Science 1 - 4th Edition
Lesson Plan Overview

Unit 1: Let’s Learn About Science

Chapter 1: Science and Scientists

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| --- | --- | --- | --- | --- |
| Lesson | Teacher Edition | Student Edition | Activities | Objectives |
| 1 | 2–3 | 1 |  | * Identify and locate the key text features
* Infer from key text features the topics of Unit 1
 |
| 2 | 4–9 | 2–7 | 1–6 | Exploration: Looking at God’s World* Infer from key features the topics for Chapter 1
* Define science
* Explain from biblical truth why science is important BWS
* Distinguish science activities from activities that are not science
 |
| 3 | 10–14 | 8–12 | 1–2, 5–8 | * Recall the word science
* Infer the five senses and the body part used with each sense
* Define senses
* Identify the reason God gave people five senses BWS
 |
| 4 | 15–18 | 13–16 | 1–2, 9–11 | * Recall the reason God gave people five senses BWS
* Describe what scientists do
* Explain from the Bible the importance of what scientists do BWS
* Create a list of ways that students can use science to help others
* Classify an engineer as having a STEM career
 |
| 5–6 | 19–23 | 17–21 | 13–18 | * Define worldviewBWS
* Identify that every scientist has a worldview BWS
* Identify that God is the Creator of all things BWS
* Identify that God designed everything to work together BWS
* Identify that God made people in His own image to care for the earth BWS
* Infer that people learn science to take care of the earth and to help others BWS
 |
| 7 | 24 | 1–21 | 1–18 | Review* Recall terms and concepts from Chapter 1
 |
| 8 | 25 |  |  | Assessment* Recall and apply terms and concepts from Chapter 1
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Chapter 2: What Scientists Do

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| --- | --- | --- | --- | --- |
| Lesson | Teacher Edition | Student Edition | Activities | Objectives |
| 9 | 26–31 | 22–27 | 19–22 | * Recall what science is and what scientists do
* Define *science process skill*
* Observe an object using the five senses
* Classify objects based on a chosen criteria
* Measure an object using a non-standard unit
* Classify science process skills as *observe, classify*, and *measure*
 |
| 10 | 32–34 | 28–30 | 23–26 | * Recall that the science process skills of observing, classifying, and measuring are ways people learn about God’s world BWS
* Define inferenceas a science process skill
* Infer the cause from an effect
* Predict the outcome of a certain action
* Define what a scientific predictionis
* Identify communicateas a science process skill
 |
| 11 | 35–40 | 31–36 | 19, 27–28 | * Identify science tools and their uses
* Measure length using non-standard and standard units
* Infer reasons for using standard units of measurement
* Explain how people learn about God’s world BWS
* Explain from Genesis 1:28 why accurate measurement is important BWS
 |
| 12 | 41 | 37 | 29–32 | Exploration: Using Science Tools* Measure objects using age-appropriate science tools
* Record observations
* Compare and contrast observations
* Infer steps needed to determine accurate measurements
 |
| 13 | 42–46 | 38–42 | 33–36 | * Identify the purpose for an investigation
* Identify the steps of the scientific method
* Explain the purpose for the problem and hypothesis in a scientific investigation
* Create a hypothesis
 |
| 14 | 47 | 43 | 37–38 | STEM Activity: How to Keep My Pencil on My Desk* Recall what an engineer does
* Identify the steps of the engineering design process
* Apply the engineering design process to solve a real life problem
* Relate the work of engineering to the commands of Genesis 1:28 BWS
 |
| 15 | 48 | 22–43 | 19–38 | Review* Recall terms and concepts from Chapter 2
 |
| 16 | 49 |  |  | Assessment* Recall and apply terms and concepts from Chapter 2
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Unit 2: Let’s Learn About Living Things

