



Interaction in the Environment

Ecology is the study of the responses and interactions of living things with their environment. In order to stay alive, organisms must interact constantly with both the living and non-living factors of the environment. The living factors of the environment are called biotic, with “bio” meaning life. The non-living factors of the environment are called abiotic. The prefix “a” in front of the word means “without,” so abiotic means without life. The combined biotic and abiotic factors of an environment make up an ecosystem.

As you learned earlier, living organisms are made up of cells. This means that the biotic factors of the environment are made up of cells. We have learned that the five kingdoms of living things are plants, animals, bacteria, fungi and protists. All of these living things need energy, water, and air to continue to live. This means that they must get these things from the environment. Water and air are examples of abiotic factors within an environment.

Watch the video *Abiotic and Biotic Factors*” from www.missdoctorbailer.com. Write down three things you learn from the video below.

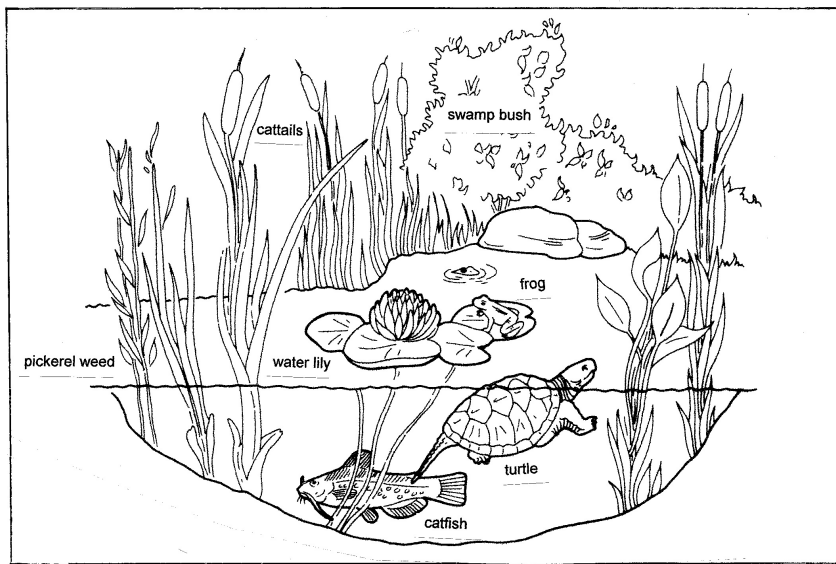
Materials: Interactions sheet

What To Do:

1. The table on the next page lists six different abiotic factors in an environment.
2. Cut out the boxes from the Responses sheet and glue them in the column that matches the abiotic factor that causes the response.



Responses to Abiotic Factors in an Ecosystem					
Water	Light	Air	Cold	Heat	Soil



What To Do:

1. Observe the picture above of a pond ecosystem.
 2. In the blanks below write if the factor is biotic or abiotic.
- | | |
|---------------------|---------------------------------|
| 1. Sunlight _____ | 8. Pickerel weed _____ |
| 2. turtle _____ | 9. Air _____ |
| 3. water lily _____ | 10. Swamp bush _____ |
| 4. mud _____ | 11. Water _____ |
| 5. rock _____ | 12. bacteria, algae and other |
| 6. frog _____ | one-celled organisms (not shown |
| 7. catfish _____ | but always present in a pond |
| | ecosystem) _____ |

Questions:

1. What does biotic mean? _____
2. Name three examples of biotic factors. _____
3. What does abiotic mean? _____
4. Name three examples of abiotic factors. _____

Interactions

M A L G E F M O G C P S I Y G N H T
T R I N M T O I V R N N X S S D Q X
C D W R T I F D E O N X C C F K K D
F O D E E F H T I S T N A L P F E Q
B C L F M T A T V T K J K D E O K R
G H K D P W C W I T H O U T L I F E
T E C W E A I A D S E S N O P S E R
Z A N T R I A W B T C N F W K Z S H
M T P E A H I H W I O A Q B E F V C
D I T Z T L C U T N Q J N X U U Z F
U N A O U U D O L S W Q B I F L W T
I F J M R B I I O F X T W S M E H Z
D O M L E B V I Y A Y T D T G A W L
E Z G M A I L I G H T U J S V U L Z
T N F K N O G B B P Q D Q I Y R Z S
H R V G Q T T D U S T A A T P M S J
L M K I R I V U H M B G S O H X M E
T F P W R C O Y E Y N C N R Z Z L I
U F A C T O R S G G U X H P G I J G
T I O L V L N O P R A E S K V C M N
F B G I D Y O M Q W E Z C I K N N U
F A W D W B I G E F B N N K F X P F
G N X X I I H I T N J G E Q G K R G
E P C C J X T O E H T R X B G A G V
Q G Z W G N Y V C S G Q S E I K P D

abiotic	air	animals	bacteria
biotic	cold	energy	environment
factors	fungi	heat	interactions
light	living	plants	nonliving
protists	responses	soil	temperature
water	without life		



Name _____ period _____

EXIT TICKET

Interactions in the Environment

1. Which of the following is an abiotic factor in the environment?

- A. water
- B. tiger
- C. bacteria

2. Which of the following is a biotic factor in the environment?

- A. water
- B. air
- C. duck

3. What do all of the following have in common? Lion, pine tree, paramecium, mushroom, bacteria

- A. They are all abiotic factors in the environment
- B. They are all made of at least one cell
- C. They are all members of the same kingdom

4. Where do plants get their energy?

- A. water
- B. soil
- C. The Sun



Name _____ period _____

EXIT TICKET

Interactions in the Environment

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2. Where do plants get their energy?

- A. water
- B. soil
- C. The Sun

3. Which of the following is an abiotic factor in the environment?

- A. water
- B. tiger
- C. bacteria

4. Which of the following is a biotic factor in the environment?

- A. water
- B. air
- C. duck