

# Lesson Plan Overview

Lesson	TE pages	ST pages	AM pages	Objectives and Christian Worldview	Process Skills
1		1–2	1	<ul style="list-style-type: none"> <li>• Define <i>worldview</i></li> <li>• Recognize that everyone has a worldview</li> <li>• Identify characteristics of a Christian worldview</li> </ul>	
<b>Chapter 1: Minerals and Rocks</b>					
2	2–5	3–5	2	<ul style="list-style-type: none"> <li>• Recognize the interrelationship of science concepts</li> <li>• Distinguish facts and assumptions in the evolution/Creation debate</li> <li>• Evaluate evolutionary assumptions from a Christian worldview</li> </ul> <p><i>Mankind's imitation of God's creation</i>  <i>The Bible as the final authority</i>  <i>God as the only Creator</i></p>	
3	6–9	6–9	3–4	<ul style="list-style-type: none"> <li>• Identify and locate the layers of the earth</li> <li>• Describe features of the core, mantle, and crust</li> <li>• Explain how weathering and erosion affect sediment</li> <li>• Define <i>humus</i></li> </ul> <p><i>The Flood's effect on the earth</i>  <i>Fall of mankind</i>  <i>Mankind's use of God's resources</i></p>	
4	10–11		5–6	<p><a href="#">Answers in Genesis</a></p> <ul style="list-style-type: none"> <li>• Explain why it is necessary to look at the world with a biblical perspective</li> <li>• Justify from a biblical viewpoint that the layers of the earth did not take millions of years to form</li> </ul>	
5–6	12–17	10–15	7	<ul style="list-style-type: none"> <li>• Define <i>mineral</i></li> <li>• Identify crystal structure, luster, hardness, color, and cleavage as characteristics of minerals</li> <li>• Explain how the Mohs scale is used to determine hardness</li> </ul> <p><i>God's design for the earth's resources</i>  <i>God's design for the human body</i></p>	
7	18–19		8	<p><a href="#">Activity: Measuring Mass and Volume</a></p> <ul style="list-style-type: none"> <li>• Measure mass to the nearest gram</li> <li>• Measure volume to the nearest milliliter</li> </ul>	
8–9	20–21	16–17	9–10	<p><a href="#">Activity: Salty Crystals</a></p> <ul style="list-style-type: none"> <li>• Follow directions</li> <li>• Observe the formation of Epsom-salt crystals</li> <li>• Collect and record observation data</li> </ul>	Measuring Experimenting Observing Identifying and controlling variables Collecting, recording, and interpreting data
10	22–26	18–22	11–13	<ul style="list-style-type: none"> <li>• Differentiate between characteristics of precious and semiprecious stones</li> <li>• List some common uses of minerals</li> <li>• Recognize that some minerals are metals</li> <li>• Identify where minerals are found</li> </ul> <p><i>God's creation for mankind's enjoyment</i>  <i>God's salvation through Christ</i></p>	
11	27	23	14	<p><a href="#">Exploration: Munching Minerals</a></p> <ul style="list-style-type: none"> <li>• Research a mineral found in foods or beverages</li> <li>• Display foods or beverages that contain the mineral</li> <li>• Prepare an oral presentation</li> </ul> <p><i>God's design for the human body</i></p>	

12	28–29		15–18	<b>Study Skill: PQ3R</b> <ul style="list-style-type: none"> <li>• Use the PQ3R method to read informational text</li> </ul>	
13	30–33	24–27	19	<ul style="list-style-type: none"> <li>• Define <i>rock</i></li> <li>• Identify three types of rock and explain how each is formed</li> <li>• List examples of igneous rock, sedimentary rock, and metamorphic rock</li> </ul> <i>Consequences of sin</i> <i>The Bible as the final authority</i>	
14	34–35	28–29	20–21	<b>Activity: Rock Hounding</b> <ul style="list-style-type: none"> <li>• Label rocks in a collection</li> <li>• Classify rocks according to chosen criteria</li> </ul>	Observing Classifying Communicating Defining operationally
15	36	30	22	<b>Chapter Review</b> <ul style="list-style-type: none"> <li>• Recall concepts and terms from Chapter 1</li> <li>• Apply knowledge to everyday situations</li> </ul>	
16	36			<b>Chapter 1 Test</b> <ul style="list-style-type: none"> <li>• Demonstrate knowledge of concepts taught in Chapter 1</li> </ul>	

Lesson	TE pages	ST pages	AM pages	Objectives and Christian Worldview	Process Skills
<b>Chapter 2: Fossils and Dinosaurs</b>					
17	37	31	23	<ul style="list-style-type: none"> <li>• Evaluate evolutionary assumptions from a Christian worldview</li> </ul> <i>Faith in the Word of God</i> <i>God's orderly design</i>	
18	38–40	32–34		<ul style="list-style-type: none"> <li>• Define <i>fossil</i></li> <li>• Compare and describe some types of fossils that form in sediment: petrified fossil, mold, cast, carbon film, trace fossil</li> <li>• Identify other materials in which fossils are sometimes preserved</li> </ul> <i>The Flood's effect on the earth</i>	
19	41	35	24–25	<ul style="list-style-type: none"> <li>• Compare beliefs of evolutionists and Creationists</li> </ul> <i>The Flood's effect on the earth</i> <i>Faith in the Word of God</i>	
20	42–43	36–37	26	<b>Activity: Fact or Theory?</b> <ul style="list-style-type: none"> <li>• Identify phrases or statements that indicate a Creationist or evolutionist viewpoint</li> <li>• Make inferences as to the viewpoint from which literature is written</li> </ul> <i>Discerning what is true</i> <i>The Bible as the final authority</i>	Inferring Collecting and interpreting data Communicating Defining operationally
21–22	44–45	38–39	27–28	<b>Activity: Molds and Casts</b> <ul style="list-style-type: none"> <li>• Make models of fossils</li> <li>• Relate models to fossils</li> </ul>	
23–24	46–49	40–43	29–30	<ul style="list-style-type: none"> <li>• Define <i>paleontology</i></li> <li>• Describe how fossils are excavated and reconstructed</li> <li>• Explain why rock layers do not indicate the age of a buried fossil</li> <li>• Describe how paleontologists use carbon dating to guess the age of fossils</li> </ul> <i>The Flood's effect on the earth</i> <i>Faith in the Word of God</i>	
25–26	50–51	44–45	31–32	<b>Exploration: Fossil Dig</b> <ul style="list-style-type: none"> <li>• Model the procedures a paleontologist uses while excavating</li> <li>• Complete a site map</li> </ul>	

