SCIENCE

6th Grade

Sample Lesson

CHRISTIAN SCHOOLS INTERNATIONAL

Science 6

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CHRISTIAN SCHOOLS
INTERNATIONAL

CSI Science Perspective Statement

The CSI science program centers on the acknowledgment that the world in which we live belongs to God, who created and upholds it. Through scientific inquiry we can perceive a degree of the amazing complexity and orderliness of God's world. With this fuller understanding of creation comes a deepened awareness of the goodness and power of its Creator.

When we study creation, we learn not only about God but also about ourselves. We are a part of God's creation—a very special part. God designed a perfect harmony of relationships among humans, animals, plants, and nonliving things, but our fall into sin disrupted this unity and balance. As God's redeemed people through Christ's renewing power, we have been entrusted with bringing restoration and reconciliation to God's good creation.

God has put his world under our control and made us its caretakers. Caring for God's creation is a task with great responsibility that cannot be taken up lightly or in ignorance. Science is an essential tool for us to use in learning about the natural laws God has established so that we can care for the world wisely.

We live in an age in which scientific knowledge has increased at an explosive rate, and the use of that knowledge changes our lives daily. Some people believe that we can gain complete knowledge of—and mastery over—the world through science. Medical researchers have nearly eradicated some diseases, specialists have developed laser instruments that have revolutionized surgery, astronomers using sophisticated space probes have solved many mysteries of the universe, computer scientists have created machines that seemingly border on human intelligence. The possibilities of science seem endless.

Because science is a human activity, however, the knowledge that it can help us gain is limited. Secular culture tends to reduce the world to the human realm and therefore widely considers scientific inquiry or human reason as the path to all knowledge. But for Christians, ultimate truth is found only in God. Science is one avenue—an important one to be sure, but still only one—toward gaining an understanding of God's creation.

Science and the Bible

The relationship between science and the Bible has long been an emotionally charged issue. Sometimes non-Christians treat scientific theories as fact and use them to exclude God from scientific inquiry. This practice has led many Christians to believe that science and Christianity are antithetical.

In science textbooks, encyclopedias, library books, and magazines, students often encounter beliefs that do not acknowledge God, such as theories that explain the origin of the universe as a chance occurrence. It is important for students in a Christian school to realize that these kinds of beliefs spring from a worldview that does not include God. That such beliefs exist, however, does not make science itself incompatible with Christianity.

For us as Christians, all science should be conducted within a larger framework, or worldview, based on faith. The Bible is the divinely inspired record of God's redemptive work on behalf of his people; it contains all that is necessary for bringing us to salvation and instructing us about how to live. As the infallible Word of God, it is the only book that has the status of divine authority.

We learn about God through the direct revelation of his Word. We can also learn about God through the general revelation of his creation. As defined by theologian Louis Berkhof, general revelation is the way that "God speaks to man in his entire creation in the forces and powers of nature, in the voice of conscience, and in the providential government of the world in general and of the lives of individuals in particular." As Berkhof also notes, however, general revelation has limitations as a result of the Fall.

The study of science is one method of learning about God as he reveals himself in creation. Science is important for studying direct causes and finite relations in the material world. It can explain how events occur, but it cannot explain why. For this reason, it is vital that scientific study be conducted in the light of biblical revelation; the Bible sets the facts obtained through scientific study in the correct context of ultimate causes and infinite relations. The Bible and science are complementary, together helping us understand God's plan and purpose for creation.

The CSI science program is designed to be used in a school that includes both devotions and Bible study on a daily basis. Throughout the series, students are encouraged to examine a biblical perspective and to discuss Christian responses to issues in science.

Stewardship

One such issue is our responsibility as stewards of creation. In recent years an increasing number of people have begun to recognize the wisdom of caring for the Earth. Conserving the Earth's resources protects our own health, maintains the natural beauty of our environment, and preserves the Earth for future generations. In addition to these worthy goals, Christians have a more fundamental motivation for protecting the environment, a motivation that lies in our very reason for being.

As human beings created in the image of God, we have a unique position in creation. We are part of nature, yet because of our special relationship with God, we are also above it, sharing in God's dominion over all living things. When God placed Adam and Eve in the Garden of Eden, he commanded them to work the land and take care of it. The use and care of the Earth has been entrusted to us. It is our privilege and responsibility as God's stewards to serve and protect the rest of creation and, in so doing, to glorify the Creator.

We have failed in carrying out the cultural mandate fully because of the fall into sin, but Christ's redeeming grace enables us to continue doing God's work in the world. As Christ's representatives, we must work toward bringing God's peace to all life on the Earth.

Stewardship of the Earth is not a grim, joyless assignment forced upon reluctant Christians. It is rather a task motivated, at least in part, by an awe and appreciation of the extraordinary wonders of the world God created. The fall has affected the world, but it has not completely obscured the matchless handiwork of the Creator. We see evidences of God's

creative genius in massive geological formations, in the intricate relationships of parts within an atom, in old-growth forests, and in the variety and complexity of the creatures that inhabit the land, air, and ocean. We also observe God's providential care for his creation in the cycle of the seasons, in human and animal reproduction, in the provision of foods for nutrition, and in our own with the ability to make positive changes in our environment.

The CSI science series matches a sense of awe at the unity and diversity of creation with an awareness of the delicate balance of interrelationships among its parts and of our responsibility for its welfare. Students are led to examine their own lifestyles and become conscious of the impact that their daily actions have on the myriad forms of life in God's creation. They are encouraged to use their unique abilities as a means to honor and obey God, to serve other humans, and to sustain God's remarkable gift of the Earth and its resources.

Science and Technology

Another issue in science that demands a Christian response is the application of science in technology. The vast influence and rapid growth of technology has largely shaped our society, institutions, and way of life. Thus, it is essential that today's students have the knowledge and skills to enable them to participate as informed and trustworthy stewards of an increasingly technologized world.

A science curriculum should help students understand how science, technology, and society influence one another. Science is concerned with understanding the way the world works, while technology uses science to change the way the world works, usually in order to meet a societal need or desire. Unfortunately, many technological devices that meet human needs are destructive in other ways. As a result, we now find ourselves in a world of dwindling resources and environmental hazards.

But the very technology that can be so destructive may also provide the means to end such damage. The challenge lies with tomorrow's adults to develop the kind of technology that will preserve the Earth rather than threaten it.

CSI's science program seeks to foster a questioning attitude in students by presenting both the successes and failures of human beings in using technology. In this way, students are led to both appreciate the value of science and technology in society and to understand their limitations.

Concepts and Content

The world is a place of constant surprise and wonder. Learning about God's world prompts amazement and awe of the One who created and upholds the world.