Chapter 3: Plants

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| --- | --- | --- | --- | --- |
| Lesson | Teacher Edition | Student Edition | Activities | Objectives |
| 17 | 50–59 | 44–53 | 39–42 | * Identify the characteristics of living and nonliving things
* Classify items as living or nonliving
* Identify the needs of plants
* Identify ways people use plants
* Explain from Genesis 3:17–18 how the Fall affected plants BWS
 |
| 18 | 60–65 | 54–59 | 43–48 | * Identify each part of a plant and its function
* Relate plant survival and growth to God’s creational design BWS
 |
| 19 | 66 | 60 | 49–50 | Investigation: Plant Needs* Predict the effects on the growth and survival of a plant when its needs are not met
* Observe and describe parts of a plant
* Draw a conclusion about plant needs (about the growth and survival of plants) based on observations
* Draw a conclusion from the investigation about God’s creational design of plants BWS
 |
| 20 | 67–69 | 61–63 | 51 | * Define life cycle
* Identify and describe the stages of the life cycle of a plant
* Sequence stages of a plant’s life cycle
 |
| 21 | 70 | 64 | 39, 53–56 | * Compare and contrast a seedling with an adult plant
* Explain that young plants are like the parent plants because God made plants to reproduce after their kind (Genesis 1:11) BWS
* Compare and contrast the same kind of plant to show that they are recognized as similar but can also vary
 |
| 22 | 71 | 65 | 40, 57–58 | STEM Activity: Unwanted Plants* Design a solution to prevent unwanted plants
* Draw and label the design
* Explain how the design solves the problem
* Relate the growth of weeds and other unwanted plants to Genesis 3:17–18 and how the Fall affected plants BWS
 |
| 23 | 72 | 44–65 | 39–58 | Review* Recall terms and concepts from Chapter 3
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Chapter 4: Animals

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| Lesson | Teacher Edition | Student Edition | Activities | Objectives |
| 25 | 74–79 | 66–71 | 59–61 | * Infer from key text features the topic for Chapter 4
* Distinguish the identity of living and nonliving things in an environment
* Identify the needs of animals
* Explain that God designed animals and their environments to work together so they can survive and grow BWS
 |
| 26 | 80–83 | 72–75 | 63–66 | * Identify external characteristics of mammals, birds, and fish
* Classify animals as mammals, birds, and fish based on similar external characteristics
* Classify a zoologist as a scientist
 |
| 27 | 84–87 | 76–79 | 67–68 | * Relate the function of animal body parts to the survival and growth of animals
 |
| 28 | 88–93 | 80–85 | 69–70 | * Identify and sequence the stages of the life cycle of an animal
* Name ways that animals care for their offspring
* Compare and contrast animals of the same kind
* Compare and contrast animals and their offspring
* Identify the Bible’s explanation for animal death BWS
 |
| 29 | 94–95 | 86–87 | 71–72 | STEM Activity: Copying God’s Design* Identify a real-life human problem
* Design a solution to a human problem by using biomimicry
* Draw and label the design
* Explain how the design solves the problem
 |
| 30 | 96 | 66–87 | 59–72 | Review* Recall terms and concepts from Chapter 4
 |
| 31 | 97 |  |  | Assessment* Recall and apply terms and concepts from Chapter 4
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Unit 3: Let’s Learn About Our Bodies

Chapter 5: The Human Body

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| Lesson | Teacher Edition | Student Edition | Activities | Objectives |
| 32 | 98–104 | 88–94 | 73–75 | * Infer the topic of the unit and the chapter based on the pictures and headings
* Compare and contrast the needs of animals to the needs of people
* Explain how God created the first man and woman BWS
* Evaluate the statement that people are no different from animals BWS
 |
| 33 | 105 | 95 | 77–78 | Exploration: My Head* Observe the human head
* Identify body parts found on the head
* Identify purposes for why God designed the body parts located on the head BWS
* Associate each of four senses with the correct body part
* Apply knowledge of a human body part to give praise to God BWS
 |
| 34 | 106–10 | 96–100 | 74, 79–80 | * Recall and describe the body parts of the head
* Describe the head, arm, and leg
* Label the head, arm, and leg
* Explain ways that God’s design of the human outside body parts helps people survive and grow (Psalm 139:14) BWS
 |
| 35 | 111–16 | 101–6 | 73–74, 81–82 | * Describe the function of the brain, lungs, heart, stomach, bones, and muscles
* Label the brain, lungs, heart, stomach, bones, and muscles on a diagram
* Explain ways that God’s design of the human body parts helps people survive and grow BWS
 |
| 36 | 117 | 107 | 83–89 | Exploration: How My Lungs Work* Assemble internal body parts to show location
* Construct a model that shows how the lungs work
* Explain ways that God’s design of the lungs helps people survive and grow BWS
 |
| 37 | 118 | 88–107 | 73–89 | Review* Recall terms and concepts from Chapter 5
 |
| 38 | 119 |  |  | Assessment* Recall and apply terms and concepts from Chapter 5
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Chapter 6: Care for the Human Body