27	52–55	46–49	33	<ul style="list-style-type: none"> <li>• Recognize that what is known about dinosaurs is based on the observations of fossils</li> <li>• Name some of the types of information that are known from fossils</li> <li>• Recognize some of the types of information that can be inferred from fossils</li> </ul> <p><i>Mankind's God-given curiosity</i>  <i>Faith in the Word of God</i>  <i>God's perfect creation</i></p>	
28	56–59	50–53	34	<ul style="list-style-type: none"> <li>• Realize that man and dinosaurs lived at the same time</li> <li>• Recognize that some dinosaurs survived the Flood</li> <li>• Identify biblical animals that may have been dinosaurs</li> <li>• Name some causes of extinction</li> <li>• Identify reasons why dinosaurs may have become extinct</li> </ul> <p><i>Faith in the Word of God</i>  <i>God's orderly design</i></p>	
29	60–61		35–36	<p><a href="#">Answers in Genesis</a></p> <ul style="list-style-type: none"> <li>• Justify from a biblical viewpoint that dinosaurs existed and that dinosaurs and people lived together</li> <li>• Examine scientific evidence to show that dinosaurs are thousands of years old and not millions</li> </ul>	
30	62	54	37–38	<p><b>Chapter Review</b></p> <ul style="list-style-type: none"> <li>• Recall concepts and terms from Chapter 2</li> <li>• Apply knowledge to everyday situations</li> </ul>	
31	62			<p><b>Chapter 2 Test</b></p> <ul style="list-style-type: none"> <li>• Demonstrate knowledge of concepts taught in Chapter 2</li> </ul>	

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<b>Chapter 3: Matter</b>					
32	64–67	55–57	39	<ul style="list-style-type: none"> <li>Recognize that God created different kinds of matter to melt at different temperatures</li> <li>Recognize that learning about matter and how it works is important to glorify God and serve others</li> <li>Give an example of how God’s design of the properties of matter benefits people</li> </ul> <p><i>Christian behavior as showing God’s love to others</i> <i>Christians as a reflection of God</i></p>	
33	68–71	58–61	40	<ul style="list-style-type: none"> <li>Define <i>matter</i></li> <li>Explain how to find the volume of a solid and of a liquid</li> <li>Differentiate between mass and weight</li> <li>Recognize that volume, mass, and weight are ways by which matter can be measured</li> <li>Explain how density is related to mass and volume</li> </ul> <p><i>Mankind’s use of wisdom to serve others</i> <i>God’s provision for mankind</i> <i>God’s perfect design</i></p>	
34	72–73		41	<p><b>Activity: Measuring Length, Volume, and Temperature</b></p> <ul style="list-style-type: none"> <li>Measure length to the nearest millimeter</li> <li>Measure volume using cubic centimeters</li> <li>Measure temperature to the nearest degree</li> </ul>	
35–36	74–79	62–67	42–44	<ul style="list-style-type: none"> <li>Identify and describe the three states of matter</li> <li>List examples of solids, liquids, and gases</li> <li>Define <i>physical change</i></li> <li>Recognize that a change of state is a physical change</li> <li>Differentiate among melting, freezing, vaporization, and condensation</li> </ul> <p><i>God’s orderly design</i></p>	
37	80–81		45–46	<p><b>Activity: A Science Experiment</b></p> <ul style="list-style-type: none"> <li>Use a scientific method</li> </ul> <p><i>Discerning what is true</i></p>	
38	82–83	68–69	47–48	<ul style="list-style-type: none"> <li>Identify atoms as small particles of matter</li> <li>Differentiate between elements and compounds</li> <li>Contrast chemical changes and physical changes</li> </ul>	
39	84–85	70–71	49–50	<p><b>Activity: Separating a Mixture</b></p> <ul style="list-style-type: none"> <li>Plan a procedure for separating the parts of a mixture</li> <li>Apply the physical properties of the items that make up a mixture</li> <li>Experiment to test predictions</li> <li>Infer how to physically remove a dissolved item from water</li> </ul>	Predicting Experimenting Observing Inferring Communicating
40	86–89	72–75	51	<ul style="list-style-type: none"> <li>Define <i>mixture</i></li> <li>Explain the difference between a mixture and a compound</li> <li>Give some examples of mixtures</li> <li>Identify some ways that substances in a mixture can be separated using physical properties</li> </ul>	
41	90–93	76–79	52–54	<ul style="list-style-type: none"> <li>Identify a solution as a type of mixture</li> <li>Identify the parts of a solution</li> <li>Define <i>concentration</i></li> <li>Explain ways to increase the rate of dissolving</li> </ul> <p><i>Mankind’s demonstration of God’s love</i></p>	