The CSI science series uses student's natural inquisitiveness and joy of discovery as the basis for further investigation into the beauty, order, intricacy, and variety of God's world. Written from the perspective of "let's find out" about God's world, this curriculum gives structure to their exploration, building on their natural curiosity and eagerness to investigate by initiating activities and discussions that relate directly to their world. The lessons are student-centered and active, encouraging students to make their own hypotheses and devise ways to test them. Science becomes a cooperative activity, with the teacher often guiding—rather than dictating—the exploration of the students.

Rather than the teacher explaining a concept and then illustrating it with activities, the concepts develop from the students' own concrete experiences. This inductive approach to learning not only makes science more interesting for the students, but also makes it relevant to their lives. With the teacher's guidance, students become creative problem solvers who are able to imagine possibilities and implications, to use a variety of resources and observation skills, to gather information, to form and articulate ideas, and to make responsible decisions.

The Christian Classroom

At the heart of any study taking place in the Christian school classroom is the Bible. CSI's science program is steeped in a profound biblical perspective that leads students to see God's hand in everything around them. The program materials are filled with interest-provoking pictures, projects, and hands-on activities that serve as a basis for scientific concepts and relate them to everyday life. These concrete, creative learning experiences based on God's Word will enrich students' knowledge of creation, affirm their faith in the Creator, and enable them to use science to the glory of God.

Using the CSI Science Curriculum

CSI's science curriculum, 2nd edition, is a hands-on program that encourages students to become actively involved in scientific discovery. The curriculum is designed to give teachers as much flexibility as possible. Most units are independent, so they can be used in whatever order is most convenient for teachers, students, and cross-curricular activities planning. Teachers can choose lessons based on the interests of students, the time and materials available, each school's overall science program.

Most lessons can be taught in a single class period, but many contain enough optional and cross-curricular activities to provide a week's worth of lesson material.

This curriculum provides a comprehensive framework for teaching science. It is not meant, however, to prescribe every step of each lesson. Teachers are encouraged to use the built-in flexibility to shape the curriculum to best fit your school's overall goals and objectives, your individual teaching style, and your students' needs and abilities.

Teacher Guide

Unit Openers

- The *Unit Overview* allows you to see at a glance all the lessons contained in each unit.
- The *Unit Background* provides Christian perspective or brief scientific background for each unit.
- *Unit Resources* provide you with science resource books and audiovisual materials both for you and for the students.
- *Bulletin Board Ideas* and *Center Ideas* suggest ways to reinforce the unit's topic.

Lessons

- *Student Objectives* for each lesson tell you that lesson's aims for student learning. These objectives are specific, measurable goals that will enable you to check the progress of your students.
- *Structuring the Curriculum* helps are placed in some lessons to help you with lesson planning.
- The lesson *Background* provides information to help the nonspecialist teacher understand the science concepts of the lesson. While the *Background* may be helpful in answering student questions, it is intended primarily as a teacher resource.
- Each lesson opens with lesson-related *Discover* activities or questions to spark the interest of students, assess their previous knowledge of lesson content, and encourage them to discover for themselves the concepts of the lesson.

- The *Develop* section helps students understand the concepts that they explored in *Discover.* This section may also include additional activities to reinforce or expand the students' learning.
- *Reinforce/Assess* enables you to test students' learning and strengthen their understanding of lesson concepts. A simple reinforcement activity may also be included in this section.
- Many *Extend* activities are provided at the end of each lesson. These activities include additional science experiments and demonstrations, as well as literature, cross-curricular activities, and Bible studies that relate to the lesson concepts. All of the *Extend* activities are optional, but if you have time to do them, they will provide valuable support for student learning.

Activity Sheets

- The back of the teacher guide contains blackline masters for you to copy. Suggestions for their use are incorporated in the lesson during *Discover, Develop,* or *Reinforce/Assess.*

New DVD/PDF Option with Supplemental Material

The new Grade K–2 Science DVD/PDF includes:

- Exciting new flexible lessons and units that complement the printed curriculum
- New experiments and activities to reinforce and enhance the new material
- New Glossary terms and updated references
- Integration of up-to-date technology
- New multiple forms of assessments

DVD/PDF is available upon request. To inquire or order, visit the store at www.csionline.com.

National Science Education Standards

In order to provide teachers and students with the most comprehensive science education curriculum, CSI's 2nd edition materials were updated and expanded in accordance with the National Science Education Standards. Adherence to these standards is charted on pages 17b-17c.

K–6 Scope and Sequence

Kindergarten

Unit 1: Investigating Health
- Lesson 1: Who Created Me?
- Lesson 2: What Are Families Like?
- Lesson 3: How Does Learning Help Us?
- Lesson 4: What Does Skin Do?
- Lesson 5: How Does Eating Help Our Bodies?
- Lesson 6: How Should We Care for Our Teeth?
- Lesson 7: How Do Rest and Exercise Help Our Bodies?
- Lesson 8: How Can We Avoid Getting Sick?
- Lesson 9: How Can We Treat Illnesses?

Unit 2: Investigating Living Things
- Lesson 1: Scientific Investigations
- Lesson 2: How Are Plants Alike and Different?
- Lesson 3: How Do Plants Grow?
- Lesson 4: How Are Plants Useful in God's Creation?
- Lesson 5: How Are Animals Alike and Different?
- Lesson 6: How Do Animals Change As They Grow?
- Lesson 7: How Are Animals Useful in God's Creation?

Unit 3: Investigating Materials
- Lesson 1: What Are Wood, Metal, Rubber, and Leather Like?
- Lesson 2: What Is Clay Like?
- Lesson 3: What Are Fabrics and Paper Like?
- Lesson 4: What Are Glass and Plastic Like?
- Lesson 5: What Are Composite Pieces Like?

Unit 4: Investigating God's Nonliving World
- Lesson 1: What Are Nonliving Things Like?
- Lesson 2: What Are Rocks and Soil Like?
- Lesson 3: What Is Water Like?
- Lesson 4: How Are Landforms and Bodies of Water Different?
- Lesson 5: How Can We Take Care of the Land and the Water?
- Lesson 6: What Are Sky Objects Like?
- Lesson 7: What Does the Sun Do?
- Lesson 8: What Objects Can We See in the Nighttime Sky?

Unit 5: Investigating Transportation
- Lesson 1: What Safety Rules Are Important for Pedestrians?
- Lesson 2: How Does Technology Help with Transportation?
- Lesson 3: How Do We Get around the Neighborhood?
- Lesson 4: How Do We Stay Safe in Cars and Buses?
- Lesson 5: What Are Trucks and Trains Like?
- Lesson 6: What Is Sea Transportation Like?
- Lesson 7: What Is Air Transportation Like?

