**Lesson Plan Overview**

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| Lesson | TE pages | ST pages | AM pages | Objectives and Christian Worldview | Process Skills |
| 1 |  | 1–2 | 1 | • Define worldview  • Recognize that everyone has a worldview  • Identify characteristics of a Christian worldview |  |
| Chapter 1: Minerals and Rocks | | | | | |
| 2 | 2–5 | 3–5 | 2 | • Recognize the interrelationship of science concepts  • Distinguish facts and assumptions in the evolution/Creation debate  • Evaluate evolutionary assumptions from a Christian worldview  Mankind’s imitation of God’s creation  The Bible as the final authority  God as the only Creator |  |
| 3 | 6–9 | 6–9 | 3–4 | • Identify and locate the layers of the earth  • Describe features of the core, mantle, and crust  • Explain how weathering and erosion affect sediment  • Define humus  The Flood’s effect on the earth  Fall of mankind  Mankind’s use of God’s resources |  |
| 4 | 10–11 |  | 5–6 | Answers in Genesis  • Explain why it is necessary to look at the world with a biblical perspective  • Justify from a biblical viewpoint that the layers of the earth did not take millions of years to form |  |
| 5–6 | 12–17 | 10–15 | 7 | • Define mineral  • Identify crystal structure, luster, hardness, color, and cleavage as characteristics of minerals  • Explain how the Mohs scale is used to determine hardness  God’s design for the earth’s resources  God’s design for the human body |  |
| 7 | 18–19 |  | 8 | Activity: Measuring Mass and Volume  • Measure mass to the nearest gram  • Measure volume to the nearest milliliter |  |
| 8–9 | 20–21 | 16–17 | 9–10 | Activity: Salty Crystals  • Follow directions  • Observe the formation of Epsom-salt crystals  • Collect and record observation data | Measuring  Experimenting  Observing  Identifying and controlling variables  Collecting, recording, and interpreting data |
| 10 | 22–26 | 18–22 | 11–13 | • Differentiate between characteristics of precious and semiprecious stones  • List some common uses of minerals  • Recognize that some minerals are metals  • Identify where minerals are found  God’s creation for mankind’s enjoyment  God’s salvation through Christ |  |
| 11 | 27 | 23 | 14 | Exploration: Munching Minerals  • Research a mineral found in foods or beverages  • Display foods or beverages that contain the mineral  • Prepare an oral presentation  God’s design for the human body |  |
| 12 | 28–29 |  | 15–18 | Study Skill: PQ3R  • Use the PQ3R method to read informational text |  |
| 13 | 30–33 | 24–27 | 19 | • Define rock  • Identify three types of rock and explain how each is formed  • List examples of igneous rock, sedimentary rock, and metamorphic rock  Consequences of sin  The Bible as the final authority |  |
| 14 | 34–35 | 28–29 | 20–21 | Activity: Rock Hounding  • Label rocks in a collection  • Classify rocks according to chosen criteria | Observing  Classifying  Communicating  Defining operationally |
| 15 | 36 | 30 | 22 | **Chapter Review**  • Recall concepts and terms from Chapter 1  • Apply knowledge to everyday situations |  |
| 16 | 36 |  |  | **Chapter 1 Test**  • Demonstrate knowledge of concepts taught in Chapter 1 |  |

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| Lesson | TE pages | ST pages | AM pages | Objectives and Christian Worldview | Process Skills |
| Chapter 2: Fossils and Dinosaurs | | | | | |
| 17 | 37 | 31 | 23 | • Evaluate evolutionary assumptions from a Christian worldview  Faith in the Word of God  God’s orderly design |  |
| 18 | 38–40 | 32–34 |  | • Define fossil  • Compare and describe some types of fossils that form in sediment: petrified fossil, mold, cast, carbon film, trace fossil  • Identify other materials in which fossils are sometimes preserved  The Flood’s effect on the earth |  |
| 19 | 41 | 35 | 24–25 | • Compare beliefs of evolutionists and Creationists  The Flood’s effect on the earth  Faith in the Word of God |  |
| 20 | 42–43 | 36–37 | 26 | Activity: Fact or Theory?  • Identify phrases or statements that indicate a Creationist or evolutionist viewpoint  • Make inferences as to the viewpoint from which literature is written  Discerning what is true  The Bible as the final authority | Inferring  Collecting and interpreting data  Communicating  Defining operationally |
| 21–22 | 44–45 | 38–39 | 27–28 | Activity: Molds and Casts  • Make models of fossils  • Relate models to fossils |  |
