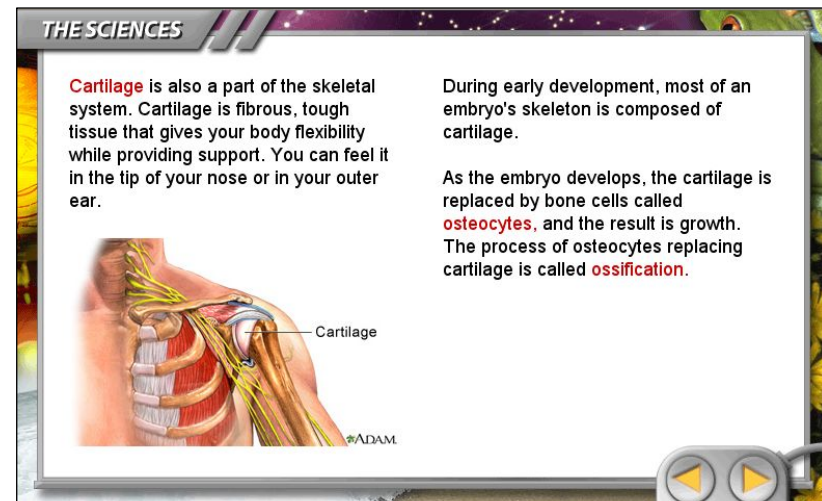


Course Description

A+LS[™] Sciences I-VIII are comprehensive courses for grade levels 1-8. Major themes of study include scientific inquiry, the history and nature of science, science in perspective, physical science, life science, earth science, and technology. The Sciences will educate students in a variety of topics within the major themes of study. Lessons are designed to take the student from basic knowledge into critical thinking and learning activities.

Course Features

- The Sciences is a collection of year-long courses.
- All lessons contain a study guide, practice and mastery tests, and a written essay, activity, or experiment.
- Some of the lessons contain images of the human body produced by A.D.A.M. Inc., an award-winning provider of medical images. The high quality and detailed anatomy images add visual reinforcement of lesson content, enhancing the students' learning experience.
- The reading levels of all eight courses are certified by MetaMetrics[®] with a Lexile[®] score.
- *A+*[®] VIP Bundle[™] customers receive Cambridge University Press[®] (CUP) Learning Objects.
- In addition, *A+* VIP Bundle customers receive access to *Encyclopædia Britannica*[®] Online School Edition (EB) workspaces which contain learning materials. Learning materials may contain articles, games, images, maps, and/or videos. Clearvue (CV) video clips may be included as well.

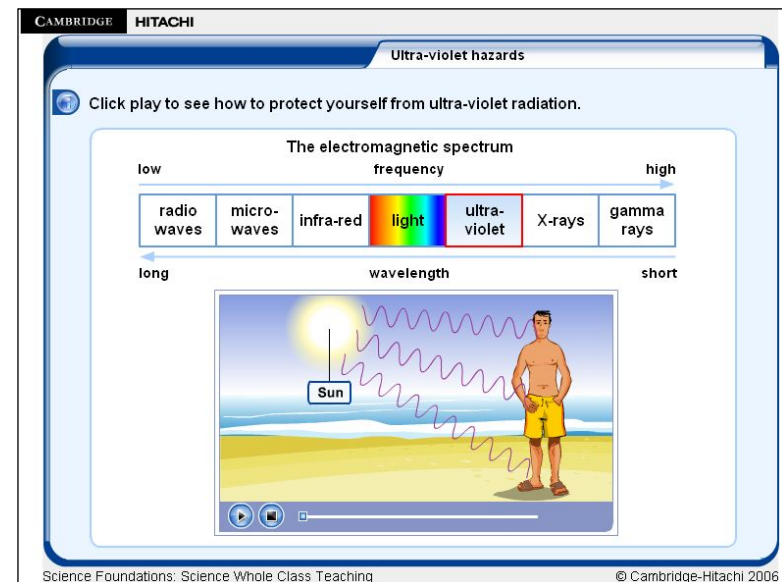


Course Objectives

- The content in these courses is designed to meet and exceed the requirements of the National Science Education Standards (NSES). These requirements are identified in the following standards: Science Inquiry, Physical Science, Earth and Space Science, Life Science, Science and Technology, Science in Personal and Social Perspectives, and the History and Nature of Science.
- The Sciences focus on science facts, concepts, principles, and theories that are important for all students to know, understand, and use.
- Numerous lessons are associated with the process of design and primary understanding regarding science and its various links with technology.
- Lessons examine personal and social perspectives of science and allow students to learn about the history and nature of science, as well as to learn about science itself.

Practical Tips

- The Physical Science course requires students to read resources that are linked to the lessons. The majority of these documents are provided as Portable Document Files (PDFs). As a result, students will need Adobe Acrobat[®] Reader[®] available on their workstations. Available at: www.adobe.com (select **Get ADOBE[®] READER[®]**)



The screenshot shows a video player interface with the title "Ultra-violet hazards". Below the title, there is a play button and the text "Click play to see how to protect yourself from ultra-violet radiation." The main content area displays a diagram of the electromagnetic spectrum. The diagram is a horizontal bar with a color gradient from red to violet. Above the bar, the text "The electromagnetic spectrum" is centered, with "frequency" below it. The bar is labeled "low" on the left and "high" on the right. Below the bar, the text "wavelength" is centered, with "long" on the left and "short" on the right. The bar is divided into sections labeled "radio waves", "micro-waves", "infra-red", "light", "ultra-violet", "X-rays", and "gamma rays". The "ultra-violet" section is highlighted with a red border. Below the diagram, there is a video frame showing a person standing on a beach under a bright sun. The sun is labeled "Sun". The video player has a progress bar and control buttons at the bottom.

Science Foundations: Science Whole Class Teaching © Cambridge-Hitachi 2006

- Due to the interactive nature of the A+ VIP Bundle, there are a few specific software requirements:
 - CUP and EB both require web browsers, the following are recommended:
 - Microsoft Internet Explorer[®] versions 6.0 or higher
 - Safari[®] versions 2.0 or higherNote: EB requires cookies enabled.
 - CUP and EB interactive activities require a web browser equipped with the Adobe[®] Flash[®] and Shockwave plug-ins. Available at: www.adobe.com (select **Get ADOBE FLASH PLAYER** and **Get Shockwave Player**).
 - EB video clips are offered in Windows Media[®] and MPEG-4 formats. Clearvue video clips utilize the MPG format. You'll need to have a media player installed that will support these formats:
 - Quicktime[®] - available at: www.apple.com/quicktime/download
 - Windows Media[®] Player - available at: www.microsoft.com/windows/windowsmedia/download
- Numerous links to the Internet are provided in the A+ VIP Bundle. An Internet connection is not required for completion of this course, but it is required to utilize the CUP and EB components of the A+ VIP Bundle.

The screenshot displays the Britannica Online School Edition interface. At the top, there is a search bar and navigation links for HOME, DICTIONARY, LEARNING MATERIALS, TEACHER'S RESOURCES, WORKSPACE, GUIDED TOUR, and HELP. The main content area is titled 'Elementary Encyclopedia' and features the article for 'landslide'. The article includes a definition: 'A landslide is a large amount of earth, rock, and other material that moves down a steep slope. Landslides happen when a layer of earth or rocks separates from the layer below it. The force of gravity pulls the loose layer downward.' Below the definition, there is a paragraph: 'Landslides can be highly destructive. They can bury or sweep away everything in their path. They can block rivers or cover entire towns.' The article also includes a small image of a landslide and a 'More information' section with links to Images & Media, Journals & Magazines, and The Web's Best Sites. A 'Workspace Projects' section shows 'Project 1' selected, with a note that no entries are available and a link to 'Open Workspace'.

Lesson Content

Cambridge Learning Objects are animations and interactive activities that enhance the concepts presented within the Sciences I-VIII lessons. Founded in 2003, Cambridge-Hitachi is the result of a joint venture between Cambridge University Press and Hitachi Software Engineering. Cambridge-Hitachi is committed to innovation in e-learning and applies information and communication technologies as powerful tools to enhance the quality of teaching and learning.

- The Sciences IV-VIII contain learning materials.
- Each learning material provides animated demonstrations of key science topics.

Encyclopædia Britannica Online School Edition has teacher resources and student learning materials. The materials include a wide range of interactive lessons, research projects, animations, and worksheets that support the science courses.

- The Sciences I-VIII contain EB workspaces.
- Each workspace may contain an article, diagram, study guide, video, or interactive media.

Each science course is divided into seven units of study:

Unit 1 – Science as Inquiry
Unit 2 – History and Nature of Science
Unit 3 – Science in Personal and Social Perspectives
Unit 4 – Physical Science

Unit 5 – Life Science
Unit 6 – Earth and Space Science
Unit 7 – Science and Technology

Lesson Title		Lesson Content	Essays & Media
Unit 1: Science as Inquiry			
1	Observation	Learn what observation is. Recognize that scientific knowledge is based on observation and that asking questions is one way people and scientists learn about the world around them.	Essay: Observation
2	Observing Through the Senses	Discover that science uses tools and observations through the senses to make decisions and answer questions about our world.	Study: EB Learning Material Essay: Observation
3	How Do Scientists Check and Share Their Work?	Discover how and why scientists share their work and why it is important that scientists check each other's work.	Essay: Written Response
Unit 2: History and Nature of Science			
4	People and Science	Learn what science is and why we study science. Discover how we find out about the world around us and who can be a scientist.	Study: EB Learning Material Essay: Illustration
5	Inventions	Learn what an invention is and discover some important inventions used in daily life.	Study: EB Learning Material Essay: Illustration
Unit 3: Science in Personal and Social Perspectives			
6	Needs That All People Have	Discover some different groups that people live in and learn about the needs they have.	Study: EB Learning Material Essay: Illustration
7	Safety	Discover some things that are harmful to you and realize why it is important to have an adult help you use these things.	Study: EB Learning Material Essay: Illustration
Unit 4: Physical Science			
8	Matter	Explore matter using the senses. Discover examples of living and nonliving matter.	Study: EB Learning Material Essay: Illustration
9	Dividing Matter	Learn how matter is grouped according to taste, color, weight, and size.	Essay: Activity
10	States of Matter	Discover various properties of matter. Identify characteristics and examples of solids, liquids, and gaseous matter.	Study: EB Learning Material Essay: Illustration
11	Changing Matter	Learn how matter can change its state. Discover the process of changing matter from solid, liquid, or gas. Learn how recycling changes the states of matter.	Essay: Illustration
12	Machines	Discover how machines help us do work through the concepts of forces, pushing and pulling, and energy sources used by machines.	Study: CV Video EB Learning Material Essay: Illustration
13	Simple Machines	Review six simple machines and discover how they make work faster and easier. Realize the concept of a force, such as a push or pull.	Study: CV Video EB Learning Material Essay: Illustration

