone occupying a given position is expected to adopt a specific attitude. A store clerk is expected to take care of customers patiently and politely, and a judge is expected to make wise and fair decisions about laws.

Informal social roles are not always easy to recognize, but can be identified with careful research. They are key indicators of a group's health and happiness. Within the family, one informal role is the family hero, the person who defines integrity and upholds family morality. Others are the family arbitrator, the person who keeps the peace, and the family historian, often a grandparent, who relays valuable cultural information that maintains both the family and the larger society. And finally, there is the family friend, the person who provides comfort and companionship to the family members with emotional needs.

- 5. Why does the author mention a store clerk and a judge in paragraph 1?
  - A To give examples of people who hold positions of respect
  - B To explain why social roles are important to a society
  - © To illustrate the behavior required of certain social roles
  - D To compare the responsibilities of two different occupations

- 6. Why does the author use the term key indicators in discussing informal social roles?
  - To identify the most important type of social role
  - B To explain how to identify informal social roles
  - © To point out that informal roles are unique to families
  - D To emphasize the value of informal roles to a group
- 7. Which informal social role supports the family by preserving the family's culture?
  - (A) friend
  - (B) hero
  - c historian
  - arbitrator

# QUESTIONS 8-10

The many parts of the earth's atmosphere are linked with the various parts of the earth's surface to produce a whole—the climate system. Different parts of the earth's surface react to the energy of the sun in different ways. For example, ice and snow reflect much of it. Land surfaces absorb solar energy and heat up rapidly. Oceans store the energy without experiencing a significant temperature rise. Thus, the different types of surfaces transfer heat into the atmosphere at different rates.

We can view climate as existing in three domains: space, time, and human perception. In the domain of space, we can study local, regional, and global climates. In time, we can look at the climate for a year, a decade, a millennium, and so forth. Finally, we depend on our perceptions of the data, so we must include our own human perception into our model. Human perception ranges from our personal observations to our public predictions about climate. Human perception must be included if our understanding of climatic processes is to be translated into societal actions. As a society, we make informed choices about how to use the beneficial effects of climate, such as deciding when and where to plant crops. We also make choices about how to minimize the harmful effects of climate—storms, blizzards, and droughts.

- 8. Why does the author discuss different parts of the earth's surface in paragraph 1?
  - To explain why humans live in some parts but not in others
  - B To show that the entire earth is made of the same materials
  - © To compare how various surfaces transfer heat into the atmosphere
  - D To describe changes in the earth's appearance throughout the year
- 9. According to the author, why must we include human perception in our study of climate?
  - We must interpret data and take actions related to climate.
  - We must create an interesting model of the climate system.
  - © We must develop an understanding of our environment.
  - We must change our traditional ways of studying climate.

- 10 Why does the professor mention storms, blizzards, and droughts in paragraph 2?
  - To explain why humans are afraid of the unknown
  - B To show how the atmosphere and the earth are linked
  - © To give examples of dangerous effects of climate
  - D To illustrate the effects of human activity on climate

#### Exercise 1.6.B

Read the passages and choose the best answer to each question.

# QUESTIONS 1-3

Several men have been responsible for promoting forestry as a profession. Foremost was Gifford Pinchot, the father of professional forestry in America. He was chief of the Forest Service from 1898 until 1910, working with President Theodore Roosevelt to instigate sound conservation practices in forests. Later he was professor of forestry and founder of the Pinchot School of Forestry at Yale University. Another great forester was Dr. Bernard E. Fernow, the first head of the U.S. Forest Service. He organized the first American school of professional forestry at Cornell University.

The foresters of today, like Pinchot and Fernow in the past, plan and supervise the growth, protection, and utilization of trees. They make maps of forest areas, estimate the amount of standing timber and future growth, and manage timber sales. They also protect the trees from fire, harmful insects, and disease. Some foresters may be responsible for other duties, ranging from wildlife protection and watershed management to the development and supervision of camps, parks, and grazing lands. Others do research, provide information to forest owners and to the general public, and teach in colleges and universities.

- 1. Why does the author call Gifford Pinchot the father of professional forestry in America?
  - (A) To emphasize his contributions to the field
  - B To describe his family background
  - © To praise his management skills
  - (D) To illustrate his influence on the president
- 2. Why does the author compare Pinchot and Fernow to the foresters of today?
  - To describe different philosophies of forestry management
  - B To show how the field of forestry has changed in 100 years
  - © To argue for the expansion of university forestry programs
  - D To introduce the types of work done by professional foresters

- All of the following are mentioned in the passage EXCEPT
  - A what foresters do besides protecting trees
  - B how to select a good school of forestry
  - c people who promoted forestry as a career
  - (D) management of timber and timber sales

# QUESTIONS 4-6

One's style of dress reveals the human obsession with both novelty and tradition. People use clothing to declare their membership in a particular social group; however, the rules for what is acceptable dress for that group may change. In affluent societies, this changing of the rules is the driving force behind fashions. By keeping up with fashions, that is, by changing their clothing style frequently but simultaneously, members of a group both satisfy their desire for novelty and obey the rules, thus demonstrating their membership in the group.

There are some interesting variations regarding individual status. Some people, particularly in the West, consider themselves of such high status that they do not need to display it with their clothing. For example, many wealthy people in the entertainment industry appear in very casual clothes, such as the worn jeans and work boots of a manual laborer. However, it is likely that a subtle but important signal, such as an expensive wristwatch, will prevail over the message of the casual dress. Such an inverted status display is most likely to occur where the person's high status is conveyed in ways other than with clothing, such as having a famous face.

- According to the author, fashions serve all of the following purposes EXCEPT
  - (A) satisfying an interest in novelty
  - (B) signaling a change in personal beliefs
  - © displaying membership in a social group
  - (D) following traditional rules
- 5. Why does the author discuss individual status in paragraph 2?
  - A To state that individual status is not important in the West
  - To argue that individuals need not obey every fashion rule
  - © To contrast the status of entertainers with that of manual laborers
  - D To explain how high status may involve an inverted status display

- 6. Why does the author mention a wristwatch in paragraph 2?
  - A To give an example of an item that conveys one's actual status
  - To recommend wearing an expensive wristwatch with casual clothes
  - To explain why it is not necessary to dress entirely in one style
  - D To show that a wristwatch is an important fashion accessory

# QUESTIONS 7-10

The war for independence from Britain was a long and economically costly conflict. The New England fishing industry was temporarily destroyed, and the tobacco colonies in the South were also hard hit. The trade in imports was severely affected, since the war was fought against the country that had previously monopolized the colonies' supply of manufactured goods. The most serious consequences were felt in the cities, whose existence depended on commercial activity. Boston, New York, Philadelphia, and Charleston were all occupied for a time by British troops. Even when the troops had left, British ships lurked in the harbors and continued to disrupt trade.

American income from shipbuilding and commerce declined abruptly, undermining the entire economy of the urban areas. The decline in trade brought a fall in the American standard of living. Unemployed shipwrights, dock laborers, and coopers drifted off to find work on farms and in small villages. Some of them joined the Continental army, or if they were loyal to Britain, they departed with the British forces. The population of New York City declined from 21,000 in 1774 to less than half that number only nine years later in 1783.

The disruptions produced by the fighting of the war, by the loss of established markets for manufactured goods, by the loss of sources of credit, and by the lack of new investment all created a period of economic stagnation that lasted for the next twenty years.

- 7. Why does the author mention the fishing industry and the tobacco colonies?
  - To show how the war for independence affected the economy
  - B To compare the economic power of two different regions
  - © To identify the two largest commercial enterprises in America
  - D To give examples of industries controlled by British forces
- 8. Why were the effects of the war felt most in the cities?
  - (A) Most of the fighting occurred in the cities.
  - B) The British army destroyed most of the cities.
  - The cities depended on manufacturing and trade
  - D The urban population did not support the war.

- 9. Why does the author mention the population of New York City in paragraph 2?
  - To show that half of New York remained loyal to Britain
  - B To compare New York with other cities occupied during the war
  - © To emphasize the great short-term cost of the war for New York
  - To illustrate the percentage of homeless people in New York
- 10. What probably occurred during the years right after the war for independence?
  - (A) Development of new shipbuilding technology
  - B A return to traditional methods of manufacturing
  - © A shift to an agricultural economy in New York
  - D Shortages of money and manufactured goods

Answers to Exercises 1.6.A through 1.6.B are on page 566.



- Outside of class, look in a magazine or a university textbook. Select a short passage of two to three paragraphs. Type or photocopy the paragraphs. Make three copies to bring to class. In class, form groups of three students each. In your group, give each classmate a copy of your passage. Individually, read all of your group's passages. For each one, write an answer to these questions:
  - a. Why did the author write this?
  - b. What is the author's attitude toward the topic?
  - c. What is the purpose of each paragraph?
  - d. What details in the passage support the author's purpose?
  - e. What words does the author use to emphasize points?

When everyone in your group has finished reading and answering the questions for all passages, compare your answers with your classmates' answers. Are the answers similar or different? Work as a team to agree on the best answer to each question.



# PROGRESS - 1.5 through 1.6

Quiz 5

Time - 15 minutes

Read the passages and choose the best answer to each question. Answer all questions about a passage on the basis of what is stated or implied in that passage.

#### FREEZING FOOD

The discovery of freezing has changed our eating habits more than any other related invention. Because many foods contain large amounts of water, they freeze solidly at or just below 32 degrees Fahrenheit. When we lower the temperature to well below the freezing point and prevent air from penetrating the food, we retard the natural process of decay that causes food to spoil. Freezing preserves the flavor and nutrients of food better than any other preservation method. When properly prepared and packed, foods and vegetables can be stored in the freezer for one year.

Most vegetables and some fruits need blanching before they are frozen, and to avoid this step would be an expensive mistake. The result would be a product largely devoid of vitamins and minerals. Proper blanching curtails the enzyme action, which vegetables require during their growth and ripening but which continues after maturation and will lead to decay unless it is almost entirely stopped by blanching. This process is done in two ways, either by plunging vegetables in a large amount of rapidly boiling water for a few minutes or by steaming them. For steam blanching, it is important that timing begin when the water at the bottom of the pot is boiling. Different vegetables require different blanching times, and specified times for each vegetable must be observed. Underblanching is like no blanching at all, and overblanching, while stopping the enzyme action, will produce soggy, discolored vegetables.

- 1. Why does the author mention 32 degrees Fahrenheit?
  - To suggest the storage temperature for most foods
  - B To identify the freezing point of water
  - © To state the correct setting for a freezer
  - D To give the temperature for blanching
- 2. Why does the author use the term expensive mistake in discussing blanching?
  - To state that blanching is expensive but very effective
  - B To warn that not blanching will harm the food's nutritional value
  - To emphasize the importance of blanching only a few items at a time
  - D To show that many people waste food by blanching improperly

- 3. What can be inferred about enzyme action in vegetables?
  - (A) It eventually causes vegetables to spoil.
  - B It is a necessary step in the blanching process.
  - (c) It stops after the vegetables have ripened.
  - D It preserves the flavor of frozen vegetables.
- 4. It can be inferred that underblanched vegetables would
  - (A) spoil quickly
  - B) taste like canned vegetables
  - c lack vitamins and minerals
  - **D** be soggy and discolored

#### EUROPEAN SETTLEMENT OF NORTH AMERICA

The large-scale settlement of North America by Europeans began in the seventeenth century. France took the early lead in the contest for the temperate regions of North America. In 1608, the first permanent French colony was established at Quebec. In 1682, La Salle explored the Mississippi River and claimed the entire river system for France. But despite these early successes, there were never enough French settlers to make French North America a large center of population.

The Dutch under Henry Hudson explored the eastern coast of the continent and claimed a large area, including the river that was named after him. The Dutch colony of New Netherlands started with a few trading posts on the Hudson River, where New York City is now located, and expanded into enterprises in New Jersey, Delaware and Connecticut. The Dutch settlements suffered a lot of competition from the English, and eventually, the Dutch governor was forced to surrender all Dutch lands to the English.

England's commercial and political growth at home soon gave it the lead in the colonial race, but this success came only after some early losses, such as the failed colony on Roanoke Island. The first success for England was in 1607 at Jamestown. There were also permanent colonies farther north, in the area known as New England.

The colonies of North America grew dramatically beyond the first settlements at Quebec and Jamestown. Population figures for the seventeenth century show that in 1625 there were around 500 settlers in French Canada and 200 in Dutch settlements, but there were 2,000 in the English colonies. Fifty years later, the English had absorbed the Dutch colonies. By 1700, New France had around 20,000 people, but the English colonies had a quarter of a million.

The European conquest of North America contributed to international conflict. In the seventeenth and eighteenth centuries, the European powers fought several wars in North America. Most of these conflicts were extensions of wars taking place in Europe at the same time, but some were started by the colonists themselves. The conflicts—especially those between England and France—were mostly over commercial interests and signaled the intense rivalry for control of North American land and resources.

- 5. What can be inferred from paragraph 1 about the French settlement of North America in the seventeenth century?
  - A The French were more successful than any other European nation at the time.
  - B French settlement never extended beyond the original colony at Quebec.
  - The French settled North America in order to control international trade.
  - D The French colonies had fewer people than did other North American colonies.

- 6. Why does the author use the word race in paragraph 3?
  - To emphasize the competition among European groups
  - B To trace the origin of a popular sport in North America
  - © To show that failure comes more quickly than success
  - D To describe the ethnic differences among Europeans
- 7. What can be inferred about England in the seventeenth century?
  - A England had colonies on every continent.
  - B England was a leading European power.
  - England had a democratic political system.
  - England won every war in which it fought.

- The author discusses population numbers in paragraph 4 in order to
  - A compare the populations of North America and Europe
  - B show how humans influenced the natural environment
  - © explain why Europeans migrated to North America
  - illustrate England's growing power in
     North America
- 9. What can be inferred from the passage about the relationship between the Dutch and English colonies?
  - A The Dutch and the English were each other's largest trading partners.
  - B The Dutch settled in areas where the English had failed earlier.
  - © The Dutch and the English competed for land, and the English prevailed.
  - D The Dutch joined forces with the French to fight against the English.

- 10. According to the passage, why did the European powers fight wars in North America?
  - A The European powers wanted to conquer the native population.
  - B There was great competition for control of land and resources.
  - © The French and English armies wanted to test their new weapons.
  - D The European nations were trying to spread their political systems.

Answers to Reading Quiz 5 are on page 567.

Record your score on the Progress Chart on page 693.



# PROGRESS - 1.1 through 1.6

Quiz 6

Time - 40 minutes

Read the passages and choose the best answer to each question. Answer all questions about a passage on the basis of what is stated or implied in that passage.

### THE QUEEN ANNE HOUSE

The house style that dominated American housing during the 1880s and 1890s was known as Queen Anne, a curious name for an American style. The name was, in fact, a historical accident, originating with fashionable architects in Victorian England who coined it with apparently no reason other than its pleasing sound. The Queen Anne style was loosely based on medieval structures built long before 1702, the beginning year of Queen Anne's reign.

A distinctive characteristic found in most Queen Anne houses is the unusual roof shape—a steeply pitched, hipped central portion with protruding lower front and side extensions that end in gables. It is often possible to spot these distinctive roof forms from several blocks away. Another feature of this style is the detailing, shown in the wood shingle siding cut into fanciful decorative patterns of scallops, curves, diamonds, or triangles. Queen Anne houses are almost always asymmetrical. If you draw an imaginary line down the middle of one, you will see how drastically different the right and left sides are, all the way from ground level to roof peak. A final characteristic is the inviting wraparound porch that includes the front door area and then extends around to either the right or left side of the house.

Queen Anne houses faded from fashion early in the twentieth century as the public's taste shifted toward the more modern Prairie and Craftsman style houses. Today, however, Queen Anne houses are favorite symbols of the past, painstakingly and lovingly restored by old—house buffs and reproduced by builders who give faithful attention to the distinctive shapes and detailing that were first popularized more than one hundred years ago.

- 1. Why does the author use the word curious in describing the name of an American style?
  - A The style was invented before Queen Anne's reign.
  - B The name was accidentally misspelled.
  - The style was more popular in Victorian England.
  - D The name did not originate in America.
- 2. The word it in paragraph 1 refers to
  - (A) style
  - B name
  - © accident
  - (D) England

- The word asymmetrical in paragraph 2 is closest in meaning to
  - (A) inefficient
  - B) bold
  - © strange
  - unbalanced
- 4. Which of the following is NOT mentioned as a characteristic feature of Queen Anne houses?
  - (A) Decorative windows
  - B Wood shingle exterior walls
  - © Large porch
  - Steeply pitched roof

- 5. Which of the following can be inferred from paragraph 2 about the Queen Anne style?
  - A The Queen Anne style combined several other styles.
  - B The Queen Anne style had to be built in the city.
  - The Queen Anne style was elaborate and ornate.
  - D The Queen Anne style was not very popular.

- 6. According to the passage, why did Queen Anne houses go out of style?
  - People came to see them as a symbol of the past.
  - B People started moving to the suburbs and the prairies.
  - © People were more interested in newer house styles.
  - People could no longer afford to build such large houses.
- The word buffs in paragraph 3 is closest in meaning to
  - (A) experts
  - B) sellers
  - c critics
  - painters

#### SPORTS COMMENTARY

One of the most interesting and distinctive of all uses of language is commentary. An oral reporting of ongoing activity, commentary is used in such public arenas as political ceremonies, parades, funerals, fashion shows, and cooking demonstrations. The most frequently occurring type of commentary may be that connected with sports and games. In sports there are two kinds of commentary, and both are often used for the same sporting event. "Play-by-play" commentary narrates the sports event, while "color-adding" or "color" commentary provides the audience with pre-event background, during-event interpretation, and post-event evaluation. Color commentary is usually conversational in style and can be a dialogue with two or more commentators.

Play-by-play commentary is of interest to linguists because it is unlike other kinds of narrative, which are typically reported in past tense. Play-by-play commentary is reported in present tense. Some examples are "he takes the lead by four" and "she's in position." One linguist characterizes radio play-by-play commentary as "a monologue directed at an unknown, unseen mass audience who voluntarily choose to listen...and provide no feedback to the speaker." It is these characteristics that make this kind of commentary unlike any other type of speech situation.