| 23–24 | 46–49 | 40–43 | 29–30 | • Define paleontology  • Describe how fossils are excavated and reconstructed  • Explain why rock layers do not indicate the age of a buried fossil  • Describe how paleontologists use carbon dating to guess the age of fossils  The Flood’s effect on the earth  Faith in the Word of God |  |
| 25–26 | 50–51 | 44–45 | 31–32 | Exploration: Fossil Dig  • Model the procedures a paleontologist uses while excavating  • Complete a site map |  |
| 27 | 52–55 | 46–49 | 33 | • Recognize that what is known about dinosaurs is based on the observations of fossils  • Name some of the types of information that are known from fossils  • Recognize some of the types of information that can be inferred from fossils  Mankind’s God-given curiosity  Faith in the Word of God  God’s perfect creation |  |
| 28 | 56–59 | 50–53 | 34 | • Realize that man and dinosaurs lived at the same time  • Recognize that some dinosaurs survived the Flood  • Identify biblical animals that may have been dinosaurs  • Name some causes of extinction  • Identify reasons why dinosaurs may have become extinct  Faith in the Word of God  God’s orderly design |  |
| 29 | 60–61 |  | 35–36 | Answers in Genesis  • Justify from a biblical viewpoint that dinosaurs existed and that dinosaurs and people lived together  • Examine scientific evidence to show that dinosaurs are thousands of years old and not millions |  |
| 30 | 62 | 54 | 37–38 | **Chapter Review**  • Recall concepts and terms from Chapter 2  • Apply knowledge to everyday situations |  |
| 31 | 62 |  |  | **Chapter 2 Test**  • Demonstrate knowledge of concepts taught in Chapter 2 |  |

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| Chapter 3: Matter | | | | | |
| 32 | 64–67 | 55–57 | 39 | • Recognize that God created different kinds of matter to melt at different temperatures  • Recognize that learning about matter and how it works is important to glorify God and serve others  • Give an example of how God’s design of the properties of matter benefits people  Christian behavior as showing God’s love to others  Christians as a reflection of God |  |
| 33 | 68–71 | 58–61 | 40 | • Define matter  • Explain how to find the volume of a solid and of a liquid  • Differentiate between mass and weight  • Recognize that volume, mass, and weight are ways by which matter can be measured  • Explain how density is related to mass and volume  Mankind’s use of wisdom to serve others  God’s provision for mankind  God’s perfect design |  |
| 34 | 72–73 |  | 41 | Activity: Measuring Length, Volume, and Temperature  • Measure length to the nearest millimeter  • Measure volume using cubic centimeters  • Measure temperature to the nearest degree |  |
| 35–36 | 74–79 | 62–67 | 42–44 | • Identify and describe the three states of matter  • List examples of solids, liquids, and gases  • Define physical change  • Recognize that a change of state is a physical change  • Differentiate among melting, freezing, vaporization, and condensation  God’s orderly design |  |
| 37 | 80–81 |  | 45–46 | Activity: A Science Experiment  • Use a scientific method  Discerning what is true |  |
| 38 | 82–83 | 68–69 | 47–48 | • Identify atoms as small particles of matter  • Differentiate between elements and compounds  • Contrast chemical changes and physical changes |  |
| 39 | 84–85 | 70–71 | 49–50 | Activity: Separating a Mixture  • Plan a procedure for separating the parts of a mixture  • Apply the physical properties of the items that make up a mixture  • Experiment to test predictions  • Infer how to physically remove a dissolved item from water | Predicting  Experimenting  Observing  Inferring  Communicating |
| 40 | 86–89 | 72–75 | 51 | • Define mixture  • Explain the difference between a mixture and a compound  • Give some examples of mixtures  • Identify some ways that substances in a mixture can be separated using physical properties |  |
| 41 | 90–93 | 76–79 | 52–54 | • Identify a solution as a type of mixture  • Identify the parts of a solution  • Define concentration  • Explain ways to increase the rate of dissolving  Mankind’s demonstration of God’s love |  |
| 42 | 94–95 |  | 55–56 | Answers in Genesis  • Recognize that God created the matter in the universe from nothing  • Provide examples from Scripture of how the universe was created  • Identify the object of faith for materialists (matter) and Christians (God and the Bible) |  |
| 43 | 96–97 | 80–81 | 57–58 | Activity: A Disappearing Act  • Predict how surface area will affect the rate of dissolving  • Relate results to other situations | Hypothesizing  Experimenting  Observing  Inferring  Defining operationally |