Grade 1

Unit 1: Scientific Investigations

- Lesson 1: How Do We Do Science?
- Lesson 2: What Is Teamwork?
- Lesson 3: How Do We Measure Length?
- Lesson 4: How Do We Use a Ruler?
- Lesson 5: How Do We Measure Temperature?
- Lesson 6: How Do We Measure How Much a Container Holds?

Unit 2: Investigating the Senses

- Lesson 1: What Are Your Senses?
- Lesson 2: How Do You See?
- Lesson 3: What Happens When People Can't See?
- Lesson 4: How Do You Hear?
- Lesson 5: What Happens When People Can't Hear?
- Lesson 6: How Do You Smell?
- Lesson 7: How Do You Taste?
- Lesson 8: How Do You Feel?
- Lesson 9: How Do You Use All of Your Senses?

Unit 3: Investigating Living Things

- Lesson 1: How Are Living Things Different from Nonliving Things?
- Lesson 2: How Do Living Things Reproduce Themselves?
- Lesson 3: How Do Living Things Grow and Change?
- Lesson 4: How Do Living Things Move?
- Lesson 5: How Do Living Things Respond to Other Things, and How Do Living Things Show Variety?
- Lesson 6: How Does God Provide for Plants?
- Lesson 7: How Does God Provide for Animals?

Unit 4: Investigating Changes

- Lesson 1: How Do People Change?
- Lesson 2: How Do Families Change?
- Lesson 3: What Changes Do Living Things Make When They Do Their Activities?
- Lesson 4: How Does the Earth Change?
- Lesson 5: How Does the Sun Make Changes?
- Lesson 6: How Do the Stars Seem to Change?
- Lesson 7: How Does the Moon Change?
- Lesson 8: How Do Weather Patterns Change?
- Lesson 9: How Does the Wind Change?
- Lesson 10: How Do Temperature and Precipitation Change?
- Lesson 11: What Changes Happen in the Fall?
- Lesson 12: What Changes Happen in the Winter?
- Lesson 13: What Changes Happen in the Spring?
- Lesson 14: What Changes Happen in the Summer?

Unit 5: Investigating Materials and Objects

- Lesson 1: What Are Materials and Objects Like?
- Lesson 2: How Can We Use Numbers in Observations?
- Lesson 3: What Are the Properties of Different Materials?
- Lesson 4: How Can a Material's Uses and Properties Be Changed through Mixing with Water?
- Lesson 5: How Can a Material's Uses and Properties Be Changed through Manipulating Them?
- Lesson 6: How Can a Material's Uses and Properties Be Changed through Heating or Cooling?

Unit 6: Investigating Things That Make Sound

- Lesson 1: How Is Technology Useful?
- Lesson 2: How Do Different Sound Systems Make Sounds?
- Lesson 3: How Can I Make a Sound System?
- Lesson 4: How Do Sounds Change?
- Lesson 5: How Can Tools Help Make a Sound System?
- Lesson 6: How Can I Design a Sound System?
- Lesson 7: How Can I Build a Sound System?
- Lesson 8: How Can I Use My Sound System?

Grade 2

Unit 1: Scientific Investigations

- Lesson 1: How Do Scientists Do Science?
- Lesson 2: What Is Teamwork?
- Lesson 3: How Are Investigations, Observations, and Explanations Done?
- Lesson 4: How Do We Measure Amounts?
- Lesson 5: How Do We Measure Weight?

Unit 2: Investigating Bones and Muscles

- Lesson 1: What Are Bones Like?
- Lesson 2: What Bones Are in Your Body?
- Lesson 3: How Should We Care for Our Bones?
- Lesson 4: What Are Joints Like?
- Lesson 5: What Do Skeletal Muscles Do?
- Lesson 6: What Do Involuntary Muscles Do?
- Lesson 7: How Should We Care for Our Muscles?

Unit 3: Investigating Health and Safety

- Lesson 1: What Fuel Does My Body Need?
- Lesson 2: Why Are Food Groups Important?
- Lesson 3: How Can We Eat a Balanced Diet?
- Lesson 4: What Good Is Exercise?
- Lesson 5: Why Keep Clean?
- Lesson 6: Why Do We Rest?
- Lesson 7: How Can We Stay Safe?

Unit 4: Investigating Animals

- Lesson 1: What Can We Learn about Animals?
- Lesson 2: What Are Animal Life Cycles Like?
- Lesson 3: Where Do Animals Live?
- Lesson 4: How Do Animals Change Their Habitats?
- Lesson 5: How Does God Prepare Animals for Their Homes?
- Lesson 6: What Do Animals Eat?
- Lesson 7: How Do Animals Behave?
- Lesson 8: Can Behavior Be Learned?
- Lesson 9: How Do Animals Stay Safe?
- Lesson 10: What Is a Fossil?
- Lesson 11: What Animals Lived Long Ago?
- Lesson 12: Why Are Some Animals Extinct?
- Lesson 13: How Can People Protect Animals?

Unit 5: Investigating Liquids and Solids

- Lesson 1: What Are Solids and Liquids Like?
- Lesson 2: What Do Solids Look and Feel Like?
- Lesson 3: How Can Solids Be Measured?
- Lesson 4: What Do Liquids Look and Feel Like?
- Lesson 5: How Does Surface Tension Affect Liquids?
- Lesson 6: What Is Evaporation?
- Lesson 7: What Are Gases Like?
- Lesson 8: What Happens When Solids and Liquids Are Mixed?
- Lesson 9: What Happens When We Mix Liquids with Other Liquids?
- Lesson 10: How Can We Use and Care for Liquids and Solids?

Unit 6: Investigating Position and Motion

- Lesson 1: What Is Position?
- Lesson 2: How Do Reference Objects and Distance Describe Position?
- Lesson 3: What Is Motion?
- Lesson 4: How Do Paths Relate to Motion?
- Lesson 5: How Do Different Things Move?
- Lesson 6: How Can Motion Change?
- Lesson 7: How Can We Predict Motion?

Unit 7: Investigating Buoyancy and Boats

- Lesson 1: What Is Technology?
- Lesson 2: What Makes Things Float and Sink?
- Lesson 3: How Do Floating Things Move?
- Lesson 4: What Are Sailboats Like?
- Lesson 5: How Are Other Boats Propelled?
- Lesson 6: How Are Tools Used?
- Lesson 7: How Are Boats Designed?
- Lesson 8: How Are Boats Built?
- Lesson 9: How Does My Boat Work?