Lesson Title		Lesson Content	Essays & Media
Unit 5: Life Science			
14	Living and Nonliving Things	Discover the differences between living and nonliving things. Understand the importance of food and water for life. Learn how living things grow, move, and reproduce.	Study: EB Learning Material Essay: Illustration
15	Needs of Living Things	Understand the growth of living things. Discover why living things need shelter, nourishment, air, and water to survive.	Essay: Illustration
16	Living Things	Discover where living things come from. Find out that families have both shared and unique characteristics. Learn that living things respond to stimuli, such as hunger and danger.	Study: EB Learning Material Essay: Activity
17	Seeds	Learn about different types of seeds. Discover how plants grow from seeds. Identify the parts of a plant, including the roots, stem, and leaves.	Study: EB Learning Material Essay: Illustration
18	Seeds and Plants	Discover the needs of plants, such as sunlight, water, and nutrients. Understand the similarities and differences of plants. Learn how plants produce fruit. Learn the effects the four seasons have on plants.	Study: CV Video EB Learning Material Essay: Illustration
19	Plants	Discover how plants grow. Learn the functions of various plant parts, such as roots, stems, leaves, seeds, and flowers.	Study: CV Video EB Learning Material Essay: Illustration
20	People Need Plants	Discover why people need plants. Learn how plants are used by people in everyday life for nutrition and as other useful products. Learn how farmers plant seeds to grow crops.	Study: EB Learning Material Essay: Illustration
21	Animals	Discover a variety of characteristics among animals. Learn how animals move and protect themselves from danger. Discover the purpose of different types of animal coverings.	Study: EB Learning Material Essay: Illustration
22	Animal Growth	Discover the growth habits of different animals. Learn how adult animals care for their young. Discover which animals hatch from eggs and which animals live in or near water.	Study: EB Learning Material Essay: Illustration
23	People Need Animals	Discover the different ways that people need animals. Learn about the places animals can live, such as a zoo, a farm, and the homes of people. Find out the differences between wild animals and tame animals.	Study: EB Learning Material Essay: Illustration
24	Sensing Your World	Discover the world around us by using your senses to determine the shapes, sights, and sounds of your surroundings.	Essay: Illustration
25	Using Your Senses	Learn about the world around you by seeing, hearing, touching, tasting, and smelling. Learn about using more than one sense at a time.	Study: EB Learning Material Essay: Illustration
26	Sensing Danger	Learn various safety tips and discover how the senses alert us to danger. Discover the danger of fire and the usefulness of smoke and fire alarms, as well as other machines that help keep us safe.	Essay: Illustration

	Lesson Title	Lesson Content	Essays & Media
27	Growing and Changing	Learn how food gives us energy and helps us grow. Understand the process of human growth. Discover how germs can make us sick.	Essay: Illustration
28	Growth and Health	Understand the importance of eating a balanced diet and exercising daily. Learn the purpose of good hygiene and rest for a healthy lifestyle.	Study: EB Learning Material Essay: Illustration
29	Human Body	Identify various parts of the human body, including bones, skin, hair, blood, stomach, and brain.	Essay: Written Response
30	Recycling	Learn what the environment is and why recycling is important for the environment.	Study: EB Learning Material Essay: Written Response
<i>Unit 6: Earth and Space Science</i>			
31	The Seasons	Discover the characteristics of each of the four seasons. Explore the differences in the weather conditions of each season and learn how the changes in the seasons affect plants and animals.	Essay: Illustration
32	Air	Learn the properties of air and discover how temperature changes what air does.	Study: EB Learning Material Essay: Activity
33	The Uses of Air	Explore the properties of air and learn how air is important to everyday life.	Study: EB Learning Material Essay: Illustration
34	Weather	Discover how clouds and rain are formed. Learn what causes the changes in the temperature and the weather.	Essay: Illustration
35	Water Cycle	Learn that the water cycle involves the oceans, moisture in the air, formation of clouds, and rain falling back into the ocean.	Study: EB Learning Material Essay: Illustration
36	Rocks and Soil	Learn how the earth has changed throughout time. Find out more about dinosaurs, volcanoes, rocks, and soil.	Study: EB Learning Material Essay: Activity
37	Oceans	Discover the characteristics of the ocean. Learn about the temperature of ocean water and how the sun warms the water on the earth. Learn the effect of salt water on plants and discover what lives on the ocean floor.	Essay: Illustration
38	The Sun	Discover the size, shape, and location of the sun. Learn how we get heat and light from the sun.	Essay: Illustration
39	Day and Night	Discover what causes day and night. Learn about the earth's rotation and its relationship to the sun.	Essay: Illustration
<i>Unit 7: Science and Technology</i>			
40	Problem Solving	Learn to identify a simple problem from a series of statements. Determine what technology can be used to solve a problem. Learn how to choose the most effective solution to a simple problem.	Essay: Activity
41	Tools That Scientists Use	Discover what tools are and what tools scientists use to solve problems. Learn to choose an appropriate tool for a specific task. Understand that sometimes scientists must make their own tools, so a problem can be solved.	Study: EB Learning Material Essay: Illustration

	Lesson Title	Lesson Content	Essays & Media
42	Natural and Man-made Objects	Understand that people make some objects while others are found in nature. Determine the difference between natural and man-made objects and discover some examples of each.	Essay: Illustration

Lesson Title		Lesson Content	Essays & Media
<i>Unit 1: Science as Inquiry</i>			
1	What Does a Scientist Do?	Discover that a scientist asks questions about the natural world and answers questions by making observations. Learn that scientists use special tools to help them see things and take measurements.	Study: EB Learning Material Essay: Written Response
2	Observation	Learn that scientists ask many kinds of questions and that new observations can help us learn new things. Discover the steps used to answer a question and learn to ask questions from observations.	Study: EB Learning Material Essay: Written Response
3	How do Scientists Check and Share Their Work?	Recognize that scientists share what they learn. Scientists write down the steps they use to solve a problem. Scientists also check each other's work.	Essay: Written Response
<i>Unit 2: History and Nature of Science</i>			
4	Early Tools	Learn that the earliest humans invented simple tools. Discover examples of simple tools.	Study: EB Learning Material Essay: Illustration
5	Science Jobs	Learn that science is a kind of job that people can have. Recognize various types of scientists and learn that scientists are always learning more about the world around us.	Study: EB Learning Material Essay: Illustration
<i>Unit 3: Science in Personal and Social Perspectives</i>			
6	Groups People Live In	Identify different groups of people. Learn why some groups are big and some are small, as well as what causes groups to be different sizes.	Essay: Illustration
<i>Unit 4: Physical Science</i>			
7	Matter	Learn what matter is, what is made up of matter, and how to measure matter. Realize that matter can be living or nonliving. Discover how the senses can be used to explore matter.	Study: EB Learning Material Essay: Illustration
8	Grouping Matter	Learn to group matter according to taste, color, weight, and size. Organize different objects by texture, hardness, length, and shape.	Study: EB Learning Material Essay: Experiment
9	States of Matter	Learn three states of matter and how to identify solids, liquids, and gases. Discover some properties of matter, including shape, size, and volume.	Study: EB Learning Material Essay: Written Response
10	Changing Matter	Discover how matter can be changed from one state to another. Learn how recycling affects matter and the environment.	Study: EB Learning Material Essay: Experiment
11	Measurement	Learn to use nonstandard methods of measurement. Discover how rulers, thermometers, and scales are used to measure things.	Study: EB Learning Material Essay: Activity
12	Magnets	Discover how magnets push or pull objects. Learn about magnetic poles and find out what types of objects are attracted to magnets.	Study: EB Learning Material Essay: Experiment
13	Light Energy	Recognize light as a form of energy and discover sources of light. Learn the speed of light and how light can do work and be changed into heat or electricity.	Study: EB Learning Material Essay: Experiment

Lesson Title		Lesson Content	Essays & Media
14	Heat Energy	Recognize heat as a form of energy and discover sources of heat, including the sun and fire. Find out how heat can change the states of matter and how heat is conducted through objects. Learn how to use a thermometer to measure heat.	Study: EB Learning Material Essay: Written Response
15	Sound Energy	Recognize sound as a form of energy and discover how sound waves move through objects. Learn the concept of a vacuum, sound waves, and the sense of hearing.	Study: EB Learning Material Essay: Experiment
16	Machines	Identify various energy sources, such as electricity, wind, sun, water, animals, and people. Learn about the use of force to make machines do work. Discover how food is a source of energy for people.	Study: CV Videos EB Learning Material Essay: Written Response
17	Work and Machines	Define work and energy. Discover the uses of six simple machines, as well as how each machine works and performs.	Study: CV Videos EB Learning Material Essay: Experiment
Unit 5: Life Science			
18	Seeds	Identify the parts of a seed and learn how seeds grow. Experiment with different seeds. Discover different types of plants, flowers, and trees.	Study: CV Videos EB Learning Material Essay: Experiment
19	Seeds and Plants	Identify the needs of plants, including water, nutrients, and sunshine. Learn about the reproduction of plants. Discover how the changing seasons affect plants. Learn about plants that grow in different climates, such as the desert and the rainforest.	Study: CV Videos EB Learning Material Essay: Activity
20	Animals	Discover the characteristics of animals. Learn various ways animals are grouped, such as mammals, birds, fish, vertebrates, and invertebrates. Learn the purpose of animal coverings.	Study: EB Learning Material Essay: Written Response
21	Animal Growth	Discover how animals grow, develop, and reproduce. Recognize that animals need things such as food and water to survive.	Study: EB Learning Material Essay: Written Response
22	People Need Animals	Identify different types of animals and become familiar with different places animals live, such as farms, zoos, homes of people, and nature. Recognize the different uses people have for animals, such as pets, working animals, and animal products.	Study: EB Learning Material Essay: Written Response
23	Growing and Changing	Discover the process of human growth from infancy to adulthood. Learn the importance of a healthy lifestyle consisting of exercise, rest, and a nutritious diet.	Study: EB Learning Material Essay: Illustration
24	Growth and Health	Learn the importance of nutrition, rest, exercise, and hygiene. Discover how these things affect human growth.	Study: EB Learning Material Essay: Written Response
25	Tobacco, Alcohol, and Drugs	Learn how medications can help people when used properly. Discover the dangers of alcohol and tobacco use.	Essay: Activity

