Content Resources Page: Assignment

Student: Billi Steele
Subject: Science

Topic: Life Science

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| **Question Page #** | **Answer** | **Where was the answer found? Cite Paragraph no.** |
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| Chapter 1, lesson 1<br>Page 1<br>Question 1 | Electron microscopes can enlarge images 100,000 times or more compared to a light microscope that can only enlarge images about 1500 times their actual size. **Correct.** | Early microscopes |
| Page 2<br>Question 2 | German scientists observed that all plant and animal parts are made of cells **Correct.** | The cell theory |
| Page 3<br>Question 5 | Human bodies sweat, shiver, or change the flow of blood to try to maintain a body temperature of 37 degrees C. **Correct.** | What is homeostasis |
| Page 4<br>Question 6 | Humans get energy from the food we eat. **Correct.** | Where does energy come from |
| Lesson 2<br>Page 6<br>Question 1 | A) Substances can pass freely through the cell wall, unlike a cell membrane<br>B) Only the cells of plants, fungi and some bacteria have a cell wall. **Correct.** | Cell shape and movement |
| Page 9<br>Question 5 | The nucleus is the control center of a cell because it contains genetic material called DNA. **Correct.** | What is the nucleus |
| Lesson 3<br>Page13<br>Question 1 | Cells use lactic acid fermentation when less oxygen reaches the cells, so the cells adjust by producing energy that doesn't require oxygen in the process. **Good job. Correct.** | Cellular respiration |
| Page 14<br>Question 3 | Organisms make their own food by using energy from the sun or other light source. **Correct.** | Photosynthesis |
| Chapter 2<br>Lesson 1<br>Page 16<br>Question 1 | B-2 **Correct (2 sets of chromosomes).** | What are the characteristics of interphase? |

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| Page 17<br>Question 3 | Multicellular organisms grow by making more cells and replacing cells that die. **Correct.** | Why are mitosis and cell division important? |
| Page 17<br>Question 4 | Anaphase **Correct.** | What are the phases of mitosis? |
| Page 18<br>Question 6 | Daughter cells are two identical cells that are formed when cytoplasm and its components divide. **Correct.** | What is cytokinesis? |
| Page 19<br>Question 7 | The parent cell no longer exists. **Correct.** | What is the result of cell division? |
| Lesson 2<br>Page 22<br>Question 3 | Stem cells are undifferentiated and can become different types of cells. **Correct.** | What are stem cells? |
| Page 24<br>Question 6 | A- the other organ systems **Correct.** | What is an organism? |
| Chapter 3<br>Lesson 1<br>Page 26<br>Question 1 | The main two disadvantages of sexual reproduction are time and energy. **Correct.** | What are the disadvantages of sexual reproduction? |
| Page 26<br>Question 2 | In meiosis, cells divide and create haploid cells, often called daughter cells. Haploid cells are half the set of the reproductive cell, or parent cell. Haploid cells contain only one chromosome from each homologous pair of the parent cell. Each sperm and egg cell are haploid. When they combine during fertilization, they produce a diploid zygote. **Review** (originally not answered). | Explain why it is important for reproductive cells to divide in half before they join together to create an offspring. |
| Page 27<br>Question 4 | At the end of meiosis 1 there are two daughter cells. **Correct.** | What are the phases of meiosis? |
| Lesson 2<br>Page 32<br>Question 3 | The two groups of seed plants are the flowering and the flowerless. **Correct.** | How do seed plants reproduce? |
| Page 35<br>Question 8 | Grass is part of the diploid generation of the plant life cycle. **Correct.** | Plant reproduction summary. |
| Lesson 3<br>Page 41<br>Question 9 | Gestation is the length of time between fertilization and the birth of an animal. **Correct.** | What is gestation? |
| Lesson 4<br>Page 42<br>Question 1 | B- asexual reproduction **Correct.** | What are the advantages of asexual reproduction? |