The chief feature of play-by-play commentary is a highly formulaic style of presentation. There is distinctive grammar not only in the use of the present tense but also in the omission of certain elements of sentence structure. For example, "Smith in close" eliminates the verb, as some newspaper headlines do. Another example is inverted word order, as in "over at third is Johnson." Play-by-play commentary is very fluent, keeping up with the pace of the action. The rate is steady and there is little silence. The structure of the commentary is cyclical, reflecting the way most games consist of recurring sequences of short activities—as in tennis and baseball—or a limited number of activity options—as in the various kinds of football. In racing, the structure is even simpler, with the commentator informing the listener of the varying order of the competitors in a "state of play" summary, which is crucial for listeners or viewers who have just tuned in.

- 8. The word that in paragraph 1 refers to
  - A language
  - B ongoing activity
  - © commentary
  - sporting event
- 9. Which of the following statements is true of color commentary?
  - A It narrates the action of the event in real time, using the present tense.
  - B It is a monologue given to an audience that does not respond to the speaker.
  - © It is steady and fluent because it must keep up with the action of the event.
  - D It gives background on the event, and interprets and evaluates the event.
- 10. How is play-by-play commentary distinct from other types of narrative?
  - (A) It is not published in magazines.
  - B It is not spoken in past tense.
  - c It involves only one reporter.
  - D It takes place after the event.
- 11. Why does the author quote a linguist in paragraph 2?
  - A To describe the uniqueness of radio play-by-play
  - (B) To show how technical sports commentary is
  - To give examples of play-by-play commentary
  - D To criticize past trends in sports commentary

- All of the following are examples of play-byplay commentary EXCEPT
  - (A) "He pitched for Chicago."
  - (B) "Junior out of bounds."
  - c "Straight away it's Owens."
  - (D) "He can't make the shot."
- The word pace in paragraph 3 is closest in meaning to
  - (A) plan
  - B) score
  - c cause
  - speed speed
- The word crucial in paragraph 3 is closest in meaning to
  - (A) fascinating
  - B important
  - c confusing
  - (D) generous
- 15. It can be inferred from the passage that the author most likely agrees with which of the following statements about sports commentary?
  - A Color commentary is more important than play-by-play commentary.
  - B Sports commentators do not need special knowledge of the sport.
  - © Commentary enhances the excitement and enjoyment of sports.
  - Sports commentators should work hard to improve their grammar.

#### THE CIRCULATORY SYSTEM OF TREES

Inside the tree's protective outer bark is the circulatory system, consisting of two cellular pipelines that transport water, mineral nutrients, and other organic substances to all living tissues of the tree. One pipeline, called the xylem—or sapwood—transports water and nutrients up from the roots to the leaves. The other, the phloem—or inner bark—carries the downward flow of foodstuffs from the leaves to the branches, trunk, and roots. Between these two pipelines is the vascular cambium, a single—cell layer too thin to be seen by the naked eye. This is the tree's major growth organ, responsible for the outward widening of the trunk, branches, twigs, and roots. During each growing season, the vascular cambium produces new phloem cells on its outer surface and new xylem cells on its inner surface.

Xylem cells in the roots draw water molecules into the tree, taking in hydrogen and oxygen and also carrying chemical nutrients from the soil. The xylem pipeline transports thislife-sustaining mixture upward as xylem sap, all the way from the roots to the leaves. Xylem sap flows upward at rates of 15 meters per hour or faster. Xylem veins branch throughout each leaf, bringing xylem sap to thirsty cells. Leaves depend on this delivery system for their water supply because trees lose a tremendous amount of water through transpiration, evaporation of water from air spaces in the leaves. Unless the transpired water is replaced by water transported up from the roots, the leaves will wilt and eventually die.

How a tree manages to lift several liters of water so high into the air against the pull of gravity is an amazing feat of **hydraulics**. Water moves through the tree because it is driven by negative pressure—tension—in the leaves due to the physical properties of water. Transpiration, the evaporation of water from leaves, creates the tension that drives long—distance transport up through the xylem pipeline. Transpiration provides the pull, and the cohesion of water due to hydrogen bonding transmits the pull along the entire length of xylem. Within the xylem cells, water molecules adhere to each other and are pulled upward through the trunk, into the branches, and toward the cells and air spaces of the leaves.

Late in the growing season, xylem cells diminish in size and develop thicker skins, but they retain their capacity to carry water. Over time the innermost xylem cells become clogged with hard or gummy waste products and can no longer transport fluids. A similar situation occurs in the clogging of arteries in the aging human body. However, since the vascular cambium manufactures healthy new xylem cells each year, the death of the old cells does not mean the death of the tree. When they cease to function as living sapwood, the dead xylem cells become part of the central column of heartwood, the supportive structure of the tree.

Glossary:

hydraulics: the science of the movement of water and other fluids

16. What are the primary components of the tree's circulatory system?	17. The word This in paragraph 1 refers to
Water, minerals, and organic substances     Xylem and phloem     Leaves, branches, and trunk	A phloem B inner bark C vascular cambium D naked eye
D Roots and heartwood	b) haked eye

- It can be inferred from paragraph 1 that the xylem is located
  - A on the surface of the outer bark
  - B) inside the phloem and the vascular cambium
  - c next to the inner bark
  - between the vascular cambium and the phloem
- 19. What can be inferred from paragraph 2 about xylem sap?
  - (A) It is composed mainly of water.
  - B It causes water loss by transpiration.
  - c It gives leaves their green color.
  - D It is manufactured in the leaves.
- The word wilt in paragraph 2 is closest in meaning to
  - (A) melt
  - B grow
  - © swell
  - sag
- 21. Why is the process of transpiration essential to the tree's circulatory system?
  - A It supplies the hydrogen and oxygen that trees need to live and grow.
  - B It produces new phloem and xylem in the trunk, branches, and roots.
  - © It causes the negative pressure that moves water through the xylem.
  - D It replaces the water vapor that is lost through the leaves' air spaces.

- The phrase adhere to in paragraph 3 is closest in meaning to
  - A depend on
  - B stick to
  - © warm up
  - p respond to
- The word gummy in paragraph 4 is closest in meaning to
  - A sticky
  - B) liquid
  - c smelly
  - fluffy
- 24. Why does the author mention arteries in the aging human body in paragraph 4?
  - A To show that trees and people get the same diseases
  - B To imply that trees might provide a solution to human problems
  - © To compare what happens in two aging circulatory systems
  - D To explain the cause of death in most trees
- All of the following are functions of the xylem EXCEPT
  - A transporting food from the leaves to the trunk
  - B taking in chemical nutrients from the soil
  - © forming part of the tree's structural support
  - noving water upward through the trunk

Answers to Reading Quiz 6 are on page 568.

Record your score on the Progress Chart on page 693.

# 1.7 Recognizing Paraphrases



Read the following passage and answer the question:

The word "literature" has many meanings. In one sense, when we speak of the literature on a subject, we mean the vast body of research, interpretation, and opinion attached to a particular art or science. Such material has little claim to literary merit; in fact, some of it is barely intelligible to those outside the field. In another sense, we have the campaign literature distributed by political parties. Such "literature" has even less literary or artistic value. However, when we speak of "French literature" or "Russian literature," we mean something quite different. In this sense, literature is a written tradition that preserves a canon of great works defining the identity of a civilization. The literature of a society is available to a large literate public. It sets a standard against which later writers measure their own achievement as they aim to meet, reject, or exceed the literary masters.

Which sentence below best expresses the essential information in the highlighted sentence?

Most people are able to identify their country's greatest works of literature.
Every nation has a collection of writings that are thought of as great books.
Traditional literature must be preserved because it identifies the society's values
The literature of a society maintains a body of writings that define the society.

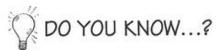
The question asks you to identify the answer that most closely conveys the important information in the sentence In this sense, literature is a written tradition that preserves a canon of great works defining the identify of a civilization.

Look at the ideas in each part of the sentence:

In this sense (when we speak of "French literature" or "Russian literature")...

- ...literature is a written tradition...
- ...that preserves a canon of great works...
- ...defining the identity of a civilization.

The correct answer is *The literature of a society maintains a body of writings that define the society* because it paraphrases the essential information in the original sentence.



 A paraphrase is a restatement of another sentence that gives the same information as the original sentence but in a different way. Paraphrases or restatements may have different sentence structure or use different words. They often use synonyms, words that have the same meaning, or nearly the same meaning, as the words in the original sentence.

You can identify the paraphrase of a sentence by focusing on the essential information in the original sentence. *Essential information* is the most important information in the sentence. It includes the ideas that are basic to the sentence's meaning and necessary in conveying the author's message and purpose.

2. TOEFL questions about paraphrases look like this:

Which sentence below best expresses the essential information in the highlighted sentence in the passage? Incorrect choices change the meaning in important ways or leave out essential information.

3. A paraphrase may have different sentence structure, or it may put the clauses in a different order. Here are some examples:

#### Original Sentence

Despite the social, technical, and functional aspects of building—those that link architecture most closely to history—architecture exists in the realm of the visual arts.

Most birds have body temperatures between 40 and 42 degrees Celsius, while most mammals have body temperatures between 36 and 38 degrees.

#### Paraphrase

Architecture is one of the visual arts, even though the social, technical, and functional aspects of building link architecture to history.

The body temperatures of most mammals are between 36 and 38 degrees Celsius, and those of birds are between 40 and 42 degrees.

4. A paraphrase may use synonyms and other expressions to convey ideas that have the same meaning as those in the original sentence. Here are some examples:

#### **Original Sentence**

Generally, most adult human stomachs hold slightly more than four cups of food, but the stomach can expand to accommodate as many as 16 cups.

The supply of natural ice was an industry unto itself in the late nineteenth century, and refrigeration with ice became more inexpensive and accessible.

#### Paraphrase

The stomach of an adult person is usually full when it contains just over four cups of food, but it can stretch to hold up to 16 cups.

Natural ice supply was a separate business in the late nineteenth century, and refrigeration with ice became cheaper and more available. 5. A pronoun or other referring word in the highlighted sentence may refer to something in a previous sentence (see 1.3). The correct paraphrase may use the referent instead of the pronoun. Here are some examples, with pronouns and their referents shown in *Italics*:

#### **Original Sentence**

Culture consists of the *language*, values, norms, and artifacts that define and unite a society. These can be spread from one society to another through culture contact. Some of the most important discoveries, such as fire and the wheel, were made in more than one place and then diffused across cultures.

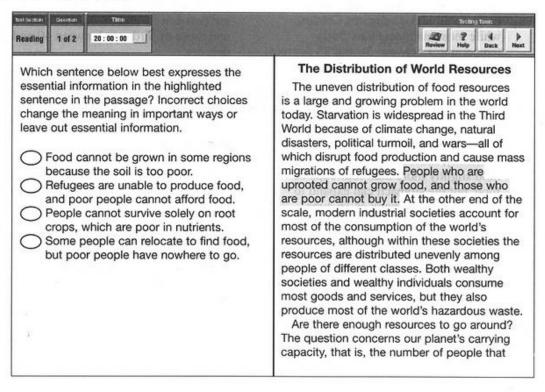
In 1889, an Austrian physicist named Ernst Mach created a system of numbers for measuring "supersonic" speeds. This is why when a plane travels at a speed faster than the speed of sound, its speed is referred to as Mach 1.

#### Paraphrase

Contact with other cultures is a way of spreading language, values, norms, and artifacts.

A plane moving faster than the speed of sound has a speed of Mach 1, after the inventor of the numbering system.

- 6. In questions about paraphrases, the incorrect answer choices may be incorrect because they:
  - have a different meaning from that of the original sentence;
  - are untrue according to the original sentence;
  - omit information or ideas that are necessary to the meaning of the original sentence; or
  - include information or ideas that are not in the original sentence.
- 7. Here are some examples:



The question asks you to identify the paraphrase of the highlighted sentence. The correct answer is *Refugees are unable to produce food, and poor people cannot afford food.* Look at the information in the original sentence and how it is paraphrased in the correct answer:

#### **Original Sentence**

People who are uprooted cannot grow food

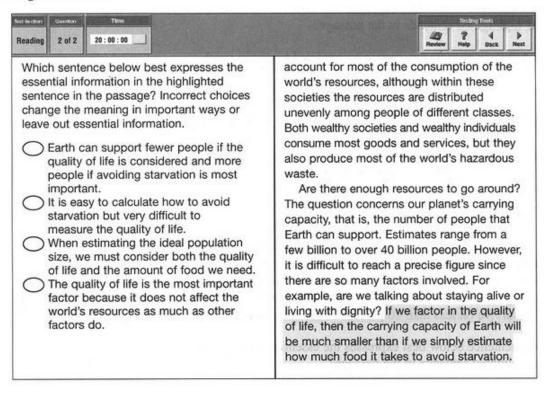
those who are poor cannot buy it

#### Paraphrase

Refugees are unable to produce food

poor people cannot afford food

Why are the other three answers incorrect? Food cannot be grown in some regions because the soil is too poor and People cannot survive solely on root crops, which are poor in nutrients both have a different meaning from that of original sentence. Some people can relocate to find food, but poor people have nowhere to go has a new idea, poor people have nowhere to go, which is not in the original sentence.



The correct answer is Earth can support fewer people if the quality of life is considered and more people if avoiding starvation is most important. Look at the information in the original sentence and how it is paraphrased in the correct answer:

#### **Original Sentence**

If we factor in the quality of life

then the carrying capacity of Earth will be much smaller than

if we simply estimate how much food it takes to avoid starvation

#### Paraphrase

if the quality of life is considered

Earth can support fewer people

if avoiding starvation is most important

The other three answers do not accurately express the essential information in the original sentence.



Exercise 1.7.A

Read the passages and choose the best answer to each question.

#### QUESTION 1

In a typical business conference, associates meet to discuss policy or to solve problems. The average participants do not do much specific preparing; their background and thinking usually formulate their contribution. But it is best if all participants know in advance the purpose of the conference. Some general preparation may be in order, and participants may want to take into the conference materials or data that might be useful if a matter comes up.

- 1. Which sentence below best expresses the essential information in the highlighted sentence in the passage?
  - Although participants cannot be expected to do too much, they should do some general preparation.
  - B) The conference leader should prepare all of the materials and data that will be used in the conference.
  - © There is a general order to most conferences, with participants contributing ideas and information.
  - As general preparation, participants can bring materials or data that might be a part of the discussion.

# QUESTION 2

Because they absorb heat from the environment rather than generate much of their own, reptiles are said to be ectotherms, a term identifying their major source of body heat as being external. Ectotherms heat directly with solar energy by basking in the sun, rather than through the metabolic breakdown of food, as in mammals and birds. This means that a reptile can survive on less than 10 percent of the calories required by a mammal of equivalent size.

- 2. Which sentence below best expresses the essential information in the highlighted sentence in the passage?
  - A Because a reptile heats with solar energy, it requires less than 10 percent of the calories that a mammal of the same size needs.
  - B A reptile obtains only 10 percent of its calories from the metabolic breakdown of food; it obtains the rest by basking in the sun.
  - © Some reptiles and mammals are equal in size, but they require vastly different quantities of calories for survival.
  - Reptiles need to spend only 10 percent of their time eating because they do not need as many calories as mammals of equal size.

# QUESTION 3

Architecture is concerned with the large-scale manipulation of elements in the dimensions of length, width, and height. These dimensions may apply to a solid, such as the Egyptian pyramids, or to hollow interior spaces, ranging in size and complexity from a domestic room to a vast cathedral. They may also apply to the spaces around and between buildings. Moreover, every building has a physical context in relation to other buildings. Sometimes the designer disregards the context on the assumption that surrounding structures will later be replaced. However, it is more often posterity that destroys the once appropriate original context.

- 3. Which sentence below best expresses the essential information in the highlighted sentence in the passage?
  - A Some architects do not like other buildings to be too close to the building they are designing.
  - B Most buildings eventually have to be replaced, so the physical context is not very important.
  - Architects often believe that nearby structures will not always be there, so they ignore them.
  - Designers should ignore the assumptions of people who plan to destroy the original context.

# QUESTION 4

The first great collector of Canadian folk traditions was Marius Barbeau, who oversaw the preservation of thousands of texts in what is now the National Museum of Canada. Fearing that these traditions would disappear unless gathered and catalogued, Barbeau preserved the folklore and folk songs of cultures ranging from rural Quebec to the Tsimshian Indians of British Columbia. These folkways—songs, dialects, legends, tall tales, riddles, and children's rhymes—were all part of Canada's traditional rural experience. They provided evidence of the everyday life of the people that was far richer than that in most other historical texts.

- 4. Which sentence below best expresses the essential information in the highlighted sentence in the passage?
  - A There is a lot of information in historical texts, but most of it does not deal with real life.
  - B Canada's folkways give us a much better description of daily life than most histories do.
  - © The texts collected by Barbeau reveal that some rural Canadians were richer than others.
  - The Canadian people provided a lot of materials that illustrate their traditional values.

# **QUESTION 5**

Ruminants—cattle, bison, sheep, goats, deer, antelopes, and giraffes—have a large four—chambered stomach that enables them to digest fibrous plant matter. When a ruminant first swallows a mouthful of grass or leaves, the food enters the stomach's first chamber, the rumen, where bacteria start to break down the cellulose—rich matter and form it into small balls of cud. The ruminant periodically returns the cud to its mouth where it is chewed at length to crush the fibers, making them more accessible to further bacterial action. The ruminant then reswallows the cud, which passes through the other three chambers of the stomach for further digestion.

- 5. Which sentence below best expresses the essential information in the highlighted sentence in the passage?
  - A Ruminants eat continuously, spending long periods eating grass and chewing their cud in order to access the nutrients.
  - (B) The bacterial action begins when the ruminant puts the cud in its mouth and starts the long process of chewing.
  - © The ruminant's strong teeth must crush the plant fibers in the cud in order to neutralize the cud's harmful bacteria.
  - D The cud is sent back to the ruminant's mouth and chewed extensively so that the fibers can be digested more easily.

# QUESTION 6

Cities differ from towns in the size, density, and diversity of their population. The city offers a wider variety of goods and services, as well as more extensive employment and cultural opportunities. City life is characterized by impersonal and formal social relationships, greater privacy, and more lifestyle choices—a way of life referred to as urbanism. The urban spirit is sophisticated and dynamic, stimulating the mind through contrasts and encouraging tolerance of differences. However, urbanism is not restricted to city dwellers; it can be considered a trait of all modern societies at a high level of technological development. The urban spirit spreads beyond the city via the mass media: television, movies, CDs, and the Internet.