	Lesson Title	Lesson Content	Essays & Media
26	Using Your Senses	Discover how our five senses help us understand our environment. Realize that the body communicates with the brain by using the senses.	Study: EB Learning Material Essay: Experiment
27	Sensing the World	Discover the environment through the senses. Learn the functions of the eyes and the taste buds.	Study: EB Learning Material Essay: Written Response
28	Our World	Realize how living things react to changes in the environment, such as cutting down forests, building roads, factories, and homes, pollution, and draining wetlands.	Study: EB Learning Material Essay: Written Response
<i>Unit 6: Earth and Space Science</i>			
29	Air	Learn why life on earth needs air. Study the effects of moving air on objects. Explore the properties of air.	Study: EB Learning Material Essay: Experiment
30	Air and Weather	Identify the characteristics of air and how to measure air pressure. Discover the meaning of low pressure and high pressure. Learn about the different forms of precipitation, as well as different cloud types.	Study: EB Learning Material Essay: Experiment
31	Clouds	Identify clouds and cloud formations. Learn about precipitation. Define meteorologist.	Study: EB Learning Material Essay: Activity
32	Changes in Weather	Identify the characteristics of warm and cold air. Learn about clouds, thunderstorms, wind, rain, and lightning.	Study: EB Learning Material Essay: Experiment
33	The Seasons	Identify the four seasons and discover various natural events that are associated with each season. Explore seasonal temperature and precipitation.	Study: EB Learning Material Essay: Written Response
34	Landforms	Study the changing earth and learn about landforms, such as plains, hills, mountains, rivers, lakes, and glaciers.	Study: EB Learning Material Essay: Experiment
35	Fresh Water	Identify sources of fresh water, such as rain, melting snow, and ice. Discover the importance of dams, ground water, and wells. Learn about water pollution.	Study: EB Learning Material Essay: Activity
36	Oceans	Recognize the difference between ocean water and fresh water. Learn why the human body needs fresh water. Learn about plants and animals that live in the oceans. Discover how the sun warms the oceans.	Study: EB Learning Material Essay: Illustration
37	The Sun	Identify the characteristics of the sun and how it is used as a source of light and heat. Learn what effect the sun has on plants. Experiment with shadows. Study the concept of daytime and nighttime.	Study: EB Learning Material Essay: Illustration
38	The Sun as a Source of Heat and Light	Learn about the sun as a source of heat and light. Discover how the sun warms the earth and the air.	Study: EB Learning Material Essay: Activity
39	Day and Night	Recognize the results of the earth's tilt on its axis. Understand rotation, revolution, and the orbit of the earth. Learn how the sun creates daylight and darkness.	Study: EB Learning Material Essay: Activity
40	The Moon	Discover the size of the moon in relation to the earth. Learn how the moon was formed. Identify the characteristics of the moon's surface and the moon's atmosphere.	Study: EB Learning Material Essay: Activity

Lesson Title		Lesson Content	Essays & Media
<i>Unit 7: Science and Technology</i>			
41	Solving Problems with Technology	Recognize the steps needed to solve a problem using technology: identifying the problem, proposing a solution, implementing a solution, and evaluating the product or design.	Essay: Activity
42	Tools That Scientists Use	Discover various tools scientists use to do science. Realize that sometimes scientists are unable to solve problems.	Essay: Illustration
43	Natural and Man-made Objects	Discover the difference between natural and man-made objects. Identify examples of each.	Essay: Activity
44	Uses of Technology	Recognize how technology has influenced the invention of various useful products and how it has improved methods of transportation.	Essay: Written Response

Lesson Title		Lesson Content	Essays & Media
Unit 1: Science as Inquiry			
1	Asking Questions about Science	Realize we learn by asking questions and that questions come from things we notice about the world. Determine what information is needed to answer a question and discover there are many ways to make observations.	Essay: Written Response
2	Tools for Observation	Recognize that scientists use many different tools to measure and observe things. Understand that scientists ask questions and find answers based on what they observe.	Study: EB Learning Material Essay: Written Response
3	Scientific Observation	Discover that science is a way to gain knowledge by making observations and that some scientific observations are made through measurement.	Essay: Written Response
4	How do Scientists Perform Their Jobs?	Discover that scientists explain the methods used to answer a question. Scientists check and repeat the work of others to make sure results are accurate.	Study: EB Learning Material Essay: Illustration
5	Science Fair Project	Learn the steps to develop a science fair project. Study topic selection, the scientific method, procedures to follow, and how to display your project.	Essay: Written Response
Unit 2: History and Nature of Science			
6	People and Science	Learn that the purpose of science is to learn more about the world around you. Discover some of the reasons people pursue science as a career.	Study: EB Learning Material Essay: Written Response
7	Inventions	Recognize some important inventions that have been developed throughout time. Learn about some notable inventors from the past.	Study: EB Learning Material Essay: Research
Unit 3: Science in Personal and Social Perspectives			
8	Groups People Live In	Identify groups of people. Explore why groups change in size. Discover the meaning of community, population, and rural.	Study: EB Learning Material Essay: Illustration
9	Human Needs	Understand that all humans have basic needs, such as food, water, and shelter. Discover that we get the things we need from the environment.	Study: EB Learning Material Essay: Illustration
Unit 4: Physical Science			
10	All about Matter	Identify three states of matter and some properties of matter. Learn that atoms make up matter.	Study: EB Learning Material Essay: Written Response
11	States of Matter	Discover how matter changes states. Explore how mass and matter can be measured. Find out how water evaporates into a gas.	Study: EB Learning Material Essay: Written Response
12	Electricity	Learn about electricity. Discover electrical charges, circuits, currents, and the flow of electricity. Explore conductors and nonconductors, static electricity, batteries, and lightning.	Study: CV Videos EB Learning Material Essay: Experiment
13	Heat	Recognize heat as an energy source. Determine sources and uses of heat. Define conductors and insulators. Learn about the use of a thermometer to measure heat with Fahrenheit and Celsius scales.	Study: EB Learning Material Essay: Written Response

Lesson Title		Lesson Content	Essays & Media
14	Light	Learn about light as a form of energy and discover sources of light. Determine how light affects objects. Explore the speed of light.	Study: EB Learning Material Essay: Activity
15	Sound	Identify what causes sound. Understand the meanings of vibration, pitch, and sound waves. Learn how sound travels through matter.	Study: EB Learning Material Essay: Activity
16	Position, Motion, and Magnetism	Learn to describe the position of an object in relation to yourself. Understand that motion is a change of position. Discover how magnets can change the position of some objects.	Study: EB Learning Material Essay: Activity
17	Force and Friction	Explore forces and friction. Learn that a force is a push or a pull. Determine how work is done when an object is moved. Understand the concept of resistance on machines.	Study: EB Learning Material Essay: Illustration
18	Simple Machines	Identify and understand the types of simple machines, including the wheel and axle, lever, inclined plane, pulley, wedge, and screw.	Study: CV Videos EB Learning Material Essay: Activity
19	Compound and Complex Machines	Understand the difference between compound and complex machines and identify examples of each.	Study: CV Video EB Learning Material Essay: Activity
Unit 5: Life Science			
20	Cells	Discover what a cell is. Explore the properties and functions of cells. Learn how cells grow, divide, and reproduce.	Study: EB Learning Material Essay: Activity
21	Plants	Learn important facts about plants. Recognize that plants get water and nutrients from the soil. Identify the functions of various plant parts. Define embryo, seed plants, non-seed plants, and photosynthesis.	Study: EB Learning Material Essay: Written Response
22	Seeds	Discover how seeds are scattered and transported by water, wind, and animals. Learn the basic needs that seeds have for their survival.	Study: EB Learning Material Essay: Activity
23	Animal Populations	Identify animal populations and communities. Learn the difference between herds, flocks, schools, and prides. Identify various endangered species.	Study: EB Learning Material Essay: Written Response
24	Animals Habitats	Define habitat. Discover the importance of protecting animal habitats. Explore the eating habits of various animals and recognize the differences between herbivores, carnivores, and omnivores.	Study: EB Learning Material Essay: Written Response
25	Insects	Identify the parts and features of insects. Study ladybugs, spiders, and butterflies. Learn the meanings of social insects, colonies, and metamorphosis.	Study: EB Learning Material Essay: Written Response
26	The Food Chain	Discover the steps of a food chain on both land and water. Understand the difference between predators and prey. Learn about the eating habits of various animals. Determine the differences between decomposers, producers, and consumers.	Study: CV Video EB Learning Material Essay: Written Response

Lesson Title		Lesson Content	Essays & Media
27	Life Cycles	Explore the life cycles of living things including humans, butterflies, mealworms, and frogs. Discover how different animals are born. Learn the meanings of decomposition, biosphere, and metamorphosis.	Study: EB Learning Material Essay: Observation
28	Stimuli	Recognize that stimuli can be internal or external and that people react to stimuli. Discover the difference between internal and external stimuli. Understand what behavior, response, and reaction are.	Study: EB Learning Material Essay: Written Response
29	Bones and Muscles	Discover how bones help move and support the body and protect internal organs. Learn that bones are living tissue. Learn what bone marrow is.	Study: CV Videos EB Learning Material Essay: Written Response
30	The Brain	Learn about the function and composition of the human brain and the nervous system. Discover the differences between the left and right hemispheres of the brain. Understand long-term and short-term memory.	Study: CV Videos EB Learning Material Essay: Written Response
31	A Healthy Body	Discover what is necessary to have a healthy body. Learn the importance of nutrition, exercise, and personal hygiene. Learn how to prevent illness. Identify the differences between germs, viruses, and bacteria.	Study: EB Learning Material Essay: Activity
32	Conservation	Understand the importance of preservation and conservation of animal and plant habitats. Discover the effect of pollution and acid rain on the environment. Realize the importance of recycling.	Study: EB Learning Material Essay: Activity
33	The Environment	Recognize that people affect the environment in many ways. Learn about air pollution, water pollution, and littering. Discover the importance of reducing, reusing, and recycling.	Study: EB Learning Material Essay: Illustration
Unit 6: Earth and Space Science			
34	The Atmosphere	Identify atmospheric layers, including the troposphere, ionosphere, and stratosphere. Determine how the atmosphere relates to life on earth. Learn about the formation of weather in the atmosphere.	Study: CV Video EB Learning Material Essay: Written Response
35	Water in the Air	Discover the process of the water cycle. Learn how frost forms. Learn about water vapor, precipitation, humidity, dew, and dew point.	Study: CV Video EB Learning Material Essay: Written Response
36	Water	Discover where salt water and fresh water are found. Identify the kind of water that is in the oceans, glaciers, lakes, rivers, ponds, and in the ground. Learn the process of the water cycle and the meanings of evaporation and condensation.	Study: EB Learning Material Essay: Written Response
37	Inside Our Earth	Discover the appearance of earth from space and understand the earth is a sphere. Identify the layers of the earth, including the crust, mantle, and core. Define and recognize landforms, such as islands, valleys, and mountains.	Study: CV Video EB Learning Material Essay: Illustration
38	The Changing Earth	Discover how weathering and erosion affect the earth. Learn about soil and rocks and how wind, water, and glaciers cause erosion.	Study: EB Learning Material Essay: Experiment