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| Page 44<br>Question 3 | Yeasts, which are related to mushrooms, reproduce by budding. The hydra can also reproduce by budding. **Correct.** | What is budding? |
| Page45<br>Question 5 | Regeneration is asexual reproduction that produces new animals from pieces of an animal's body. **Correct.** | What is animal regeneration? |
| Page 46<br>Question 7 | The genetic material of offspring from asexual reproduction is identical to that of the parent. **Correct.** | Asexual reproduction summary. |
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| Chapter 4<br>Lesson 1<br>Page 48<br>Question 3 | It was important for Mendel to control the fertilization of the pea plants so he could observe how traits pass from one generation to the next. **Correct.** | What were Mendel's experimental methods? |
| Page 49<br>Question 4 | A dominant factor is a genetic factor that blocks the presence of another factor. **Correct.** | What are dominant factors? |
| Page 49<br>Question 5 | The law of segregation.<br>The law of independent assortment **Correct.** | Mendel's laws of heredity. |
| Page 50<br>Question 6 | There is no difference. **Correct.** | What are genes and alleles? |
| Page 51<br>Question 8 | Uppercase letters **Correct.** | What are possible genotypes? |
| Page 52<br>Question 10 | All research involving modern genetics is based on Mendel's work with pea plants. **Correct.** | Importance of Mendel's genetic studies. |
| Lesson 2<br>Page 54<br>Question 3 | The more individuals counted, the closer the actual numbers will be to the predictions. **Correct.** | Hybrid-cross model |
| Page 55<br>Question 4 | The presence of one dominant allele results in a dominant phenotype in a pea plant. **Correct.** | What are types of dominance? |
| Page56<br>Question 6 | The X and Y chromosomes contain the genes that determine a person's sex or gender. **Correct.** | What is sex-linked inheritance? |
| Page 56<br>Question 7 | Only the tail of the sperm cell has mitochondria and since the sperm's tail doesn't enter the egg cell during fertilization, humans inherit mitochondrial genes only from their mothers. **Correct.** | What is maternal inheritance? |
| Page 57<br>Question 8 | An organism with a mutation cannot function as it should. **Correct.** | Human genetic disorders |

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| Chapter 5<br>Lesson 1<br>Page 61<br>Question 5 | B- specific characteristics **Correct.** | Selective breeding |
| Page 62<br>Question 6 | A trait is inherited and then passed on through reproduction. **Correct.** | Why is genetic variation necessary in evolution? |
| Page 62<br>Question 7 | Organisms that are best prepared for living in specific habitats would survive. **Correct.** | How do environmental factors influence natural selection? |
| Page 63<br>Question 9 | B- common ancestors **Correct.** | Evolution and diversity |
| Lesson 2<br>Page 66<br>Question 4 | Other names for behavioral adaptations are instinct or inborn behaviors. **Correct.** | What are behavioral adaptations? |
| Page 67<br>Question 5 | Habitats become smaller as humans develop the land and use more resources. **Correct.** | Loss of habitat |
| Page 67<br>Question 6 | A species is considered threatened or endangered if there is little genetic variation left among the members of a species. **Correct.** | Loss of genetic diversity. |
| Page 68<br>Question 7 | Inbreeding brings out recessive traits that are harmful to the species. **Correct.** | What is the possible result of the inability to adapt? |
| Chapter 6<br>Lesson 1<br>Page 70<br>Question 1 | Petrified wood is formed through permineralization. **Correct.** | What is permineralization? |
| Page 70<br>Question 2 | Once an organism dies, the elements such as hydrogen, oxygen and nitrogen leave and only a thin layer of carbon is left. **Correct.** | What is carbonization? |
| Page 72<br>Question 4 | Fossils found in deeper layers of rock are usually older. **Correct.** | How do scientist determine the ages of fossils? |
| Page 72<br>Question 5 | There are gaps in the fossil record because many organisms decayed before they could become fossils. **Correct.** | What does the fossil record reveal about species and changes in the environment? |

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| Lesson 2<br>Page 73<br>Question 1 | Comparative anatomy is the study of similarities and differences in the structures of organisms. **Correct.** | Comparative anatomy |
| Lesson 3<br>Page 77<br>Question 2 | Convergent evolution results in distantly related species that look similar. **Correct.** | What is convergent evolution? |
| Lesson 4<br>Page 78<br>Question 1 | Carolus Linnaeus developed a classification system that grouped organisms based on similar physical structures. **Correct.** | Historical classification systems |
| Page 80<br>Question 3 | Systematics is a classification system based on the evolutionary relationships between living organisms. **Correct.** | What is systematics? |
| Page 80<br>Question 4 | A domain is the highest level in new classification systems. **Correct.** | What is the highest level in new classification systems? |
| Chapter 7<br>Lesson 1<br>Page 81<br>Question 1 | The principle of uniformitarianism states that the processes that are at work today are the same processes that have been at work in earth's past. **Correct.** | The principle of uniformitarianism. |
| Page 83<br>Question 3 | The forces that result in metamorphic rock are extreme heat and/or pressure. **Correct.** | Metamorphic rock |
| Page 83<br>Question 4 | Frost wedging **Correct.** | What is weathering? |
| Page 84<br>Question 6 | Another word for sediments is clasts. **Correct.** | What transports sediments? |
| Page 86<br>Question 10 | B- the bottom layer **Correct.** | What is the principle of superposition? |
| Lesson 2<br>Page 89<br>Question 1 | A- number of protons **Correct.** | What are the three carbon isotopes? |
| Page 89<br>Question 2 | Radioactive decay **Correct.** | What is radioactive decay? |
| Page 91<br>Question 5 | The first step is to measure the parent material in a rock. **Correct.** | What is radiometric dating? |
| Page 91<br>Question 6 | The age of a metamorphic rock is difficult to determine because the increase in temperature and pressure during metamorphism can cause a rock to partially melt | Is radiometric dating used with |