Grade 3

Unit 1: Scientific Investigations
- Lesson 1: How Do Scientists Do Science?
- Lesson 2: What Is Teamwork?
- Lesson 3: How Do We Measure Temperature?
- Lesson 4: How Are Tables and Graphs Used?

Unit 2: Investigating the Circulatory and Respiratory Systems
- Lesson 1: What Does the Circulatory System Do?
- Lesson 2: How Can I Care for My Circulatory System?
- Lesson 3: What Does the Respiratory System Do?
- Lesson 4: How Can I Care for My Respiratory System?
- Lesson 5: How Can I Avoid Accidents?

Unit 3: Investigating Plants
- Lesson 1: What Is the Life Cycle of Plants?
- Lesson 2: Where Do Plants Live?
- Lesson 3: How Are Plants Structured?
- Lesson 4: What Do Plants Need?
- Lesson 5: How Do Plants Interact with Their Surroundings?
- Lesson 6: How Do Fossils Help Us Learn More about Plants?
- Lesson 7: How Are Plants Grouped?

Unit 4: Investigating Forces and Electricity
- Lesson 1: What Is a Force?
- Lesson 2: What Is a Magnet?
- Lesson 3: What Is an Electric Charge?

Unit 5: Investigating Heat and Temperature
- Lesson 1: What Is Temperature?
- Lesson 2: What Is Heat?
- Lesson 3: How Is Heat Produced?
- Lesson 4: What Is Conduction?
- Lesson 5: What Is Convection?
- Lesson 6: What Is Radiation?

Unit 6: Investigating Soil
- Lesson 1: How Does Soil Form?
- Lesson 2: What Are Different Types of Soil Like?
- Lesson 3: What Are Soil Layers Like?
- Lesson 4: How Do We Depend on Soil?
- Lesson 5: How Can We Care for Soil?

Unit 7: Investigating Natural Resources
- Lesson 1: How Do We Use Water, and Where Do We Find Water?
- Lesson 2: What Are the Different Kinds of Water?
- Lesson 3: What Are the Different Forms of Water?
- Lesson 4: What Is the Water Cycle?
- Lesson 5: Where Does Water Come From?
- Lesson 6: How Can We Clean Up Water Pollution?
- Lesson 7: How Can We Take Care of Water?
- Lesson 8: What Is Air Like?
- Lesson 9: How Can We Use and Take Care of Air?
- Lesson 10: What Is Air Pollution?
- Lesson 11: What Is a Natural Resource?
- Lesson 12: How Are Natural Resources Processed?
- Lesson 13: How Can Natural Resources Be Replaced?
- Lesson 14: How Can We Conserve Natural Resources?

Unit 8: Investigating Structures
- Lesson 1: What Is Scale?
- Lesson 2: What Materials Are Strong and Stable?
- Lesson 3: What Goes into Structures?
- Lesson 4: How Can I Plan a Structure?
- Lesson 5: How Can I Build a Structure?
- Lesson 6: How Can I Evaluate a Structure?

Grade 4

Unit 1: Scientific Investigations

- Lesson 1: What Is Teamwork?
- Lesson 2: How Can Scientific Investigations Answer Questions?
- Lesson 3: How Are Scientific Tools Helpful?
- Lesson 4: How Do I Deal with Data?
- Lesson 5: How Do I Use Results?

Unit 2: Investigating Organ Systems

- Lesson 1: What Do Organ Systems Do?
- Lesson 2: How Does the Digestive System Work?
- Lesson 3: How Can I Care for My Digestive System?
- Lesson 4: How Does the Urinary System Work?
- Lesson 5: How Can I Care for My Urinary System?
- Lesson 6: How Can I Prevent Injury to My Organs?
- Lesson 7: How Does Organ Donation Work?

Unit 3: Investigating Living Things and Their Homes

- Lesson 1: What Are Living Things Like?
- Lesson 2: What Is the Importance of Habitats and Niches?
- Lesson 3: What Is Ecology?
- Lesson 4: What Is a Pond Community Like?
- Lesson 5: How Are Living and Nonliving Things Important in an Ecosystem?
- Lesson 6: How Do the Parts of an Ecosystem Interact?
- Lesson 7: How Does Energy Flow in an Ecosystem?

Unit 4: Investigating Light

- Lesson 1: What Is Light?
- Lesson 2: How Does Light Travel?
- Lesson 3: How Do Shadows Form?
- Lesson 4: How Does Light Reflect?
- Lesson 5: How Does Light Bend?
- Lesson 6: How Do We See?
- Lesson 7: What Is Color?
- Lesson 8: How Is Light Used in Technology?

Unit 5: Investigating Sound Waves and Hearing

- Lesson 1: How Does Sound Carry Energy?
- Lesson 2: What Causes High and Low Sounds?
- Lesson 3: What Causes Loud and Soft Sounds?
- Lesson 4: How Does Sound Interact with Different Materials?
- Lesson 5: How Do We Hear?
- Lesson 6: What Is Noise?
- Lesson 7: How Is Sound Used in Technology?

Unit 6: Investigating Minerals, Rocks, and Earth's Structure

- Lesson 1: What Is a Mineral?
- Lesson 2: What Are Rocks Like?
- Lesson 3: How Do Rocks Change Form?
- Lesson 4: How Do Fossils Form?
- Lesson 5: How Do We Use Rocks and Minerals?
- Lesson 6: What Is Earth's Structure Like?
- Lesson 7: How Do Weathering and Erosion Change Earth's Surface?

Unit 7: Investigating Packaging

- Lesson 1: How Are Packages Designed?
- Lesson 2: How Are Packages Designed to Protect?
- Lesson 3: How Are Packages Designed to Group?
- Lesson 4: How Are Packages Designed to Beautify and Advertise?
- Lesson 5: How Are Packages Designed to Inform?
- Lesson 6: How Are Packages Made?
- Lesson 7: How Do Packages Affect Creation?
- Lesson 8: How Can I Make the Best Package and Evaluate Packages?

Grade 5

Unit 1: Scientific Investigations
- Lesson 1: What Is Teamwork?
- Lesson 2: How Can Scientific Investigations Answer Questions?
- Lesson 3: How Are Microscopes Used?
- Lesson 4: How Are Measurements and Data Determined and Used?
- Lesson 5: How Do Scientists Develop Explanations?

Unit 2: Investigating the Endocrine and Reproductive Systems
- Lesson 1: How Does Growth Happen?
- Lesson 2: How Does the Endocrine System Work?
- Lesson 3: What Happens during Puberty?
- Lesson 4: What Is Reproduction Like?
- Lesson 5: How Does the Female Reproductive System Work?
- Lesson 6: How Does the Male Reproductive System Work?
- Lesson 7: How Do Unborn Babies Develop?
- Lesson 8: What Are Sexually Transmitted Diseases?
- Lesson 9: How Can I Protect Myself from Sexual Abuse?