- 6. Which sentence below best expresses the essential information in the highlighted sentence in the passage?
  - A City dwellers do not let urbanism restrict their ability to develop new technology.
  - (B) Urbanism characterizes all highly developed societies, not just people who live in cities.
  - All modern societies have a sophisticated level of technology; this is the primary goal of urbanism.
  - D Living in the city limits one's knowledge to only the most advanced technology.

#### **QUESTIONS 7-8**

Alligators have no natural predators except humans. In fact, humans drove alligators to near extinction in many of their marsh and swamp habitats in North America. Hunters once killed large numbers of these animals for their meat and soft belly skin, which was used to make shoes, belts, and wallets. Between 1950 and 1960, hunters wiped out 90 percent of the alligators in Louisiana and greatly reduced the alligator population in the Florida Everglades.

In 1967 the federal government placed the American alligator on the endangered species list. In the next decade, protected by hunters and averaging about 40 eggs per nest, the alligator made a strong comeback. It was reclassified from endangered to threatened in Florida, Louisiana, and Texas, where the vast majority of the animals live. As a threatened species, it is still protected from excessive harvesting by hunters; however, limited hunting is allowed in some areas to keep the population from growing too large.

- 7. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 1?
  - A It is a fact that humans forced alligators to live in North America's marshes and swamps.
  - B Many alligators were killed when people built roads and drove cars through their habitats.
  - © People almost destroyed the native alligator population in many North American environments.
  - D In North America, humans and alligators rarely choose to live together in the same area.

- 8. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 2?
  - Alligators are still protected, but hunters are allowed to kill a certain number to control their population in some places.
  - B In order to prevent alligators from growing too large, hunters can harvest adult alligators that exceed a specified size.
  - C Hunting is restricted to areas where alligators are no longer a threatened species and therefore do not need protection.
  - Alligators are more threatened than ever by excessive hunting, and hunters should not be allowed to destroy all of them.

# QUESTIONS 9-10

Current archaeological theory holds that the first humans in the Americas were bands of advanced Stone Age people who crossed over from what is now Siberia in Asia sometime between 12 and 30 thousand years ago. Some scientists think that these early humans crossed what is now the Bering Sea on a land bridge, a stretch of glacial ice connecting Asia and North America. Others speculate that they may have crossed that 55–mile–wide channel by boat.

These early humans probably migrated southward along an ice-free corridor. After several thousand years, perhaps at a pace of only ten miles every year, the migrants spread over this new land from Alaska to the tip of South America, a trail over ten thousand miles long. In South America, where the glaciers from the ice age melted first, the migrants took strong root in the fertile soil and warming climate of Patagonia. As the ice receded farther north, civilization in what is now Central America and Mexico began to take shape and flourish.

- 9. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 1?
  - A Theories vary widely over how the first humans arrived in the Americas, but most state that it occurred around 30 thousand years ago.
  - B The best current theory states that between 12 and 30 thousand early humans crossed over from Siberia to North America.
  - C Human beings originated in Siberia in Asia and later formed into bands that migrated to the Americas during the Stone Age.
  - D Archaeologists believe that groups of Stone Age humans first came to the Americas from Asia about 12 to 30 thousand years ago.

- 10. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 2?
  - A When the glaciers in South America melted, the climate became warmer in Patagonia, helping the people grow strong.
  - B The favorable conditions in Patagonia attracted migrants from other parts of South America, where there were still glaciers.
  - C The ice age glaciers melted earliest in South America, where the migrants settled in the warm, fertile region of Patagonia.
  - The migrants in Patagonia in South America survived on the root crops that grew well in the fertile soil and warm climate.

#### Exercise 1.7.B

Read the passages and choose the best answer to each question.

# QUESTIONS 1-3

A subculture is a cultural group within the larger society that provides social support to people who differ from the majority in terms of status, race, ethnic background, religion, or other factors. Whenever these differences lead to exclusion or discrimination, subcultures develop as a shield to protect members from the negative attitudes of others. Subcultures unify the group and provide it with values, norms, and a history.

Some subcultures do not experience discrimination yet differ from the mainstream enough to generate a "we" feeling among members and a sense of separateness. Examples include military officers, college students, information technology specialists, social workers, jazz musicians, or any subgroup with its own special language and customs. Subcultures usually have values that are variations on those of the dominant culture. These variations are close enough for the subgroup to remain under the societal umbrella but different enough to reflect the unique experience of subgroup members. In North America today, teenagers are a distinct subculture with a special way of talking and dressing so that insiders can recognize one another while keeping outsiders out.

- Which sentence below best expresses the essential information in the highlighted sentence in paragraph 1?
  - People are excluded from subcultures for various reasons, but especially if they have a negative attitude.
  - When some people discriminate against others, it is the responsibility of the majority culture to do something.
  - When people are different from others, they may experience negative effects, including discrimination.
  - Subcultures form to protect people who differ from the majority when these people face discrimination.
- All of the following are given as characteristics of subcultures EXCEPT
  - (A) a desire to join the dominant culture
  - B experiences outside those of the mainstream
  - special customs and way of talking
  - a "we" feeling among members

- 3. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 2?
  - A The different experiences of subgroups cause their members to seek protection in the values and customs of their own group.
  - B Every society is like a large umbrella that covers people from a wide variety of backgrounds and cultures, protecting everyone equally.
  - A subculture's values show its separateness yet resemble the majority's values enough to keep the subgroup within the larger society.
  - Each group member has experiences that differ from those of all other members and are completely outside those of the mainstream.

# QUESTIONS 4-6

The cerebral cortex of the human brain is divided into two hemispheres that are linked by a thick band of fibers called the corpus callosum. Each hemisphere has four discrete lobes, and researchers have identified a number of functional areas within each lobe. The left hemisphere has areas for controlling speech, language, and calculation, while the right hemisphere controls creative ability and spatial perception. This centering of functions in specific areas of the brain is known as lateralization.

Much of our knowledge about brain lateralization comes from studies of "split-brain" patients, people with a damaged corpus callosum. In one experiment, a subject holding a key in his left hand, with both eyes open, was able to name it as a key. However, when the subject's eyes were covered, he could use the key to open a lock, but was unable to name it as a key. The center for speech is in the left hemisphere, but sensory information from the left hand crosses over and enters the right side of the brain. Without the corpus callosum to function as a switchboard between the two sides of the brain, the subject's knowledge of the size, texture, and function of the key could not be transferred from the right to the left hemisphere. The link between sensory input and spoken response was disconnected.

- 4. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 1?
  - Each half of the brain consists of four types of tissues that are identified by their size and location.
  - B The brain's two hemispheres each have four separate parts, and each part controls several functions.
  - © There are a number of functional centers in the brain, and these can be divided into four main groups.
  - D Research has shown that the brain controls four basic functions, each with a number of variations.
- 5. According to the passage, what is one effect of a damaged corpus callosum?
  - A Functions from one side of the brain are transferred to the other side.
  - B People with their eyes open cannot see an object held in the left hand.
  - The connection between sensory input and spoken response is broken.
  - Creative ability and spatial perception are greatly diminished.

- 6. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 2?
  - A Information about the key could not travel from one side of the brain to the other because the corpus callosum did not provide the link.
  - B Some people are born without a corpus callosum, so they cannot exchange knowledge between the two hemispheres of the brain.
  - © Both sides of the brain control knowledge of familiar objects, and the corpus callosum functions as a key to that knowledge.
  - The corpus callosum acts like a computer keyboard in the way that it takes information from the hands and enters it into the brain.

# QUESTIONS 7-10

Organic compost (partially decomposed organic matter) requires four basic elements: carbon, nitrogen, air, and water. The carbon comes from dead organic matter, such as dried leaves, straw, and wood chips. The nitrogen comes from fresh or green materials, such as vegetative kitchen waste, untreated grass clippings, and animal manure. Fungi, bacteria, and other microorganisms use the carbon for energy and the nitrogen to grow and reproduce. The microorganisms secrete enzymes that break down the cells of the dead vegetation and animal matter. These enzymes are the glue that cements the soil particles into larger, coarser grains. Coarse soil crumbles easily, which aerates the soil and allows it to absorb moisture efficiently. This partially digested mixture is compost.

Compost is a stage of decay in which most of the organic matter has been broken down, but it may still be possible to identify individual parts such as leaves and twigs. The final phase of decay is called humus—a dark, sticky, nutrient—rich substance in which the original materials can no longer be distinguished. Although the terms "compost" and "humus" are often used interchangeably, they are not synonymous.

- 7. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 1?
  - Enzymes from the microorganisms break apart when they come into contact with organic matter.
  - B Nonliving plant and animal matter is digested when microorganisms produce certain enzymes.
  - C Vegetation and animal matter contain enzymes that hinder the growth of dangerous microorganisms.
  - D Microorganisms invade the cells of plants and animals, eventually causing the death of the host.
- 8. The word cements in paragraph 1 is closest in meaning to
  - (A) lifts
  - (B) freezes
  - c sorts
  - (D) combines

- It can be inferred from paragraph 1 that organic compost
  - (A) is less expensive than other types of compost
  - B relies on the digestive processes of microorganisms
  - c is based on the belief that everything in nature changes
  - p requires about a year before it can be used in the soil
- 10. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 2?
  - Compost and humus are different substances, but people sometimes confuse the two words.
  - B It is often possible to change compost into humus, but you cannot change humus into compost.
  - © "Compost" used to be a synonym for "humus," but the meaning of both words has changed over time.
  - Some people think that compost eventually becomes humus, but actually the reverse is true.

Answers to Exercises 1.7.A through 1.7.B are on page 569.

# 1.7 PARAPHRASES



- Outside of class, look in a magazine or a university textbook. Select a short passage of one to three
  paragraphs. In class, work with a partner. Identify the nouns and verbs in each selected passage.
  Then, use a dictionary, synonym finder, or thesaurus to find as many synonyms as possible for the
  nouns and verbs you have identified. Names and other proper nouns will not have synonyms. Also,
  be aware that not every synonym will be appropriate for the context of your passage, and some
  synonyms will be more appropriate than others. If you are not sure whether a synonym is correct
  in the context, ask your teacher.
- 2. In reading done outside class, select a short passage of no more than 100 words. Write a paraphrase of the passage by restating each sentence in a different way, using different words. You may also combine ideas from more than one sentence into one sentence. To extend this activity further, bring the original passage and your paraphrase to class. Exchange your original passage with a partner's. Next, write a paraphrase of this new passage while your partner paraphrases the original passage from you. When you are both finished writing, compare the two paraphrases for each original passage. Do both paraphrases contain the same essential information as the original?
- 3. Outside of class, select a short passage of no more than 100 words. Make a copy of the passage for each student in your class, or write the passage on an overhead projector transparency. Choose one sentence from the passage and restate it in a different way, using different words. In class, write the paraphrased sentence on the board or the overhead projector. Your class must read the passage and the paraphrased sentence and determine which sentence in the original passage is being paraphrased. Does your paraphrase include all of the essential information from the original sentence?

# 1.8 Recognizing Coherence



Read the sentences below. Put them in order. Which sentence should come first? Beside each sentence, write 1, 2, or 3 to show the correct order:

	The trunk's inner core consists of vertically oriented cells that are closely packed together in paralle rows.
-	Millions upon millions of such cells form the heartwood—the nonliving central pillar on which the living tree hoists itself skyward.
_	The most distinguishing characteristic of a mature tree is its self-supporting woody spine, or trunk.
The m	ost logical order, from top to bottom, is: 2, 3, 1. Now look at the sentences in a paragraph:

Now read the following sentence, which can be added to the above paragraph.

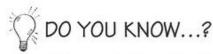
All trees share certain growth characteristics that distinguish them from other members of the plant kingdom.

Where would the sentence best fit? Choose the square [ ] where the sentence could be added.

The sentence would best fit at the first square. Now read the paragraph with the sentence added in the correct place. Notice how each sentence leads into the next sentence, helping the paragraph flow smoothly.

All trees share certain growth characteristics that distinguish them from other members of the plant kingdom. The most distinguishing characteristic of a mature tree is its self-supporting woody spine, or trunk. The trunk's inner core consists of vertically oriented cells that are closely packed together in parallel rows. Millions upon millions of such cells form the heartwood—the nonliving central pillar on which the living tree hoists itself skyward.

All of the sentences in the paragraph flow smoothly and logically. This logical order gives the paragraph coherence.



- Coherence is the quality of unity and order among the parts of a written passage. If a passage is coherent, there are logical and orderly connections among the ideas within sentences and among the sentences within paragraphs. There are also orderly connections among the various paragraphs. Coherent writing makes sense. It is easy to understand because all of its parts fit together and flow logically one after another.
- Coherence questions on the TOEFL test your ability to identify where a sentence can be added to a passage. Questions about coherence look like this:

Look at the four squares [ ] that indicate where the following sentence could be added to the passage.

(Sentence)

Where would the sentence best fit?

Click on a square [ ] to add the sentence to the passage.

- 3. On the TOEFL, the squares in the passage indicate answer choices. When you click on a square, the sentence will appear in that place. You can then read the passage with the added sentence and check to see if this is the best place to put the sentence. You can try putting the sentence at any square until you are satisfied that the passage reads logically and coherently.
- 4. Your understanding of the organization and purpose of the passage, and your knowledge of transitions and reference words, will help you determine where to add the sentence to the passage. You can also determine where not to add the sentence by identifying places where adding it would interrupt the logical connection between ideas in consecutive sentences.
- 5. Certain words and phrases called *transitions* are clues to coherence because they connect ideas and control the order of sentences. Transitions identify relationships of ideas in sentences and in paragraphs. Some commonly used transitions are:

Addition	Contrast	Example	Cause/Result
also	although	for example	because
another	however	for instance	consequently
other mort medt d	in contrast	including a dis	therefore
first, second	while while	such as such as	members of sudflant

For a longer list of transitions, see the table on page 17.

6. Transitions show the relationship between consecutive sentences. Look at this example:

Akira Kurosawa's masterful works burst on the international film scene in the 1950s with the sound of fireworks and epic battles. *In contrast*, the quiet dignity and unobtrusive techniques of Satyajit Ray's films also placed him among the world's great directors.

In contrast is a transition that makes a logical connection between the two sentences. The transition determines the order of the sentences because it introduces the information in the second sentence as a contrast to the information in the first sentence.

7. Coherence is related to the author's purpose. Look at this example:

Two reasons for government regulation of industry stand out. First, economists have traditionally stressed the importance of containing market power. A second reason is that the regulators are captured by the regulated.

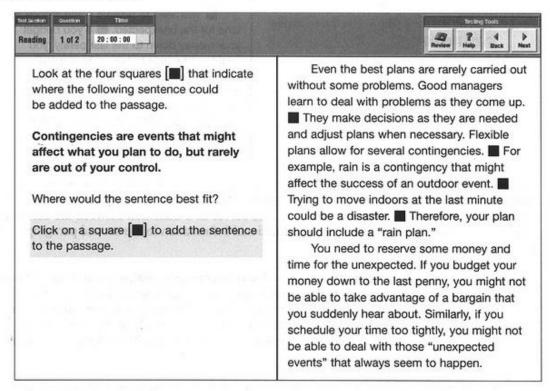
The transitions *two reasons*, *first*, and *a second reason* tell you that the author's purpose is to list reasons. Beware that adding a sentence between any of these sentences might interrupt the logical flow, unless the added sentence would further develop an idea in one of the sentences.

8. Pronouns and other reference words are clues to coherence. Look at this example:

The brain of a computer is its central processing unit. In the case of a microcomputer, this is a chip called the microprocessor. It is connected to the other units by groups of wires along which binary code signals pass.

The pronoun *this* refers to *central processing unit* in the previous sentence. The pronoun *It* refers back to *microprocessor*. The use of pronouns and referents is linked to the order of the sentences. Beware that adding a sentence between any of these sentences might interrupt the logical connection between a pronoun and its referent.

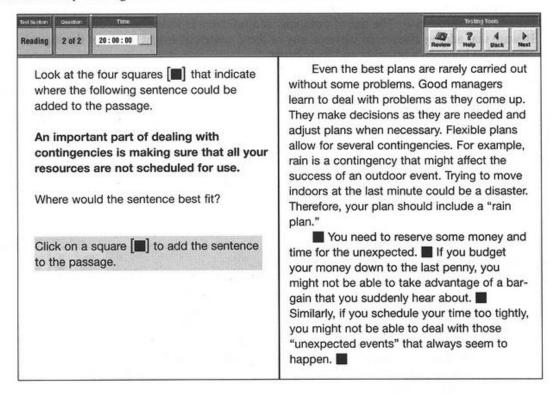
- In questions about coherence, an answer choice may be incorrect because adding the sentence there would:
  - interrupt the logical flow of ideas in consecutive sentences;
  - disagree with the correct use of transitions;
  - interrupt the logical connection between a pronoun and its referent; or
  - separate two sentences that should be consecutive in the passage.
- Here are some examples:



The added sentence defines the term *contingencies*. The author first mentions this term in the sentence *Flexible plans allow for several contingencies*. The next sentence gives an example of a contingency: *For example, rain is a contingency that might affect the success of an outdoor event*. The logical order is to introduce the new term, define it, and then give an example to illustrate it. Therefore, the sentence best fits at the second square. The passage should read:

Even the best plans are rarely carried out without some problems. Good managers learn to deal with problems as they come up. They make decisions as they are needed and adjust plans when necessary. Flexible plans allow for several contingencies. Contingencies are events that might affect what you plan to do, but rarely are out of your control. For example, rain is a contingency that might affect the success of an outdoor event. Trying to move indoors at the last minute could be a disaster. Therefore, your plan should include a "rain plan."

Adding the sentence at any of the other squares would make a less coherent paragraph because it would interrupt the logical flow of ideas between the sentences.



The added sentence introduces the idea of having resources to deal with contingencies. The sentence best fits at the first square, where it serves as the introductory sentence of the paragraph. An important part of dealing with contingencies also serves as a transition between the definition of contingency in the first paragraph and the additional information in the second paragraph. The passage should read:

An important part of dealing with contingencies is making sure that all your resources are not scheduled for use. You need to reserve some money and time for the unexpected. If you budget your money down to the last penny, you might not be able to take advantage of a bargain that you suddenly hear about. Similarly, if you schedule your time too tightly, you might not be able to deal with those "unexpected events" that always seem to happen.

Adding the sentence at any of the other squares would interrupt the smooth flow of ideas between the sentences.



## Exercise 1.8.A

Read the passages and choose the best answer to each question.