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| | and become igneous. Their radiometric clock gets reset and decay begins again. **Correct.** | metamorphic and sedimentary rock? |
| Page 92<br>Question 8 | The earth's approximate age is about 4.5 billion years old. **Correct.** | Isotopes and earth's age |
| Chapter 8<br>Lesson 1<br>Page 94<br>Question 3 | Mass extinction is the dying off of many different species of organisms over a short geologic time. **Correct.** | What are mass extinctions? |
| Page 95<br>Question 4 | A) A decrease in oxygen levels in the water because warm water holds less oxygen than cold water.<br>B) Global warming could also melt glaciers, causing water to flow into the oceans, which causes sea levels to rise. **Correct.** | Global warming |
| Page 96<br>Question 5 | Sea levels went down during global cooling because glaciers formed. **Correct.** | Glaciers formed |
| Page 97<br>Question 8 | Mass extinctions occur over a short geologic time span, but they are not sudden events. **Correct.** | Is there an extinction pattern? |
| Lesson 2<br>Page 99<br>Question 1 | The oxygen in today's atmosphere quickly destroys these minerals through the process of oxidation. **Correct.** | How is the Precambrian atmosphere different from today's? |
| Page 100<br>Question 3 | Organisms increased in complexity in the Proterozoic eon. | What were the first soft-bodied organisms? |
| Page 101<br>Question 5 | Vertebrates are animals with backbones. **Correct.** | What were the vertebrates of the Paleozoic era? |
| Page 102<br>Question 7 | Once vascular systems evolved, new plants developed quickly. **Correct.** | What were the plants of the Paleozoic era? |
| Page 102<br>Question 8 | One proposal is that the uplifting formation of Pangaea left little room for the shallow-water life forms as marine terraces became dry land. Another proposal is that the Siberian traps released ash and sulfur into the atmosphere, causing global cooling and the forming of glaciers on land. **Correct.** | What caused the Paleozoic era extinctions? |

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| Lesson 3<br>Page 104<br>Question 1 | An important development during the Triassic period was the evolution of the first reef-building corals. **Correct.** | What were the Mesozoic era invertebrates? |
| Page 104<br>Question 2 | Early ideas of dinosaurs made scientists assume dinosaurs had behavioral patterns like reptiles. **Correct.** | dinosaurs |
| Page 105<br>Question 3 | Gymnosperms produce seeds but no flowers. Angiosperms are flowering plants that produce seeds with hard coverings. **Correct.** | What were the plants of the Mesozoic era? |
| Page 106<br>Question 5 | Hominids evolved during the Pliocene epoch about 4.4 million years ago. **Correct.** | prima |

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| Question 6 | Organisms became more diversified and continued to evolve from marine invertebrates to marine and land vertebrates and plants. **Correct.** | Complexity increases over time. |
| Chapter 9<br>Lesson 1<br>Page 108<br>Question 2 | The only saddle joint in your body is your thumb. **Correct.** | Saddle joints |
| Page 109<br>Question 3 | An immovable joint is two bones held firmly together. **Correct.** | Immovable joints |
| Page 109<br>Question 4 | You can control a voluntary muscle and you cannot control an involuntary muscle. **Correct.** | What are the types of muscles? |
| Page 110<br>Question 5 | A) tendons<br>B) ligaments<br>C) cartilage<br><br>**Correct.** | Interactions of the musculoskeletal system. |
| Lesson 2<br>Page 112<br>Question 2 | A- 1<br><br>**Correct.** | What are first-class levers? |
| Page 114<br>Question 5 | Your bones and joints work together as levers. **Correct.** | How do third-class levers make us faster? |
| Page 114<br>Question 6 | B- work<br>**Correct.** | What have you learned? |
| Chapter 10<br>Lesson 1<br>Page 116 | Air enters the lungs through the bronchi. **Correct.** | How do your lungs work? |