42	94–95		55–56	<p><b>Answers in Genesis</b></p> <ul style="list-style-type: none"> <li>Recognize that God created the matter in the universe from nothing</li> <li>Provide examples from Scripture of how the universe was created</li> <li>Identify the object of faith for materialists (matter) and Christians (God and the Bible)</li> </ul>	
43	96–97	80–81	57–58	<p><b>Activity: A Disappearing Act</b></p> <ul style="list-style-type: none"> <li>Predict how surface area will affect the rate of dissolving</li> <li>Relate results to other situations</li> </ul>	<p>Hypothesizing Experimenting Observing Inferring Defining operationally</p>
44–45	98–99	82–83	59	<p><b>Exploration: Float a Boat</b></p> <ul style="list-style-type: none"> <li>Design a clay boat that will float</li> <li>Demonstrate buoyancy</li> </ul> <p><i>God overruling His natural laws</i></p>	
46	100	84	60	<p><b>Chapter Review</b></p> <ul style="list-style-type: none"> <li>Recall concepts and terms from Chapter 3</li> <li>Apply knowledge to everyday situations</li> </ul>	
47	100			<p><b>Chapter 3 Test</b></p> <ul style="list-style-type: none"> <li>Demonstrate knowledge of concepts taught in Chapter 3</li> </ul>	

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<b>Chapter 4: Energy and Heat</b>					
48	101	85	61	<ul style="list-style-type: none"> <li>Explain the importance of energy and heat in designing useful technology</li> </ul> <p><i>God's provision for His creation</i> <i>Mankind's use of wisdom to serve others</i></p>	
49–50	102–5	86–89	62	<ul style="list-style-type: none"> <li>Define <i>energy</i></li> <li>Differentiate between potential energy and kinetic energy</li> <li>Recognize that energy is often classified as either potential or kinetic</li> <li>Recognize that the amount of thermal energy depends on the temperature and mass of a substance</li> <li>Differentiate between thermal energy and temperature</li> </ul> <p><i>People as stewards of God's creation</i></p>	
51	106–7	90–91	63–64	<p><b>Activity: Rock Heaters</b></p> <ul style="list-style-type: none"> <li>Predict how the mass of a substance affects the amount of thermal energy it can transfer</li> <li>Experiment to test a hypothesis</li> </ul>	<p>Hypothesizing Measuring and using numbers Collecting and recording data Defining operationally</p>
52	108–10	92–94	65–66	<ul style="list-style-type: none"> <li>Recognize that increasing or decreasing thermal energy can cause matter to change to a different state</li> <li>Explain what happens during thermal expansion</li> <li>Define <i>calorie</i></li> <li>Recognize that substances differ in their ability to store thermal energy</li> </ul>	
53	111	95	67–68	<p><b>Exploration: Energy for Your Body</b></p> <ul style="list-style-type: none"> <li>Recognize that a food Calorie is also called a kilocalorie</li> <li>Calculate the resting metabolic rate</li> <li>Track Calorie consumption for three days</li> </ul>	

54–55	112–15	96–99	69–70	<ul style="list-style-type: none"> <li>• Define <i>heat</i></li> <li>• Recognize that heat always flows from a warmer substance to a cooler substance</li> <li>• Identify and describe three ways that heat occurs</li> <li>• Differentiate between conductors and insulators</li> </ul>	
56	116–17	100–101	71–72	<p><b>Activity: Keeping Warm</b></p> <ul style="list-style-type: none"> <li>• Predict which type of insulation will best keep hot water warm</li> <li>• Test different types of insulation to determine which is the most effective</li> <li>• Measure and use numbers in an activity</li> </ul>	<p>Hypothesizing Predicting Inferring Collecting and recording data Communicating</p>
57	118–20	102–4	73–75	<ul style="list-style-type: none"> <li>• Identify some common fuels</li> <li>• Distinguish between renewable and nonrenewable resources</li> <li>• Name some ways fuel is used</li> <li>• Give examples of unwanted heat</li> </ul> <p><i>God's design for the human body</i></p>	
58	121–24	105–8	76	<ul style="list-style-type: none"> <li>• Explain why controlling heat is necessary</li> <li>• Explain how scientists controlled heat for the reentry of space capsules</li> <li>• Name two types of insulation used on space shuttles</li> <li>• Name some ways that thermal energy is part of our everyday lives</li> </ul> <p><i>Mankind's imitation of creation</i> <i>Mankind's responsibility to glorify God</i></p>	
59	125–26		77–78	<p><b>Answers in Genesis</b></p> <ul style="list-style-type: none"> <li>• Show how Christian scientists can do operational science in order to exercise biblical dominion</li> <li>• Give examples of discoveries that show that operational science does not need to refer to evolutionary principles to be successful</li> <li>• Explain why biomimicry is an example of exercising dominion to love our neighbor and to glorify God</li> </ul>	
60	127	109	79	<p><b>Exploration: Moon Station</b></p> <ul style="list-style-type: none"> <li>• Design a piece of equipment for a moon station</li> <li>• Research equipment developed for the space program</li> </ul>	
61	128	110	80	<p><b>Chapter Review</b></p> <ul style="list-style-type: none"> <li>• Recall concepts and terms from Chapter 4</li> <li>• Apply knowledge to everyday situations</li> </ul>	
62	128			<p><b>Chapter 4 Test</b></p> <ul style="list-style-type: none"> <li>• Demonstrate knowledge of concepts taught in Chapter 4</li> </ul>	