Unit 3: Investigating Nutrition
- Lesson 1: What's in the Food I Eat?
- Lesson 2: Why Do I Need Protein?
- Lesson 3: Why Do I Need Carbohydrates and Fats?
- Lesson 4: Why Do I Need Vitamins?
- Lesson 5: Why Do I Need Minerals?
- Lesson 6: Why Do I Need Water?
- Lesson 7: How Can I Get the Nutrients I Need?
- Lesson 8: Why Do I Eat What I Do?
- Lesson 9: Can I Trust Food Advertisements?

Unit 4: Investigating Cells
- Lesson 1: Why Are Cells Important?
- Lesson 2: How Do Cells Work?
- Lesson 3: How Are Traits Passed Along?

Unit 5: Investigating Agriculture and Forestry
- Lesson 1: Why Do We Need Plants?
- Lesson 2: What Does Agriculture Involve?
- Lesson 3: How Is Food Transported and Processed?
- Lesson 4: What Are Forests Like?
- Lesson 5: How Can We Best Use Plants, the Land, and the Food Supply?

Unit 6: Investigating Motion and Forces
- Lesson 1: What Is Motion?
- Lesson 2: What Are the Laws of Motion?
- Lesson 3: What Is Force?
- Lesson 4: How Do Machines Make Work Easier?
- Lesson 5: What Are the Simple Machines?
- Lesson 6: How Do Machines Affect Society?

Unit 7: Investigating Space
- Lesson 1: What Is the Solar System Like?
- Lesson 2: What Is the Earth Like?
- Lesson 3: What Is the Moon Like?
- Lesson 4: What Is the Sun Like?
- Lesson 5: What Are the Stars Like?
- Lesson 6: What Is the Universe Like?
- Lesson 7: How Does Technology Help Us Study Space?
- Lesson 8: What Role Did the Heavens Have in Various Civilizations?

Unit 8: Investigating Things that Move
- Lesson 1: What Makes Vehicles Work?
- Lesson 2: Why Are Gears Important to Vehicles?
- Lesson 3: How Does Rolling Relate to Movement?
- Lesson 4: What Energy Sources Are Important for Vehicles?
- Lesson 5: How Can I Plan a Vehicle that Moves?
- Lesson 6: How Can I Build a Vehicle that Moves?
- Lesson 7: How Can I Evaluate a Vehicle that Moves?

Grade 6

Unit 1: Scientific Investigations

- Lesson 1: What Is Teamwork?
- Lesson 2: How Can Scientific Investigations Answer Questions?
- Lesson 3: What Science Skills and Tools Are Important?
- Lesson 4: How Do Computers Help Us Analyze Data?
- Lesson 5: How Do Scientists Develop Explanations?

Unit 2: Investigating the Immune and Nervous Systems

- Lesson 1: How Does the Immune System Work?
- Lesson 2: What Is a Communicable Disease?
- Lesson 3: What Is a Noncommunicable Disease?
- Lesson 4: How Do Medicines Help the Immune System?
- Lesson 5: How Can I Care for My Immune System?
- Lesson 6: How Does the Nervous System Work?
- Lesson 7: What Things Put the Nervous System at Risk?
- Lesson 8: What Things Attack Your Nervous System?
- Lesson 9: How Can I Care for My Nervous System?

Unit 3: Investigating the Diversity of Life

- Lesson 1: What Are the Similarities and Differences among Living Things?
- Lesson 2: How Are Living Things Classified?
- Lesson 3: What Are Fish, Amphibians, and Reptiles Like?
- Lesson 4: What Are Birds and Mammals Like?
- Lesson 5: What Are Invertebrates Like?
- Lesson 6: What Are Plants Like?
- Lesson 7: How Do Plants Make Food?
- Lesson 8: What Are Bacteria, Fungi, and Protists Like?
- Lesson 9: How Are Living Things Connected?

Unit 4: Investigating Energy

- Lesson 1: What Are the Different Forms of Energy?
- Lesson 2: How Does Energy Change Form?
- Lesson 3: What Are Our Sources of Energy?
- Lesson 4: How Can We Use Energy Wisely?

Unit 5: Investigating Electricity

- Lesson 1: What Is Electrical Energy?
- Lesson 2: How Can We Be Safe around Electricity?
- Lesson 3: How Does Electric Current Flow through Circuits?
- Lesson 4: How Are Electricity and Magnetism Related?
- Lesson 5: How Do We Generate Electrical Energy?
- Lesson 6: How Can We Conserve Electrical Energy?
- Lesson 7: What Is Electronics?

Unit 6: Investigating Matter

- Lesson 1: What Is Matter?
- Lesson 2: What Are Elements Like?
- Lesson 3: What Are Compounds?
- Lesson 4: How Do the States of Matter Compare?
- Lesson 5: How Do Properties of Different Substances Compare?
- Lesson 6: How Does Matter Change?

Unit 7: Investigating Weather

- Lesson 1: How Does the Atmosphere Relate to Weather?
- Lesson 2: How Does Moisture Behave in the Atmosphere?
- Lesson 3: What Is the Nature of Weather?
- Lesson 4: What Is Climate?
- Lesson 5: What Factors Make up Weather?
- Lesson 6: How Are Weather Factors Measured?
- Lesson 7: How Do Weather Patterns Help Us Predict Weather?
- Lesson 8: How Do Weather Systems Form?

Unit 8: Investigating Flight

- Lesson 1: How Do We Do Technology?
- Lesson 2: What Are the Features of Living Things That Fly?
- Lesson 3: How Were Flying Machines Developed?
- Lesson 4: How Does Air Support Flight?
- Lesson 5: How Do Gravity and Lift Relate to Flight?
- Lesson 6: How Do Thrust and Drag Relate to Flight?
- Lesson 7: How Can We Control Flight?
- Lesson 8: How Are Airplanes Designed?
- Lesson 9: How Well Does My Flying Device Perform? (teacher guide only)
- Lesson 10: How Can We Be Good Stewards with Our Airplanes? (teacher guide only)

Unit 7
Investigating Weather

Unit Overview

Unit Background

Almost everyone is interested in the weather. Radio and television stations and Web sites report the current conditions every hour or even more often, and we eagerly listen to the forecast to find out what the weather will be like the next day. We talk about the weather, complain about the weather, and try to decipher its patterns.