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| Question 3 | | |
| Page 117<br>Question 4 | Carbon dioxide is exhaled because it is a waste product from cells. **Correct.** | Where does gas exchange occur? |
| Page 117<br>Question 5 | A) viruses<br>B) bacteria<br>C) fungi **Correct.** | pneumonia |
| Page 117<br>Question 6 | White blood cells help fight infections. **Correct.** | What does blood contain? |
| Page 118<br>Question 7 | The atria (singular, atrium) are the two upper chambers and the ventricles are the two lower chambers of the heart. **Correct.** | How does the heart work? |
| Page 119<br>Question 9 | A heart attack occurs when the coronary arteries are blocked. **Correct.** | Heart attack |
| Page 119<br>Question 10 | The pulmonary system provides oxygen to the blood and the circulatory system delivers the oxygen. **Correct.** | Exchanges between the pulmonary and circulatory systems. |
| Page 120<br>Question 11 | Oxygen gas is removed from the air you breathe and passes across a thin membrane between the alveoli and the capillaries. **Correct.** | How is air exchanged in the lungs? |
| Lesson 2<br>Page 123<br>Question 3 | The right atrium pumps blood to the right ventricle, which pumps blood out of the heart into the lungs. Blood leaves the lungs and returns to the left atrium which passes the blood to the left ventricle. The left ventricle pumps the blood out of the heart to all the tissues of the body. The blood from all the tissues returns to the right atrium and the cycle continues. **Correct.** | How is blood pumped through the heart? |
| Page 124<br>Question 5 | Hypertension **Correct.** | Hypertension |
| Chapter 11<br>Lesson 1<br>Page 125<br>Question 1 | The highest points of the wave are called crests. **Correct.** | What are the parts of a wave? |
| Lesson 2<br>Page 130<br>Question 3 | The amount of bending, or refraction, depends on the speed of light in both materials. **Correct.** | What happens when light rays change speed. |

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| Page 130<br>Question 4 | Red, green, and blue are called primary colors of light. **Correct.** | What happens to colors when they are mixed? |
| Lesson 3<br>Page 132<br>Question 1 | Light rays come together, or converge after they pass through a convex lens. **Correct.** | What is a convex lens? |
| Page 134<br>Question 3 | The two types of telescopes are: refracting and reflecting. **Correct.** | How do refracting telescopes use lenses? |
| Page 134<br>Question 4 | A) cameras<br>B) telescopes<br>C) microscopes **Correct.** | What have you learned? |
| Lesson 4<br>Page 136<br>Question 2 | The iris controls the amount of light that enters inside your eye. **Correct.** | What controls the light that enters your eye? |
| Page 137<br>Question 3 | Cone cells detect the colors that you see. **Correct.** | How do cone cells detect color? |
| Page 137<br>Question 4 | A) nearsightedness<br>B) farsightedness<br>C) color deficiency **Correct.** | Common vision problem |
| Chapter 12<br>Lesson 1<br>Page 140<br>Question 2 | The compression and rarefactions form a sound wave. **Correct.** | What is vibration? |
| Page 142<br>Question 4 | The words pitch and frequency are often used to mean the same thing. **Correct.** | Frequency and pitch |
| Lesson 2<br>Page 144<br>Question 2 | You can adjust the pressure in the eustachian tube and your middle ear by swallowing. **Correct.** | What is the middle ear? |
| Page 145<br>Question 4 | Conductive hearing can be treated with medicine to restore hearing and sensorineural hearing loss is permanent. **Correct.** | Can hearing damage be corrected? |
| Page 146<br>Question 5 | One advantage of redirecting sound, it can help determine which direction the sound is coming from. **Correct.** | Redirecting sound |
| Chapter 13<br>Lesson 1<br>Page 148<br>Question 2 | During ejaculation, about 2mL to 5mL of semen are released from the penis, which contains 100 to 650 million sperm. **Correct.** | What is semen? |
| Page 149<br>Question 4 | The purpose of the cilia is to wave back and forth to move eggs into the uterus. **Correct.** | What are the female |

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| | | reproductive organs? |
| Page 150<br>Question 5 | Human eggs are produced by meiosis. **Correct.** | How are eggs produced? |
| Page 150<br>Question 6 | The egg will attach to the endometrium for protection and nourishment. **Correct.** | What is menstrual flow? |
| Page 152<br>Question 9 | A) some sperm swim away from the fallopian tubes.<br>B) other sperm enter the fallopian tube that does not contain an egg. **Correct.** | fertilization |
| Lesson 2<br>Page 155<br>Question 4 | Pregnant women who receive prenatal care from a certified health care provider have better chances of delivering healthy babies. **Correct.** | What is prenatal care? |
| Page 156<br>Question 5 | The nutrients pass from mother to fetus through the placenta. **Correct.** | How does the fetus get nutrients? |
| Page 156<br>Question 6 | A fetus obtains oxygen and nutrients from the mother through the placenta and the umbilical cord. **Correct.** | Development before birth summary. |

Note: I think that you're okay, but you are welcome to complete the questions for "picture this" and "In-text questions?" Your science pre-test results were strong, indicating that you are ready for testing. **I suggest that you take your official test in Science by the end of March or early April.**

**Missed Questions:**

- Explain How do multicellular organisms grow. P.17
- Explain What is the difference between a factor and an allele. P. 50