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| Lesson | Teacher Edition | Student Edition | Activities | Objectives |
| 39 | 120–24 | 108–12 | 91–94 | * Identify kind and respectful behavior
* Explain why we should treat other people with kindness and respect BWS
* Formulate a plan to show how to treat another person with love, care, and respect BWS
* Identify healthy habits for a strong body
 |
| 40 | 125–28 | 113–16 | 95–100 | * Identify ways to prevent the spread of germs
* Identify healthy habits for strong teeth
* Explain the importance of developing healthy habits
* Practice healthy habits
 |
| 41 | 129 | 117 | 101–2 | Investigation: Clean Hands* Formulate a hypothesis to determine the effect that washing hands has on germs
* Record observations
* Draw conclusions from data collected
 |
| 42 | 130–31 | 118–19 | 103 | * Identify safe habits when at play and in the car
* Explain the importance of safe habits
 |
| 43 | 132–34 | 120–22 | 104–6 | * Identify safe habits at home and in the community
* Identify fire hazards
* Explain the proper response in an emergency
* Identify trustworthy adults to go to in a dangerous situation
 |
| 44 | 135 | 123 | 107–8 | STEM Activity: Safe Shoes* Propose a possible solution to the real-life problem of slick-soled shoes
* Construct a design to solve the problem
* Communicate to others how the design solves the problem
 |
| 45 | 136 | 108–23 | 91–108 | Review* Recall terms and concepts from Chapter 6
 |
| 46 | 137 |  |  | Assessment* Recall and apply terms and concepts from Chapter 6
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Unit 4: Let’s Learn About Earth and Space

Chapter 7: The Earth and Its Lights

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| Lesson | Teacher Edition | Student Edition | Activities | Objectives |
| 47 | 138–44 | 124–30 | 109, 111 | * Infer topics by previewing the unit and chapter
* Explain from Genesis 1 how the earth, sun, moon, and stars were formed BWS
* Evaluate from the Bible an opposing view of how the earth, sun, moon, and stars formed BWS
 |
| 48 | 145–49 | 131–35 | 113–14 | * Describe the earth’s daily motion
* Identify the sun as a star
* Identify the beneficial properties of the sun
* Explain from Genesis 1 why God made the sun BWS
* Describe and predict the sun’s pattern across the sky
 |
| 49 | 150 | 136 | 115–16 | Investigation: Stars in the Day* Formulate a hypothesis for why it is hard to see stars during the daytime
* Observe simulated stars in various lighting
* Infer why it is hard to see stars, other than our sun, during the daytime
 |
| 50 | 151–53 | 137–39 | 117 | * Identify the characteristics of stars other than the sun
* Identify the telescope as a magnifying tool to observe stars other than the sun
* Identify the groups of stars called the Big Dipper and the Little Dipper
* Identify the North Star
 |
| 51–52 | 154–58 | 140–44 | 109, 119–22 | * Identify the characteristics of the moon
* Identify what an astronaut does
* Identify the changes in the shape of the moon over the course of a month
* Predict the phases of the moon over the course of a month
* Explain from Genesis 1 why God made the moon BWS
* Explain how the sky changes each day
 |
| 53 | 159 | 145 | 123–27 | Exploration: Changes in the Sky* Compare and contrast the nighttime sky with the daytime sky
* Predict the moon’s phase
* Infer the cause for the changes in the sky each day
* Apply our knowledge of the earth, sun, moon, and stars to praising God for His greatness and goodness BWS
 |
| 54 | 160 | 124–45 | 109–27 | Review* Recall terms and concepts from Chapter 7
 |
| 55 | 161 |  |  | Assessment* Recall and apply terms and concepts from Chapter 7
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Chapter 8: Seasons