This preoccupation with weather is understandable; from the earliest times, weather has affected people's lives. Without the right combination of sunlight and precipitation, crops fail. Snowstorms can stop traffic on the busiest highways. Less serious consequences ruined plans for picnics, field trips, or baseball games.

The Bible has much to say about the weather. People in Bible times had their own proverbs about the weather, just as we do today. In Matthew 16:2–3a, Jesus repeats a common proverb: "When evening comes, you say, 'It will be fair weather, for the sky is red,' and in the morning, 'Today it will be stormy, for the sky is red and overcast.'" The overarching biblical word on weather, however, is that God controls it and delights in it, just as he does the rest of creation.

Unit Resources

Books

Burroughs, William J. *The Nature Company's Guides: Weather.* Time/Life, 1996.
Challoner, Jack. *Eyewitness: Hurricane and Tornado.* New York: DK Publishing, 2004.
Cosgrove, Brian. *Eyewitness: Weather.* New York: DK Publishing, 2007.
Introduction to Weather. Washington, D.C.: National Geographic. www.nationalgeographic.com/education.
Lawrence, Eleanor, and Borin Van Loon. *Instant Guide to Weather*. New York: Gramercy, 2000.

Lesson 1
How Does the Atmosphere Relate to Weather?

Objectives

Students will

- describe basic characteristics of the atmosphere
- identify basic components of the atmosphere
- explain how each atmospheric gas contributes to a livable biosphere
- explain how living creatures influence the composition of the atmosphere

Vocabulary

atmosphere—the layer of gases that surround the Earth
meteorologist—a scientist who studies weather and climate
meteorology—the science of studying and predicting weather
wind—the movement of gases in the atmosphere

Preparation/Materials

Activity: Composition of the Atmosphere

√ colored pencils

Let's Find Out: What Are the Properties of Air?

√ safety goggles, one per student
√ metric rulers, one per team
√ large balloons, one per team
√ pan balances, one per team
√ 500-mL beakers, one per team
√ water
√ hot plates, one per team

Demonstration: Additional Evidence for the Properties of Air

√ electric fan
√ candle
√ matches

Background

The atmosphere weighs approximately 5×10^{15} metric tons; 99 percent of all atmospheric gases are squeezed into a space just 30 km (18 miles) above the ground. The atmosphere is divided into layers (which students will not study at this time). The troposphere is the lowest layer where all of Earth's weather occurs; the stratosphere, mesosphere, thermosphere, and exosphere lie above the troposphere.

The proportions of the atmosphere's gases are precisely balanced to support an enormous diversity of life that testifies to the Creator's planning and care for his creation. About 78 percent of the atmosphere is nitrogen gas. Nitrogen is a stable gas that prevents excess oxygen from building up in the atmosphere, thus preventing uncontrollable fires that high concentrations of oxygen would spark. Through a process called nitrogen fixation, certain plants and bacteria convert nitrogen gas into proteins. Without these proteins, most life on Earth would perish. Nearly 21 percent of the atmosphere is oxygen. Most organisms need oxygen for the process of respiration, the process that produces energy. Although only 0.036 percent of Earth's atmosphere is carbon dioxide, Earth would be uninhabitable without it. Carbon dioxide not only fuels photosynthesis but also traps heat from the sun to help warm the Earth. Without carbon dioxide in the atmosphere, Earth would be an ice planet. Argon makes up 0.9 percent of the atmosphere. Several gases—including neon, hydrogen, methane, xenon, krypton, and nitrous oxide—are present in trace amounts.

Living things depend on the atmosphere to live. The thick layer of gases that envelop the Earth also shields all life from the sun's dangerous radiation. Atmospheric gases provide all creatures, even those that live at the bottom of the ocean, with the necessary sustenance for life. Living creatures also interact directly with the atmosphere, influencing the types and amounts of gases that compose it.

Oxygen is generated by photosynthesizing green plants and microorganisms. Without photosynthesis, the atmosphere would have no oxygen. (Green plants also make water as a byproduct of photosynthesis; they transpire excess water into the air through leaf pores. A large maple tree can transpire 2,000 L (500 gallons) of water into the air in a day; about 50 percent of the rain falling on rainforests comes from the transpiration of forest plants.)

Living things also cycle carbon throughout the Earth. Photosynthesizing organisms use carbon dioxide (along with water and sunlight) to make carbohydrates. Other organisms use these carbohydrates and return them to atmosphere in the form of carbon dioxide through cellular respiration and combustion. Green plants store excess carbon.

The nitrogen cycle also depends on living things. Nitrogen, in the form of protein compounds, is a necessary ingredient for all organisms; although nearly 80 percent of the air around them is nitrogen, most organisms can't use it in this form. Bacteria work with certain plants to convert atmospheric nitrogen into protein. The nitrogen returns to the atmosphere when organisms decay.

Some scientists believe that human activity is altering the atmosphere's composition. The burning of fossil fuels and forests are creating enormous quantities of carbon dioxide and other gases that are building up in the atmosphere and may be causing global warming. Burning fossil fuels, forests, and wood also contribute significant quantities of nitrous oxide, carbon monoxide, sulfur dioxide, and other forms of air pollution to the atmosphere.

The complex movements of this great ocean of gases create weather and climate. The atmosphere's gases encircle the Earth, absorbing and moving the sun's heat, transporting moisture, and forming winds to create weather patterns. As patterns of weather unfold throughout the decades, a region's climate is established.

UNIT 7

Investigating Weather

"Is it going to rain today?" "Is it cold outside? Do I need my jacket?" "A snowstorm is coming. Do we need anything from the grocery store?" "It's hot out here. I'm going to change into shorts!" You probably hear or say something about the weather every day. Weather is one of the most talked about topics on Earth. And why not? Earth's weather is an amazing glimpse into God's awesome power in creation. Raging hurricanes, sunny afternoons, cold rain, gentle breezes, blinding snowstorms, and golf-ball-sized hail are all part of the weather that God brings to the Earth each day. God also directs seasons such as spring, summer, autumn, and winter in some parts of the world and rainy and dry seasons in other parts of the world.

The Bible often refers to the weather. Most families in Bible times were farming families, so the weather was very important. Little rain meant drought, poverty, and possibly famine. Too much rain brought dangerous flash floods. The right amount of rain helped ensure good crops, large flocks of sheep and goats, and prosperity. During Noah's time a flood brought God's judgment on the people. Joseph saved the people of Egypt and his family by predicting and preparing for drought. The prophet Nahum proclaimed whirlwinds and storms to be signs of God's great power. Jesus calmed storms. Revelation 4 speaks of Jesus sitting on a throne surrounded by lightning flashes and thunder crashes.