 Look at the four squares, A, B, C, and D, which indicate where the following sentence could be added to the passage. Where would the sentence best fit?

## Most of them like to talk, especially in front of a group.

Kindergartners are quite skillful with language. A Providing a "sharing time" gives children a natural opportunity for talking. However, many will need help in becoming good listeners. Some sort of rotation scheme is usually necessary to divide talking opportunities between the talkative and silent extremes. Teachers can provide activities or experinces for less confident children to talk about, such as a field trip, a book, or a film.

2. Look at the four squares, A, B, C, and D, which indicate where the following sentence could be added to the passage. Where would the sentence best fit?

## However, the ground surface is spongy and wet to the touch.

Bogs are a distinctive type of wetland. A They appear relatively dry, with only small amounts of shallow water visible. The surface material is largely sphagnum moss or other organic matter rather than mineral soil. Bogs are usually characterized by evergreen trees and shrubs and are underlain by deep peat deposits. D Bogs will develop in former glacial lakes by the gradual accumulation of organic matter falling from beneath a floating mat of vegetation advancing out over the water.

3. Look at the four squares, A, E, A, and D, which indicate where the following sentence could be added to the passage. Where would the sentence best fit?

The narrower leaves of trees like willows and mimosa provide a dappled shade, which may be more beneficial to lawns and garden plants.

While all living things need sunlight, too much of it can be oppressive, even damaging.

Any overheated dog or cat can appreciate the relief provided by a mature shade tree on a sunny day. The densest foliage, and so the densest shade, is found under the broad leaves of deciduous trees like oaks and maples. By cooling the surrounding air, the shade from trees reduces the demand for air conditioning in nearby homes. This translates into reduced emissions of carbon dioxide from oil—or coal—fired electrical generators.

This is due to the beating of the double reed through which the air travels as it leaves the player's mouth.

The highest of the standard orchestral instruments, the flute is unlike the other woodwinds because it is held across the player's mouth. A The air inside is set in vibration by the action of the airstream against the edge of the hole. B The flute has no reed, so its tone is pure and creamy. C In contrast, the oboe has a rasping, "sawtooth" configuration to its sound when played loud. D However, the oboe can produce a quiet and gentle sound when called for, and it can even approximate the human voice.

5. Look at the four squares, A, B, C, and D, which indicate where the following sentence could be added to the passage. Where would the sentence best fit?

It is the only method available for obtaining a variety of colors in bamboo.

For centuries, bamboo has provided building materials for Eastern cultures. Now it is becoming more popular and available in the West, particularly as a substitute for expensive hardwood flooring. A As a flooring material, natural honey—colored bamboo is more stable than carbonized bamboo. B Carbonizing is a technique of steaming and pressurizing the bamboo to introduce carbon fibers that darken the original material. B However, it lowers the hardness factor, making the darker bamboo more susceptible to damage.

6. Look at the four squares, A, B, C, and D, which indicate where the following sentence could be added to the passage. Where would the sentence best fit?

No one can be made better off without making someone else worse off.

An economy is efficient if there is no way of reorganizing production and distribution to improve everyone's satisfaction. Economists call such a state *allocative efficiency*. A When people come to a market with goods they have produced, they trade their goods for those of others. B Every completed trade raises the satisfaction of both sides. C When all of the beneficial trades have been completed, no one can find another trade to improve his situation. D Under such conditions, the economy has attained allocative efficiency.

Researchers found that high-pitched notes made people think of bright colors, while low tones brought dark colors to mind.

For people with a condition called *synesthesia*, sound is directly linked to the sense of sight, and they experience sounds by seeing them as colors. A However, different sounds sometimes remind everyone of different colors. B In one study, students were asked to relate colors of different tones of music. White, yellow, and pink were associated with tones in the 4,000–Hz range; blue and green were associated with tones in the 1,000–Hz range; and brown, gray, and black were associated with tones in the 200–Hz range.

8. Look at the four squares, A, B, C, and D, which indicate where the following sentence could be added to the passage. Where would the sentence best fit?

This irritation is caused by viruses or bacteria, exposure to tobacco smoke, or air pollution.

Bronchitis is an inflammation of the bronchial tubes in the lungs. A It often appears after a cold or an upper respiratory infection that does not heal completely. It also may accompany childhood infections such as measles, whooping cough, and typhoid fever. B The inflamed bronchial tubes secrete a sticky mucus called sputum. It is difficult for the tiny hairs on the bronchi to clear out this sputum. B The cough that comes with bronchitis is the body's attempt to eliminate it. D Other symptoms include discomfort or tightness in the chest, low fever, sore throat, and sometimes wheezing. Severe cases of bronchitis may lead to pneumonia.

9. Look at the four squares, A, B, G, and D, which indicate where the following sentence could be added to the passage. Where would the sentence best fit?

Courses included Far Eastern, Spanish, and Native American dances as well as basic ballet.

Among the modern dance innovators of the early twentieth century was Ruth St.

Denis, whose dances were lush and graceful, tinged with exoticism and mysticism. A St.

Denis was particularly expert in the manipulation of draperies and veils so that the moving fabrics seemed like magical extensions of her own body. B St. Denis's 1914 marriage to dancer—choreographer Ted Shawn resulted in a wedding of names, Denishawn, which first became a school and then a dance company. Denishawn drew its inspiration and derived its curriculum from a variety of ethnic sources. D The touring Denishawn company might offer on a single program a Hindu dance, a rhythmic interpretation of concert music, a romantic duet, a hula, and a demonstration of the latest ballroom craze.

Both biological and chemical oceanographers are trying to make ocean life and industrial progress compatible so marine ecosystems will not be endangered.

A Within the field of oceanography, the major areas stressed are physical, biological, chemical, geological, engineering, and technological. However, each of these areas is interdependent of the others. Both physical oceanographers and ocean engineers are involved in harnessing the energies of the ocean to fill the demand for electrical power. Even if oceanographers have an area of major interest, they are consistently forced to take a more interdisciplinary view of their work because the various sciences overlap. Oceanographers of different backgrounds depend on each other to further their own research. D A conference of marine scientists might include discussions of plate tectonics, effects of offshore mining on fisheries, effects of climate change on marine life, technology for deep—sea exploration, and other related topics.

## Exercise 1.8.B

Read the passages and choose the best answer to each question.

## QUESTIONS 1-3

The 2,000-year-old complex of mounds occupying thirteen acres on the banks of the Scioto River in southwestern Ohio is one of the most important sites of the Hopewell Indian culture. Their mound construction was especially intensive in this area. It offers evidence that this society flourished in the Ohio Valley for five hundred years.

The 23 mounds are spaciously placed but with no overall pattern. Archaeologists have determined that the complex—called Mound City—was apparently both a village and a burial site. Numerous artifacts have been found in excavations of the burial mounds. They include shell beads, bear and shark teeth, pottery, and ear spools of copper and silver. A number of pipes found in one mound—probably belonging to a chief or priest—are remarkable for their exquisite workmanship and stylized realism in the likenesses of animals and birds: wildcat, beaver, great blue heron, and raven.

The word flourished in paragraph 1 is closest in meaning to	2. The word They in paragraph 2 refers to
A suffered B fished C lived D competed	A archaeologists B artifacts C excavations D mounds

The quantity and type of burial objects in particular mounds indicates the status and occupation of the deceased.

The 23 mounds are spaciously placed but with no overall pattern. Archaeologists have determined that the complex—called Mound City—was apparently both a village and a burial site. A Numerous artifacts have been found in excavations of the burial mounds.

They include shell beads, bear and shark teeth, pottery, and ear spools of copper and silver. A number of pipes found in one mound—probably belonging to a chief or priest—are remarkable for their exquisite workmanship and stylized realism in the likenesses of animals and birds: wildcat, beaver, great blue heron, and raven.

## **QUESTIONS 4-6**

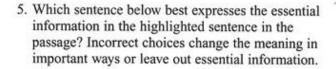
Although some fish appear capable of swimming at extremely high speeds, most fish, such as trout and minnows, can actually swim only about ten body lengths per second. Translated into kilometers per hour, it means that a 30-centimeter trout can swim only about 10.4 kilometers per hour. Generally speaking, the larger the fish the faster it can swim.

We can understand how fish swim by studying the motion of a very flexible fish such as an eel. The movement is **serpentine**, with **undulations** moving backward along the body by alternate contraction of the muscles on either side of the eel's body. While the undulations move backward, the bending of the body pushes sideways against the water, producing a reactive force that is directed forward at an angle. The movement has two components: thrust and lateral force. Thrust is used to propel the fish forward, and lateral force tends to make the fish's head deviate from the course in the same direction as the tail. This side—to—side head movement is very obvious in a swimming eel, but fish with large, rigid heads have enough surface resistance to minimize the lateral movement.

#### Glossary:

serpentine: like a snake undulation: wavelike motion

- 4. It can be inferred from paragraph 1 that a 60-centimeter fish can swim
  - (A) at extremely high speeds
  - B faster than a 30-centimeter fish
  - © only about 10.4 kilometers per hour
  - fast enough to catch an eel



- A The fish uses thrust when moving forward, and lateral force when moving backward or sideways.
- B Both force and lateral thrust are needed for the fish to maintain its intended course.
- C Thrust can be seen in the fish's head, while lateral force is seen in both its head and its tail.
- Thrust pushes the fish forward, and lateral force pushes both its head and its tail to the same side.

The front end of the body bends less than the back end, so each undulation increases in size as it travels along the body.

We can understand how fish swim by studying the motion of a very flexible fish such as an eel. A The movement is serpentine, with undulations moving backward along the body by alternate contraction of the muscles on either side of the eel's body. B While the undulations move backward, the bending of the body pushes sideways against the water, producing a reactive force that is directed forward at an angle. The movement has two components: thrust and lateral force. D Thrust is used to propel the fish forward, and lateral force tends to make the fish's head deviate from the course in the same direction as the tail. This side—to—side head movement is very obvious in a swimming eel, but fish with large, rigid heads have enough surface resistance to minimize the lateral movement.

## QUESTIONS 7-10

Both the Greeks and the Romans minted coins. The Romans called the place where coins were made and stored by the Latin word *moneta*, the ancestor of the English word *money*. Even after coins were developed, however, the world was still a long way away from our current system of money. Each city made its own coins, with no common way of exchanging one type for another. Gradually, traders worked out different rates of exchange.

Another complication lay in the fact that for thousands of years, most people did not use money for important purchases. Although the wealthier classes used money for major transactions, ordinary people continued to barter for most things in their daily lives. For example, workers would be paid in food, clothing, and shelter, rather than in money. Farmers would grow food and make items for themselves, trading the tiny surplus for whatever they could not make or grow.

Paper money had a lot of advantages: it was lighter and easier to carry. It was also a lot cheaper to make. The development of paper money meant that people had grasped the difference between money as a symbol and money as something that was worth only the actual cost of the paper and ink in making a bill. The first known use of paper money was in China, around the year 1300. The first use of paper money in Europe was in Sweden in the 1600s, a time of extensive international trade and exploration. Because paper money made trade easier and more efficient, its use quickly caught on throughout the world.

7. T	he word	another in	paragraph	l refers to
------	---------	------------	-----------	-------------

- A place where coins were made
- (B) city
- c) type of coin
- rate of exchange

However, this was a long, slow process that often developed differently, depending on the individual trader.

Both the Greeks and the Romans minted coins. The Romans called the place where coins were made and stored by the Latin word *moneta*, the ancestor of the English word *money*. A Even after coins were developed, however, the world was still a long way away from our current system of money. B Each city made its own coins, with no common way of exchanging one type for another. G Gradually, traders worked out different rates of exchange.

- Which sentence below best expresses the essential information in the highlighted sentence in the passage? Incorrect choices change the meaning in important ways or leave out essential information.
  - A Because the majority of people did not have much money, they had to use other methods of exchange.
  - B Rich people used money for important purchases, but common people traded goods and services directly.
  - © The daily life of the rich and the poor differed mainly in the amount of money that was available to them.
  - The wealthier classes had more control over how they used their money than did members of the lower classes
- 10. Look at the four squares, A, B, C, and D, which indicate where the following sentence could be added to the passage. Where would the sentence best fit?

As trade became an ever more important part of the world economy, people began to use paper money as well as coins.

A Paper money had a lot of advantages: it was lighter and easier to carry. 
B It was also a lot cheaper to make. The development of paper money meant that people had grasped the difference between money as a symbol and money as something that was worth only the actual cost of the paper and ink in making a bill. The first known use of paper money was in China, around the year1300. The first use of paper money in Europe was in Sweden in the 1600s, a time of extensive international trade and exploration. Because paper money made trade easier and more efficient, its use quickly caught on throughout the world.

Answers to Exercises 1.8.A through 1.8.B are on page 570.



- Outside of class, look in a newspaper, a magazine, or a university textbook. Select a short passage
  of one to three paragraphs. Make a photocopy and bring it to class. In class, work with a partner.
  Read the passage and underline the transitions, pronouns, and other key words and phrases that
  help make the passage coherent.
- 2. Outside of class, select a paragraph of four to six sentences from a magazine or a university textbook. Copy out the sentences in the form of a list. Now, mix up the order of the sentences. In class, write the list of sentences in the mixed—up, incorrect order on the board or an overhead projector transparency. As a class, put the sentences into a coherent order as a paragraph. What words and phrases are clues to coherence? What makes the order of sentences logical? Is there more than one possible order for the sentences? Does changing the order of sentences change the meaning of the paragraph?
- 3. Outside of class, select a paragraph of four to six sentences from a magazine or university textbook. Copy out the paragraph on an overhead projector transparency, but omit one sentence. Write the omitted sentence in a separate box above or below the paragraph. In class, work in pairs or small groups to determine where the omitted sentence would best fit in the paragraph. Compare your answer with the answers of other students and with the original passage.



# PROGRESS - 1.7 through 1.8

QUIZ 7 Time – 20 minutes

Read the passages and choose the best answer to each question. Answer all questions about a passage on the basis of what is stated or implied in that passage.

## HISTORY OF LANGUAGE

In evolutionary history, the development of language set humans apart from the rest of the animal kingdom. Spoken language originated when early humans began to string grunts and squeals together to form a sound-meaning system. Language provided humans with the tools to create ideas and then to communicate these ideas to other people.

As human knowledge and civilization expanded, a system that stored information became necessary. The first writing systems used pictures to represent objects. These early systems were successful in recording concrete details concerning trade and taxes, but they could not convey abstract ideas and emotions. Between 800 and 500 B.C., the ancient Greeks began to use a phonetic alphabet that used symbols to represent sounds, with each sound making up part of a word. Thus, written language became a means of mass communication.

The expansion of humanity from an oral society to one that also used the written word for communication was a defining point in human civilization. Early oral cultures required a tribal mentality with histories defined by family or clan perspectives, but writing allowed a broader, global perspective to emerge.

- Which sentence below best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.
  - A Humans evolved as the most powerful species after they developed language.
  - (B) The creation of human language has its origins in the language of animals.
  - The emergence of language distinguished early humans from other animals.
  - (D) Humans and animals developed completely different systems of communication.
- 2. Look at the four squares, A, B, C, and D, which indicate where the following sentence could be added to the passage. Where would the sentence best fit?

Before written language evolved, there was no way of permanently recording language.

As human knowledge and civilization expanded, a system that stored information became necessary. The first writing systems used pictures to represent objects. These early systems were successful in recording concrete details concerning trade and taxes, but they could not convey abstract ideas and emotions. Between 800 and 500 B.C., the ancient Greeks began to use a phonetic alphabet that used symbols to represent sounds, with each sound making up part of a word. Thus, written language became a means of mass communication.

- 3. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 3? Incorrect choices change the meaning in important ways or leave out essential information.
  - A Civilization changed a great deal when humans rejected oral communication in favor of more complex systems of communication.
  - B Human societies were not able to define themselves until they developed written language.
  - © The power of language is humanity's most basic characteristic because language provides new tools of communication.
  - An important development in human history occurred when writing was added to speaking as a form of communication.

## PAIN

Virtually all animals experience pain. Pain is a distress call from the body signaling some damaging stimulus or internal disorder. It is one of the most important sensations because it is translated into a negative reaction, such as withdrawal from danger. Rare individuals who are born without the ability to feel pain may die from such conditions as a ruptured appendix because they are unaware of the danger.

Pain receptors are unspecialized nerve fiber endings that respond to a variety of stimuli signaling real or possible damage to tissues. Some groups of pain receptors respond to specific classes of chemicals released from damaged or inflamed tissue. When pain fibers respond to peptides released by injured cells, this is called slow pain. Fast pain responses—for example, a pinprick or hot or cold stimuli—are a more direct response of the nerve endings to mechanical or thermal stimuli.

There is no pain center in the **cerebral cortex**. However, discrete areas have been located in the brain stem where pain messages from various parts of the body terminate. These areas contain two kinds of small peptides, endorphins and enkephalins, which have activity similar to morphine or opium. When these peptides are released, they bind with specific opiate receptors in the midbrain, decreasing the perception of pain.

#### Glossary:

cerebral cortex: part of the brain that controls high-level functions such as thought and sensation

- 4. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.
  - A Escaping from danger is a negative reaction, but it is the most important thing an individual learns.
  - B The ability to sense pain is extremely important because pain signals the body to respond to a threat.
  - © Experiencing pain is one type of reaction to a negative stimulus; another type is avoiding danger.
  - D We experience a lot of sensations, and the most important ones are translated into appropriate actions.

They respond to stimuli such as changes in temperature and pressure, and movement of the tissue.

Pain receptors are unspecialized nerve fiber endings that respond to a variety of stimuli signaling real or possible damage to tissues. A Some groups of pain receptors respond to specific classes of chemicals released from damaged or inflamed tissue. B When pain fibers respond to peptides released by injured cells, this is called slow pain. Fast pain responses—for example, a pinprick or hot or cold stimuli—are a more direct response of the nerve endings to mechanical or thermal stimuli.

6. Look at the four squares, A, B, C, and D, which indicate where the following sentence could be added to the passage. Where would the sentence best fit?

Thus, they are considered the body's own natural painkillers.

There is no pain center in the brain's cerebral cortex. A However, discrete areas have been located in the brain stem where pain messages from various parts of the body terminate. B These areas contain two kinds of small peptides, endorphins and enkephalins, which have activity similar to morphine or opium. C When these peptides are released, they bind with specific opiate receptors in the midbrain, decreasing the perception of pain. D

### PRESTIGE

Prestige refers to a person's social standing—the level of respect that other people are willing to show. A person with high prestige is honored or esteemed by other people, while a person with low prestige is disrespected or marginalized. Prestige is a valued resource for people at all levels of a society, and this can be seen among inner—city youth, where to disrespect or "diss" someone has negative consequences. Exactly what qualities are respected will vary from one society to another.