Lesson Title		Lesson Content	Essays & Media
39	Rocks and Minerals	Learn about rocks and minerals. Explore the properties of minerals, including color, weight, and hardness. Recognize the differences between igneous, metamorphic, and sedimentary rocks. Define magnetic minerals, sediments, and mineralogists.	Study: CV Video EB Learning Material Essay: Activity
40	Oceans	Identify the Atlantic, Indian, Pacific, Arctic, and Southern oceans. Learn how the oceans affect weather and produce food. Define ocean waves, crest, trough, wavelength, tsunamis, ocean currents, and tides.	Study: EB Learning Material Essay: Written Response
41	The Seasons	Review the four seasons and understand how the tilt of the earth causes the seasons to occur. Learn about the temperatures and events that are associated with the seasons.	Study: EB Learning Material Essay: Illustration
42	Planetary Orbits	Discover the effects of gravity. Learn about the orbits of the earth and the moon. Find out what an eclipse is. Explore the rotation of the earth.	Study: CV Video EB Learning Material Essay: Activity
43	The Moon	Learn about the moon. Examine the orbit and phases of the moon and the moon's surface and atmosphere. Discover the relationship between the earth and the moon.	Study: CV Video EB Learning Material Essay: Interview
44	The Sun	Discover the composition of the sun. Learn how the sun affects life on earth and the growth of living things. Learn about the sun as a star. Compare the temperature of the sun and the planets. Realize the elliptical orbits of the planets.	Study: CV Videos EB Learning Material Essay: Activity
45	The Solar System	Explore the solar system, including galaxies, the Milky Way, the asteroid belt, and the identification of the inner and outer planets.	Study: EB Learning Material Essay: Research
<i>Unit 7: Science and Technology</i>			
46	How Tools Are Invented	Discover why tools were invented and some of the ways people use tools. Identify some of the tools that people use.	Study: EB Learning Material Essay: Illustration
47	Solving Problems with Technology	Recognize the steps to solving problems with technology. Understand the meanings of technology, problem, solution, and evaluation.	Essay: Presentation
48	Computers	Learn about the development of the computer as well as terminology associated with the computer, such as memory, bytes, output, input, and data. Discover more about the modern computer and find out what an abacus is.	Study: EB Learning Material Essay: Written Response
49	Natural and Man-made Tools	Identify objects used as tools as natural or man-made.	Study: EB Learning Material Essay: Illustration

Lesson Title		Lesson Content	Essays & Media
<i>Unit 1: Science as Inquiry</i>			
1	Inquiry	Discover how scientists develop questions based on observations, how they share their work with other scientists, and how they check the work done by other scientists.	Study: EB Learning Material Essay: Experiment
2	Data Collection	Learn how scientists use reasoning, observation, and prior knowledge to answer questions about the world around them. Learn about the tools that scientists use to collect data.	Essay: Activity
3	Science Fair Project	Explore the development of science fair projects. Identify the steps of the scientific method.	Study: CV Videos Essay: Written Response
<i>Unit 2: History and Nature of Science</i>			
4	Inventions	Examine some inventions that have changed the world. Find out how new inventions affect all parts of the world differently. Recognize how the products of technology can harm people, animals, or plants.	Essay: Activity
5	Careers in Science	Explore some careers in science. Learn about some important scientists who have made a difference in the world because of their work.	Study: EB Learning Material Essay: Research
<i>Unit 3: Science in Personal and Social Perspectives</i>			
6	Populations	Study different types of populations and how populations can increase and decrease. Recognize the method for counting people and learn about population density.	Study: CUP Learning Object Essay: Written Response
<i>Unit 4: Physical Science</i>			
7	Matter	Explore the solid, liquid, and gaseous states of matter. Identify physical and chemical properties of matter. Discover how matter is measured.	Study: CUP Learning Object EB Learning Material Essay: Written Response
8	Electricity	Discover what causes electric currents. Learn about different types of circuits, conductors, and insulators. Understand ways to stay safe around electricity.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Activity
9	Magnetism	Examine magnetic forces. Learn how magnets work and what objects attract magnets. Discover that the earth is a magnet and how compasses use the earth's magnetic force.	Study: CUP Learning Object CV Video EB Learning Material Essay: Experiment
10	Heat	Identify heat as a source of energy. Discover sources and uses of heat. Find out how heat is transferred from one object to another as well as how heat is measured.	Study: CUP Learning Object EB Learning Material Essay: Experiment
11	Light	Identify light as a form of energy. Examine sources of light, uses of light, and the measurement of the speed of light. Recognize how light affects objects and how objects affect light.	Study: CUP Learning Object EB Learning Material Essay: Experiment

Lesson Title		Lesson Content	Essays & Media
12	Sound	Learn what causes sound and how it is measured. Define and identify examples of vibrations, pitch, and sound waves. Discover how sound is reflected and absorbed by different objects.	Study: CUP Learning Object EB Learning Material Essay: Experiment
13	Motion	Describe the position of one object in relation to another. Understand Isaac Newton's three laws of motion. Learn how to use reference points to determine if an object is in motion and how to calculate the speed of motion.	Study: CUP Learning Object EB Learning Material Essay: Experiment
<i>Unit 5: Life Science</i>			
14	Cells	Identify the parts of cells. Determine why cells are important. Learn about cell division in plants and animals.	Study: CUP Learning Object EB Learning Material Essay: Diagram
15	Living Things	Identify five groups of living things: bacteria, protists, fungi, plants, and animals. Discover the characteristics and functions of each group.	Study: CUP Learning Object EB Learning Material Essay: Observation
16	Flowering Plants	Identify the parts of a flower and the function of each part. Identify the parts of a plant cell. Examine how plants make their own food by the process of photosynthesis. Learn how plants reproduce through pollination and fertilization.	Study: CUP Learning Object CV Video EB Learning Material Essay: Written Response
17	Insects	Study insect features, helpful and harmful insects, and insect adaptations. Examine traits and habits of the butterfly and ladybug. Discover how many insects grow and change through the process of metamorphosis.	Study: CUP Learning Object EB Learning Material Essay: Research
18	Animal Life Cycles	Examine animal life cycles. Recognize the difference between live birth and animals that hatch from eggs. Understand how animals grow and mature differently though each animal follows the stages of birth, growth, and death.	Study: EB Learning Material Essay: Diagram
19	Food Chains	Discover how food chains operate on land and in the oceans. Learn about ecological dangers that interfere with food chains.	Study: CUP Learning Object CV Video EB Learning Material Essay: Diagram
20	Animal Behavior	Explore the behavior of animals and the stimuli that affect behavior. Learn about different animals' instincts and how those instincts are important for survival.	Study: CUP Learning Object EB Learning Material Essay: Research
21	Animal Populations	Examine populations of different kinds of animals. Recognize how animals depend on the environment and each other for survival. Study animals that have become endangered or extinct. Discover how animal populations can be controlled.	Study: CUP Learning Object EB Learning Material Essay: Written Response
22	Animal Habitats	Explore the habitats in which animals live. Find out how habitats meet the needs of the animals. Learn about various eating habits and adaptations of animals. Recognize how people can change animal habitats.	Study: CUP Learning Object EB Learning Material Essay: Activity

	Lesson Title	Lesson Content	Essays & Media
23	Plant and Animal Adaptations	Explore various plant and animal adaptations used for survival. Define adaptation and instinct.	Study: CUP Learning Object EB Learning Material Essay: Activity
24	The Basic Needs	Discover the things that all people must have in order to survive. Examine the importance of good nutrition, exercise, and following rules and laws.	Study: EB Learning Material Essay: Written Response
25	A Healthy Body	Learn to maintain a healthy body by practicing good hygiene and by avoiding toxins, such as alcohol, drugs, and tobacco.	Study: CUP Learning Object EB Learning Material Essay: Written Response
26	Our Senses	Discover how the human body uses senses to make observations. Identify the senses of sight, touch, smell, taste, and hearing.	Study: CV Videos EB Learning Material Essay: Written Response
27	Resources	Define natural and man-made resources as well as renewable and nonrenewable resources. Learn ways to use the earth's resources wisely and conserve them for the future.	Study: EB Learning Material Essay: Written Response
28	Environmental Changes	Determine environmental resources that are important to everyday life. Understand how people affect the environment in positive and negative ways.	Study: CUP Learning Object EB Learning Material Essay: Interview
29	Conservation	Recognize the importance of conservation and the preservation of the earth's resources.	Study: EB Learning Material Essay: Written Response
Unit 6: Earth and Space Science			
30	The Water Cycle	Examine the water cycle. Discover how the earth's water is continually recycled by evaporation, condensation, and precipitation. Identify different types of precipitation and how they are formed.	Study: CV Video EB Learning Material Essay: Activity
31	Clouds	Identify various types of clouds. Determine how clouds are formed, where they are located in the sky, and how they are classified. Learn how to predict the weather by knowing what kind of weather each type of cloud brings.	Study: CV Videos EB Learning Material Essay: Journal Writing
32	Weather	Identify the different layers of the earth's atmosphere. Discover what causes changes in the weather. Learn about the formation of wind, water vapor, humidity, precipitation, dew, and frost.	Study: CV Videos EB Learning Material Essay: Journal Writing
33	Weather Prediction	Discover how weather predictions are made and how predictions help people. Learn about the tools used to predict weather and weather patterns.	Study: CV Video EB Learning Material Essay: Activity
34	Inside Our Earth	Explore what the earth looks like from space. Identify the earth's different layers. Learn about the natural resources that are provided by the earth and its atmosphere. Understand how people use these resources for survival.	Study: CUP Learning Object CV Video EB Learning Material Essay: Activity

	Lesson Title	Lesson Content	Essays & Media
35	The Changing Earth	Discover how the crust of the earth can be changed by weathering and erosion. Learn what these forces are and how they affect the earth.	Study: CUP Learning Object CV Video EB Learning Material Essay: Activity
36	Rocks, Minerals, and Soil	Examine mineral features and characteristics. Find out how rocks are formed and changed through the rock cycle. Learn how rocks turn to soil. Discover how the soils of the earth vary in their physical properties.	Study: CUP Learning Object CV Video EB Learning Material Essay: Written Response
37	Earthquakes	Study the causes of earthquakes. Define terms associated with earthquakes. Identify where faults are located. Find out how earthquakes are measured.	Study: CV Videos EB Learning Material Essay: Illustration
38	Volcanoes	Understand volcanoes. Define terms associated with volcanoes. Identify different types of volcanoes and eruptions. Find out what the Ring of Fire is and where it is located.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Written Response
39	The Earth	Examine the earth from space. Learn how gravitational force keeps the earth in its orbit around the sun. Discover how the earth's rotation on its axis affects the earth. Learn about the earth's moon.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Activity
40	The Moon	Explore the surface of the moon. Learn about its composition and atmosphere. Find out how the moon's orbit causes the different phases of the moon. Learn about solar and lunar eclipses. Identify who first walked on the moon.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Activity
41	The Solar System	Explore the solar system. Identify the inner and outer planets. Describe asteroids, meteors, and comets.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Research
42	The Inner Planets	Examine the features of Mercury, Venus, Earth, and Mars. Identify the asteroid belt. Study how space probes have been used to learn about space.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Written Response
43	The Outer Planets	Learn about Jupiter, Saturn, Uranus, and Neptune. Examine the orbits and features of each.	Study: CUP Learning Object EB Learning Material Essay: Illustration