| 44–45 | 98–99 | 82–83 | 59 | Exploration: Float a Boat  • Design a clay boat that will float  • Demonstrate buoyancy  God overruling His natural laws |  |
| 46 | 100 | 84 | 60 | **Chapter Review**  • Recall concepts and terms from Chapter 3  • Apply knowledge to everyday situations |  |
| 47 | 100 |  |  | **Chapter 3 Test**  • Demonstrate knowledge of concepts taught in Chapter 3 |  |

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| Lesson | TE pages | ST pages | AM pages | Objectives and Christian Worldview | Process Skills |
| Chapter 4: Energy and Heat | | | | | |
| 48 | 101 | 85 | 61 | • Explain the importance of energy and heat in designing useful technology  God’s provision for His creation  Mankind’s use of wisdom to serve others |  |
| 49–50 | 102–5 | 86–89 | 62 | • Define energy  • Differentiate between potential energy and kinetic energy  • Recognize that energy is often classified as either potential or kinetic  • Recognize that the amount of thermal energy depends on the temperature and mass of a substance  • Differentiate between thermal energy and temperature  People as stewards of God’s creation |  |
| 51 | 106–7 | 90–91 | 63–64 | Activity: Rock Heaters  • Predict how the mass of a substance affects the amount of thermal energy it can transfer  • Experiment to test a hypothesis | Hypothesizing  Measuring and using numbers  Collecting and recording data  Defining operationally |
| 52 | 108–10 | 92–94 | 65–66 | • Recognize that increasing or decreasing thermal energy can cause matter to change to a different state  • Explain what happens during thermal expansion  • Define calorie  • Recognize that substances differ in their ability to store thermal energy |  |
| 53 | 111 | 95 | 67–68 | Exploration: Energy for Your Body  • Recognize that a food Calorie is also called a kilocalorie  • Calculate the resting metabolic rate  • Track Calorie consumption for three days |  |
| 54–55 | 112–15 | 96–99 | 69–70 | • Define heat  • Recognize that heat always flows from a warmer substance to a cooler substance  • Identify and describe three ways that heat occurs  • Differentiate between conductors and insulators |  |
| 56 | 116–17 | 100–101 | 71–72 | Activity: Keeping Warm  • Predict which type of insulation will best keep hot water warm  • Test different types of insulation to determine which is the most effective  • Measure and use numbers in an activity | Hypothesizing  Predicting  Inferring  Collecting and recording data  Communicating |
| 57 | 118–20 | 102–4 | 73–75 | • Identify some common fuels  • Distinguish between renewable and nonrenewable resources  • Name some ways fuel is used  • Give examples of unwanted heat  God’s design for the human body |  |
| 58 | 121–24 | 105–8 | 76 | • Explain why controlling heat is necessary  • Explain how scientists controlled heat for the reentry of space capsules  • Name two types of insulation used on space shuttles  • Name some ways that thermal energy is part of our everyday lives  Mankind’s imitation of creation  Mankind’s responsibility to glorify God |  |
| 59 | 125–26 |  | 77–78 | Answers in Genesis  • Show how Christian scientists can do operational science in order to exercise biblical dominion  • Give examples of discoveries that show that operational science does not need to refer to evolutionary principles to be successful  • Explain why biomimicry is an example of exercising dominion to love our neighbor and to glorify God |  |
| 60 | 127 | 109 | 79 | Exploration: Moon Station  • Design a piece of equipment for a moon station  • Research equipment developed for the space program |  |
| 61 | 128 | 110 | 80 | **Chapter Review**  • Recall concepts and terms from Chapter 4  • Apply knowledge to everyday situations |  |
| 62 | 128 |  |  | **Chapter 4 Test**  • Demonstrate knowledge of concepts taught in Chapter 4 |  |

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| Lesson | TE pages | ST pages | AM pages | Objectives and Christian Worldview | Process Skills |
| Chapter 5: Weather | | | | | |
| 63 | 130–31 | 111–13 | 81 | • Recognize the interrelationship of science concepts  • Recognize, from a Christian worldview, reasons for studying climate  • Understand the role of meteorology in preserving human life  • Apply the biblical teaching on the value of human life to everyday situations |  |
| 64–65 | 134–37 | 114–17 | 82–83 | • Describe the atmosphere  • Define air pressure  • Recognize that gravity pulls the atmosphere toward the earth  • Name an instrument that measures air pressure  • Identify and describe the two lower layers of the atmosphere  Mankind’s God-given ability to observe  God’s design for the human body  God’s orderly design |  |