Lesson	TE pages	ST pages	AM pages	Objectives and Christian Worldview	Process Skills
<b>Chapter 5: Weather</b>					
63	130–31	111–13	81	<ul style="list-style-type: none"> <li>• Recognize the interrelationship of science concepts</li> <li>• Recognize, from a Christian worldview, reasons for studying climate</li> <li>• Understand the role of meteorology in preserving human life</li> <li>• Apply the biblical teaching on the value of human life to everyday situations</li> </ul>	
64–65	134–37	114–17	82–83	<ul style="list-style-type: none"> <li>• Describe the atmosphere</li> <li>• Define <i>air pressure</i></li> <li>• Recognize that gravity pulls the atmosphere toward the earth</li> <li>• Name an instrument that measures air pressure</li> <li>• Identify and describe the two lower layers of the atmosphere</li> </ul> <p><i>Mankind's God-given ability to observe</i>  <i>God's design for the human body</i>  <i>God's orderly design</i></p>	
66–67	138–43	118–23	84–86	<ul style="list-style-type: none"> <li>• Compare and contrast high-pressure air masses and low-pressure air masses</li> <li>• Define <i>front</i> and describe three types</li> <li>• Explain how temperature affects wind</li> <li>• Differentiate between global winds and local winds</li> <li>• Name examples of global winds and local winds</li> </ul>	
68	144–45	124–25	87	<p><b>Activity: Temperature Changes</b></p> <ul style="list-style-type: none"> <li>• Predict whether water and soil will warm or cool at the same rate</li> <li>• Identify and control variables</li> <li>• Measure and record temperatures</li> <li>• Relate temperature changes to the ability of each substance to hold and give off heat</li> </ul>	Measuring Observing Inferring Recording data
69–70	146–51	125–31	88	<ul style="list-style-type: none"> <li>• Define <i>precipitation</i></li> <li>• Differentiate among rain, sleet, snow, and hail</li> <li>• Define <i>humidity</i></li> <li>• Identify and describe three basic shapes of clouds</li> </ul> <p><i>God's provision for His creation</i>  <i>Christian behavior as showing God's love to others</i></p>	
71	152–54	132–34		<ul style="list-style-type: none"> <li>• Describe characteristics of thunderstorms, tornadoes, and hurricanes</li> <li>• Differentiate between a weather watch and a weather warning</li> </ul> <p><i>Mankind's God-given dominion</i>  <i>Christian behavior as showing God's love to others</i></p>	
72	155	135		<p><b>Exploration: Dangerous Extremes</b></p> <ul style="list-style-type: none"> <li>• Research the safety precautions for a type of severe weather</li> <li>• Make and present a poster or pamphlet</li> </ul>	
73	156–57	136–37	89–90	<ul style="list-style-type: none"> <li>• Describe the job of a meteorologist</li> <li>• Read and interpret basic symbols on a weather map</li> </ul> <p><i>Mankind's use of wisdom to serve others</i>  <i>Christian behavior as showing God's love to others</i></p>	

74–75	158–59	138–39	91–92	<p><b>Activity: Weather Observatory</b></p> <ul style="list-style-type: none"> <li>• Make working weather instruments</li> <li>• Correctly use the instruments to gather information about the weather</li> <li>• Record data</li> <li>• Use data to make weather predictions</li> </ul>	Measuring and using numbers Making and using models Observing Collecting, recording, and interpreting data
76	160–61		93–94	<p><b>Answers in Genesis</b></p> <ul style="list-style-type: none"> <li>• Explain how clouds form</li> <li>• Defend a biblical view of evidence for one ice age against a secular view of evidence for multiple ice ages</li> </ul>	
77	162	140	95	<p><b>Chapter Review</b></p> <ul style="list-style-type: none"> <li>• Recall concepts and terms from Chapter 5</li> <li>• Apply knowledge to everyday situations</li> </ul>	
78	162			<p><b>Chapter 5 Test</b></p> <ul style="list-style-type: none"> <li>• Demonstrate knowledge of concepts taught in Chapter 5</li> </ul>	

Lesson	TE pages	ST pages	AM pages	Objectives and Christian Worldview	Process Skills
<b>Chapter 6: Biomes</b>					
79	163	141	97	<ul style="list-style-type: none"> <li>• Appreciate the effect of human intervention on a wetland biome</li> <li>• Apply the Bible’s teaching of stewardship of creation to biomes</li> <li>• Generate possible solutions to the concerns about destroying or using biomes</li> </ul> <p><i>Mankind as steward of God’s creation</i>  <i>Mankind’s use of wisdom to serve others</i></p>	
80	164–67	142–45	98	<ul style="list-style-type: none"> <li>• Differentiate between a biome and the biosphere</li> <li>• Identify climate as a major influence on land biomes</li> <li>• Describe basic characteristics of the tundra</li> <li>• Name some ways that animals and plants survive on the tundra</li> </ul> <p><i>God’s provision for His creation</i></p>	
81–82	168–71	146–49	99–100	<ul style="list-style-type: none"> <li>• Describe basic characteristics of the coniferous forest</li> <li>• Describe basic characteristics of the deciduous forest</li> <li>• Differentiate between conifers and deciduous trees</li> <li>• Name two ways that animals in the deciduous forest survive the changing seasons</li> </ul> <p><i>God’s provision for His creation</i></p>	
83–84	172–75	150–53	101–2	<ul style="list-style-type: none"> <li>• Describe basic characteristics of grasslands</li> <li>• Compare and contrast prairies and savannas</li> <li>• Name ways some savanna grasses and trees survive the dry season</li> <li>• Describe characteristics that all deserts have in common</li> <li>• Name some ways that desert animals and plants survive the extreme temperatures and dryness</li> </ul> <p><i>God’s provision for His creation</i></p>	
85	176–77	154–55	103–4	<p><b>Activity: Help Prevent Water Loss!</b></p> <ul style="list-style-type: none"> <li>• Identify some characteristics of water-efficient plants</li> <li>• Predict how waxy surfaces on plants affect water loss</li> <li>• Relate the effectiveness of a petroleum-jelly coating on a sponge to the waxy surfaces on some leaves and stems</li> </ul> <p><i>God’s provision for His creation</i></p>	Predicting Measuring Making and using models Inferring Recording data