Lesson Title		Lesson Content	Essays & Media
44	The Sun	Study the characteristics of the sun. Learn about the sun's size, temperature, and composition. Learn about the sun's gravitational pull on the planets. Recognize how the sun benefits the earth.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Letter Writing
45	Beyond the Solar System	Explore the Milky Way Galaxy and examine the stars and constellations within it. Identify instruments used to explore the solar system. Discuss how distance is measured in space and how stars have been used for navigation.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Activity
<i>Unit 7: Science and Technology</i>			
46	Changes in Science	Recognize how science and technology have changed the world. Identify some scientists whose inventions have improved technology. Discuss how science and technology are constantly improving.	Study: EB Learning Material Essay: Activity
47	Technology	Explore how technology can be used to solve problems. Learn to recognize, carry out, and evaluate a technological solution to a simple problem.	Essay: Written Response
48	Tools	Examine why and how scientists invent tools. Identify examples of tools that science has helped develop. Discuss natural and man-made tools. Explore what it takes to become a scientist.	Study: EB Learning Material Essay: Activity
49	Computers	Learn about the development of technology. Identify computer terms, parts, features, and uses.	Essay: Research

Lesson Title		Lesson Content	Essays & Media
<i>Unit 1: Science as Inquiry</i>			
1	Inquiry	Explore how scientific knowledge grows and how scientists work together and collect data.	Study: EB Learning Material Essay: Experiment
2	Data Collection	Explain how scientists collect data. Recognize the variety of tools used to gather this information.	Essay: Experiment
3	The Scientific Method	Review skills necessary to complete the process of the scientific method. Learn to develop a hypothesis, use a logbook, analyze data, and form a conclusion.	Study: CV Videos EB Learning Material Essay: Experiment
4	Science Fair Project	Learn to use the scientific method for a science fair project. Discover research strategies. Learn to organize and present a project using visual aids, a display board, and a logbook. Identify the components of a logbook.	Study: CV Videos Essay: Activity
<i>Unit 2: History and Nature of Science</i>			
5	The Process of Science	Examine the process scientists use while doing research, including observation, reasoning, sharing, testing, and evaluation.	Essay: Written Response
6	Contributions Made by Scientists	Identify three important scientists and the contributions they have made to society. Recognize that new ideas are sometimes hard for society to accept. Understand how knowledge is valued by different cultures.	Study: EB Learning Material Essay: Research
7	Inventions	Understand that inventions are made to meet the needs of people. Identify some inventors of the past, including Galileo and Newton. Realize inventions meet a need, make life easier, and provide entertainment.	Study: EB Learning Material Essay: Activity
8	Careers in Science	Explore some careers in science, including chemist, biologist, and astronaut. Learn the difference between career and job.	Study: CUP Learning Object EB Learning Material Essay: Research
<i>Unit 3: Science in Personal and Social Perspectives</i>			
9	Hazards	Recognize hazards in the environment. Examine hazards associated with chemicals, electricity, and natural gas.	Study: EB Learning Material Essay: Activity
10	Personal Safety	Learn the importance of safe practices during play. Examine specific safety tips when swimming and cycling. Realize the dangers of animals.	Essay: Written Response
11	Safety in the Science Lab	Review safety rules for a science lab. Review general guidelines for laboratory behavior, clothing guidelines, and what to do in case of an accident.	Essay: Activity
<i>Unit 4: Physical Science</i>			
12	All About Atoms	Discover that matter is made up of atoms. Discover that atoms are made up of neutrons, protons, and electrons. Learn about elements, molecules, and compounds.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Written Response

	Lesson Title	Lesson Content	Essays & Media
13	Matter and Elements	Discuss mass and the states of matter: solids, liquids, gases, and plasma. Identify the differences between atoms, elements, molecules, and compounds.	Study: CUP Learning Object EB Learning Material Essay: Written Response
14	Electricity	Understand what electricity is and how it travels. Compare different types of electricity and electric currents. Study magnets and the relationship of electricity and magnetism.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Diagram
15	Electric Circuits	Recognize different types of electric circuits. Explore how electrons move to create electricity. Identify electronics, transmitters, transistors, microprocessors, and types of integrated circuits.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Written Response
Unit 5: Life Science			
16	Cells and Needs of Living Things	Identify the needs of living things. Explore single-celled organisms. Recognize cells as the building blocks of life. Define metabolism, oxidation, cell, mitosis, amoeba, and protoplasm.	Study: CUP Learning Object EB Learning Material Essay: Written Response
17	Living Things	Discover how organisms inherit genes and traits. Learn about the male and female parts of a flower and the functions of each part. Understand how form is related to function with regard to living systems.	Study: CUP Learning Object CV Video EB Learning Material Essay: Written Response
18	Animal Adaptations	Discover a variety of adaptations used by animals for survival in their environment. Find out how animal body parts, structure, and teeth aid in survival. Describe camouflage, mimicry, warm-blooded and cold-blooded animals, and hibernation.	Study: CUP Learning Object EB Learning Material Essay: Written Response
19	Body Systems	Recognize the major systems of the human body and their functions. Identify the major components of each system and determine how the various parts work.	Study: A.D.A.M. Images CUP Learning Object CV Videos EB Learning Material Essay: Written Response
20	The Digestive System	Explore the function of the digestive system. Identify the salivary glands, esophagus, stomach, pancreas, liver, and intestines. Explore what happens to food after it is eaten and how it is changed into a form usable to the body.	Study: A.D.A.M. Images CUP Learning Object CV Videos EB Learning Material Essay: Narrative Writing
21	Comparing Digestive Systems	Compare the digestive systems of humans and other animals. Focus on differences between the digestive systems of herbivores and carnivores. Distinguish which system is most similar to the human digestive system.	Study: A.D.A.M. Images EB Learning Material Essay: Written Response

	Lesson Title	Lesson Content	Essays & Media
22	Alcohol, Drugs, and Tobacco	Learn the dangers associated with tobacco, drug, and alcohol use. Discover the harmful effects they can have on your body.	Study: EB Learning Material Essay: Written Response
23	Sex and Reproduction	Understand that sex is a normal biological function in adult animals. Discuss how the human body changes as it grows from childhood to adulthood. Understand how reproduction occurs.	Study: EB Learning Material Essay: Written Response
24	Nutrition	Discover how to maintain a healthy body by eating the correct foods. Understand the food pyramid and learn what makes food healthy. Learn about sugars, proteins, fats, minerals, vitamins, fiber, and carbohydrates.	Study: CUP Learning Object EB Learning Material Essay: Activity
25	Diseases	Learn about bacteria and viruses. Discuss the immune system and how the immune system works to protect the body from disease. Identify the lymph system, antibodies, antigens, antibiotics, and vaccines.	Study: CUP Learning Object EB Learning Material Essay: Activity
26	Climate and Life	Examine six major biomes on earth: deciduous forests, tropical rainforests, grasslands, deserts, tundra, and taiga. Understand tropical, temperate, and polar climate zones.	Study: CUP Learning Object CV Video EB Learning Material Essay: Written Response
27	Ecology	Examine ecology and the differences between a community, population, ecosystem, and habitat. Determine what organisms are producers, consumers, and decomposers. Learn how a food chain functions. Determine some causes of population changes.	Study: CUP Learning Object CV Video EB Learning Material Essay: Narrative Writing
28	Energy and Conservation	Learn the difference between renewable and nonrenewable energy. Discover a variety of ways to recycle products and conserve energy.	Study: CUP Learning Object EB Learning Material Essay: Research
29	Environmental Resources	Explore various environmental resources available on earth. Recognize what humans are doing to affect those resources.	Study: CUP Learning Object EB Learning Material Essay: Illustration
Unit 6: Earth and Space Science			
30	Atmosphere and Climate	Identify the layers of the atmosphere. Discuss how changes in the atmosphere can affect global climate. Understand the greenhouse effect. Learn the difference between weather and climate. Discuss factors that affect the climate for a given area.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Written Response
31	Air	Examine air pressure, air density, and how air pressure is measured. Study the cause of wind, the jet stream, and global wind patterns.	Study: EB Learning Material Essay: Activity
32	Water in the Air	Learn the difference between humidity and relative humidity. Discover the process of the water cycle. Define evaporation, condensation, and precipitation. Understand the uses of weather tools, such as the psychrometer and the barometer.	Study: CUP Learning Object CV Video EB Learning Material Essay: Experiment

	Lesson Title	Lesson Content	Essays & Media
33	Air Masses and Fronts	Examine air pressure and air masses. Identify the four different types of fronts: cold, warm, stationary, and occluded. Discuss how weather changes as fronts move through an area.	Study: CV Videos EB Learning Material Essay: Activity
34	Types of Storms	Discover an explanation for storms. Explore tornadoes, hurricanes, and other large storm systems. Describe wind shear, vortex, funnel clouds, and weather watches and warnings. Discuss Doppler and NEXRAD radar.	Study: CV Videos EB Learning Material Essay: Written Response
35	The Earth's Layers	Examine the three major layers of the earth and the components of each layer. Learn about continental drift and plate tectonics. Describe spreading, fracture, and colliding boundaries.	Study: CUP Learning Object CV Video EB Learning Material Essay: Written Response
36	Geologic Processes	Understand the geologic processes of erosion, volcanism, and uplift. Discuss the differences in chemical and physical weathering. Explain how acid rain increases the rate of chemical weathering.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Research
37	Plate Tectonics and Earthquakes	Examine plate tectonics and how it affects land formation. Discover what causes earthquakes and tsunamis. Understand how earthquakes are measured. Learn about mid-ocean ridges.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Research
38	Volcanoes	Discuss three different types of volcanoes: shield, composite, and cinder. Identify two types of igneous rock: basalt and granite. Understand the difference between lava and magma.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Illustration
39	Natural Hazards	Identify types of natural hazards, climatic and geological. Recognize scientists and agencies that monitor and prepare for natural hazards.	Study: EB Learning Material Essay: Activity
40	The Moon	Study the characteristics and phases of the moon. Discuss eclipses, waxing, and waning. Understand that the moon is a natural satellite of the earth. Review the Apollo space program.	Study: CV Videos EB Learning Material Essay: Written response
41	Planetary Orbits	Discover how inertia and gravity keep planets in their orbits. Define orbital velocity, aphelion, and perihelion. Distinguish between a planet's rotation and revolution.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Calculation
42	The Inner Planets	Identify features of the inner planets. Discuss the rotation and revolution of each planet. Determine the differences between meteors, meteoroids, and meteorites, as well as asteroids and comets.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Activity

Lesson Title		Lesson Content	Essays & Media
43	The Outer Planets	Identify features of the outer planets. Discuss how technology increases man's ability to understand the solar system.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Research
44	Stars	Learn about galaxies and stars. Examine the life stages of stars, including nova, supernovas, white dwarfs, and black holes. Describe quasars.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Narrative Writing
<i>Unit 7: Science and Technology</i>			
45	Uses of Technology	Discover the relationship between science and technology. Discuss examples of technology in science, including various telescopes, the use of DNA, nuclear energy, and radioactivity.	Study: CUP Learning Object EB Learning Material Essay: Written Response
46	Solving Problems with Technology	Discuss how technology can be used to solve problems. Evaluate the outcome of technical solutions.	Essay: Written Response
47	Science and Technology	Examine how science and technology depend on each other. Identify the six basic types of technology: communication, transportation, construction, energy and power, manufacturing, and biological and chemical.	Study: EB Learning Material Essay: Written Response
48	The Effects of Technology	Recognize how the knowledge of science impacts our lives. Explain how technology influences society. Define assembly line, microchip, and electronic-mail.	Study: EB Learning Material Essay: Written Response