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| Lesson | Teacher Edition | Student Edition | Activities | Objectives |
| 56 | 162–67 | 146–51 | 131–34 | * Recall that the earth rotates once each day
* Identify that the earth revolves around the sun
* Identify that one complete revolution around the sun is equal to one year
* Identify the two things that cause the seasons
* Sequence the cycle of the seasons
 |
| 57 | 168 | 152 | 135–36 | Exploration: Using a Thermometer* Recall two things that cause the seasons
* Recall the thermometer as a scientific tool used to measure temperature
* Relate the movement of the red line on the thermometer to changes in temperature
* Measure temperature to record information
* Record temperature using a thermometer
 |
| 58 | 169–70 |  | 137–40 | * Recall the cycle of the seasons by singing a song
* Compare and contrast temperature and amount of daylight among the seasons
* Infer the temperature and length of daylight hours for each season
 |
| 59 | 171–75 | 153–57 | 129, 141–42 | * Recall the cycle of seasons by singing a song
* Explain, using Scripture, that seasonal patterns exist by God’s design BWS
* Identify characteristics of winter and spring
 |
| 60 | 176–80 | 158–62 | 129, 141–44 | * Recall the cycle of seasons by singing a song
* Explain what a landscape architect does
* Identify characteristics of summer and fall
* Defend, using Scripture, that seasonal patterns exist by God’s design BWS
 |
| 61 | 181 | 163 | 145–51 | Exploration: Seasons Where I Live* Compare and contrast the characteristics of seasons with the seasons in your area
* Communicate by constructing a booklet that represents the seasons in your area
 |
| 62 | 182 | 146–63 | 129–51 | Review* Recall terms and concepts from Chapter 8
 |
| 63 | 183 |  |  | Assessment* Recall and apply terms and concepts from Chapter 8
 |

Chapter 9: Weather

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| Lesson | Teacher Edition | Student Edition | Activities | Objectives |
| 64 | 184–91 | 164–71 | 154–58 | * Define weather
* Recall what temperature is
* Recall the scientific tool that measures temperature
* Define wind
* Identify the appearance of a flag when the wind is calm, light, and strong
 |
| 65 | 192–95 | 172–75 | 153, 159–60 | * Define water cycle
* Sequence the movement of water in the water cycle
* Identify the appearance of the sky on clear, partly cloudy, and cloudy days
* Identify types of precipitation
* Explain how the weather changes from day to day
 |
| 66 | 196–97 | 176–77 | 154, 161–65 | * Define meteorologist
* Explain what a meteorologist does
* Contrast the trustworthiness of Bible promises with the trustworthiness of scientific predictions BWS
* Evaluate the statement that science gives us the most trustworthy information about our world BWS
* Practice using tools of a meteorologist
 |
| 67–68 | 198–99 | 178–79 | 153, 167–73 | Exploration: Weather Watching* Recall what a weather prediction is
* Infer from Proverbs 22:3 that weather predictions help us to prepare for the future BWS
* Observe, collect, record, and report weather data using tools of a meteorologist
* Identify weather patterns in data collected to predict the weather
* Compare and contrast weather predictions with actual observations
 |
| 69 | 200 | 164–79 | 153–73 | Review* Recall terms and concepts from Chapter 9
 |
| 70 | 201 |  |  | Assessment* Recall and apply terms and concepts from Chapter 9
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Unit 5: Let’s Learn About Energy

Chapter 10: Light

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| --- | --- | --- | --- | --- |
| Lesson | Teacher Edition | Student Edition | Activities | Objectives |
| 71 | 202–10 | 180–88 | 175–78 | * Identify what energy is
* Identify light as energy
* Defend, using Scripture, the statement that God created light BWS
* Describe sources of light as natural or manmade
* Identify cause-and-effect energy relationships
 |
| 72 | 211 | 189 | 179–81 | Investigation: Observing Light* Predict the amount of light that travels through different objects
* Record observations
* Graph data from observations
* Draw conclusions from the data
 |
| 73 | 212–17 | 190–95 | 183–85 | * Differentiate between objects that are transparent, translucent, and opaque
* Recognize that a shadow forms when light is blocked
* Explain that a shadow changes when a light source moves
 |
| 74 | 218 | 196 | 187–89 | Investigation: Illuminate Objects* Predict whether objects can be seen if light is available to illuminate them or if they give off their own light
* Observe objects in a pinhole box
* Infer that objects can be seen if light is available to illuminate them or if they give off their own light
 |
| 75 | 219–21 | 197–99 | 191–92 | * Recall that objects can be seen if light is available to illuminate them or if they give off their own light
* Identify that light travels in a straight line
* Infer that mirrors reflect light
 |
| 76 | 222 | 180–99 | 175–92 | Review* Recall terms and concepts from Chapter 10
 |
| 77 | 223 |  |  | Assessment* Recall and apply terms and concepts from Chapter 10
 |