In the United States, the top-status occupations are the professions—physicians, lawyers, professors, and clergy—requiring many years of education and training. At the other end of the hierarchy, the lowest prestige is associated with occupations requiring little formal education—for example, bus drivers, sanitation workers, and janitors. Prestige is linked to income, but there are exceptions, such as college professors, who have high prestige but relatively low salaries compared to physicians and lawyers. Conversely, some low-prestige workers receive high union wages and benefits. Criminals are often well rewarded with income and respect in their communities, while politicians—many of whom are wealthy—are frequently less respected than occupations such as secretary and bank teller.

- 7. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.
  - (A) The most valuable resource in any society is prestige, but young people who disrespect others reject this.
  - B People at all social levels value prestige, and to disrespect another is punished, for example, among urban youth.
  - © The disrespectful behavior of some young people shows that prestige is not valued equally throughout a society.
  - There are serious consequences when teenagers from the inner city do not show respect for other groups.
- 8. Look at the four squares, **A**, **B**, **C**, and **D**, which indicate where the following sentence could be added to the passage. Where would the sentence best fit?

Some societies honor wisdom and old age; others value warriors or youth.

Prestige refers to a person's social standing—the level of respect at that other people are willing to show. A A person with high prestige is honored or esteemed by other people, while a person with low prestige is disrespected or marginalized. B Prestige is a valued resource for people at all levels of a society, and this can be seen among inner—city youth, where to disrespect or "diss" someone has negative consequences. C Exactly what qualities are respected will vary from one society to another.

- Which sentence below best expresses the essential information in the highlighted sentence in paragraph 2? Incorrect choices change the meaning in important ways or leave out essential information.
  - A If an occupation has high prestige, then it usually has a high income; college professors, physicians, and lawyers are good examples.
  - B Occupational status depends on income, although there is a wide range of income levels in occupations such as college professor.
  - The fact that college professors have high prestige but relatively low incomes is an exception to the rule that prestige and income are related.
  - D It is unfair for college professors to have low salaries compared to other high-prestige professions that have high salaries.
- 10. Look at the four squares, A, B, C, and D, which indicate where the following sentence could be added to the passage. Where would the sentence best fit?

In postindustrial societies, prestige is linked to occupational status, although income is also important.

A In the United States, the top-status occupations are the professions—physicians, lawyers, professors, and clergy—requiring many years of education and training. 

At the other end of the hierarchy, the lowest prestige is associated with occupations requiring little formal education—for example, bus drivers, sanitation workers, and janitors. Prestige is linked to income, but there are exceptions, such as college professors, who have high prestige but relatively low salaries compared to physicians and lawyers. 
Conversely, some low—prestige workers receive high union wages and benefits. 
Criminals are often well rewarded with income and respect in their communities, while politicians—many of whom are wealthy—are frequently less respected than occupations such as secretary and bank teller.

Answers to Reading Quiz 7 are on page 570.

Record your score on the Progress Chart on page 693.



## PROGRESS - 1.1 through 1.8

QUIZ 8

Time - 40 minutes

Read the passages and choose the best answer to each question. Answer all questions about a passage on the basis of what is stated or implied in that passage.

## THE LONGHOUSE

The people of the longhouse lived in fortified villages in elevated areas that were easy to defend and were located near a water supply. Twenty-foot palisades surrounded a group of longhouses and acted as a defensive wall that also kept forest animals from foraging within the village. The longhouse was the typical housing unit within the stockade. A number of families were housed within each longhouse, which varied in size from 20 by 16 feet to huge multiple family structures of 60 by 18 feet. In the more populous villages, longhouses could be more than 300 feet long. The longhouse was more than just a shelter; it was the basic unit upon which the entire society was constructed.

In building the longhouse, a row of forked poles was placed in the ground, between four and five feet apart. Cross poles were lashed to the forked uprights to form an arched roof. Slender poles or rafters were then secured to the roof frame, and traverse poles were added to further strengthen the overhead structure. Large pieces of bark were then tied to the frame. An outer set of poles kept the bark in place on the sides and roof. Smoke holes were built into the roof at about twenty—foot intervals. Two families shared the stone—lined hearth beneath each smoke hole.

At each end of the longhouse was a door with a covering of animal hide or hinged bark that could be lifted up for entering and exiting. Along each inside wall were bunks that served as beds at night and benches in the day. Corn, dried fish, and other foods hung from overhead. The dwelling was compartmentalized to accommodate each family. At the front of the longhouse, over the door, carved images of clan symbols represented the families living there.

- The word palisades in paragraph 1 is closest in meaning to
  - (A) roads
  - (B) fences
  - c bridges
  - (D) ponds
- The author discusses the dimensions of longhouses in paragraph 1 in order to
  - (A) describe the village's strong defenses
  - (B) illustrate the importance of certain families
  - © explain why rivalry occurred between families
  - D show that villages varied in population

- 3. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.
  - A The largest longhouses could provide shelter to everyone who was a member of the society.
  - B The longhouse was basically a shelter that also served important functions related to the defense of the village.
  - © Everyone in the society had a role in building the longhouse because a variety of construction skills were needed.
  - D The longhouse not only provided housing for families but also formed the foundation of the whole society.

- 4. The frame of a longhouse was constructed of
  - (A) tree bark
  - B animal hide
  - © wooden poles
  - D flat stones
- 5. The word dwelling in paragraph 3 refers to
  - (A) longhouse
  - B door
  - c) corn
  - dried fish

- According to the passage, all of the following statements are true EXCEPT
  - A Each longhouse was a separate village.
  - B People cooked and stored food in a longhouse.
  - The longhouse was like an apartment building.
  - The people of the longhouse belonged to clans.

Elm, ash, cedar, fir, or spruce trees were the usual sources of bark.

In building the longhouse, a row of forked poles was placed in the ground, between four and five feet apart. Cross poles were lashed to the forked uprights to form an arched roof. A Slender poles or rafters were then secured to the roof frame, and traverse poles were added to further strengthen the overhead structure. B Large pieces of bark were then tied to the frame. An outer set of poles kept the bark in place on the sides and roof. Smoke holes were built into the roof at about twenty—foot intervals. D Two families shared the stone—lined hearth beneath each smoke hole.

## LANGSTON HUGHES

Among the many talented African American writers connected with the Harlem Renaissance of the 1920s and 1930s, Langston Hughes was the most popular in his time. His two most important achievements were the incorporation of the rhythms of black music into his poetry and the creation of an authentic black folk speaker in the character of Jesse B. Semple. Through both poetry and storytelling, Hughes captured in written form the dominant oral and improvisatory traditions of black culture.

Langston Hughes was born in Missouri in 1902. He began to write poetry in high school and later attended Columbia University in New York. After one year at university, Hughes commenced a nomadic life in the United States and Europe. He shipped out as a merchant marine and worked in a Paris nightclub, all the while writing and publishing poetry. His prolific literary career was launched in 1926 with the publication of his first book, *The Weary Blues*, a collection of poems on African American themes set to rhythms from jazz and blues. His first novel appeared in 1930, and from that point on Hughes was known as "the bard of Harlem."

In the activist 1930s, Hughes was a public figure. He worked as a journalist, published works in several media, and founded African American theaters in New York, Chicago, and Los Angeles. Hughes's concern with race, mainly in an urban setting, is evident in his poetry, plays, screenplays, novels, and short stories. His poetry includes lyrics about black life and black pride as well as poems of racial protest. His major prose writings are those concerned with the character Jesse B. Semple, a shrewd but supposedly ignorant Harlem resident nicknamed Simple. Simple was a wise fool, an honest man who saw through sham and spoke plainly. The Simple stories were originally published as newspaper sketches and later collected in five book volumes.

By the 1960s, readers preferred themes that reflected the struggles of the times, and Hughes's writings were overshadowed by those of a younger generation of black poets. However, in more recent decades, scholars and readers have rediscovered Hughes and regard him as a major literary and social influence. His poetry and stories remain an enduring legacy of the Harlem Renaissance, and for this reason his position in the American canon is secure.

		on his position in the American canon is secure.
8.	It can be inferred from paragraph 1 that the Harlem Renaissance is the name of	10. What is significant about The Weary Blues?
	A a university B a literary movement C a newspaper D a book of poems	A It expressed themes of protest and unrest.  B Hughes wrote it when he was in high school  C It put the rhythms of black music into poetry  D Hughes performed it in a Paris nightclub.
9.	The word prolific in paragraph 2 is closest in meaning to	<ol> <li>According to the passage, Langston Hughes did all of the following EXCEPT</li> </ol>
	A surprising B transitory C mature D productive	A teach university courses  B write novels and screenplays  C start theater companies  D set poetry to jazz and blues

- 12. The word sham in paragraph 3 is closest in meaning to
  - (A) falsehood
  - B the media
  - © blindness
  - D literature
- 13. The word those in paragraph 4 refers to
  - (A) readers
  - (B) themes
  - © struggles
  - D writings

- 14. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 4? Incorrect choices change the meaning in important ways or leave out essential information.
  - The writings of Hughes, although still well known, are not as relevant today as they were at the time of the Harlem Renaissance.
  - B Hughes attained prominence in American literature because his writings represent the accomplishments of the Harlem Renaissance.
  - © Today Hughes is most remembered for the humorous poetry and stories that made Americans feel secure in the 1930s.
  - Americans like the old-style rhythms of Hughes's poems and stories, and this is why a musical composition was dedicated to him.
- 15. Look at the four squares, A, B, C, and D, which indicate where the following sentence could be added to the passage. Where would the sentence best fit?

The success of this book helped finance Hughes's further education at Lincoln University in Pennsylvania.

Langston Hughes was born in Missouri in 1902. He began to write poetry in high school and later attended Columbia University in New York. A After one year at university, Hughes commenced a nomadic life in the United States and Europe. B He shipped out as a merchant marine and worked in a Paris nightclub, all the while writing and publishing poetry. His prolific literary career was launched in 1926 with the publication of his first book, *The Weary Blues*, a collection of poems on African American themes set to rhythms from jazz and blues. His first novel appeared in 1930, and from that point on Hughes was known as "the bard of Harlem."

## COASTS AND SHORES

The terms "coast" and "shore" are often used interchangeably, but there are actually differences between them. One difference is that "coast" applies only to oceans, but "shore" can apply to other bodies of water as well. A shore is the zone at the edge of an ocean, lake, or river that is subject to the regular action of tides, waves, and currents. The shore is the area between the high—water mark and the low—water mark, and thus every part of it is sometimes underwater. The shifting line where the shore meets the water is called the shoreline. An ocean shore extends seaward to the edge of the continental shelf—the submerged edge of the continental block—or to the beginning of the continental slope, which extends down into deep water.

A coast is the land just inland from the shore, beyond the usual reach of high water. On the shore side, the boundary of the coast—the coastline—may be either a cliff face or a line marking the inland limit of tidewater. On the landward side, the boundary is usually the edge of a highland or some other kind of terrain distinct from the shore; however, some coastal boundaries have no clear distinction. Many coasts are sea bottoms uplifted by earthquakes to become dry land, so they may show some features of shores, even though the sea never reaches them.

In areas where river valleys meet the sea along a rocky coast, bays are likely to occur. The direction of the structural "grain" of the coastal rock affects the shape of the coastline. If the grain is mostly parallel to the coast, as along the Oregon coast, the mouths of few rivers will indent the coastline because river valleys tend to follow the grain. Such coastlines—called Pacific type—are likely to be smooth, straight, or gently curving. On the other hand, if the grain of the rock is at an angle to the coast, as in Maine and Norway, many more valleys will reach the coastline, forming closely spaced bays. Such coastlines are of the Atlantic type.

Coasts and shores are areas of continuous change. Like all other terrain, coasts and shores are subject to the processes of weathering, erosion, deposition, and tectonic activity. Unlike other terrain, shores are also subject to the daily action of tides, waves, and currents. These forces erode rocky shores and transport sand and debris from place to place, depleting some beaches and building up others. During storms, waves crash against sea cliffs, weakening them and creating rockfalls and landslides. Storm waves batter beaches and—especially at high tide—rush beyond them, sweeping away docks, roads, and buildings. Over time, coastal processes change as tectonic activity raises, lowers, and disrupts the terrain and the sea bottoms near shores. Coastal processes are also affected by changes in sea level due to melting glaciers and changes in the density and temperature of ocean water.

- 16. Why does the author discuss the terms "coast" and "shore" in paragraph 1?
  - A To show how each term has changed over time
  - B To describe how a coast can change into a shore
  - © To clarify the distinctions between the two terms
  - D To explain why more people use the term "coast"

- 17. The word submerged in paragraph 1 is closest in meaning to
  - (A) moveable
  - B irregular
  - © steep
  - D underwater

- All of the following statements accurately describe coasts and shores EXCEPT
  - A shore is the area at the water's edge, and a coast is the land next to the shore.
  - B A coast extends to the continental shelf; a shore extends inland to a highland.
  - Only oceans have coasts, but lakes, rivers, and oceans all have shores.
  - A coast is beyond the high-water mark, but a shore is at times underwater.
- 19. According to the passage, why do many coasts have characteristics of shores?
  - (A) "Coast" and "shore" are the same thing.
  - B) Both coasts and shores are shaped by tides.
  - (c) Many coasts are former sea bottoms.
  - Shorelines move inland because of erosion.
- It can be inferred from paragraph 3 that the Oregon coast is
  - (A) relatively straight
  - B) lined with cliffs
  - c very rainy
  - indented with bays
- 21. Which of the following is given as a cause of the different shapes of Pacific and Atlantic type coastlines?
  - A difference in direction of the structural "grain" of coastal rock
  - B Different rates of erosion caused by tides, waves, and currents
  - © A difference in the frequency of offshore tectonic activity
  - Differences in population and the amount of developed land

- 22. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 4? Incorrect choices change the meaning in important ways or leave out essential information.
  - A The forces of erosion improve the appearance and comfort of some beaches, while completely destroying others.
  - B Some shores are very rocky, and others have beautiful sandy beaches that encourage people to move there.
  - © Tides, waves, and currents wear away shores in some places and deposit sand and rock elsewhere along the shore.
  - D Because of powerful natural forces that erode shores, it is impossible to predict which beaches are safe to build on.
- 23. The word them in paragraph 4 refers to
  - (A) beaches
  - (B) storms
  - c) waves
  - cliffs
- The word batter in paragraph 4 is closest in meaning to
  - (A) create
  - (B) strike
  - (c) improve
  - D) avoid

The straightness or irregularity of a coastline depends on the processes that have shaped it.

A In areas where river valleys meet the sea along a rocky coast, bays are likely to occur. The direction of the structural "grain" of the coastal rock affects the shape of the coastline. If the grain is mostly parallel to the coast, as along the Oregon coast, the mouths of few rivers will indent the coastline because river valleys tend to follow the grain.

C Such coastlines—called Pacific type—are likely to be smooth, straight, or gently curving.

On the other hand, if the grain of the rock is at an angle to the coast, as in Maine and Norway, many more valleys will reach the coastline, forming closely spaced bays. Such coastlines are of the Atlantic type.

Answers to Reading Quiz 8 are on page 571.

Record your score on the Progress Chart on page 693.

## 1.9 Summarizing Important Ideas



Read the following passage:

Several companies are classified as small businesses, including gift shops, cafés, video stores, self-service laundries, and shoe repair shops. Franchise operations such as fast food restaurants and gas stations may also be small businesses. Real estate is often a small business, and consultants in various fields run their own small businesses from an office in their home.

The three most common types of small businesses are sole proprietorships, partnerships, and corporations. In a sole proprietorship, one person—the proprietor—owns the business. In a partnership, two or more people own the business together. In both sole proprietorships and partnerships, the owners keep the company's profits, but they are also liable for the company's debts. In the third type of business, the corporation, the owners are usually the officers, and they cannot be held personally responsible for the firm's debts.

Which sentences below are important ideas in the passage? Check all of the sentences that are major ideas.

	A variety of businesses are considered to be small businesses.
_	Video stores and fast food franchises are expanding elements in the service economy.
_	Sole proprietorships, partnerships, and corporations are the three main types of small businesses
_	A sole proprietorship has one owner.
_	A corporation's owners are not responsible for the company's debts.

The two most important ideas in the passage are:

A variety of businesses are considered to be small businesses.

Sole proprietorships, partnerships, and corporations are the three main types of small businesses.

The other sentences either are about something that is not mentioned or are minor ideas in the passage.



## DO YOU KNOW...?

- To summarize is to state the major ideas from a passage in a shorter form. A summary is a brief
  report of the most important ideas and information in the passage. A summary does not include
  minor ideas or supporting details.
- 2. TOEFL questions about summarizing ideas have special directions. The questions look like this:

An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. *This question is worth 2 points.* 

## 1.9 SUMMARIZING IMPORTANT IDEAS

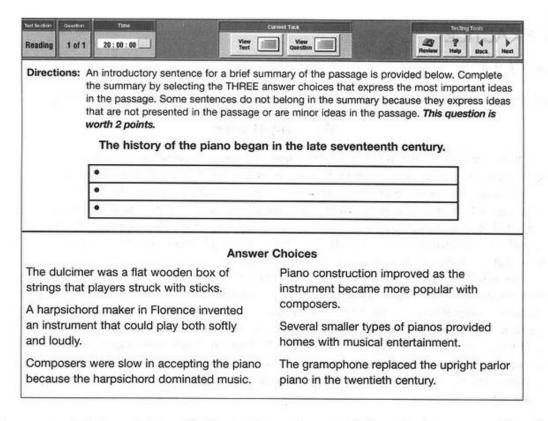
- 3. In this type of question, you use the computer mouse to drag answer choices to the summary table. The summary table fills the computer screen, but you can return to the passage while you are answering the question. You may take notes and you may use your notes to help you answer the question.
- 4. The summary question is worth 2 points, and it is possible to receive partial credit. If you choose all three correct answers, you earn 2 points. If you choose two correct answers, you earn 1 point. If you choose only one correct answer, or no correct answers, you receive no credit for the question.
- The reading skill of skimming will help you summarize the important information in the passage. Skimming is reading through the passage quickly to understand its overall meaning, purpose, and organization.
- In questions about summarizing information, the incorrect answer choices may be incorrect because they:
  - are minor ideas or supporting details instead of major ideas;
  - are inaccurate or untrue according to the passage; or
  - are irrelevant or not mentioned in the passage.
- 7. Here is an example:

## THE HISTORY OF THE PIANO

As early as the twelfth century, there was an instrument consisting of a flat, rectangular wooden box of strings that players struck with sticks. Its name, "dulcimer," came from a Latin term meaning "sweet song." In the late seventeenth century, a harpsichord maker in Florence was seeking ways to vary the volume of plucked harpsichord strings. He remembered the dulcimer's ability to vary its volume according to the force of the strike, so he experimented on his harpsichords. He eventually built an instrument that could indeed play both softly and loudly ("piano" and "forte"), giving it the name "pianoforte," which was later shortened to "piano."