Lesson Title		Lesson Content	Essays & Media
Unit 1: Science as Inquiry			
1	Inquiry	Explore how and why scientists conduct experiments, what variables are measured, and how they draw conclusions from their results. Recognize the importance of using correct tools and standards in measurement.	Study: EB Learning Material Essay: Experiment
2	Data Collection	Examine how and why scientists collect data. Identify a variety of tools scientists use to gather data. Discuss how technology affects the ways in which scientists collect data.	Study: EB Learning Material Essay: Written Response
3	Scientific Method	Describe the steps of the scientific method. Review topic identification, hypothesis, experimentation, and conclusions. Describe the application of the scientific method in making a science fair project.	Study: CV Videos EB Learning Material Essay: Written Response
Unit 2: History and Nature of Science			
4	The Process of Science	Discover processes used during scientific research. Learn that science is based on rigorous and repeated testing and that some scientific ideas are disputed due to a lack of supporting evidence. Understand what ethical obligations scientists have.	Study: EB Learning Material Essay: Written Response
5	Contributions Made by Scientists	Examine significant contributions made by several important scientists: Marie Curie, Lewis Latimer, and Thomas Edison. Recognize that some scientific ideas that were once rejected are now accepted.	Study: CUP Learning Object EB Learning Material Essay: Research
6	Inventions and Society	Explain how the needs of society have impacted what new technology we have. Recognize how technology has improved the quality of life all over the world. Examine plastics, prostheses, and electricity.	Study: CUP Learning Object EB Learning Material Essay: Activity
7	Careers in Science	Recognize some exciting careers in science, including engineer, marine biologist, ecologist, and astronomer.	Study: EB Learning Material Essay: Research
Unit 3: Science in Personal and Social Perspectives			
8	How We Think about Science	Discover how scientific knowledge changes the way people think. Define risks and benefits. Understand how critical thinking is used in decision making.	Study: CUP Learning Object EB Learning Material Essay: Written Response
9	Safety in the Science Lab	Review the basic safety procedures and science laboratory rules. Recognize science safety symbols.	Essay: Activity
Unit 4: Physical Science			
10	Atoms	Identify the states of matter and what makes up matter. Explain atoms, protons, neutrons, electrons, molecules, elements, compounds, and the periodic table.	Study: CUP Learning Object CV Video EB Learning Material Essay: Written Response

Lesson Title		Lesson Content	Essays & Media
11	Matter	Explore the various states of matter and how matter changes form. Discuss how temperature affects atoms and the molecules that make up matter.	Study: CUP Learning Object CV Video EB Learning Material Essay: Written Response
12	Compounds and Molecules	Define and give examples of mixtures, compounds, molecules, elements, and solutions.	Study: CUP Learning Object Essay: Activity
13	Forms of Energy	Define energy as the ability to do work. Explore sources of energy, including fossil fuels, nuclear, geothermal, and solar energy. Discover how energy is in a continual cycle of change between potential and kinetic forms.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Written Response
14	Electricity	Determine the difference between kinetic and potential energy. Discover how electrical energy is generated and how it flows from one object to another. Learn about amperes, voltage, conductors, insulators, and alternating and direct currents.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Diagram
15	Chemical and Nuclear Energy	Understand some various forms of energy: potential energy, kinetic energy, chemical energy, and nuclear energy. Learn about sources of energy, nuclear fission, nuclear fusion, and radiation.	Study: CUP Learning Object EB Learning Material Essay: Written Response
16	Characteristics of Light	Define light, light frequencies, light spectrum, and spectral lines. Discuss different types of lenses. Understand the makeup of the human eye.	Study: CUP Learning Object EB Learning Material Essay: Written Response
17	Images and Refraction	Explore how light rays travel and are absorbed, reflected, or transmitted by objects. Understand reflection and refraction of light. Discover how light affects what we see.	Study: CUP Learning Object EB Learning Material Essay: Activity
18	Using Forces	Determine how force affects motion. Learn about Newton's laws of inertia, gravitational forces, matched forces, newtons, joules, and the effects of friction.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Activity
Unit 5: Life Science			
19	Cells	Explore the cell theory, the parts of the cell, and how cells grow and reproduce.	Study: CUP Learning Object EB Learning Material Essay: Activity
20	Characteristics of Living Things	Learn the differences between living and nonliving things. Define metabolism, respiration, elimination, reproduction, cell, amoeba, protoplasm, oxidation, and the cell theory.	Study: EB Learning Material Essay: Written Response

	Lesson Title	Lesson Content	Essays & Media
21	Comparing Sexual and Asexual Reproduction	Discover the difference between asexual and sexual reproduction. Learn that DNA traits and chromosomes are inherited from parents. Explore the process of meiosis. Describe how single-celled organisms reproduce.	Study: EB Learning Material Essay: Written Response
22	Adaptation	Explain that similar species in different environments can adapt differently. Review various theories on how organisms adapt. Define overproduction, natural selection, genetic traits, species, and mutations.	Study: CUP Learning Object EB Learning Material Essay: Written Response
23	Extinction	Understand that many species have become extinct since life on earth began. Explain theories of planet change that may be reasons why species become extinct.	Study: CUP Learning Object EB Learning Material Essay: Research
24	The Reproduction of Flowering Plants	Discover how flowering plants reproduce. Learn about the different parts of the plant, including the male and female parts of a flower. Define pollination, fertilization, organism, cell, and species.	Study: CUP Learning Object CV Video EB Learning Material Essay: Activity
25	Plant Growth	Learn about stimuli and responses. Find out why plants react the way they do in certain environmental conditions. Discover the meaning of tropism and learn what causes this to occur.	Study: CUP Learning Object EB Learning Material Essay: Journal Writing
26	The Nervous System	Examine the nervous system. Identify the parts and their functions. Define spinal cord, brain, neurons, and reflexes.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Written Response
27	Exercise and Nutrition	Explain the benefits of exercise and proper nutrition in achieving and maintaining good health.	Study: CUP Learning Object EB Learning Material Essay: Written Response
28	Alcohol, Drugs, and Tobacco	Understand that tobacco, drug, and alcohol use can harm a person's health. Identify diseases associated with the use of tobacco, drug, and alcohol abuse, including emphysema, alcoholism, cirrhosis, and fetal alcohol syndrome.	Study: CUP Learning Object EB Learning Material Essay: Written Response
29	Personal Safety	Recognize the importance of personal safety in a science lab, on the school bus, and as a pedestrian. Understand that pregnancy is a risky situation. Explain how to protect oneself from pregnancy.	Study: EB Learning Material Essay: Written Response
30	Diseases	Discuss communicable and noncommunicable diseases. Describe AIDS and sickle-cell anemia. Define microbes, pathogens, viruses, and bacteria.	Study: CUP Learning Object EB Learning Material Essay: Written Response

Lesson Title		Lesson Content	Essays & Media
31	The Environment	Discuss the differences between ecosystems, populations, and communities. Discover various biomes, such as deciduous forests, taiga, grasslands, tundra, and rainforests. Learn about environmental change, climate zones, temperature, and precipitation.	Study: CUP Learning Object CV Video EB Learning Material Essay: Research
32	Environmental Resources	Explain the need for more environmental resources as populations grow. Explore renewable and nonrenewable resources. Understand environmental pollution and the actions needed to correct it.	Study: CUP Learning Object EB Learning Material Essay: Research
<i>Unit 6: Earth and Space Science</i>			
33	Climate and Atmosphere	Identify various weather terms. Describe the five layers of the atmosphere. Understand the difference between weather and climate. Explain the greenhouse effect and global warming.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Written Response
34	Water in the Air	Discuss how air pressure and relative humidity can be used to forecast the weather. Describe how to measure air pressure and relative humidity. Understand the difference between relative humidity and dew point.	Study: CV Videos EB Learning Material Essay: Experiment
35	Natural Hazards	Examine different kinds of hazards that occur in the environment, including floods, thunderstorms, tornadoes, droughts, wildfires, and landslides. Identify unseen hazards, such as carbon monoxide and radon gases.	Study: CV Videos EB Learning Material Essay: Activity
36	Erosion and Weathering	Learn how physical and chemical weathering affect changes on the earth's surface. Discuss how erosion occurs. Describe how pollution causes acid rain.	Study: CUP Learning Object CV Video EB Learning Material Essay: Letter Writing
37	Minerals	Discuss how minerals are formed. Examine ways minerals can be identified by color, luster, hardness, streak, cleavage, and density. Define rocks, gems, ores, and dietary minerals.	Study: CUP Learning Object EB Learning Material Essay: Research
38	The Moon	Discover the phases of the moon, characteristics of the moon, and the effects of the moon on the earth. Describe solar and lunar eclipses. Discuss the Apollo space program.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Research
39	The Planets	Explain planetary days and years. Describe the eight planets and their locations in the solar system. Define planet and dwarf planet.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Activity

	Lesson Title	Lesson Content	Essays & Media
40	Planets and Their Orbits	Distinguish the orbits of the planets. Discuss orbital velocity, inertia, gravity, and friction as they relate to orbits. Understand planetary days and years. Discover how the tilt of a planet's axis affects seasons.	Study: CUP Learning Object CV Video EB Learning Material Essay: Written Response
41	The Sun	Discuss the sun and its properties. Learn about nuclear fusion. Understand that the sun is the center of the solar system.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Written Response
42	Layers of the Sun	Identify the six layers of the sun. Discuss solar winds, solar prominences, and solar flares.	Study: CUP Learning Object EB Learning Material Essay: Activity
43	Beyond the Solar System	Explore space beyond the solar system. Explain the life cycle of a star. Understand temperature determines star color. Define thermonuclear fusion, nebulae, nova, pulsar, black hole, and quasars.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Written Response
<i>Unit 7: Science and Technology</i>			
44	Using Technology in Science	Discuss how science and technology work together. Discover the difference between basic science and applied science. Understand how technology and tools advance scientific knowledge.	Study: EB Learning Material Essay: Written Response
45	The Effects of Technology	Understand many problems in society can be solved using technology. Examine the process of finding technological solutions. Recognize positive and negative effects of these solutions, including cost, practicality, and impact on society.	Essay: Written Response