| 66–67 | 138–43 | 118–23 | 84–86 | • Compare and contrast high-pressure air masses and low-pressure air masses  • Define front and describe three types  • Explain how temperature affects wind  • Differentiate between global winds and local winds  • Name examples of global winds and local winds |  |
| 68 | 144–45 | 124–25 | 87 | Activity: Temperature Changes  • Predict whether water and soil will warm or cool at the same rate  • Identify and control variables  • Measure and record temperatures  • Relate temperature changes to the ability of each substance to hold and give off heat | Measuring  Observing  Inferring  Recording data |
| 69–70 | 146–51 | 125–31 | 88 | • Define precipitation  • Differentiate among rain, sleet, snow, and hail  • Define humidity  • Identify and describe three basic shapes of clouds  God’s provision for His creation  Christian behavior as showing God’s love to others |  |
| 71 | 152–54 | 132–34 |  | • Describe characteristics of thunderstorms, tornadoes, and hurricanes  • Differentiate between a weather watch and a weather warning  Mankind’s God-given dominion  Christian behavior as showing God’s love to others |  |
| 72 | 155 | 135 |  | Exploration: Dangerous Extremes  • Research the safety precautions for a type of severe weather  • Make and present a poster or pamphlet |  |
| 73 | 156–57 | 136–37 | 89–90 | • Describe the job of a meteorologist  • Read and interpret basic symbols on a weather map  Mankind’s use of wisdom to serve others  Christian behavior as showing God’s love to others |  |
| 74–75 | 158–59 | 138–39 | 91–92 | Activity: Weather Observatory  • Make working weather instruments  • Correctly use the instruments to gather information about the weather  • Record data  • Use data to make weather predictions | Measuring and using numbers  Making and using models  Observing  Collecting, recording, and interpreting data |
| 76 | 160–61 |  | 93–94 | Answers in Genesis  • Explain how clouds form  • Defend a biblical view of evidence for one ice age against a secular view of evidence for multiple ice ages |  |
| 77 | 162 | 140 | 95 | **Chapter Review**  • Recall concepts and terms from Chapter 5  • Apply knowledge to everyday situations |  |
| 78 | 162 |  |  | **Chapter 5 Test**  • Demonstrate knowledge of concepts taught in Chapter 5 |  |

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| Chapter 6: Biomes | | | | | |
| 79 | 163 | 141 | 97 | • Appreciate the effect of human intervention on a wetland biome  • Apply the Bible’s teaching of stewardship of creation to biomes  • Generate possible solutions to the concerns about destroying or using biomes  Mankind as steward of God’s creation  Mankind’s use of wisdom to serve others |  |
| 80 | 164–67 | 142–45 | 98 | • Differentiate between a biome and the biosphere  • Identify climate as a major influence on land biomes  • Describe basic characteristics of the tundra  • Name some ways that animals and plants survive on the tundra  God’s provision for His creation |  |
| 81–82 | 168–71 | 146–49 | 99–100 | • Describe basic characteristics of the coniferous forest  • Describe basic characteristics of the deciduous forest  • Differentiate between conifers and deciduous trees  • Name two ways that animals in the deciduous forest survive the changing seasons  God’s provision for His creation |  |
| 83–84 | 172–75 | 150–53 | 101–2 | • Describe basic characteristics of grasslands  • Compare and contrast prairies and savannas  • Name ways some savanna grasses and trees survive the dry season  • Describe characteristics that all deserts have in common  • Name some ways that desert animals and plants survive the extreme temperatures and dryness  God’s provision for His creation |  |
| 85 | 176–77 | 154–55 | 103–4 | Activity: Help Prevent Water Loss!  • Identify some characteristics of water-efficient plants  • Predict how waxy surfaces on plants affect water loss  • Relate the effectiveness of a petroleum-jelly coating on a sponge to the waxy surfaces on some leaves and stems  God’s provision for His creation | Predicting  Measuring  Making and using models  Inferring  Recording data |
| 86–87 | 178–180 | 156–58 | 101, 105–7 | • Describe basic characteristics of a tropical rain forest  • Identify the layers of the rain forest  • Name ways that roots benefit the rain forest trees  • Recognize that biomes are only a general way to classify sections of the biosphere  • Explain how a mountain can have several biomes |  |