In this unit you will learn about weather and climate. As you learn about our atmosphere, weather, and climate, think about the Creator of these amazing events. Use your new knowledge to better appreciate God's power.

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Lesson 1

How Does the Atmosphere Relate to Weather?

Air takes up space and has mass, just as the buildings, crops, and trees do.

When we think about air, we usually imagine empty space. After all, we can't see air, and we usually can't feel it. But air—just like your desk, the ocean, pizza, and you—is made of molecules. Like other molecules, these molecules take up space and have weight.

The air around us protects us from the conditions of space, where nothing can live or breathe. This air accounts for hundreds of kilometers of gases that weigh trillions of tons. The air around us is part of Earth's atmosphere. The **atmosphere** is the gases that surround the Earth. The atmosphere, which is about 160 km (100 miles) high, has several layers. The combination of gases, pressure, and other properties is different at each level.

Oxygen is a familiar gas that makes up 21 percent of the atmosphere. Most of the atmosphere—about 78 percent of it—is nitrogen. Less than 1 percent of the atmosphere is argon, and carbon dioxide makes up about 0.036 percent of the atmosphere. The rest of the atmosphere consists of tiny amounts of several other gases. For example, the atmosphere holds different amounts of ozone and methane. The atmosphere also holds different amounts of water vapor.

Although the atmosphere consists of only a few different gases, God arranges these gases so that his 30 million species of creatures can thrive. Living things need the

Intersection with Language

Ball of Gases

The Greek word *atmos* means "vapor" or "gas," and the word *sphere* comes from the Greek word *sphaira*, which means "ball." So the word *atmosphere* means "ball of gases."

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Discover

1. Have students describe the air. Introduce the term *atmosphere*. Discuss the accuracy of their perceptions of the atmosphere.

2. **Activity: Composition of the Atmosphere.** Have student teams hypothesize for a few minutes which gases make up the atmosphere and the percentage of each gas that is present in it. Have them record their hypotheses in their science journals, and then write the following figures on the board. (Explain that other gases are also present in trace amounts.)

Nitrogen	78.000%
Oxygen	21.000%
Argon	0.900%
Carbon dioxide	0.036%

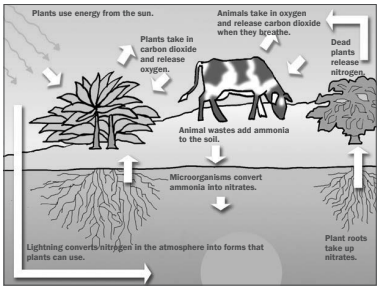
Have students compare their numbers with these numbers. How close were their hypotheses? Which gases did they omit? Which gases did they list but with a significant difference in the percentages?

Most students are surprised to find out oxygen is not the major component of the atmosphere. Tell them that high concentrations of oxygen would encourage fires. (Remind them that fire needs oxygen to burn, which is why candle snuffing is effective.) Oxygen is also a corrosive element that would damage lungs (of people and animals) in high concentrations.

different gases in the atmosphere to live. Most animals, plants, and microorganisms need oxygen gas to break down foods into energy. Bacteria and plants turn nitrogen gas in the atmosphere into proteins, which most living things (including you) need to live. The atmosphere's carbon dioxide traps heat; without that small amount of carbon dioxide, thick ice would cover the Earth. As a whole, the atmosphere protects living things from the sun's harmful radiation and the unlivable cold of space.

God maintains a recycling plan between the atmosphere and the living things he created. Living things not only depend on the atmosphere to live but also produce some of the gases that make up the atmosphere. This helps keep a balance. Through photosynthesis, green plants and microorganisms produce all of the atmosphere's oxygen. These same organisms also take extra carbon dioxide out of the atmosphere. All green plants release water vapor into the atmosphere, and when

Without carbon dioxide in the atmosphere, we'd never have warm days like this.



Plants use nitrogen to make protein, which we need to live. Plants generate the oxygen we need and remove carbon dioxide from the atmosphere during photosynthesis.

Trees and other plants contribute to a balanced atmosphere. They produce oxygen and release water vapor.

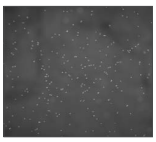
organisms decay, bacteria turn decaying matter back into nitrogen gas.

God uses the atmosphere's gases to form complex patterns of weather and climate around the world. The atmosphere is important for **meteorology**, the science of studying and predicting weather. The gases that make up the atmosphere are in constant motion because of uneven heating. The sun warms Earth's land and water, but water heats up and cools down much more slowly than land does. Because of this, the air above the water is a different temperature than the air above the land. As warm air rises, cooler air moves in to take its place. Temperature differences are also found between the tropics and the polar regions. This causes the movement of air on a larger scale. The movement of gases in the atmosphere is called **wind**. Winds create or

Intersection with Life Science

Creatures of the Air

Living things make up a small but important part of the atmosphere. Tiny organisms that float through the air are called aeolian plankton. Aeolian plankton include bacteria, spores, small seeds, insects, spiders, and many other small creatures.



These gnats are aeolian plankton.

Have students use colored pencils to create a bar graph of the composition of the atmosphere in their science journals.

3. Have a student volunteer read **Intersection with Life Science: Creatures of the Air** (page 258) in the student text. Explain that the composition of the atmosphere applies only to dry air. Air has particulates of many kinds, aeolian plankton, and 1–4 percent moisture.

Develop

1. Have students complete **Let's Find Out: What Are the Properties of Air?** (page 259) in the student text.

   Review the following safety precautions with students before the activity.

   √ Wear safety goggles.
   √ Hot and cold glass look alike. Never touch beakers once they are placed on a hot plate.
   √ Turn off the hot plate as soon as you are finished with your observations.
   √ The balloon should not touch the hot plate.
   √ Never touch a hot plate unless you are sure that it is not hot.

   1. *Does air take up space? Use your diameter measurements to explain your answer. (Yes. The diameter of the balloon increased when air was added.)*

affect local weather patterns. So a **meteorologist**, a scientist who studies weather and climate, pays close attention to the conditions of the atmosphere.

Let's Find Out

What Are the Properties of Air?

You will need

- ✓ safety goggles
- ✓ metric ruler
- ✓ large balloon
- ✓ pan balance
- ✓ 500-mL beaker
- ✓ water
- ✓ hot plate

Do this

1. Put on safety goggles.
2. Use the ruler and balance to measure the diameter and mass of the deflated balloon. Record these measurements in your science journal.
3. Blow up the balloon to about ¾ of its maximum size, and tie the end closed.
4. Measure the diameter and mass of the inflated balloon. Record these measurements in your science journal.
5. Pour 200 mL of water into the beaker, and place the beaker on the hot plate. Turn on the hot plate to its maximum setting and wait for the water to start boiling.
6. Set the balloon on the beaker so that it covers the opening. Observe the balloon for one minute, and write your observations in your science journal.