86–87	178–180	156–58	101, 105–7	<ul style="list-style-type: none"> <li>• Describe basic characteristics of a tropical rain forest</li> <li>• Identify the layers of the rain forest</li> <li>• Name ways that roots benefit the rain forest trees</li> <li>• Recognize that biomes are only a general way to classify sections of the biosphere</li> <li>• Explain how a mountain can have several biomes</li> </ul>	
88–89	181	159		<p><b>Exploration: Build a Biome</b></p> <ul style="list-style-type: none"> <li>• Research a biome</li> <li>• Create a model of that biome</li> </ul>	
90–91	182–87	160–65	108–10	<ul style="list-style-type: none"> <li>• Name the two categories of aquatic biomes</li> <li>• Explain why coral reefs are called “the rain forests of the sea”</li> <li>• Identify the force that keeps river water moving</li> <li>• Describe kinds of wetlands</li> <li>• Recognize that people have the God-given responsibility to be good stewards of the earth</li> </ul> <p><i>God’s provision for His creation</i> <i>Mankind as steward of God’s creation</i></p>	
92	188–89		111–12	<p><b>Answers in Genesis</b></p> <ul style="list-style-type: none"> <li>• Compare the description of the Garden of Eden to a map of modern-day Iraq</li> <li>• Explain why the climate and biomes changed after the Flood</li> </ul>	
93	190–91	166–67	113	<p><b>Activity: From Dirty to Clean</b></p> <ul style="list-style-type: none"> <li>• Demonstrate how wetlands purify water</li> <li>• Infer how the activity models the purifying process of a real wetland</li> </ul> <p><i>God’s provision for His creation</i></p>	<p>Making and using models Observing Inferring</p>
94	192	168	114	<p><b>Chapter Review</b></p> <ul style="list-style-type: none"> <li>• Recall concepts and terms from Chapter 6</li> <li>• Apply knowledge to everyday situations</li> </ul>	
95	192			<p><b>Chapter 6 Test</b></p> <ul style="list-style-type: none"> <li>• Demonstrate knowledge of concepts taught in Chapter 6</li> </ul>	

Lesson	TE pages	ST pages	AM pages	Objectives and Christian Worldview	Process Skills
<b>Chapter 7: Interactions in an Ecosystem</b>					
96	194–97	169–71	115	<ul style="list-style-type: none"> <li>Recognize the interrelationship of science concepts</li> <li>Explain the relationship between the study of ecosystems and Genesis 1:28</li> <li>Apply the Bible’s teaching of stewardship to creatures in a habitat</li> </ul>	
97–98	198–201	172–75	116–18	<ul style="list-style-type: none"> <li>Identify the two parts of an ecosystem</li> <li>Explain the relationships between individuals, communities, and populations</li> <li>Identify the functions of producers, consumers, and decomposers</li> <li>Explain why scavengers and decomposers are important to an ecosystem</li> </ul> <p><i>Mankind as steward of God’s creation</i></p>	
99	202–3	176–77	119–20	<p><b>Activity: Habitat Investigation</b></p> <ul style="list-style-type: none"> <li>Investigate a habitat</li> <li>Distinguish between living things and nonliving things</li> <li>Identify producers and consumers</li> <li>Record interactions</li> </ul>	Observing Classifying Collecting and recording data Defining operationally
100	204–7	178–81	121–22	<ul style="list-style-type: none"> <li>Identify the predators and prey in a food chain</li> <li>Differentiate between a food chain and a food web</li> <li>Describe the transfer of energy from one organism to another</li> <li>Explain how competition affects population size</li> </ul>	
101	208	182		<p><b>Activity: Food-Web Connections</b></p> <ul style="list-style-type: none"> <li>Identify predators and prey within a food web</li> <li>Model a food web</li> <li>Recognize interrelationships among organisms in a food web</li> <li>Compare the model food web with an actual food web</li> </ul>	Making and using models Communicating Defining operationally
102–3	209	183		<p><b>Exploration: A Tangled Web</b></p> <ul style="list-style-type: none"> <li>Make a visual representation of a food web</li> <li>Identify producers, predators, and prey within a food web</li> <li>Identify animals as herbivores, omnivores, or carnivores</li> </ul> <p><i>Mankind’s God-given dominion</i></p>	
104	210–11		123–24	<p><b>Answers in Genesis</b></p> <ul style="list-style-type: none"> <li>Describe relationships among animals and plants in a simple ecosystem</li> <li>State the sources of food for both people and animals before the Fall</li> <li>Explain why the kinds of teeth in a skull may not determine the kinds of food an animal eats</li> <li>Compare and contrast the evolutionary and creationary views of the history of carnivores</li> </ul>	
105–6	212–15	184–87	125	<ul style="list-style-type: none"> <li>Identify the basic needs of plants and animals</li> <li>Identify and describe adaptations that help plants survive</li> <li>Identify and describe adaptations that help animals survive</li> </ul> <p><i>God’s provision for His creation</i></p>	
107	216–19	188–91	126–29	<ul style="list-style-type: none"> <li>Identify different kinds of symbiosis</li> <li>Differentiate between instincts and learned behaviors</li> <li>Give examples of instincts and learned behaviors</li> </ul> <p><i>God’s perfect design</i>  <i>Consequences of sin</i>  <i>Christians behavior as showing God’s love to others</i></p>	