| 88–89 | 181 | 159 |  | Exploration: Build a Biome  • Research a biome  • Create a model of that biome |  |
| 90–91 | 182–87 | 160–65 | 108–10 | • Name the two categories of aquatic biomes  • Explain why coral reefs are called “the rain forests of the sea”  • Identify the force that keeps river water moving  • Describe kinds of wetlands  • Recognize that people have the God-given responsibility to be good stewards of the earth  God’s provision for His creation  Mankind as steward of God’s creation |  |
| 92 | 188–89 |  | 111–12 | Answers in Genesis  • Compare the description of the Garden of Eden to a map of modern-day Iraq  • Explain why the climate and biomes changed after the Flood |  |
| 93 | 190–91 | 166–67 | 113 | Activity: From Dirty to Clean  • Demonstrate how wetlands purify water  • Infer how the activity models the purifying process of a real wetland  God’s provision for His creation | Making and using models  Observing  Inferring |
| 94 | 192 | 168 | 114 | **Chapter Review**  • Recall concepts and terms from Chapter 6  • Apply knowledge to everyday situations |  |
| 95 | 192 |  |  | **Chapter 6 Test**  • Demonstrate knowledge of concepts taught in Chapter 6 |  |

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| Lesson | TE pages | ST pages | AM pages | Objectives and Christian Worldview | Process Skills |
| Chapter 7: Interactions in an Ecosystem | | | | | |
| 96 | 194–97 | 169–71 | 115 | • Recognize the interrelationship of science concepts  • Explain the relationship between the study of ecosystems and Genesis 1:28  • Apply the Bible’s teaching of stewardship to creatures in a habitat |  |
| 97–98 | 198–201 | 172–75 | 116–18 | • Identify the two parts of an ecosystem  • Explain the relationships between individuals, communities, and populations  • Identify the functions of producers, consumers, and decomposers  • Explain why scavengers and decomposers are important to an ecosystem  Mankind as steward of God’s creation |  |
| 99 | 202–3 | 176–77 | 119–20 | Activity: Habitat Investigation  • Investigate a habitat  • Distinguish between living things and nonliving things  • Identify producers and consumers  • Record interactions | Observing  Classifying  Collecting and recording data  Defining operationally |
| 100 | 204–7 | 178–81 | 121–22 | • Identify the predators and prey in a food chain  • Differentiate between a food chain and a food web  • Describe the transfer of energy from one organism to another  • Explain how competition affects population size |  |
| 101 | 208 | 182 |  | Activity: Food-Web Connections  • Identify predators and prey within a food web  • Model a food web  • Recognize interrelationships among organisms in a food web  • Compare the model food web with an actual food web | Making and using models  Communicating  Defining operationally |
| 102–3 | 209 | 183 |  | Exploration: A Tangled Web  • Make a visual representation of a food web  • Identify producers, predators, and prey within a food web  • Identify animals as herbivores, omnivores, or carnivores  Mankind’s God-given dominion |  |
| 104 | 210–11 |  | 123–24 | Answers in Genesis  • Describe relationships among animals and plants in a simple ecosystem  • State the sources of food for both people and animals before the Fall  • Explain why the kinds of teeth in a skull may not determine the kinds of food an animal eats  • Compare and contrast the evolutionary and creationary views of the history of carnivores |  |
| 105–6 | 212–15 | 184–87 | 125 | • Identify the basic needs of plants and animals  • Identify and describe adaptations that help plants survive  • Identify and describe adaptations that help animals survive  God’s provision for His creation |  |
| 107 | 216–19 | 188–91 | 126–29 | • Identify different kinds of symbiosis  • Differentiate between instincts and learned behaviors  • Give examples of instincts and learned behaviors  God’s perfect design  Consequences of sin  Christians behavior as showing God’s love to others |  |
| 108 | 220 | 192 | 130 | **Chapter Review**  • Recall concepts and terms from Chapter 7  • Apply knowledge to everyday situations |  |
| 109 | 220 |  |  | **Chapter 7 Test**  • Demonstrate knowledge of concepts taught in Chapter 7 |  |

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| Chapter 8: Changes in an Ecosystem | | | | | |
| 110 | 221 | 193 | 131 | • Recognize ways that people can have dominion over the earth as God has commanded  Mankind’s God-given dominion |  |