Chapter 11: Sound

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Lesson | Teacher Edition | Student Edition | Activities | Objectives |
| 78 | 224–27 | 200–203 | 195–96 | * Recall hearing as one of the five senses
* Identify sound as a form of energy
* Identify sound as a vibration that can be heard
* Infer different ways sound can be made
 |
| 79 | 228–31 | 204–7 | 193, 197–98 | * Identify that sound travels in waves
* Observe that sound travels in all directions
* Observe that sound travels through matter
* Relate sound and the human ear to God’s creational design BWS
* Relate sound to the vibration of materials
 |
| 80 | 232–35 | 208–11 | 199–200 | * Identify the characteristics of volume
* List examples of loud and soft sound
* Identify the characteristics of pitch
* List examples of sound with high and low pitch
* Explain two ways that sound changes
 |
| 81 | 236 | 212 | 201–3 | Investigation: Hearing Pitch* Formulate a hypothesis for how the thickness of a rubber band will affect pitch
* Measure with numbers the length of a stretched rubber band
* Observe that the pitch of a sound is affected by the thickness of a rubber band when the rubber band is plucked
* Infer that the thickness of a rubber band influences the pitch of the sound the rubber band produces
* Explain how the pitch of a stringed instrument can be changed
 |
| 82 | 237 | 213 | 205–6 | STEM Activity: Making Music* Design a musical instrument with four strings of varying pitch
* Draw and label the design of the stringed musical instrument
* Make a model of the stringed musical instrument
* Test and improve the stringed instrument model
* Explain how the design of the musical instrument solved the problem of having four strings of varying pitch
 |
| 83 | 238 | 200–213 | 193–206 | Review* Recall terms and concepts from Chapter 11
 |
| 84 | 239 |  |  | Assessment* Recall and apply terms and concepts from Chapter 11
 |

Chapter 12: Communicating with Light and Sound

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| --- | --- | --- | --- | --- |
| Lesson | Teacher Edition | Student Edition | Activities | Objectives |
| 85 | 240–47 | 214–21 | 208–13 | * Identify ways light and sound are used to communicate at home and school
* Explain how various sources of light and sound communication at home and school can be used to help people BWS
* Explain how to determine whether light and sound communication is good or bad BWS
* Evaluate uses of light and sound communication BWS
 |
| 86 | 248–51 | 222–25 | 208–10,213–16 | * Identify ways light and sound are used in the community to communicate
* Explain how various sources of light and sound communication in the community can be used to help other people BWS
* Explain how to determine whether light or sound communication is good or bad BWS
* Evaluate uses of light and sound communication BWS
 |
| 87 | 252 | 226 | 217–20 | STEM Activity: Helping with Light or Sound* Propose possible solutions to a real-life problem using light or sound
* Draw a design that uses light or sound to solve a real-life problem
* Communicate to others how the design solves the problem
 |
| 88–89 | 253–60 | 227–34 | 13, 207–10, 221–22 | * Recall what a worldview is
* Summarize from the Bible where the world came from BWS
* Construct a response explaining why things work the way they do in our world BWS
* Determine who we are and why we are here BWS
* Compare and contrast the importance of science with the importance of the Bible BWS
 |
| 90 | 261 | 235 | 208–9,223–24 | Exploration: A Song of Praise* Create a song of praise for God’s creation BWS
* Formulate a sentence explaining how the song of praise will be used BWS
* Explain how to determine whether the words of the song of praise are good or bad BWS
 |