Over the next century, piano construction was constantly improving. To preserve the strings, the piano's hammers were covered in a soft material—usually leather—which imparted a dull sound in the low and middle registers. Improvements accelerated as concert halls grew in size and composers became more demanding. By 1800, it was clear that composers preferred the piano to the harpsichord for its greater power and wider range of expression. Beethoven's sonatas, written between 1783 and 1822, illustrate not only his compositional development but also the ever—greater refinements available on the piano, including its widening range of notes.

In domestic settings, the piano was proving popular, but smaller rooms required instruments that took up less space. The so-called "square piano" needed less room, while the "giraffe piano" needed even less floor space but much height because it resembled a grand piano stood on end. The first upright "parlor piano" was made in Germany around 1770, and this became the chief means of providing home musical entertainment up till the early decades of the twentieth century, when the gramophone replaced it.



A summary includes only the major ideas and most important information in a passage. Therefore, the correct answers are:

A harpsichord maker in Florence invented an instrument that could play both softly and loudly.

Piano construction improved as the instrument became more popular with composers. Several smaller types of pianos provided homes with musical entertainment.

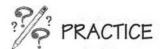
Some key information in the passage is:

...a harpsichord maker in Florence...built an instrument that could indeed play both softly and loudly....

Improvements accelerated as...composers became more demanding. By 1800, it was clear that composers preferred the piano....

In domestic settings, the piano was proving popular, but smaller rooms required instruments that took up less space. ... "square piano"... "giraffe piano"... "parlor piano"....

Why are the other three answers incorrect? The dulcimer was a flat wooden box of strings that players struck with sticks is a minor idea. Composers were slow in accepting the piano because the harpsichord dominated music is not mentioned in the passage. The gramophone replaced the upright parlor piano in the twentieth century is a minor idea.



Exercise 1.9.A

Read the passages and answer each question based on what is stated or implied in that passage.

#### WINSLOW HOMER

Winslow Homer, one of the most prominent nineteenth-century painters, was responsible for raising watercolor to its position as an important medium in American art. Homer was a master of watercolor, and his best watercolor paintings equal his larger oil paintings in both structure and intensity. Through long practice, Homer understood and exploited the requirements of watercolor, which he applied where most appropriate—to the recording of immediate experience. He had great powers of visual analysis and never looked at a scene without seeing its underlying structure.

Some of Homer's watercolors of the Adirondack woods, with their complicated weaving of vertical tree trunks against a background of deep autumnal tones, are demonstrations of masterful completeness. In one particular Adirondack painting, *The Blue Boat* (1892), all elements come together with perfect unity: the deep blue of the boat's hull, the green and gold landscape, the alertness of the fishermen, the brilliant clouds and their reflections on the water. Furthermore, its design unites the structural elements with the artist's enjoyment of marking and coloring the paper—all are blended as though in a single moment of vision and action.

1-2. An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. This question is worth 2 points.

The painter Winslow Ho	omer made watercolor an important medium in American art.
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- A Homer was a master of watercolor and used it to record immediate experience.
- B Homer is best known for his dramatic oil paintings of seascapes.
- C His understanding of structure is shown in watercolors of masterful completeness.
- Winslow Homer was born in Massachusetts in 1836.
- The Blue Boat is a watercolor painting of fishermen in a boat on the water.
- F Homer's Adirondack watercolors combine structural elements and color in perfect unity.

## MORAINES

The term *moraine* refers to the rock debris carried or deposited by a glacier. The term applies to the debris moved along within the glacier or on its surface, the debris left behind after the glacier melts, and the landforms made up of these debris deposits. The debris transported by a glacier is produced either by erosion of the rock beneath the glacier or by erosion on the slopes rising above the surface of the glacier. Material eroded by the glacier is carried primarily at the base of the glacier and along the outer margins of the glacier.

While rivers sort transported rock according to size, a glacier transports its material like a factory conveyer belt, moving the largest blocks and the finest dust next to each other at the same rate of movement over the same distance. Thus, moraine debris remains unsorted both during its transport and after it has been deposited. This unsorted glacial material is called drift. Some moraines are composed only of coarse material and large boulders, while others contain large quantities of finer—grained material such as silt and clay.

Once the glacial ice has retreated, the moraine deposits are left exposed on the land surface. The various landforms—moraines—indicate the position of the debris within or on the glacier during the glacier's movement. Their shape and composition also provide information about the shape, mass, and ice flow of the glacier.

3-4. An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. This question is worth 2 points.

A moraine is the rock debris carried or deposited by a glacier.	
•	
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- A The mapping of moraines is an important part of fieldwork in the study of glaciers.
- B Glaciers transport debris from the erosion of rock below the glacier or from the slopes above the glacier.
- © Rivers sort rocks according to size while the rocks are being transported.
- We can compare the movement of a glacier to that of a factory conveyer belt.
- E Moraine debris may include large and small rocks that remain unsorted both during and after transport.
- F After a glacier melts, the moraine deposits remain as various landforms that are also called moraines.

## CULTURAL EVOLUTION

The history of life is the story of biological evolution on a changing planet, and at no time has change ever been as rapid as in the age of humans. The evolution of humans and their culture has had enormous consequences, making humans a new force in the history of life.

Cultural evolution has occurred in stages, beginning with the nomads who hunted and gathered food on the African grasslands two million years ago. These hunter–gatherers made tools, organized communal activities, and divided labor. Next came the development of agriculture in several parts of the world 10 to 15 thousand years ago. Agriculture led to permanent settlements, the first cities, and trade among societies. An important cultural leap was the Industrial Revolution, which began in the eighteenth century. Since then, new technology has escalated exponentially, and so has the human impact on the planet.

Throughout this cultural evolution, from simple hunter-gatherers to high-tech societies, humans have not changed much biologically. Our knowledge is stored not in our genes but in the product of thousands of years of human experience. Cultural evolution has enabled us to defy our physical limitations and shortcut biological evolution. We no longer have to wait to adapt to our environment through natural selection; we simply change the environment to meet our needs. We are the dominant species of life and bring environmental change wherever we go.

5-6. An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. This question is worth 2 points.

Cultural evolution has made h	umans a new force in the history of life.
•	
•	
•	

- A Biological evolution is the most important force in the history of life.
- B There have been several stages in the evolution of human culture.
- © The development of agriculture 10 to 15 thousand years ago resulted in permanent settlements, the first cities, and trade.
- D Human technology has advanced rapidly, increasing the human role in environmental change.
- E Cultural evolution has allowed humans to change their environment, thus avoiding the need for biological evolution.
- F Humans are changing the world faster than many other species can adapt.

## SHAKESPEARE'S ROMANCES

Shakespeare's late comedies—including *Cymbeline*, *The Tempest* and *The Winter's Tale*—are classified as romances. They are based on a tradition of romantic literature going back at least to ancient Greece, in which the central theme of love serves as the trigger for extraordinary adventures. Love is subjected to abnormal strains, often involving separation, jealousy, and other elements of tragedy. There are also fantastic journeys to exotic lands, and absurd coincidences and mistaken identities that complicate the plot, but everything is resolved in the traditional happy ending of comedy.

All of Shakespeare's romances share a number of these classical themes, such as the theme of separation and reunion of loved ones, particularly family members. Daughters are separated from parents, and wives from husbands, in *Cymbeline* and *The Winter's Tale*. Sons are separated from fathers in *The Winter's Tale* and *The Tempest*. The related idea of exile also occurs, with the banished characters—usually rulers or future rulers—restored to their rightful position at the end of the play. The theme of jealousy is prominent, with the conclusion that love requires patience in times of adversity. The characters are frequently subjected to long journeys, many involving shipwrecks. Magical developments arise and supernatural beings appear, most notably in *The Tempest*, in which the leading character is a sorcerer.

7-8. An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. This question is worth 2 points.

Shakes older ro	peare's late con omantic traditio	nedies are o	considered roma	inces because	they are based on an
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- The main theme of love provides the characters with remarkable adventures in strange lands.
- B The romances involve many elements of tragedy but have the traditional happy ending of comedy.
- Shakespeare's romances are less well known than his comedies, tragedies, and history plays.
- O Cymbeline, The Tempest and The Winter's Tale are examples of Shakespeare's romances.
- E In many of the plays, love is subjected to jealousy and separation but ultimately to resolution and reunion.
- F The romances often feature shipwrecks that separate characters from family members and lovers.

## WATER LOSS

Metabolic activities require a constant supply of certain materials such as water, oxygen, and salts, and cells must replace these materials by withdrawing them from the environment. Humans lose water by evaporation from respiratory and body surfaces and must replenish such losses by drinking water, by obtaining water from food, and by retaining metabolic water formed in cells by oxidation of foods, especially carbohydrates.

Humans obtain half of their total water requirement by drinking. With enough water to drink, the human body can withstand extremely high temperatures while preventing a rise in body temperature. When the surrounding air temperature rises, the body's internal environment responds to this change by the evaporative cooling method of sweating. The ability to keep cool in this way was impressively demonstrated in the eighteenth century by a British scientist who stayed for 45 minutes in a room heated to 260 degrees Fahrenheit (126 degrees Celsius). He survived uninjured and his body temperature did not rise because he continuously drank water and sweated. A steak he had brought into the room with him, however, was thoroughly cooked.

Sweating rates may exceed three liters of water per hour under such conditions and cannot be tolerated unless the lost water is replaced. Without water to drink, the body will continue to sweat and lose water. When the water deficit exceeds 10 percent of the body weight, collapse occurs, and when the water deficit reaches about 15 to 20 percent, death occurs.

9-10. An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. This question is worth 2 points.

The human body needs a constant supply	y of water for metabolism.	
•		
•		

- Water lost through evaporation from respiratory and body surfaces must be replaced.
- Water is an important product of the oxidation of carbohydrates.
- © Given water to drink, humans can tolerate high temperatures by using the cooling method of sweating.
- A scientist remained in a 260-degree room for 45 minutes, which was long enough to cook a steak.
- E Unless water is replaced by drinking, continuous sweating will eventually lead to collapse and death.
- No human has ever survived more than two days in a desert without water.

## Exercise 1.9.B

Read the passages and answer each question based on what is stated or implied in that passage.

#### MATHEMATICIANS

Like a painter or a poet, a mathematician is a creator of patterns, but mathematical patterns are made with ideas rather than paint or words. Mathematicians are motivated by the belief that they may be able to create a pattern that is entirely new, one that changes forever the way that others think about the mathematical order. Mathematics allows great speculative freedom, and mathematicians can create any kind of system they want. However, in the end, every mathematical theory must be relevant to physical reality, either directly or by importance to the body of mathematics.

Mathematicians have an exceptional ability to manage long chains of reasoning. They routinely develop theories from very simple contexts and then apply them to very complex ones. For example, they may develop a formula for the movement of an ameba and then try to apply it to successive levels of the animal kingdom, concluding with a theory of human walking.

An extended chain of reasoning may be intuitive, and many mathematicians report that they sense a solution long before they have worked out each step in detail. However, even when guided by intuition, they must eventually work out the solution in exact detail if they are to convince others of its validity. They must demonstrate the solution without any errors or omissions in definition or in line of reasoning. In fact, errors of omission (forgetting a step) or of commission (making some assumption that is untrue) can destroy the value of a mathematical contribution. The mathematician must be rigorous: no fact can be accepted unless it has been proved by steps conforming to universally accepted principles.

At the center of mathematical talent lies the ability to recognize significant problems and then to solve them. One source of delight for mathematicians is finding the solution to a problem that has long been considered insoluble. Other accomplishments are inventing a new field of mathematics and discovering links between otherwise separate fields of mathematics.

- Which sentence below best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.
  - Mathematicians are more creative than ordinary people in the ways that they think about patterns and order.
  - Motivation is less important to mathematicians than the belief in their own ability to change other people.
  - © Mathematicians use their creative talent to motivate other people to look for new ways to solve important problems.
  - The idea of establishing a completely new way of understanding mathematics is what motivates mathematicians.

- 2. According to the passage, why must mathematicians be able to manage long chains of reasoning?
  - A solution must be demonstrated in detail to convince others of its validity.
  - B Mathematicians enjoy creating complex solutions to simple problems.
  - There are often no computer programs that are able to solve the problem.
  - Mathematical problems involve abstract ideas that are difficult to explain.

## 1.9 SUMMARIZING IMPORTANT IDEAS

3. The word insoluble in paragraph 4 is closest in meaning to

with painters and poets.  Mathematicians must be able to recognize significant problems and find relevant solutions to them.  The ability to handle long chains of reasoning is essential in developing complex theories.  The ability to find links between fields of mathematics is a test of mathematical talent.		
Answer Choices  Answer Choices  Answer Choices  Answer Choices  Mathematicians share many characteristics with painters and poets.  Mathematicians must be able to recognize significant problems and find relevant solutions to them.  The ability to handle long chains of reasoning is essential in developing complex theories.	(D) not interesting to others	
Answer Choices  Answer Choices  Answer Choices  Answer Choices  Mathematicians share many characteristics with painters and poets.  Mathematicians must be able to recognize significant problems and find relevant solutions to them.  The ability to handle long chains of reasoning is essential in developing complex theories.		4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
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## WHITE-COLLAR CRIME

A variety of illegal acts committed by people in the course of their employment, for their own personal gain, are collectively known as white-collar crime. Embezzlement, theft, and trading securities on the basis of insider information are common forms of white-collar crime. The majority of cases involve low-level employees who steal because they are under temporary financial stress. Many plan to put the money back as soon as possible but may never do so. Their crimes are usually never discovered because the amounts of money are small, no one notices the loss, and law enforcement agencies have few resources for investigating this type of crime.

However, there are some very large cases of white-collar crime, such as multimillion-dollar stock market or banking scams that take years to discover and are extremely difficult and expensive to prosecute. In the 1980s, hundreds of executives of American savings and loan associations took advantage of a change in the law that allowed them to make unsecured loans to friends and relatives—which they then did, in the amount of \$500 billion in unpaid debt. Only a few of those executives were prosecuted, and little of the money was recovered. American taxpayers ultimately covered the amount at a cost of about 4,000 per person.

White-collar crime is not confined to the business sector. Government employment, especially at the city level, also provides opportunities to line one's pockets. For example, building inspectors accept bribes and kickbacks, auctioneers rig sales of seized property, and full-time employees receive welfare payments.

Although white-collar crime is less violent than street crime, it involves far more money and harm to the public than crimes committed by street criminals. It is likely that there are more criminals in the office suites than in the streets, yet the nature of white-collar crime makes it difficult to uncover the offenses and pursue the offenders. As the economy shifts from manufacturing to services and electronic commerce, opportunities for white-collar crime will multiply, while the technology needed to stop such crimes will lag behind.

- 6. Why does the author mention savings and loan associations in paragraph 2?
  - To compare stock market scams with savings and loan scams
  - B To give an example of a very large case of white-collar crime
  - © To argue in favor of changing the law to restrict unsecured loans
  - To explain why American taxpayers do not trust the government
- The phrase line one's pockets in paragraph 3 means
  - (A) bribe officials
  - B) advance one's career
  - c take money illegally
  - nide one's crimes

- Which sentence below best expresses the
  essential information in the highlighted sentence
  in paragraph 4? Incorrect choices change the
  meaning in important ways or leave out essential
  information.
  - White-collar criminals may be more numerous than street criminals but are difficult to catch because the crimes often go unnoticed.
  - B It is easier to solve crimes that take place in the office than to solve crimes that occur in the streets, but street crimes are more serious.
  - White-collar crime is very similar to street crime, although street crime gets more attention because it is more offensive.
  - D It takes a very long time to discover white collar crime and identify the criminals, but street crimes are solved relatively quickly.

## 1.9 SUMMARIZING IMPORTANT IDEAS

9-10. An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. This question is worth 2 points.

White-collar crime refers to il employment.	legal acts committed by people in the course of their
•	
•	N 1 N 1
•	

- Most white-collar crime involves low-level employees who take small amounts of money and are never found out.
- B Examples of white-collar crime are embezzlement and trading securities on the basis of insider information.
- White-collar crime occurs in both business and government, causing great harm to the public.
- Some employees commit white-collar crime by destroying documents and making false statements.
- E In the 1980s, a change in the law allowed executives to make unsecured loans to friends and relatives.
- The nature of white-collar crime makes it difficult to discover and expensive to prosecute.

## Exercise 1.9.C

Read the passages and answer each question based on what is stated or implied in that passage.

## SOCIAL BEHAVIOR IN ANIMALS

Social behavior is communication that permits a group of animals of the same species to become organized cooperatively. Social behavior includes any interaction that is a consequence of one animal's response to another of its own species, such as an individual fighting to defend a territory. However, not all **aggregations** of animals are social. Clusters of moths attracted to a light at night or trout gathering in the coolest pool of a stream are groupings of animals responding to environmental signals. Social aggregations, on the other hand, depend on signals from the animals themselves, which stay together and do things together by influencing one another.

Social animals are not all social to the same degree. Some species cooperate only long enough to achieve reproduction, while others—such as geese and beavers—form strong pair bonds that last a lifetime. The most persistent social bonds usually form between mothers and their young. For birds and mammals, these bonds usually end when the young can fly, swim, or run, and find enough food to support themselves.

One obvious benefit of social organization is defense—both passive and active—from predators. Musk oxen that form a passive defensive circle when threatened by a pack of wolves are much less vulnerable than an individual facing the wolves alone. A breeding colony of gulls practices active defense when they, alerted by the alarm calls of a few, attack a predator as a group. Such a collective attack will discourage a predator more effectively than individual attacks. Members of a town of prairie dogs cooperate by warning each other with a special bark when a predator is nearby. Thus, every individual in a social organization benefits from the eyes, ears, and noses of all other members of the group. Other advantages of social organization include cooperation in hunting for food, huddling for protection from severe weather, and the potential for transmitting information that is useful to the society.