Lesson Title		Lesson Content	Essays & Media
<i>Unit 1: Science as Inquiry</i>			
1	Inquiry	Explore scientific theory as the basis for new knowledge, the evaluation of scientific work, and how new scientific methods and technologies are developed.	Study: EB Learning Material Essay: Written Response
2	Data Collection	Learn how and why scientists collect data and the role mathematics plays in data collection. Discover how technology affects the way scientists collect data.	Essay: Written Response
3	Science Skills	Discuss the scientific method and other skills useful in the study of science. Explore how experiments can be controlled. Learn to use deductive and inductive reasoning to draw conclusions.	Study: CV Videos EB Learning Material Essay: Activity
4	Science Fair Project	Review the scientific method and discover tips for completing a science fair project. Learn research techniques, preparation of the bibliography, and presentation skills.	Study: CV Videos EB Learning Material Essay: Activity
<i>Unit 2: History and Nature of Science</i>			
5	The Process of Science	Explain what science is. Review the scientific method. Know the ethical obligations of scientists when they conduct research on human subjects. Understand that scientists evaluate each other's work and not all scientists interpret data the same way.	Study: EB Learning Material Essay: Written Response
6	Contributions Made by Scientists	Recognize two important scientists, Charles Drew and Lise Meitner, and the contributions they have made to society. Understand that ideas introduced by scientists are sometimes hard for society to accept.	Study: CUP Learning Object EB Learning Material Essay: Research
7	Careers in Science	Discover some of the exciting careers in engineering. Identify characteristics and traits common to most scientists.	Study: EB Learning Material Essay: Research
<i>Unit 3: Science in Personal and Social Perspectives</i>			
8	Hazards	Discover the difference between natural hazards and non-natural hazards. Examine safety tips for dealing with hazards. Discuss terrorism as a social hazard.	Study: EB Learning Material Essay: Activity
<i>Unit 4: Physical Science</i>			
9	Atoms	Identify parts of an atom, including electron, neutron, and proton. Examine models of the atom, including the electron cloud and Bohr models. Discuss the characteristics of elements.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Diagram
10	Matter	Identify the states of matter, including solid, liquid, gas, and plasma. Discuss sublimation, evaporation, condensation, physical changes, chemical changes, viscosity, compounds, mixtures, and solutions.	Study: CUP Learning Object EB Learning Material Essay: Experiment

Lesson Title		Lesson Content	Essays & Media
11	Chemical Reactions	Review atoms and matter. Explain physical and chemical changes to matter. Learn about compounds, molecules, chemical reactions, and ionic and covalent bonds.	Study: CUP Learning Object EB Learning Material Essay: Experiment
12	Energy and Simple Machines	Discuss potential and kinetic energy. Explain forms of energy, including nuclear, electrical, chemical, mechanical, and radiant. Learn the definition and formula for work. Explore examples of simple machines.	Study: CUP Learning Object EB Learning Material Essay: Written Response
13	Electricity	Discover facts about electrical charges, static electricity, currents, series and parallel circuits, fuses, and circuit breakers.	Study: CUP Learning Object EB Learning Material Essay: Written Response
14	Motion	Learn about motion, distance, time, speed, and the formula for determining distance. Recognize the difference between mass and weight. Examine velocity and inertia as they relate to motion.	Study: CUP Learning Object EB Learning Material Essay: Written Response
Unit 5: Life Science			
15	Cells	Explore the history of the microscope and the discovery of cells. Acknowledge the contributions of Janssen, Van Leeuwenhoek, Hooke, Schleiden, Schwann, and Virchow. Compare plant cells and animal cells. Discuss the three components of the cell theory.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Diagram
16	Cells: Mitosis	Discover how cells divide. Examine interphase and the four phases of mitosis: prophase, metaphase, anaphase, and telophase. Discuss DNA, chromosomes, genes, and traits.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Written Response
17	Classification of Organisms	Discuss the three criteria for classifying organisms. Identify classification categories. Recognize the five kingdoms of organisms. Understand binomial nomenclature.	Study: CUP Learning Object EB Learning Material Essay: Written Response
18	Simple Forms of Life	Study facts and characteristics of bacteria, protozoa, algae, fungi, and viruses. Explain how each organism functions.	Study: CUP Learning Object EB Learning Material Essay: Written Response
19	Ocean Life	Discover the composition of ocean water. Identify the five oceans and ocean characteristics. Examine the depths of the ocean and discuss various sea creatures that inhabit each area. Study the ocean food chain and the water cycle.	Study: EB Learning Material Essay: Written Response
20	Living Things	Discuss behavioral adaptations, instincts, and control systems that increase an organism's chance for survival. Discover living things often respond to stimuli by changing their behavioral patterns. Define migration, mimicry, hibernation, and camouflage.	Study: CUP Learning Object EB Learning Material Essay: Written Response

Lesson Title		Lesson Content	Essays & Media
21	Evolution	Examine how organisms have adapted over time. Understand that the earth is the result of billions of years of evolution and that fossils reveal these changes. Discuss natural selection, Darwin's theory of evolution, adaptations, variations, and mutations.	Study: CUP Learning Object EB Learning Material Essay: Written Response
22	Extinction	Recognize that many species have become extinct due to environmental changes. Examine the five major causes of extinction. Discuss the Endangered Species Act.	Study: CUP Learning Object EB Learning Material Essay: Research
23	Green Plants	Discuss how plants use the sun's energy. Understand how the processes of photosynthesis, plant respiration, and transpiration work.	Study: CUP Learning Object EB Learning Material Essay: Written Response
24	Types of Green Plants	Discover the difference between vascular and nonvascular plants. Recognize the difference between xylem and phloem tissue and the various root systems of plants. Discuss herbaceous stems, annual growth rings, gymnosperms, and angiosperms.	Study: CUP Learning Object EB Learning Material Essay: Written Response
25	Systems of the Human Body	Review major systems of the human body, their functions, and how they interact with each other. Discuss the skeletal, muscular, nervous, skin, reproductive, respiratory, excretory, and digestive systems.	Study: A.D.A.M. Images CUP Learning Object CV Videos EB Learning Material Essay: Written Response
26	The Respiratory System	Study the parts and functions of the human respiratory system. Examine the process of inhaling and exhaling and the exchange of gases. Recognize the effects smoking has on this system.	Study: A.D.A.M. Images CUP Learning Object CV Videos EB Learning Material Essay: Written Response
27	Exercise and Nutrition	Discover the importance of exercise and nutrition. Recognize how exercise influences your mental and physical health. Describe how food provides your body with energy.	Study: CUP Learning Object EB Learning Material Essay: Activity
28	Tobacco, Alcohol, and Prescription Drugs	Learn the dangers associated with tobacco, alcohol, and prescription drug use. Discuss various health problems related to the use of these products.	Study: CUP Learning Object EB Learning Material Essay: Written Response
29	Personal Safety	Discover the importance of personal safety in different situations. Understand how sex can lead to pregnancy and sexually transmitted diseases.	Study: EB Learning Material Essay: Written Response
30	Ecology	Discover the difference between biosphere, ecosystems, populations, communities, and habitats. Learn how organisms interact with one another. Explore how food chains function. Define producers, consumers, and decomposers.	Study: CUP Learning Object CV Video EB Learning Material Essay: Written Response

	Lesson Title	Lesson Content	Essays & Media
31	Biomes	Distinguish between biotic and abiotic factors within a biome. Study the process of symbiosis. Identify seven major biomes and their climates. Identify plants and animals associated with each biome.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Research
32	Environmental Hazards	Learn about hazardous substances in the soil, water, and air. Discuss the importance of detecting these substances. Terminology includes acid rain, pollutants, dermal exposure, global warming, and ozone depletion.	Study: CUP Learning Object EB Learning Material Essay: Experiment
<i>Unit 6: Earth and Space Science</i>			
33	Air Pressure and Wind	Discuss air pressure, local and global winds, and pressure gradients. Identify instruments used to measure atmospheric conditions. Explain an anemometer and how it is used.	Study: CV Video EB Learning Material Essay: Activity
34	Water in the Air	Study the states of water and associated terms, including evaporation, transpiration, and condensation. Investigate types of precipitation and the water cycle process.	Study: CUP Learning Object CV Video EB Learning Material Essay: Experiment
35	Air Masses and Fronts	Examine air masses and how they create weather changes. Identify cloud types. Discuss prevailing winds and fronts.	Study: CV Video EB Learning Material Essay: Written Response
36	The Forces of Weather	Explain the formation of tornadoes, hurricanes, and thunderstorms. Examine instruments used to detect and measure storm conditions, including barometers, weather balloons, weather satellites, and Doppler radar. Discuss high and low air pressure systems.	Study: CV Video EB Learning Material Essay: Activity
37	Weathering	Uncover facts about weathering and how weathering occurs. Study examples of physical and chemical weathering. Understand the rock cycle and how igneous, sedimentary, and metamorphic rocks are formed.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Written Response
38	Layers of the Earth and Volcanoes	Identify the earth's layers. Discover how seismic waves are used to help scientists determine the makeup of each layer. Describe how volcanoes form, where they form, and the different types of volcanoes.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Letter Writing
39	Plate Tectonics	Understand the theory of plate tectonics. Examine how the continents moved to their present locations from one giant land mass. Describe the three types of plate boundaries and the geologic processes associated with each.	Study: CUP Learning Object EB Learning Material Essay: Written Response
40	Earthquakes	Explore plate tectonics. Explain how the movement of the plates can cause earthquakes. Discover the different types of faults and plate boundaries. Discuss different types of seismic waves.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Diagram

Lesson Title		Lesson Content	Essays & Media
41	The Earth's Rotation	Study the earth's rotation and its effect on time. Discover facts about latitude and longitude, the prime meridian, the international date line, and time zones.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Activity
42	The Earth's Revolution	Discuss the earth's orbit, orbital velocity, perihelion, and aphelion. Discover why the seasons change. Explain solstices and equinoxes.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Written Response
43	The Moon	Discover characteristics of the moon, including surface features and phases of the moon. Discuss theories of how the moon was formed. Describe apogee and perigee. Explain eclipses. Explain how the moon affects tides on the earth.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Research
44	Constellations	Examine facts about constellations and how many of the constellations were named. Describe the celestial sphere. Explain how constellations divide the night sky.	Study: CUP Learning Object EB Learning Material Essay: Research
<i>Unit 7: Science and Technology</i>			
45	Advances in Technology	Explore the development and use of technology in science. Discuss robots, alloys, artificial skin, computer athletics, radio telescopes, arthroscopic knee surgery, and genetic engineering.	Study: CUP Learning Object EB Learning Material Essay: Written Response
46	Solving Problems with Technology	Discuss what perfect vision is. Study the history and development of eyeglasses. Learn how to design, evaluate, and implement a technology through use of criteria. Examine benefits versus cost of technology. Explain possible consequences of technology.	Essay: Written Response
47	Technology	Study the similarities and differences between science and technology. Understand how people contribute to scientific and technological advancements. Discover tools scientists use to develop technology.	Study: EB Learning Material Essay: Written Response