| 111–12 | 222–25 | 194–97 | 132–34 | • Recognize that the earth has many cycles  • Identify the seasonal changes that may occur in an ecosystem  • Explain the carbon cycle  • Differentiate between photosynthesis and respiration  God’s orderly design  God’s provision for His creation |  |
| 113–14 | 226–29 | 198–201 | 135–36 | • Name two ways that nitrogen is changed into usable compounds  • Describe the nitrogen cycle  • Identify the parts of the water cycle  • Identify and infer some ways that cycles work together in an ecosystem  Interrelationship of the parts of creation  God’s provision for His creation |  |
| 115–16 | 230–31 | 202–3 | 137–38 | Activity: Decomposers at Work  • Recognize that decomposers are a part of many cycles  • Identify water as a variable that affects decomposition  • Analyze the effects of water on the rate of decomposition | Hypothesizing  Experimenting  Observing  Identifying and controlling variables  Recording data |
| 117–18 | 232–35 | 204–7 | 139 | • Identify three natural stresses on an ecosystem  • Explain how fires and floods can be beneficial to an ecosystem  • Identify some effects of a drought  • Describe the process of succession  • Recognize that sometimes what seems to us like a disaster is actually God’s way of maintaining the earth  Consequences of sin  God’s provision for His creation  God’s use of creation for His purpose |  |
| 119–20 | 236 | 208 | 140 | Exploration: Stress Alert  • Research a historical stress, such as a famous fire, flood, or other disaster  • Organize and present information about the stress |  |
| 121–22 | 237 | 209 |  | Activity: Current Events  • Collect and record information about ecosystems  • Organize the information into a notebook for presentation | Classifying  Communicating  Defining operationally |
| 123 | 238–39 |  | 141–42 | Answers in Genesis  • Explain the water cycle using a model  • Relate the cycles of nature to God’s care of His creation |  |
| 124 | 240–43 | 210–13 | 143 | • Identify some manmade stresses  • List differing opinions about using natural resources  • Differentiate between an extinct species and an endangered species  Mankind’s use of God’s resources  Mankind’s God-given dominion  Consequences of sin  Mankind’s responsibility to glorify God |  |
| 125 | 244 | 214 | 144 | **Chapter Review**  • Recall concepts and terms from Chapter 8  • Apply knowledge to everyday situations |  |
| 126 | 244 |  |  | **Chapter 8 Test**  • Demonstrate knowledge of concepts taught in Chapter 8 |  |

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| Chapter 9: Sound | | | | | |
| 127 | 249 | 215–17 | 145 | • Recognize the interrelationship of science concepts  • Recognize that technology can be designed to control sound because sound moves in predictable ways  Mankind’s God-given dominion  Mankind’s use of wisdom to serve others  Mankind’s responsibility to glorify God |  |
| 128–29 | 250–53 | 218–21 | 146–48 | • Define sound and wavelength  • Identify a compression of a sound wave  • Differentiate between the frequency and speed of sound waves  Mankind’s use of wisdom to serve others |  |
| 130 | 254–55 | 222–23 | 149–50 | Activity: Sound Slide  • Observe how the size of a vibration affects its sound  • Change a variable and compare results  • Predict the highness or lowness of a sound | Predicting  Experimenting  Observing  Identifying and controlling variables  Communicating |
| 131–32 | 256–59 | 224–27 | 151–52 | • Define pitch and volume  • Explain how the pitch of a sound wave is related to its frequency  • Identify the frequency range of human hearing  • Explain how the volume of a sound is related to the intensity of its sound waves  • Define and describe timbre  God’s design for the human body |  |
| 133 | 260–61 | 228–29 | 153–54 | Activity: Shhh, Quiet Please  • Compare the amount of sound absorbed by different materials  • Predict which material will absorb the most sound  • Rate the loudness of sounds  • Identify relationships between materials and their abilities to absorb sound | Hypothesizing  Predicting  Observing  Communicating |
| 134 | 262–63 |  | 155–56 | Answers in Genesis  • Summarize what the Bible says about hearing  • Explain why a creationary approach to science is a better approach to solving problems (like hearing loss) than an evolutionary approach |  |