## Glossary:

aggregation: gathering; group

- 1. Why does the author mention moths and trout in paragraph 1?
  - To show how social behavior benefits each individual in a group
  - To point out the role of the environment in social organization
  - © To give examples of groupings that do not represent social behavior
  - D To explain how not all social behavior has the same purpose

- All of the following are examples of social behavior EXCEPT
  - a bird fighting to defend its territory
  - B a group of turtles sunning on a log
  - musk oxen forming a defensive circle
  - D a pack of wolves hunting together
- The word huddling in paragraph 3 is closest in meaning to
  - (A) gathering
  - B hiding
  - escaping
  - D) searching

4–5. An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. This question is worth 2 points.

Social behavior allows animals of the same species to organize cooperatively.	
•	2
•	10 10 10 10 10 10 10 10 10 10 10 10 10 1
•	

#### Answer Choices

- A Social behavior is defined as any beneficial grouping of animals of the same species.
- B Any exchange resulting from the response of one animal to another of the same species is social behavior.
- The most important social bond occurs between mother animals and their young.
- Members of a group influence one another in different degrees and for various reasons.
- E Living together provides many benefits, including the defense of the group from danger.
- F Prairie dogs are organized into social units that alert each other when danger threatens.

## THE PRODUCTION OF COFFEE

All great coffee comes from the same tree, *Coffea arabica*. The distinguishing taste of coffee is a product of the climate, air, and soil in which it is grown. The perfect climate for coffee production exists between the latitudes of 25 degrees north and 25 degrees south of the equator. The coffee plant is particular about temperature, and changes of more than 20 degrees in twenty—four hours, or temperatures of over 70 degrees Fahrenheit, tend to have harmful effects on production. In general, coffee trees are comfortable where people are. If people feel too cold or hot, especially during flowering and fruit development, the trees are not likely to do well.

Altitude is an important factor, and most coffee-producing countries grade their coffees according to the altitude at which they were grown. The best-tasting coffees are grown at between five and eight thousand feet in elevation, in the thin air and rocky soil of places such as the mountain ridges of Central America and Africa.

Coffee trees require certain nutrients to produce beans in economically viable quantities; thus, soil chemistry is carefully watched in commercial operations. A soil rich in nitrogen, phosphorus, and potassium will yield a coffee more complex in character. Nitrogen in soil gives rise to coffee's sparkling acidity; potassium produces fuller—bodied coffees; and phosphorus, while having no bearing on coffee in the final cup, helps the tree to develop a healthy root system. Generally, the more balanced the soil, the better the coffee.

Caring for the coffee tree is critical to the character of the final product. Stock for new coffee trees is usually grown from seeds produced by trees already growing on the farm. After the seeds germinate, the seedlings are transferred to nursery beds, which are typically kept under mesh netting that filters out direct sunlight. Young seedlings grow slowly, are very delicate, and require careful replanting. The transfer from nursery to plantation is a critical part of the process, and a seedling that is mishandled at this stage may die after it is replanted. Most varieties take at least three years before they begin producing fruit.

- 6. It can be inferred that the best coffee would come from which region?
  - A mountainous region close to the equator
  - B A region with a large coffee-drinking population
  - A coastal region with a moderate amount of rainfall
  - A region with an average temperature of 70 degrees F
- The word bearing in paragraph 3 is closest in meaning to
  - (A) opinion
  - B influence
  - © stress
  - dependence

- Which sentence below best expresses the essential information in the highlighted sentence in paragraph 4? Incorrect choices change the meaning in important ways or leave out essential information.
  - Coffee trees require a large amount of care because they are delicate.
  - B The most important step in coffee production is selecting the stock.
  - © People care more about the taste of coffee than the appearance of the tree.
  - The quality of the finished coffee depends on the care given to the tree.
- 9-10. An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. This question is worth 2 points.

Several factors are important in the production of high-quality coffee.		
•		
•		
•		

#### Answer Choices

- A Coffee is best grown in climates within specific latitudes and at certain altitudes.
- B Coffee is graded according to the altitude at which it is grown.
- © Some people prefer rich, full-bodied coffees, while others like coffees that taste clean and crisp.
- D The best commercial coffee is grown in soil containing a balance of essential chemical nutrients.
- E A special kind of mesh netting filters out direct sunlight over nursery beds.
- F Coffee growers must carefully cultivate the coffee plant through all stages of its life.

Answers to Exercises 1.9.A through 1.9.C are on page 572.

How to score Multiple-Point Questions		
Points Possible	Answers Correct	Points Earned
2 points	3	2
	2	1
	0 – 1	0

# 1.9 SUMMARIZING IMPORTANT IDEAS



 With your teacher and classmates, discuss situations in which writing summaries is important. On the board, write a list of as many situations as you can think of. (Possible situations: college research papers; letters to parents; monthly reports for the company where you work; personal diary.)

Make another list of situations in which reading summaries is important. What types of summaries have you read recently? Find examples of different kinds of summaries to bring to class, such as a summary in a research paper, a summary at the end of a chapter in a textbook, and the executive summary of a business report.

2. In reading done outside class, select a short passage of one to three paragraphs. Make three photocopies and bring them to class. In class, work in a group of three students. Work as a team to identify key words and sentences that provide clues to the major ideas in each passage. Write a brief summary of each passage. Include only the ideas and information that are essential for a general understanding of each passage. Each summary should have no more than four sentences.

# 1.10 Organizing Information



Read the following passage:

Human diseases can be classified according to their effect and duration. An acute disease is an illness such as measles, influenza, or typhoid fever, from which the victim either recovers or dies in a relatively short time. Many acute diseases are also transmissible, which means they are caused by living organisms such as bacteria and viruses and can be spread from one person to another by air, water, or food.

Chronic diseases, on the other hand, develop slowly and last for a long time, sometimes for a lifetime. Examples include cardiovascular disorders, most cancers, diabetes, emphysema, alcoholism, and malnutrition. Although a chronic disease may go into remission, it may flare up periodically (malaria), become progressively worse (cancers and cardiovascular disorders), or disappear with age (childhood asthma).

One hundred years ago, two of the major causes of death in North America were epidemics of influenza and intestinal infections—short-term acute diseases that struck young and old alike and ran quickly through the population. In contrast, the leading causes of death today are chronic illnesses, the types of heart disease and cancer that take a long time to develop and get progressively worse.

The passage compares two types of diseases: acute and chronic. Put the following sentences in the correct column below.

They take a long time to develop.

The victim recovers or dies quickly.

They are major causes of death today.

Measles and influenza are examples.

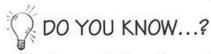
They run quickly through a population.

The victim gets progressively worse.

Acute diseases	Chronic diseases
	27

The question asks you to organize information from across the whole passage. The correctly organized information is:

Acute diseases	Chronic diseases	
The victim recovers or dies quickly.	They take a long time to develop.	
Measles and influenza are examples.	They are major causes of death today.	
They run quickly through a population.	The victim gets progressively worse.	



The organization of a passage is closely linked with its function. The organization of a passage
is how the author presents ideas and information to meet a specific purpose. Recognizing the
organization of a text is an important reading skill because it deepens your understanding of the
material and increases your ability to remember it.

Some reading passages on the TOEFL are organized according to these functions:

- to compare or contrast things or ideas;
- to describe different parts of something; or
- to present alternative arguments.
- On the TOEFL, you must demonstrate your ability to understand the function of a passage by organizing information from across the entire passage. You will be asked to organize information into categories, classes, divisions, or types.

The questions about organizing information have special directions. The questions look like this:

Select the appropriate sentences from the answer choices and match them to the type of \_\_\_\_\_ that they describe. TWO of the answer choices will NOT be used. This question is worth 3 points.

- 3. You must identify the correct items in the list of answer choices and put them in the correct box in the table. The table fills the computer screen, but you can return to the passage while you are answering the question. You may take notes and you may use your notes to help you answer the question.
- 4. The question is worth either 3 or 4 points, depending on the number of answer choices given. It is possible to receive partial credit. You must put at least some of the answer choices in the correct place to earn credit. Here is how the points are earned:

Points Possible	Answers Correct	Points Earned
	5	3
2 mainta	4	2
3 points	3	1
	0 – 2	0
4 points	7	4
	6	3
	5	2
	4	1
	0-3	0

5. The reading skill of scanning will help you check your answers to questions about organizing information. *Scanning* is searching the passage for specific information. If your answers are correct, they should be easy to confirm by scanning the passage to locate relevant information.

- 6. The correct answers summarize information from across the whole passage. To summarize means to state the essential information in a shorter form. The correct answers represent major ideas and important supporting information in the passage.
- 7. Two of the answer choices will be incorrect for either category in the table. An answer choice may be incorrect because it is:
  - inaccurate or untrue according to the passage; or
  - irrelevant or not mentioned in the passage.
- 8. Here is an example:

# **ENERGY QUALITY**

Energy is the power to do work or to cause a heat transfer between two objects. Energy varies in its quality, that is, its ability to perform useful work. High-quality energy is organized or concentrated and has great ability to do useful work. Some high-quality forms of energy are electricity, coal, gasoline, concentrated sunlight, high-temperature heat, and nuclei of uranium-235. Conversely, low-quality energy is disorganized or dilute and has little ability to do useful work. An example is the low-temperature heat in the air around us or in a river, lake, or ocean. Heat is so widely dispersed in the ocean that we cannot use it to move objects or to heat objects to high temperatures.

Scientists have repeatedly demonstrated that in any conversion of energy from one form to another, there is always a decrease in energy quality or the amount of useful energy. This law of energy quality degradation is known as the second law of thermodynamics. It is a fundamental scientific law that in any conversion of energy from one form to another, some of the initial energy input is always degraded to lower-quality, less useful energy, usually low-temperature heat that flows into the environment. This low-quality energy is so disordered and dispersed that it is unable to perform useful work.

Select the appropriate phrases from the answer choices and match them to the type of energy that they illustrate. TWO of the answer choices will NOT be used. This question is worth 3 points.

Drag your answer choices to the spaces where they belong. To remove an answer, click on it.

Answer Choices		Type of Energy
Concentrated sunlight		High-quality
Heat stored in the ocean	•	
Psychological energy	•	
Energy with great ability to do work		
High-temperature heat		Low-quality
Energy that is disorganized		

Conversion of energy

# 1.10 ORGANIZING INFORMATION

The passage contrasts high-quality and low-quality energy. The correct answers are:

Answer Choices	Type of Energy
	High-quality
	<ul> <li>Concentrated sunlight</li> </ul>
Psychological energy	<ul> <li>Energy with great ability to do work</li> </ul>
( , <del>, , , , , , , , , , , , , , , , , ,</del>	High-temperature heat
	Low-quality
	<ul> <li>Heat stored in the ocean</li> </ul>
Conversion of energy	<ul> <li>Energy that is disorganized</li> </ul>

Some key information about high-quality energy is:

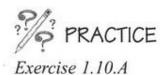
High-quality energy is organized or concentrated and has great ability to do useful work. Some high-quality forms of energy are...concentrated sunlight, high-temperature heat....

Some key information about low-quality energy is:

Heat is so widely dispersed in the ocean....

This low-quality energy is so disordered and dispersed that it is unable to perform useful work.

Psychological energy is incorrect because it is not mentioned in the passage. Conversion of energy is incorrect because it is neither high-quality nor low-quality energy but rather the changing of energy from one form to another.



Read the passages and answer each question based on what is stated or implied in that passage.

# THE ENLIGHTENMENT AND ROMANTICISM

The Romantic Movement in music and literature was a reaction against the Enlightenment philosophy that had dominated much of the eighteenth century. Enlightenment ideals held that human society could reach perfection through rational thought, while Romantic philosophy reveled in the beauty and unpredictable power of Nature. The Enlightenment gloried in civilization and believed in princely rule of a benevolent kind. Romanticism believed in democracy and the common people, reviving folk traditions, ballads, and medieval sagas that made heroes of rural characters. Artistically, the Enlightenment condemned excess and dictated that the discipline of formal structure was beneficial to artistic expression. Romanticism, on the other hand, celebrated emotions and the senses, believing that the emotional demands of a particular work should dictate its form. While the Enlightenment believed in a generally positive approach to life and the abandonment of superstition, Romanticism found inspiration in death as an "other kingdom" and in the supernatural; hence, literature developed a "Gothic" streak that eventually found its way into music.

1-3. Select the appropriate sentences from the answer choices and match them to the philosophy that they illustrate. TWO of the answer choices will NOT be used. This question is worth 3 points.

#### Answer Choices

- A There is value in emotions, the senses, and the power of Nature.
- B The discipline of formal structure benefits artistic expression.
- © Death and the supernatural are sources of inspiration.
- Artistic values are more important than social themes.
- E Human society can reach perfection through rational thought.
- F Folk traditions are important because common people are heroes.
- Symbols and patterns of images convey artistic meaning.

#### Philosophy

#### Enlightenment

#### Romanticism

•

#### VALLEY FLOORS

The floor of a river valley develops in one of two ways: as a rock-floored valley bottom or as an accumulation valley floor. A rock-floored valley is formed by a stream that no longer incises by cutting downward but rather erodes laterally in a course that winds from side to side across the valley floor. In a rock-floored valley, the valley slopes are undercut and steepened by the sideways erosion. The floor of the river channel lies in the bedrock, and on either side of the channel it is covered by only a thin layer of gravel and sand. As the stream swings across the valley floor, it deposits material on the insides of the bends in the channel.

The second type of valley bottom, the accumulation floor, cannot easily be distinguished from a rock-floored valley on its surface. An accumulation valley floor is created by the continuous deposition of gravel and sand in an existing incised valley where the accumulation of material has replaced the cutting action. Both the channel floor and the floodplain—the part of the valley floor flooded frequently at high water—are composed entirely of these gravel and sand deposits. An accumulation floor is much less resistant to erosion than a rock floor since the gravel and sand of its channel bed have already been transported and may easily be removed during the next flood.

4—6. Select the appropriate sentences from the answer choices and match them to the type of valley floor that they describe. TWO of the answer choices will NOT be used. This question is worth 3 points.

### **Answer Choices**

- A The river channel flows directly over the bedrock.
- B The top layer of rock is more resistant to erosion than the underlying rock.
- © Deposits of gravel and sand accumulate on the valley floor.
- D The river swings from side to side, leaving material on the insides of bends in the channel.
- E Sand and rock accumulate parallel to the coast but separated from it by a channel.
- F The sideways erosion of the river undercuts and steepens the valley slopes.
- The channel floor and the floodplain are made entirely of gravel and sand deposits.

# Type of Valley Floor

#### Rock Floor

# Accumulation Floor

# ANIMALS AND PLANTS

We can distinguish animals from plants by looking at their contrasting modes of nutrition. Unlike plants, animals cannot manufacture their own food. Animals cannot construct organic molecules from inorganic chemicals as plants can during photosynthesis. Animals must take pre-formed organic molecules into their bodies. Most animals do this by ingestion—that is, by eating other organisms or organic material. Animals store their food reserves as glycogen, whereas plants store their food as starch.

Animal cells lack the cell walls that characterize plant cells, and animal cells have unique types of junctions between them. In most animals, cells are successively organized into tissues, organs, and organ systems. Animals have two types of tissues that plants do not have. The first is nervous tissue, for the conduction of electrical impulses, and the other is muscle tissue, for movement. Nerves and muscles, which control active behavior, are unique to animals.

Animal life began in the Precambrian seas with the evolution of multi-cellular forms that lived by eating other organisms. This new way of life led to an evolutionary explosion of diverse forms. Early animals populated the seas, fresh water, and eventually the land. The diversity of animal life on Earth today is the result of over half a billion years of evolution from those first ancestors that consumed other life forms.

7-10. Select the appropriate sentences from the answer choices and match them to the form of life that they describe. TWO of the answer choices will NOT be used. This question is worth 4 points.

Answer Choices		Form of Life
(A) They are not able to manufacture		
their own food.		Plants
(B) They construct organic molecules	•	
from inorganic chemicals.	•	
© They have the ability to survive on another planet.	•	
Nerves and muscles control their active behavior.		
E They evolved from multi-cellular forms that ate other organisms.		Animals
(F) They store their food reserves as starch.		
(6) They have evolved very little over one	•	
billion years.	•	
They have neither nervous tissue nor muscle tissue.	•	
Their cells do not have walls.		

# Exercise 1.10.B

Read the passages and answer each question based on what is stated or implied in that passage.

# COMMERCIAL ARCHITECTURE OF THE NINETEENTH CENTURY

Arcades were built in Paris as early as 1799 and in London in 1816, but these were primarily arched passages through buildings to connect institutions. American arcades, by contrast, were not just passages to some other destination but the entire focus of large commercial blocks, and were, in effect, prototypical shopping malls. The Providence Arcade (1829) in Rhode Island's capital illustrates the American transformation of the arcade into a temple of shopping. The Arcade's pitched glass roof sheltered a large open space surrounded by tiered shops. The Arcade was set at the edge of Providence's business district, making it a focal point for future growth. On the two street sides, six huge granite columns modeled on a Greek temple dominated the building's facades.

Nineteenth-century urban Americans flocked to another ancestor of the contemporary shopping mall, the department store, a controlled indoor world where an array of goods were organized under a single management. The origins of the department store were in Cincinnati, where in 1829, a new kind of building was dedicated to trade, business, and culture. This building, called the Bazaar, featured a four-story rotunda beneath a huge dome that meant to unite multiple functions under one symbolic roof. Unfortunately, however, the Bazaar was short-lived. A more successful commercial and architectural prototype was the department store known as the Marble Palace, which opened in New York in 1846. Monumental in style, the building's impressive facade of Corinthian columns, with large plate glass display windows between them, easily lured in the city's wealthy customers.

1-3. Select the appropriate sentences from the answer choices and match them to the type of building that they describe. TWO of the answer choices will NOT be used. This question is worth 3 points.

#### **Answer Choices**

- A It is a passage under or through a building to connect streets.
- B A glass roof encloses an area lined with vertical rows of shops.
- C A wide variety of goods are organized under one management.
- D It is designed to be the entire focus of a large commercial block.
- The earliest example had a four-story rotunda under a large dome.
- F It specializes in selling a single category of high-quality good.
- G Its large display windows are designed to attract customers.