108	220	192	130	<b>Chapter Review</b> <ul style="list-style-type: none"> <li>Recall concepts and terms from Chapter 7</li> <li>Apply knowledge to everyday situations</li> </ul>	
109	220			<b>Chapter 7 Test</b> <ul style="list-style-type: none"> <li>Demonstrate knowledge of concepts taught in Chapter 7</li> </ul>	

Lesson	TE pages	ST pages	AM pages	Objectives and Christian Worldview	Process Skills
<b>Chapter 8: Changes in an Ecosystem</b>					
110	221	193	131	<ul style="list-style-type: none"> <li>Recognize ways that people can have dominion over the earth as God has commanded</li> </ul> <i>Mankind's God-given dominion</i>	
111–12	222–25	194–97	132–34	<ul style="list-style-type: none"> <li>Recognize that the earth has many cycles</li> <li>Identify the seasonal changes that may occur in an ecosystem</li> <li>Explain the carbon cycle</li> <li>Differentiate between photosynthesis and respiration</li> </ul> <i>God's orderly design</i> <i>God's provision for His creation</i>	
113–14	226–29	198–201	135–36	<ul style="list-style-type: none"> <li>Name two ways that nitrogen is changed into usable compounds</li> <li>Describe the nitrogen cycle</li> <li>Identify the parts of the water cycle</li> <li>Identify and infer some ways that cycles work together in an ecosystem</li> </ul> <i>Interrelationship of the parts of creation</i> <i>God's provision for His creation</i>	
115–16	230–31	202–3	137–38	<b>Activity: Decomposers at Work</b> <ul style="list-style-type: none"> <li>Recognize that decomposers are a part of many cycles</li> <li>Identify water as a variable that affects decomposition</li> <li>Analyze the effects of water on the rate of decomposition</li> </ul>	Hypothesizing Experimenting Observing Identifying and controlling variables Recording data
117–18	232–35	204–7	139	<ul style="list-style-type: none"> <li>Identify three natural stresses on an ecosystem</li> <li>Explain how fires and floods can be beneficial to an ecosystem</li> <li>Identify some effects of a drought</li> <li>Describe the process of succession</li> <li>Recognize that sometimes what seems to us like a disaster is actually God's way of maintaining the earth</li> </ul> <i>Consequences of sin</i> <i>God's provision for His creation</i> <i>God's use of creation for His purpose</i>	
119–20	236	208	140	<b>Exploration: Stress Alert</b> <ul style="list-style-type: none"> <li>Research a historical stress, such as a famous fire, flood, or other disaster</li> <li>Organize and present information about the stress</li> </ul>	
121–22	237	209		<b>Activity: Current Events</b> <ul style="list-style-type: none"> <li>Collect and record information about ecosystems</li> <li>Organize the information into a notebook for presentation</li> </ul>	Classifying Communicating Defining operationally
123	238–39		141–42	<b>Answers in Genesis</b> <ul style="list-style-type: none"> <li>Explain the water cycle using a model</li> <li>Relate the cycles of nature to God's care of His creation</li> </ul>	

124	240–43	210–13	143	<ul style="list-style-type: none"> <li>• Identify some manmade stresses</li> <li>• List differing opinions about using natural resources</li> <li>• Differentiate between an extinct species and an endangered species</li> </ul> <p><i>Mankind's use of God's resources</i>  <i>Mankind's God-given dominion</i>  <i>Consequences of sin</i>  <i>Mankind's responsibility to glorify God</i></p>	
125	244	214	144	<p><b>Chapter Review</b></p> <ul style="list-style-type: none"> <li>• Recall concepts and terms from Chapter 8</li> <li>• Apply knowledge to everyday situations</li> </ul>	
126	244			<p><b>Chapter 8 Test</b></p> <ul style="list-style-type: none"> <li>• Demonstrate knowledge of concepts taught in Chapter 8</li> </ul>	

Lesson	TE pages	ST pages	AM pages	Objectives and Christian Worldview	Process Skills
<b>Chapter 9: Sound</b>					
127	249	215–17	145	<ul style="list-style-type: none"> <li>Recognize the interrelationship of science concepts</li> <li>Recognize that technology can be designed to control sound because sound moves in predictable ways</li> </ul> <p><i>Mankind's God-given dominion</i>  <i>Mankind's use of wisdom to serve others</i>  <i>Mankind's responsibility to glorify God</i></p>	
128–29	250–53	218–21	146–48	<ul style="list-style-type: none"> <li>Define <i>sound</i> and <i>wavelength</i></li> <li>Identify a compression of a sound wave</li> <li>Differentiate between the frequency and speed of sound waves</li> </ul> <p><i>Mankind's use of wisdom to serve others</i></p>	
130	254–55	222–23	149–50	<p><b>Activity: Sound Slide</b></p> <ul style="list-style-type: none"> <li>Observe how the size of a vibration affects its sound</li> <li>Change a variable and compare results</li> <li>Predict the highness or lowness of a sound</li> </ul>	Predicting Experimenting Observing Identifying and controlling variables Communicating
131–32	256–59	224–27	151–52	<ul style="list-style-type: none"> <li>Define <i>pitch</i> and <i>volume</i></li> <li>Explain how the pitch of a sound wave is related to its frequency</li> <li>Identify the frequency range of human hearing</li> <li>Explain how the volume of a sound is related to the intensity of its sound waves</li> <li>Define and describe <i>timbre</i></li> </ul> <p><i>God's design for the human body</i></p>	
133	260–61	228–29	153–54	<p><b>Activity: Shhh, Quiet Please</b></p> <ul style="list-style-type: none"> <li>Compare the amount of sound absorbed by different materials</li> <li>Predict which material will absorb the most sound</li> <li>Rate the loudness of sounds</li> <li>Identify relationships between materials and their abilities to absorb sound</li> </ul>	Hypothesizing Predicting Observing Communicating
134	262–63		155–56	<p><b>Answers in Genesis</b></p> <ul style="list-style-type: none"> <li>Summarize what the Bible says about hearing</li> <li>Explain why a creationary approach to science is a better approach to solving problems (like hearing loss) than an evolutionary approach</li> </ul>	
135	264–68	230–34	157	<ul style="list-style-type: none"> <li>Differentiate between <i>sound</i> and <i>noise</i></li> <li>Recognize that a sound fades as its energy is used up</li> <li>List examples of how echoes are used in nature and technology</li> <li>Name examples of how an acoustical engineer uses his knowledge of sound</li> </ul> <p><i>Mankind's imitation of creation</i>  <i>God's design for the human body</i>  <i>God's creation for mankind's enjoyment</i>  <i>Mankind's use of wisdom to serve others</i>  <i>Christians as faithful witnesses</i></p>	
136	269	235		<p><b>Exploration: A "Medium" Exploration</b></p> <ul style="list-style-type: none"> <li>Test the abilities of different mediums to carry sound</li> <li>Write a paragraph that compares and contrasts the results</li> </ul>	
137	270	236	158	<p><b>Chapter Review</b></p> <ul style="list-style-type: none"> <li>Recall concepts and terms from Chapter 9</li> <li>Apply knowledge to everyday situations</li> </ul>	