| 135 | 264–68 | 230–34 | 157 | • Differentiate between sound and noise  • Recognize that a sound fades as its energy is used up  • List examples of how echoes are used in nature and technology  • Name examples of how an acoustical engineer uses his knowledge of sound  Mankind’s imitation of creation  God’s design for the human body  God’s creation for mankind’s enjoyment  Mankind’s use of wisdom to serve others  Christians as faithful witnesses |  |
| 136 | 269 | 235 |  | Exploration: A “Medium” Exploration  • Test the abilities of different mediums to carry sound  • Write a paragraph that compares and contrasts the results |  |
| 137 | 270 | 236 | 158 | **Chapter Review**  • Recall concepts and terms from Chapter 9  • Apply knowledge to everyday situations |  |
| 138 | 270 |  |  | **Chapter 9 Test**  • Demonstrate knowledge of concepts taught in Chapter 9 |  |

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| Lesson | TE pages | ST pages | AM pages | Objectives and Christian Worldview | Process Skills |
| Chapter 10: Light | | | | | |
| 139 | 271 | 237 | 159 | • Recognize that God provides for the needs of people  Mankind’s use of wisdom to serve others  Mankind’s responsibility to glorify God |  |
| 140 | 272–75 | 238–41 | 160–61 | • Identify light as a form of energy  • Compare and contrast electromagnetic and mechanical waves  • Identify the four properties of waves: wavelength, amplitude, frequency, and speed  • Differentiate between the frequency of a wave and the speed of a wave  God’s perfect creation |  |
| 141–42 | 276–79 | 242–45 | 162–63 | • Differentiate between refraction and reflection  • Recognize that the color of an object depends on which colors of light are being reflected  • Identify the primary colors of light  God’s salvation through Christ  Faith in the Word of God for guidance  God’s creation for mankind’s enjoyment |  |
| 143 | 280–81 | 246–47 | 164 | Activity: Fog Vision  • Test the visibility of colors  • Infer which colors are most visible in fog | Hypothesizing  Predicting  Experimenting  Observing  Inferring |
| 144–45 | 282–285 | 248–51 | 165 | • Explain how light reflects off smooth and rough surfaces  • Identify and describe three kinds of mirrors  • Identify some technologies that use light  • Name some uses for lasers |  |
| 146 | 286–87 | 252–53 | 166 | Activity: Angles of Reflection  • Differentiate between the angle of incidence and the angle of reflection  • Measure the angle of reflection  • Infer the relationship between the angle of reflection and the angle of incidence | Predicting  Measuring and using numbers  Observing  Inferring  Defining operationally |
| 147–48 | 288–92 | 254–58 | 167–68 | • Identify characteristics of waves found in the electromagnetic spectrum  • Name some uses for each type of electromagnetic wave  God’s creation of invisible forces  Mankind’s use of wisdom to serve others  Mankind’s responsibility to glorify God |  |
| 149 | 293–94 |  | 169–70 | Answers in Genesis  • Contrast the naturalistic view of the sun’s origin with the biblical view  • Recognize that the Bible calls Christians to defend their faith |  |
| 150 | 295 | 259 | 171 | Exploration: Light at Work  • Identify different ways that light is used in technology  • Make a collage that explains how different products use light |  |
| 151 | 296 | 260 | 172 | **Chapter Review**  • Recall concepts and terms from Chapter 10  • Apply knowledge to everyday situations |  |
| 152 | 296 |  |  | **Chapter 10 Test**  • Demonstrate knowledge of concepts taught in Chapter 10 |  |

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| Lesson | TE pages | ST pages | AM pages | Objectives and Christian Worldview | Process Skills |
| Chapter 11: Respiratory System | | | | | |
| 153 | 301 | 261–63 | 173 | • Contrast technology with the marvels found in the human body  • Demonstrate how people are being inspired by God’s designs to develop new technology  God’s perfect design  Mankind’s imitation of creation |  |
| 154 | 302–4 | 264–66 | 174–75 | • Identify the respiratory system as the breathing system  • Differentiate between involuntary breathing and voluntary breathing  • Identify the muscles that help with breathing  • Describe the movement of the body and air when inhaling and exhaling  Mankind as God’s special creation  Mankind created in God’s image  God’s design for the human body |  |
| 155 | 305 | 267 | 176 | Activity: Breathe In, Breathe Out  • Make a model of a lung  • Use the lung model to explain how the diaphragm moves during breathing | Making and using models  Inferring  Defining operationally |