# Type of Building

# Arcade

# **Department Store**

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- .

# RESEARCH DESIGNS

In the fields of psychology and sociology, a crucial decision for researchers is which research design to use. When the subject of the study is how people change or develop over time, two designs are frequently used: the cross-sectional design and the longitudinal design.

Cross-sectional studies look at a cross-section of subjects and compare their responses. The essential characteristics of the design are that it includes groups of subjects at different age levels, and that each subject is tested or interviewed only once. For example, researchers may give a memory test to adults in their twenties through seventies, select the youngest group as a standard, and then compare each older group to that norm. Cross-sectional studies are relatively quick to do and can provide information about possible age differences. However, they do not reveal anything about individual change over time, since each subject is tested only once.

Longitudinal studies differ from cross-sectional studies because they test or interview the same subjects over time and therefore allow us to look at consistency or change within the same individual. The typical procedure is to select a relatively small group of subjects who are all about the same age at the beginning of the study and then look at them repeatedly over a period of time. Short-term longitudinal studies cover several years and are common in research on both children and adults. Long-term longitudinal studies follow subjects rom childhood into adulthood, from early to middle adulthood, or from middle adulthood to old age. One advantage of longitudinal studies is that any changes found are real changes, not just age—group differences.

4-6. Select the appropriate sentences from the answer choices and match them to the research design that they describe. TWO of the answer choices will NOT be used. This question is worth 3 points.

# Answer Choices

- A group of subjects of the same age is tested repeatedly over a long period.
- B Researchers examine an existing relationship between two groups of subjects.
- C This design allows researchers to study human behavior indirectly.
- Researchers test or interview each subject only one time.
- This type of study may reveal differences that are not just age-group differences.
- F Researchers can study consistency or change within the same individual.
- 6 This design can tell us about possible differences among various age groups.

## Research Design

#### Cross-sectional

## Longitudinal

# PROXIMATE AND ULTIMATE CAUSATION

Behavioral biologists ask two basic types of questions about animal behavior: how animals behave and why they behave as they do. The "how" questions seek to understand the proximate or immediate causes underlying a behavior at a particular time and place. For example, a biologist might want to explain the singing of a male white—throated sparrow in the spring in terms of hormonal or neural mechanisms. Such physiological causes of behavior are proximate factors. Alternatively, another biologist might ask what purpose singing serves the sparrow, and then attempt to understand events in the evolution of birds that led to springtime singing. These are "why" questions that focus on ultimate causation, the evolutionary origin and purpose of behavior. These two types of questions are very independent approaches to behavior.

Questions about proximate causation examine how animals perform their various functions at the molecular, cellular, organismal, and population levels. The biological sciences that address proximate causes are known as experimental sciences because they use the experimental method of: (1) predicting how a system will respond to a disturbance, (2) making the disturbance, and (3) comparing the observed results with the predictions. Researchers repeat the experimental conditions many times to eliminate chance results that might lead to false conclusions.

Questions about ultimate causation ask what produced biological systems and their distinctive properties through evolutionary time. The sciences dealing with ultimate causes are known as evolutionary sciences, and they mainly use the comparative method rather than experimentation. Researchers compare characteristics of molecular biology, cell biology, anatomy, development, and ecology among related species to identify patterns of variation.

- 7. Which sentence below best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.
  - (A) All questions asked by behavioral biologists fall into two basic categories.
  - B Proximate and ultimate causation are distinct ways of thinking about behavior.
  - © "Why" questions and questions about ultimate causes require very different methods.
  - (D) Behavioral biologists must think very independently about important questions.

8–10. Select the appropriate sentences from the answer choices and match them to the type of cause that they describe. TWO of the answer choices will NOT be used. This question is worth 3 points.

Answer Choices	Ty	pe of Cause
A Researchers want to know about the evolutionary origin and purpose of behavior.	1	Proximate
(B) Behavioral biologists use the experimental	•	
method to answer a question.	•	
A scientist wants to know how a male sparrow produces its springtime song.	•	
Some animal behaviors are random and serve no beneficial function.		
E Scientists compare characteristics of related		
species to identify similarities and differences.		Ultimate
(F) Researchers disagree over the reason for a	•	
particular behavior.	•	
A behavior at a specific time and place has an immediate, underlying cause.		
· · · · · · · · · · · · · · · · · · ·		

Answers to Exercises 1.10.A through 1.10.B are on page 573.

Points Possible	Answers Correct	Points Earned
	5	3
2	4	2
3 points	3	1
	0-2	0
4 points	7	4
	6	3
	5	2
	4	1
	0-3	0



 Outside of class, select an article from a magazine or journal or part of a chapter from a university textbook. Do the following activity as an individual or small-group exercise, making as many photocopies of the article as necessary.

Read the article and think about its organization and purpose. Answer the following questions:

- a. What is the function of the article? Why did the author write it?
- b. How are the ideas and information organized?
- c. What is the purpose of each paragraph or division?
- d. What are the major ideas and most important information in the article?

Make a table or chart of the article. Show the article's major divisions and the most important ideas and information in each division.



# PROGRESS - 1.9 through 1.10

Quiz 9

Time - 20 minutes

Read the passages and choose the best answer to each question. Answer all questions about a passage on the basis of what is stated or implied in that passage.

# LIFE EXPECTANCY

The greatest **demographic** story of the twentieth century was the enormous increase in life expectancy, the average number of years a person can expect to live. In most modern societies, life expectancy rose dramatically, from about 47 years in 1900 to about 76 years in 2000. This does not mean, however, that people suddenly died on their forty–seventh birthday in 1900. It means that if half of the people born in 1900 died in childhood and the rest lived 95 years, the average age at death was around 47. The data for 1900 reflect high infant and childhood mortality rates. At that time, surviving the first fifteen years of life was the key to living to old age. Over the century, several factors increased life expectancy, most notably improvements in public health, such as pasteurized milk, sewers, and indoor plumbing. Advances in medical practice, including the use of antibiotics and vaccinations for childhood illnesses, made it increasingly likely that infants would reach adulthood.

On the one hand, increased life expectancy is a sign of societal well being; on the other hand, an aging population poses its own set of problems. Large numbers of elderly, many with chronic diseases, become a burden on the health care system and on their families. In societies where care of the elderly is a family responsibility, adult children caring for aging parents experience great personal and financial stress.

Glossary:

demographic: relating to demography, the study of human populations

1-2. An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. This question is worth 2 points.

Life ex	pectancy in modern societies has increas	ed dramatically.
•		
•		
•		i a company

## **Answer Choices**

- A Around half of the population died on their forty-seventh birthday in 1900.
- B The average number of years a person could expect to live rose from 47 to 76 in only a century.
- The leading causes of death in 1900 were epidemic diseases.
- Mortality rate is the number of deaths in a period as a proportion of the entire population.
- E Improvements in public health and medical practices significantly raised life expectancy.
- F An aging population increases the stress on a society's health care system and on families.

# ARTISTS' USE OF OIL AND ACRYLIC PAINTS

The oil technique for painting on canvas is superior to other methods mainly because of its great flexibility and ease of manipulation, as well as the wide range of effects that can be produced. Colors do not change to any great extent on drying, which means that the color the artist puts down is, with only slight variation, the color desired in the finished work. The artist is free to combine transparent and opaque effects in the same painting. However, the principal defect of oil painting is the darkening of the oil over time, but this may be reduced by using the highest quality materials.

The most widely used artists' colors based on the synthetic resins are made by dispersing pigment in acrylic emulsion. Acrylic paints are thinned with water, but when they dry, the resin particles coalesce to form a tough film that is impervious to water. Acrylic colors may be made mat or glossy and can imitate most of the effects of other water—based colors. They are a boon to painters with a high rate of production because a painting can be completed in one session that might have taken days in oil because of the drying time required between layers of paint.

Acrylic colors are not a complete substitute for oil paints, and artists whose styles require the special manipulative properties of oil colors—including delicacy in handling or smoothly blended tones—find that these possibilities are the exclusive properties of oils. Although painting in acrylics has certain advantages over painting in oils, the latter remains the standard because the majority of painters find that its advantages outweigh its defects and that in optical quality oil paints surpass all others.

3-5. Select the appropriate sentences from the answer choices and match them to the type of paint that they describe. TWO of the answer choices will NOT be used. This question is worth 3 points.

# Answer Choices Type of Paint A They appear transparent on paper. B The colors can be thinned with water. C They allow for smoothly blended tones. D The paints are applied to wet plaster. E They are the preferred paints among artists. F They have a relatively fast drying time. F The colors will eventually darken. Type of Paints Acrylic Paints

#### WORLD CLIMATIC PATTERNS

Climate is the general pattern of atmospheric conditions, seasonal variations, and weather extremes in a region over a period of decades. One major factor determining the uneven patterns of world climates is the variation in the amount of solar energy striking different parts of the earth. The amount of incoming solar energy reaching the earth's surface varies with latitude, the distance north or south from the equator. Air in the **troposphere** is heated more at the equator (zero latitude), where the sun is almost directly overhead, than at the high–latitude poles, where the sun is lower in the sky and strikes the earth at a low angle.

The large input of heat at and near the equator warms large masses of air. These warm masses rise and spread northward and southward, carrying heat from the equator toward the poles. At the poles, the warm air becomes cool and falls to the earth. These cool air masses then flow back toward the equator near ground level to fill the space left by rising warm air masses. This general air circulation pattern in the troposphere results in warm average temperatures near the equator, cold average temperatures near the poles, and moderate average temperatures at the middle latitudes.

The larger input of solar energy near the equator evaporates huge amounts of water from the earth's surface into the troposphere. As the warm, humid air rises, it cools rapidly and loses most of its moisture as rain near the equator. The abundant rainfall and the constant warm temperatures near the equator create the world's tropical rain forests.

Two major factors cause seasonal changes in climate. One is the earth's annual orbit around the sun; the other is the earth's daily rotation around its tilted axis, the imaginary line connecting the two poles. When the North Pole leans toward the sun, the sun's rays strike the Northern Hemisphere more directly per unit of area, bringing summer to the northern half of the earth. At the same time, the South Pole is tilted away from the sun; thus, winter conditions prevail throughout the Southern Hemisphere. As the earth makes its annual rotation around the sun, these conditions shift and cause a change of seasons.

As the earth spins around its axis, the general air circulation pattern between the equator and each pole breaks into three separate belts of moving air, or prevailing surface winds, which affect the distribution of precipitation over the earth.

#### Glossary:

troposphere: the lowest region of the earth's atmosphere

6–7. An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. This question is worth 2 points.

Several factors influence the earth's climatic patterns.			
•	E		
•		12	
•	W	10.00	

#### **Answer Choices**

- A The variation in the amount of solar energy reaching different parts of the earth has a great influence on global climate.
- Warm air flows from the equator toward both poles, where it cools and then flows back toward the equator, creating a general air circulation.
- © The moisture-holding capacity of air, humidity, increases when air is warmed and decreases when it is cooled.
- D The consistently warm temperatures and heavy rainfall near the equator result in tropical rain forests.
- E The earth's annual circling of the sun and its daily spinning around its axis cause its seasonal changes in climate.
- F The chemical content of the troposphere is another factor determining the earth's average temperatures and thus its climates.

8–10. Select the appropriate sentences from the answer choices and match them to the location that they describe. TWO of the answer choices will NOT be used. *This question is worth 3 points*.

#### **Answer Choices**

- (A) Solar energy strikes the earth at a low angle.
- (B) Average annual temperatures are moderate.
- The large input of solar energy heats great masses of air.
- A large quantity of water evaporates into the atmosphere.
- Warm air cools and sinks to the earth's surface.
- F The sun is almost directly overhead.
- G There are three belts of prevailing surface winds.

# Location

At the Equator

At the Poles

Answers to Reading Quiz 9 are on page 574.

Record your score on the Progress Chart on page 693.

How to Score Multiple-Choice Questions		
Points Possible	Answers Correct	Points Earned
	3	2
2 points	2	1
	0 – 1	0
	5	3
3 points	4	2
	3	1
	0-2	0
	7	4
4 points	6	3
	5	2
	4	-1
	0-3	0



# PROGRESS - 1.1 through 1.10

Quiz 10

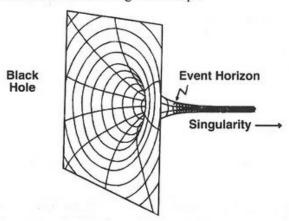
Time - 40 minutes

Read the passages and choose the best answer to each question. Answer all questions about a passage on the basis of what is stated or implied in that passage.

# **BLACK HOLES**

Nothing in the history of modern astronomy has excited as much speculation as the object, or event, known as a black hole. Black holes have provided endless imaginative fodder for science fiction writers and endless theoretical fodder for astrophysicists. They are one of the more exotic manifestations of the theory of general relativity, and their fascination lies in the way their tremendous gravity affects nearby space and time.

A black hole is very simple in structure: it has a surface—the event horizon—and a center—the singularity. Everything else is gravity. The standard model for the formation of a black hole involves the collapse of a large star. The imaginary spherical surface surrounding the collapsed star is the event horizon—an artificial boundary in space that marks a point of no return. Outside the event horizon, gravity is strong but finite, and it is possible for objects to break free of its pull. However, once within the event horizon, an object would need to travel faster than light to escape.



For extremely massive stars, the exclusion principle—the resistance between the molecular particles within the star as they are compressed—will not be strong enough to offset the gravity generated by the star's own mass. The star's increasing density will overwhelm the exclusion principle. What follows is runaway gravitational collapse. With no internal force to stop it, the star will simply continue to collapse in on itself. Once a collapsing star has contracted through its event horizon, nothing can stop it from collapsing further until its entire mass is crushed down to a single point—a point of infinite density and zero volume—the singularity.

The star now disappears from the perceivable universe, like a cartoon character that jumps into a hole and pulls the hole in after him. What this process leaves behind is a different kind of hole—a profound disturbance in space—time, a region where gravity is so intense that nothing can escape from it. Any object falling within the boundary of a black hole has no choice but to move inward toward the singularity and disappear from our universe forever. Moreover, a black hole can never be plugged up or filled in with matter; the more matter that is poured into a black hole, the bigger it gets.

What would happen to objects, such as astronauts, as they vanished into a black hole? Physicists have been amusing themselves with this question for years, and most believe that the intense gravitational forces would rip apart the astronauts long before they were crushed at the singularity. Theoretically, any astronauts who managed to survive the passage would encounter some very strange things. For instance, they would experience acute time distortion, which would enable them to know, in a few brief seconds, the entire future of the universe.

Inside a black hole, space and time are so warped that the distance from the event horizon to the singularity is not a distance in space in the normal sense that we can measure in kilometers. Instead, it becomes a distance in time. The time it takes to reach the singularity from the event horizon—as measured by someone falling in—is proportional to the mass of the black hole.

The only way that astronauts would know whether they had crossed the event horizon would be if they tried to halt their fall and climb out again by firing their engines enough to push themselves back from the center of the hole. However, because of the time warp, if the astronauts tried to do this, they would reach the singularity faster than if they had left their engines off. Moreover, since they could get no farther once they had reached the singularity, this point would mark the end of time itself.

- The word fodder in paragraph 1 is closest in meaning to
  - (A) material
  - B stories
  - © support
  - problems
- 2. What happens to an object that falls within the event horizon of a black hole?
  - The object changes shape until it is spherical.
  - B The object is pushed from the hole at the speed of light.
  - The object cannot escape the black hole's gravity.
  - D The object explodes into particles that drift into space.
- The opposing force between the molecular particles inside a star is called
  - (A) general relativity
  - B the exclusion principle
  - infinite density
  - the singularity

- The word runaway in paragraph 3 is closest in meaning to
  - (A) frequent
  - B long-term
  - © uncontrolled
  - slow-paced
- 5. Why does the author mention a cartoon character in paragraph 4?
  - To illustrate the complete disappearance of a collapsing star
  - B To warn of the danger of being sucked into a black hole
  - © To point out a humorous phenomenon in astrophysics
  - D To announce the creation of a cartoon about black holes

- Which sentence below best expresses the essential information in the highlighted sentence in paragraph 4? Incorrect choices change the meaning in important ways or leave out essential information.
  - The collapse of a star creates a black hole, a distortion of space and time with gravity strong enough to pull in any nearby object.
  - B Several different kinds of black holes exist, but the most powerful are those that result in an interchange of space and time.
  - © Behind every black hole is a different type of hole that is even more disturbing to our current beliefs about gravity, space, and time.
  - The process of black hole formation occurs only in regions of space where gravity is the predominant physical force.
- Astronauts who fell into a black hole would probably experience all of the following EXCEPT
  - (A) distortion of space and time
  - B) traveling faster than light
  - © knowledge of the universe
  - D strong gravitational forces

- 8. What can be inferred from paragraph 6 about the distance between the event horizon and the singularity?
  - A The distance increases and decreases continuously.
  - B The distance is more than several trillion kilometers.
  - The distance cannot be traveled in less than a year.
  - D The distance is related to the size of the black hole.
- 9. The phrase this point in paragraph 7 in refers to
  - (A) the event horizon
  - B) firing their engines
  - c the time warp
  - the singularity

10. Look at the four squares, A, B, C, and D, which indicate where the following sentence could be added to the passage. Where would the sentence best fit?

A few believe that the astronauts would explode in a flash of gamma rays as they approached the singularity.

What would happen to objects, such as astronauts, as they vanished into a black hole?

A Physicists have been amusing themselves with this question for years, and most believe that the intense gravitational forces would rip apart the astronauts long before they were crushed at the singularity. B Theoretically, any astronauts who managed to survive the passage would encounter some very strange things. For instance, they would experience acute time distortion, which would enable them to know, in a few brief seconds, the entire future of the universe.

11-12. An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. This question is worth 2 points.

Black holes fascina	Black holes fascinate us because of the effect they have on space and time.		
•			
•			
•	*		

#### **Answer Choices**

- A Black holes are thought to form when a large star collapses inward on itself to a point of infinite density and zero volume.
- B Both scientists and science fiction writers have developed theories and written accounts of black holes.
- A black hole consists of a surface called the event horizon, a strong gravitational force, and a center called the singularity.
- Depending on a star's mass, it may evolve into a white dwarf, collapse into a black hole, or explode as a supernova.
- Astronauts can escape a black hole only if they fire their engines before they get too close to the singularity.
- An object falling within the event horizon will be pulled inward and experience a time warp as it approaches the singularity.