138	270			<b>Chapter 9 Test</b> • 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
<b>Chapter 10: Light</b>					
139	271	237	159	<ul style="list-style-type: none"> <li>Recognize that God provides for the needs of people</li> </ul> <i>Mankind's use of wisdom to serve others</i> <i>Mankind's responsibility to glorify God</i>	
140	272–75	238–41	160–61	<ul style="list-style-type: none"> <li>Identify light as a form of energy</li> <li>Compare and contrast electromagnetic and mechanical waves</li> <li>Identify the four properties of waves: wavelength, amplitude, frequency, and speed</li> <li>Differentiate between the frequency of a wave and the speed of a wave</li> </ul> <i>God's perfect creation</i>	
141–42	276–79	242–45	162–63	<ul style="list-style-type: none"> <li>Differentiate between refraction and reflection</li> <li>Recognize that the color of an object depends on which colors of light are being reflected</li> <li>Identify the primary colors of light</li> </ul> <i>God's salvation through Christ</i> <i>Faith in the Word of God for guidance</i> <i>God's creation for mankind's enjoyment</i>	
143	280–81	246–47	164	<b>Activity: Fog Vision</b> <ul style="list-style-type: none"> <li>Test the visibility of colors</li> <li>Infer which colors are most visible in fog</li> </ul>	Hypothesizing Predicting Experimenting Observing Inferring
144–45	282–285	248–51	165	<ul style="list-style-type: none"> <li>Explain how light reflects off smooth and rough surfaces</li> <li>Identify and describe three kinds of mirrors</li> <li>Identify some technologies that use light</li> <li>Name some uses for lasers</li> </ul>	
146	286–87	252–53	166	<b>Activity: Angles of Reflection</b> <ul style="list-style-type: none"> <li>Differentiate between the angle of incidence and the angle of reflection</li> <li>Measure the angle of reflection</li> <li>Infer the relationship between the angle of reflection and the angle of incidence</li> </ul>	Predicting Measuring and using numbers Observing Inferring Defining operationally
147–48	288–92	254–58	167–68	<ul style="list-style-type: none"> <li>Identify characteristics of waves found in the electromagnetic spectrum</li> <li>Name some uses for each type of electromagnetic wave</li> </ul> <i>God's creation of invisible forces</i> <i>Mankind's use of wisdom to serve others</i> <i>Mankind's responsibility to glorify God</i>	
149	293–94		169–70	<b>Answers in Genesis</b> <ul style="list-style-type: none"> <li>Contrast the naturalistic view of the sun's origin with the biblical view</li> <li>Recognize that the Bible calls Christians to defend their faith</li> </ul>	
150	295	259	171	<b>Exploration: Light at Work</b> <ul style="list-style-type: none"> <li>Identify different ways that light is used in technology</li> <li>Make a collage that explains how different products use light</li> </ul>	
151	296	260	172	<b>Chapter Review</b> <ul style="list-style-type: none"> <li>Recall concepts and terms from Chapter 10</li> <li>Apply knowledge to everyday situations</li> </ul>	