| 156–57 | 306–9 | 268–71 | 177–78 | • Explain how mucus and cilia help keep the respiratory system clean  • List the parts of the respiratory system from the nose to the larynx  • Describe the function of the epiglottis  • Explain how the vocal cords produce sound |  |
| 158–59 | 310–13 | 272–75 | 179–80 | • Identify and describe the trachea, bronchi, and lungs  • Describe the function of the lungs  • Explain causes of snoring, hiccupping, coughing, and sneezing |  |
| 160 | 314–15 | 276–77 | 181–82 | Activity: How Much Air Is in Your Lungs?  • Calculate the amount of air exhaled  • Identify variables that may affect the results | Hypothesizing  Measuring and using numbers  Collecting, recording, and interpreting data |
| 161 | 316–17 |  | 183–84 | Answers in Genesis  • Describe the unique way God created man  • Relate the physical position of Jesus on the cross to His inability to breathe normally, a part of His suffering |  |
| 162–63 | 318–21 | 278–81 | 185–87 | • Identify some diseases that make it difficult to breathe properly  • Describe what happens during an asthma attack  • Recognize that allergies are not contagious  • Name some reasons why smoking is harmful to your health  God’s design for the human body  Mankind as steward of God’s creation |  |
| 164 | 322–23 |  |  | Exploration: Dangers of Smoking  • Explain why it is hard to quit smoking  • Identify dangers of smoking  • Identify reasons people smoke  • List biblical reasons for not smoking  People’s responsibility for their actions  Mankind’s responsibility to glorify God  The human body as God’s temple |  |
| 165 | 324 | 282 | 188 | **Chapter Review**  • Recall concepts and terms from Chapter 11  • Apply knowledge to everyday situations |  |
| 166 | 324 |  |  | **Chapter 11 Test**  • Demonstrate knowledge of concepts taught in Chapter 11 |  |

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| Lesson | TE pages | ST pages | AM pages | Objectives and Christian Worldview | Process Skills |
| Chapter 12: Circulatory System | | | | | |
| 167 | 325 | 283 | 189 | • Illustrate the superiority of God’s design over mankind’s technology  • Glorify God for His wisdom and power  Mankind’s imitation of creation  Faith in the Word of God |  |
| 168–69 | 326–29 | 284–87 | 190–92 | • Name the parts of the circulatory system  • Describe the path of blood through the heart  • Explain the function of the heart’s pacemaker  God’s design for the human body |  |
| 170 | 330–31 | 288–89 | 193–94 | Activity: How Fast Is the Beat?  • Calculate the heart rate  • Calculate how long it takes the heart rate to return to normal  • Make a line graph using the heart-rate data | Hypothesizing  Measuring and using numbers  Collecting and recording data |
| 171–72 | 332–35 | 290–93 | 195 | • Identify and describe the three types of blood vessels  • Name the largest artery and the largest veins  • Differentiate between arteries and veins  • Recognize that the exchange of gases takes place in the capillaries  • Explain why William Harvey is important as a scientist and a physician  God’s immutability  God as only Creator |  |
| 173–74 | 336–40 | 294–98 | 196 | • Identify the contents of blood  • Describe platelets, red blood cells, and white blood cells  • Name the four main blood types  • Describe a blood donation  God’s plan for salvation  God’s salvation through Christ |  |
| 175 | 341 | 299 | 197–98 | Activity: Exploring Blood Types  • Demonstrate which blood types can safely mix with each other | Predicting  Measuring  Making and using models  Observing |
| 176 | 342–43 | 300–301 | 199–200 | Activity: Pump and Pour  • Model the heart pumping blood  • Compare the model with the function of the heart | Predicting  Measuring and using numbers  Making and using models  Collecting and recording data  Defining operationally |
| 177 | 344–45 |  | 201–2 | Answers in Genesis  • Explain why it is important to identify the God of the Bible as the designer of our bodies  • Defend from Scripture that Jesus created the world |  |
| 178 | 346–49 | 302–5 | 203 | • Identify organs that help remove wastes from the body  • Recognize that the kidneys help clean the blood  • Name three ways to stay healthy  • Recognize that no inventions would be possible without God  God’s design for the human body  People’s responsibility for their actions  God as the perfect Creator  God’s love for mankind |  |
| 179 | 350 | 306 | 204 | **Chapter Review**  • Recall concepts and terms from Chapter 12  • Apply knowledge to everyday situations |  |
| 180 | 350 |  |  | **Chapter 12 Test**  • Demonstrate knowledge of concepts taught in Chapter 12 |  |