Lesson Title		Lesson Content	Essays & Media
<i>Unit 1: Science as Inquiry</i>			
1	Data Collection	Discuss how and why scientists collect data. Describe how data is evaluated. Discover how technology affects the way data is collected. Learn the role mathematics plays in data collection.	Study: EB Learning Material Essay: Written Response
2	The Scientific Method	Review the steps of the scientific method. Discuss inductive and deductive reasoning. Recognize the difference between pure and applied scientists.	Study: CV Videos EB Learning Material Essay: Activity
3	Science Fair Project	Understand the steps for developing a science fair project. Discuss topic selection, developing a hypothesis, and writing a bibliography. Discover tips on effective presentations.	Study: EB Learning Material CV Videos Essay: Activity
<i>Unit 2: History and Nature of Science</i>			
4	The Process of Science	Understand the process that researchers follow to make scientific advancements. Discuss which qualities are necessary for scientists to have.	Study: EB Learning Material Essay: Written Response
5	Contributions Made by Scientists	Discover contributions that scientists have made to society. Examine contributions made by scientists including Banneker, Einstein, Alvarez, Darwin, and Wegener. Realize that some scientists have had their work questioned, rejected, and later accepted.	Study: CUP Learning Object EB Learning Material Essay: Written Response
6	Careers in Science	Describe various science and engineering careers in the medical field, including research scientists, medical physicists, epidemiologists, genetic engineers, and biomedical engineers.	Study: EB Learning Material Essay: Written Response
<i>Unit 3: Science in Personal and Social Perspectives</i>			
7	Hazards	Describe natural hazards which include hurricanes, fires, earthquakes, and tsunamis. Recognize how people can cause hazards and how these hazards can be prevented.	Study: EB Learning Material Essay: Activity
8	Risks and Benefits	Identify risks associated with various natural hazards in the environment. Discuss how to reduce these risks. Understand the costs and benefits associated with risk reduction.	Study: EB Learning Material Essay: Written Response
9	Laboratory Safety Symbols and Procedures	Discuss safety rules for the laboratory, cleanup instructions, and first aid measures. Identify safety symbols in the laboratory and discuss their meanings and importance.	Study: EB Learning Material Essay: Activity
<i>Unit 4: Physical Science</i>			
10	Atoms	Identify the parts of an atom. Discuss the electron cloud model, quarks, leptons, elements, and isotopes. Examine the periodic table and learn about atomic numbers and atomic mass.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Diagram

Lesson Title		Lesson Content	Essays & Media
11	Chemical Bonds	Identify three types of chemical bonds: ionic, covalent, and metallic. Discuss energy levels, electron dot diagrams, and polyatomic ions.	Study: CUP Learning Object CV Video EB Learning Material Essay: Diagram
12	Chemical Equations	Understand different types of chemical reactions, including exothermic, endothermic, synthesis, decomposition, single-replacement, and double-replacement reactions. Learn to read a chemical formula and balance chemical equations.	Study: CUP Learning Object EB Learning Material Essay: Formula Equations
13	Energy	Review different types of energy, including radiant, potential, kinetic, nuclear, thermal, chemical, and mechanical energy. Study the formulas for kinetic and potential energy. Review the law of conservation of energy.	Study: CUP Learning Object EB Learning Material Essay: Written Response
14	Heat Energy	Explain the difference between heat and temperature. Understand heat is transferred by conduction, convection, and radiation. Explore convection currents and how they affect the atmosphere. Discuss radiation and the greenhouse effect.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Experiment
15	Electricity an Magnetism	Examine the relationship between electrical and magnetic energy. Learn about electromagnets. Study the parts of an electric motor and how each part works.	Study: CUP Learning Object EB Learning Material Essay: Written Response
16	Motion	Describe Newton's three laws of motion. Define acceleration, velocity, force, friction, and other motion related terms.	Study: CUP Learning Object EB Learning Material Essay: Activity
17	Waves	Learn about all aspects of waves including wavelength, crest, trough, amplitude, and frequency. Compare and contrast transverse and longitudinal waves and discover Maxwell's electromagnetic spectrum and the various types of waves included on the spectrum.	Study: CUP Learning Object Essay: Written Response
18	Machines	Understand how machines make work easier. Learn to calculate mechanical advantage. Identify examples of simple machines, including wheel and axle, screw, lever, pulley, wedge, and inclined plane. Describe compound machines.	Study: EB Learning Material Essay: Diagram
Unit 5: Life Science			
19	Cells: Mitosis	Discover three ways cells divide. Describe what happens during interphase and the four phases of mitosis: prophase, metaphase, anaphase, and telophase. Understand DNA bonding, DNA code replication, chromosomes, genes, and hereditary traits.	Study: CUP Learning Object EB Learning Material Essay: Diagram

	Lesson Title	Lesson Content	Essays & Media
20	Cells: Meiosis	Describe the process of meiosis and discover the difference between mitosis and meiosis. Define gamete, zygote, haploid cell, synapsis, tetrad, and crossing over.	Study: CUP Learning Object EB Learning Material Essay: Written Response
21	Traits	Recognize Mendel and the study of inherited traits. Distinguish between x and y chromosomes. Describe dominant and recessive alleles. Explain phenotypes, genotypes, and Punnett squares.	Study: CUP Learning Object CV Video EB Learning Material Essay: Written Response
22	Living Things	Discuss the variety of organisms that exist on earth. Identify the different kingdoms of living things. Recognize how organisms respond to external and internal stimuli.	Study: CUP Learning Object EB Learning Material Essay: Written Response
23	Simple Forms of Life	Describe microscopic organisms, including monerans, protozoans, algae, fungi, and viruses. Examine the functions of these groups.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Written Response
24	Organisms	Discover the contributions of Aristotle and Linnaeus in classifying organisms. Learn about binomial nomenclature and the three methods of classification.	Study: CUP Learning Object EB Learning Material Essay: Written Response
25	Evolution	Explain how organisms have adapted over time. Discuss that earth today is the result of billions of years of evolution. Understand that most organisms that lived on earth billions of years ago have become extinct.	Study: CUP Learning Object EB Learning Material Essay: Written Response
26	Green Plants	Discover the life processes of plants. Determine the differences between herbaceous and woody stems and perennials, biennials, and annuals. Examine different types of root systems. Compare the different types of tropism.	Study: CUP Learning Object EB Learning Material Essay: Written Response
27	Systems of the Human Body	Review the major systems of the human body, including the skeletal, muscular, digestive, circulatory, respiratory, nervous, integumentary, reproductive, immune, excretory, and endocrine systems.	Study: A.D.A.M. Images CUP Learning Object CV Videos EB Learning Material Essay: Activity
28	The Immune System	Explore the immune system. Describe the body's lines of defense against disease. Define lymphocytes, virus, interferon, and macrophages.	Study: A.D.A.M. Images CUP Learning Object EB Learning Material Essay: Written Response
29	HIV and the Immune System	Describe HIV. Discuss how it is spread, how it affects the immune system, the prevention, and the treatment.	Study: CUP Learning Object EB Learning Material Essay: Sequencing

	Lesson Title	Lesson Content	Essays & Media
30	The Skeletal and Muscular Systems	Review the functions of the skeletal and muscular systems. Identify bone parts and functions, cartilage, joint types and functions, flexors and extensors. Describe ossification and sprains.	Study: A.D.A.M. Images CV Videos EB Learning Material Essay: Activity
31	Exercise and Nutrition	Study the importance of exercise and nutrition in maintaining good health and proper development. Understand the redesigned food pyramid. Define endorphins, osteoporosis, aerobic exercise, and MyPyramid.	Study: CUP Learning Object EB Learning Material Essay: Journal Writing
32	Tobacco, Alcohol, and Drugs	Describe addiction to tobacco, alcohol, and drugs. Discover how these substances can affect the body. Discuss social consequences associated with addiction.	Study: CUP Learning Object EB Learning Material Essay: Written Response
33	Personal Safety	Explain the importance of personal safety. Recognize environmental hazards and how to avoid them. Understand the dangers of sexually transmitted diseases.	Study: EB Learning Material Essay: Research
34	Environmental Quality	Discuss hazardous substances, including lead, radon, asbestos, and mercury. Recognize government agencies that monitor these substances. Discover how population can influence the quality of life. Define population density and carrying capacity.	Study: CUP Learning Object EB Learning Material Essay: Written Response
35	Water Biomes	Identify water biomes of the earth. Examine the aquatic zones in the ocean, including the littoral, sublittoral, and phalagic zones. Discuss freshwater biomes and estuaries and the organisms that inhabit these areas.	Study: CUP Learning Object EB Learning Material Essay: Written Response
<i>Unit 6: Earth and Space Science</i>			
36	Air Pressure and Wind	Discuss global wind belts, prevailing winds, and the Coriolis effect. Study air pressure, what affects air pressure, and how air pressure is measured. Describe how differences in air pressure form convection cells.	Study: CV Video EB Learning Material Essay: Written Response
37	The Hydrologic Cycle	Explain the hydrologic cycle, including evaporation, transpiration, condensation, precipitation, infiltration, and runoff. Discuss different types of cloud formation and forms of precipitation.	Study: EB Learning Material Essay: Activity
38	Weathering	Understand the rock cycle and the formation of igneous, sedimentary, and metamorphic rocks. Discuss chemical and physical weathering. Explain sand and soil formation.	Study: CUP Learning Object CV Videos EB Learning Material Essay: Activity
39	Layers of the Earth and Volcanoes	Understand how seismic waves are used to distinguish the earth's layers. Explain how movement of lithospheric plates allows for the formation of volcanoes. Discuss characteristics of shield volcanoes, cinder cones, and stratovolcanoes. Discuss the Ring of Fire.	Study: CUP Learning Object EB Learning Material Essay: Written Response

Lesson Title		Lesson Content	Essays & Media
40	Seismic Waves and Earthquakes	Discuss the lithosphere and asthenosphere and explain how their interaction causes continental drift and earthquakes. Describe the different types of seismic waves and faults associated with earthquakes and tsunamis.	Study: CUP Learning Object EB Learning Material Essay: Research
41	The Solar System	Recognize the contributions of Aristotle, Copernicus, Galileo, Kepler, Newton, and Einstein. Discuss the laws of planetary motion, inertia, and the nebular theory. Identify the layers of the sun and solar phenomenon.	Study: CV Videos CUP Learning Object EB Learning Material Essay: Written Response
42	The Earth's Revolution	Examine the earth's orbit and how the inclination of the earth causes the seasons. Discuss the Tropic of Cancer and the Tropic of Capricorn. Explain solstices and equinoxes.	Study: CV Videos CUP Learning Object EB Learning Material Essay: Written Response
43	Astronomy	Understand basic astronomy, including star formation, constellations, and locating a star by using azimuth and altitude. Discuss measuring astronomical distances using light-years, astronomical units, and parallax.	Study: CUP Learning Object EB Learning Material Essay: Speech Writing
<i>Unit 7: Science and Technology</i>			
44	International Space Station	Learn about the science and technology involved in constructing and running the International Space Station. Discover how technology developed on the space station affects our society.	Essay: Written Response
45	Technological Design	Learn the steps involved in technological design, and how technological design is used to solve problems.	Essay: Written Response
46	Costs and Benefits of Technology	Describe the uses, benefits, and limitations of technology. Discuss the costs of technology, including financial, environmental, and safety.	Study: EB Learning Material Essay: Written Response

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