Questions

1. Does air take up space? Use your diameter measurements to explain your answer.
2. Does air have mass? Use your mass measurements to explain your answer.
3. What happened to the air when it was heated? Use your observations to explain why this happened.

Think Back

1. What is the atmosphere?
2. Make a pie graph showing the gases that make up the atmosphere.
3. What might Earth be like if 0.01 percent of the atmosphere were made of carbon dioxide?
4. Why is the nitrogen in the atmosphere important?
5. How do winds form?

2. *Does air have mass? Use your mass measurements to explain your answer. (Yes. The mass of the inflated balloon is greater than the mass of the deflated balloon.)*
3. *What happened to the air when it was heated? Use your observations to explain why this happened. (Air expands when heated. The balloon increased in size when it was placed above the boiling water.)*

The diameter and mass measurements of the balloon proves that air has mass and volume (takes up space). The heat from the boiling water increases the kinetic energy of the air molecules in the balloon, causing them to move faster and further apart, which causes the balloon to expand.

Students often have difficulties thinking of air as matter made of molecules of gas and having weight and mass. They think of air as empty space because they can't normally see or feel it.

2. **Demonstration: Additional Evidence for the Properties of Air.** Have a student volunteer stand in front of a fan and have another student volunteer blow out a candle to demonstrate that air is a substance with mass and volume.

3. Have students list the different colors they have seen in the atmosphere. (Remind them of sunrises, sunsets, and rainbows if necessary.) Read the following poem, and explain why a rainbow and the sky have colors.

My heart leaps up when
I behold
A rainbow in the sky

—William Wordsworth, English poet (1770–1850)

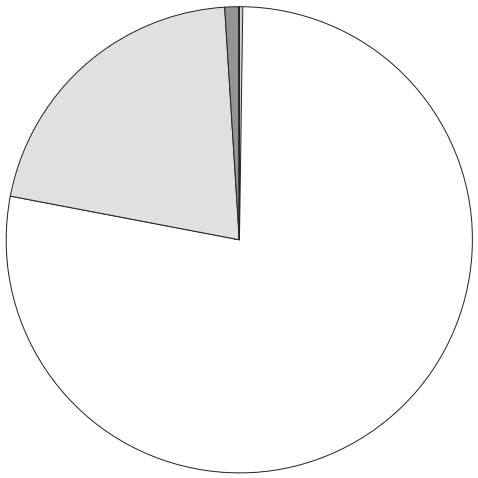
The colors we see in the sky result from the scattering and reflection of sunlight. Sunlight travels 150 million km (93 million miles) from the sun as white light, which is actually a combination of the colors of the spectrum. Each color has its own wavelength. When sunlight hits the atmosphere, white light is divided, and the different colors are scattered. When sunlight hits raindrops in the air, all the colors disperse, creating a rainbow.

Different molecules scatter different wavelengths of light. Air molecules scatter blue, violet, and, to some extent, green light; the mixture of these colors makes the sky blue. The exact color of blue varies depending on the amount of water and dust in the air. Dust particles and pollution scatter red and orange light. When the sun sets on the horizon, sunlight passes through high concentrations of dust and pollution, creating beautiful red and orange sunsets. (Ironically, polluted air creates more beautiful sunsets.) Clouds are white because all of the colors of the spectrum are scattered by the water droplets making up clouds. Clouds appear gray or black when sunlight can't pass through them.

Reinforce/Assess

1. Have students read **How Does the Atmosphere Relate to Weather?** (page 256) in the student text and answer the **Think Back** questions (page 260) in the student text.
   1. *What is the atmosphere? (The gases that surround the Earth.)*
   2. *Make a pie graph showing the gases that make up the atmosphere.*

Nitrogen	*78 %*
Oxygen	*21 %*
Argon	*1 %*
Carbon dioxide	*0.036 %*
Other gases	*trac*



3. *What might Earth be like if 0.01 percent of the atmosphere were made of carbon dioxide? (The Earth might be covered with ice.)*
4. *Why is the nitrogen in the atmosphere important? (Nitrogen in the atmosphere is important because bacteria and plants use it to make proteins, which we all need.)*
5. *How do winds form? (Winds form from the uneven heating of the air in the atmosphere. Warm, less dense air rises and spreads out, and colder air moves in to take its place.)*

2. **Activity: Creative Writing.** Assign students to spend 30 minutes quietly observing the sky during a time of day of their choosing. Have them write a poem, descriptive paragraph, or other creative writing piece about their observations.

Extend

- Have each student research one of the planets or giant moons in our solar system to determine what type of atmosphere it has. Although some, such as Earth's moon, have no atmosphere, most planets and large moons have atmospheres, all of which differ greatly from Earth's. Have students compare the atmospheres of the celestial objects with that of Earth's atmosphere.

- To demonstrate that air takes up space, pour water through a funnel into a shallow pan. Point out how quickly and freely the water flows through the funnel. Then place the funnel in the opening of an empty 2 L soda bottle. Pack clay between the outside of the funnel and the neck of the bottle. Pour water into the funnel. The water will stay in the funnel or, at most, drip slowly into the bottle. The air in the bottle takes up space, leaving no room for the water. Remove the clay seal, and the water will flow rapidly into the bottle because air in the bottle is pushed out along the sides.

  Alternatively, use a can opener to punch one hole in the top of a large can of juice. Pour some juice, which will dribble from the hole instead of flow freely. Then punch a second hole in the opposite side of the top, and demonstrate that when air moves in to replace the juice, the juice pours out freely.

Thank you for your interest in Christian Schools International's 2nd Edition Science curriculum!

This sample serves as a great reflection of the other engaging material available for kindergarten through grade 8.

The curriculum tools represented below work great together to assist you as you explore God's creation, promote effective learning, and provide a clear biblical perspective to your students.

Teacher Guide - a comprehensive guide that is informative and easy-to-use with detailed teaching strategies, reduced student text pages, numerous inquiry-based activities, cross-curricular activities, and activity sheets that involve investigating, making observations, experimenting, researching, charting, mapping, and more.

Student Textbook (grades 1-8) - colorful textbook includes sidebars with hands-on experiments, information about God's work in creation, readings to reinforce concepts presented in classroom, and questions to promote both recall and synthesis of ideas and concepts.

Test Bank (grades 3-8) - test banks are sent electronically in two formats—PDF and Microsoft Word allowing teachers to develop or modify their own tests.

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