152	296		<b>Chapter 10 Test</b> • 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
<b>Chapter 11: Respiratory System</b>					
153	301	261–63	173	<ul style="list-style-type: none"> <li>• Contrast technology with the marvels found in the human body</li> <li>• Demonstrate how people are being inspired by God's designs to develop new technology</li> </ul> <i>God's perfect design</i> <i>Mankind's imitation of creation</i>	
154	302–4	264–66	174–75	<ul style="list-style-type: none"> <li>• Identify the respiratory system as the breathing system</li> <li>• Differentiate between involuntary breathing and voluntary breathing</li> <li>• Identify the muscles that help with breathing</li> <li>• Describe the movement of the body and air when inhaling and exhaling</li> </ul> <i>Mankind as God's special creation</i> <i>Mankind created in God's image</i> <i>God's design for the human body</i>	
155	305	267	176	<p><b>Activity: Breathe In, Breathe Out</b></p> <ul style="list-style-type: none"> <li>• Make a model of a lung</li> <li>• Use the lung model to explain how the diaphragm moves during breathing</li> </ul>	Making and using models Inferring Defining operationally
156–57	306–9	268–71	177–78	<ul style="list-style-type: none"> <li>• Explain how mucus and cilia help keep the respiratory system clean</li> <li>• List the parts of the respiratory system from the nose to the larynx</li> <li>• Describe the function of the epiglottis</li> <li>• Explain how the vocal cords produce sound</li> </ul>	
158–59	310–13	272–75	179–80	<ul style="list-style-type: none"> <li>• Identify and describe the trachea, bronchi, and lungs</li> <li>• Describe the function of the lungs</li> <li>• Explain causes of snoring, hiccupping, coughing, and sneezing</li> </ul>	
160	314–15	276–77	181–82	<p><b>Activity: How Much Air Is in Your Lungs?</b></p> <ul style="list-style-type: none"> <li>• Calculate the amount of air exhaled</li> <li>• Identify variables that may affect the results</li> </ul>	Hypothesizing Measuring and using numbers Collecting, recording, and interpreting data
161	316–17		183–84	<p><b>Answers in Genesis</b></p> <ul style="list-style-type: none"> <li>• Describe the unique way God created man</li> <li>• Relate the physical position of Jesus on the cross to His inability to breathe normally, a part of His suffering</li> </ul>	
162–63	318–21	278–81	185–87	<ul style="list-style-type: none"> <li>• Identify some diseases that make it difficult to breathe properly</li> <li>• Describe what happens during an asthma attack</li> <li>• Recognize that allergies are not contagious</li> <li>• Name some reasons why smoking is harmful to your health</li> </ul> <i>God's design for the human body</i> <i>Mankind as steward of God's creation</i>	
164	322–23			<p><b>Exploration: Dangers of Smoking</b></p> <ul style="list-style-type: none"> <li>• Explain why it is hard to quit smoking</li> <li>• Identify dangers of smoking</li> <li>• Identify reasons people smoke</li> <li>• List biblical reasons for not smoking</li> </ul> <i>People's responsibility for their actions</i> <i>Mankind's responsibility to glorify God</i> <i>The human body as God's temple</i>	

165	324	282	188	<b>Chapter Review</b> <ul style="list-style-type: none"> <li>Recall concepts and terms from Chapter 11</li> <li>Apply knowledge to everyday situations</li> </ul>	
166	324			<b>Chapter 11 Test</b> <ul style="list-style-type: none"> <li>Demonstrate knowledge of concepts taught in Chapter 11</li> </ul>	

Lesson	TE pages	ST pages	AM pages	Objectives and Christian Worldview	Process Skills
<b>Chapter 12: Circulatory System</b>					
167	325	283	189	<ul style="list-style-type: none"> <li>Illustrate the superiority of God's design over mankind's technology</li> <li>Glorify God for His wisdom and power</li> </ul> <i>Mankind's imitation of creation</i> <i>Faith in the Word of God</i>	
168–69	326–29	284–87	190–92	<ul style="list-style-type: none"> <li>Name the parts of the circulatory system</li> <li>Describe the path of blood through the heart</li> <li>Explain the function of the heart's pacemaker</li> </ul> <i>God's design for the human body</i>	
170	330–31	288–89	193–94	<i>Activity: How Fast Is the Beat?</i> <ul style="list-style-type: none"> <li>Calculate the heart rate</li> <li>Calculate how long it takes the heart rate to return to normal</li> <li>Make a line graph using the heart-rate data</li> </ul>	Hypothesizing Measuring and using numbers Collecting and recording data
171–72	332–35	290–93	195	<ul style="list-style-type: none"> <li>Identify and describe the three types of blood vessels</li> <li>Name the largest artery and the largest veins</li> <li>Differentiate between arteries and veins</li> <li>Recognize that the exchange of gases takes place in the capillaries</li> <li>Explain why William Harvey is important as a scientist and a physician</li> </ul> <i>God's immutability</i> <i>God as only Creator</i>	
173–74	336–40	294–98	196	<ul style="list-style-type: none"> <li>Identify the contents of blood</li> <li>Describe platelets, red blood cells, and white blood cells</li> <li>Name the four main blood types</li> <li>Describe a blood donation</li> </ul> <i>God's plan for salvation</i> <i>God's salvation through Christ</i>	
175	341	299	197–98	<i>Activity: Exploring Blood Types</i> <ul style="list-style-type: none"> <li>Demonstrate which blood types can safely mix with each other</li> </ul>	Predicting Measuring Making and using models Observing
176	342–43	300–301	199–200	<i>Activity: Pump and Pour</i> <ul style="list-style-type: none"> <li>Model the heart pumping blood</li> <li>Compare the model with the function of the heart</li> </ul>	Predicting Measuring and using numbers Making and using models Collecting and recording data Defining operationally
177	344–45		201–2	<i>Answers in Genesis</i> <ul style="list-style-type: none"> <li>Explain why it is important to identify the God of the Bible as the designer of our bodies</li> <li>Defend from Scripture that Jesus created the world</li> </ul>	

178	346–49	302–5	203	<ul style="list-style-type: none"> <li>• Identify organs that help remove wastes from the body</li> <li>• Recognize that the kidneys help clean the blood</li> <li>• Name three ways to stay healthy</li> <li>• Recognize that no inventions would be possible without God</li> </ul> <p><i>God's design for the human body</i>  <i>People's responsibility for their actions</i>  <i>God as the perfect Creator</i>  <i>God's love for mankind</i></p>	
179	350	306	204	<p><b>Chapter Review</b></p> <ul style="list-style-type: none"> <li>• Recall concepts and terms from Chapter 12</li> <li>• Apply knowledge to everyday situations</li> </ul>	
180	350			<p><b>Chapter 12 Test</b></p> <ul style="list-style-type: none"> <li>• Demonstrate knowledge of concepts taught in Chapter 12</li> </ul>	