



monarch

2018 - 2019 Curriculum Catalog

Science 400

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UNIT 1: PLANTS

Assignment	Summary	Video Demo	Supplies
*Project: Things Made of Wood	In this project, you will think about other objects that are made of wood.	No	<ul style="list-style-type: none"> things made of wood
*Report: Read and Write	In this report, you will learn about a fruit from another country.	No	<ul style="list-style-type: none"> research resources
Report: Flowers as State Symbols	In this report, you will learn about state flowers.	No	<ul style="list-style-type: none"> research resources
*Report: Flower Paragraph	In this report, you will learn more about state flowers.	No	<ul style="list-style-type: none"> research resources
Experiment: Celery	In this experiment, you will learn why these strings are important.	Yes	<ul style="list-style-type: none"> fresh celery stalk (stem) with leaves on top a glass of water a magnifying glass red ink or food coloring a knife
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 2: ANIMALS

Assignment	Summary	Video Demo	Supplies
Report: Types of Whales	In this report, you will learn more about three types of whales.	No	<ul style="list-style-type: none"> research resources
*Report: Writing about Fish	In this report, you will learn more about fish characteristics and behavior.	No	<ul style="list-style-type: none"> research resources
*Project: Observing Fish	In this project, you will learn more about how fish swim.	No	<ul style="list-style-type: none"> fish in an aquarium
Report: Honeybee Habits	In this report, you will learn more about the work and behavior of bees.	No	<ul style="list-style-type: none"> research resources
*Project: Animal Scrapbook	In this project, you will practice sorting animals into different groups.	No	<ul style="list-style-type: none"> pictures of animals construction paper glue scissors notebook or folder

*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A
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UNIT 3: MAN, AND HIS ENVIRONMENT

Assignment	Summary	Video Demo	Supplies
*Project: Your Environment	In this project, you will take a closer look at your environment.	No	<ul style="list-style-type: none"> drawing paper
*Project: Populations	In this project, you will take a closer look at the populations in your environment.	No	<ul style="list-style-type: none"> paper
*Project: Make a Pyramid	In this project, you will create a population pyramid.	No	<ul style="list-style-type: none"> access to a printer paper
*Report: Rabbits in Australia	In this report, you will create a population pyramid.	No	<ul style="list-style-type: none"> research resources
*Experiment: Still Water Life	In this experiment, you will create a population pyramid.	Yes	<ul style="list-style-type: none"> one or more kitchen strainers at least 5 wide-mouthed jars hand magnifying glass cloth or netting string microscope (if available)
Project: Human Communities	Write about the needs and structure of your community	No	N/A
*Report: Read and Write	In this report you will learn about the role of a honeybee in a community.	No	<ul style="list-style-type: none"> research resources
*Project: Terrarium or Diorama	In this project, you will make your own desert community.	No	<ul style="list-style-type: none"> a clean, empty two-liter plastic bottle (with the top cut off) one cup of gravel one-half cup of broken pieces charcoal two cups of sand a handful of Spanish moss or sphagnum one or two cups of potting soil desert plants (Like cactus) water
*Report: Forest Community	In this report, you will learn more about forest communities around the world.	No	<ul style="list-style-type: none"> research resources

*Project: Ask an Expert	In this project, you will learn more about forest communities around the world.	No	<ul style="list-style-type: none"> • contact with the agricultural agent in your county
*Report: Endangered Species	In this report, you will learn about one endangered animal.	No	<ul style="list-style-type: none"> • research resources
*Report: How To Save Energy	In this report, you will learn more about renewable energy and ways to conserve it.	No	<ul style="list-style-type: none"> • research resources
*Report: Special Treasures	In this report, you will learn more about a United States National park.	No	<ul style="list-style-type: none"> • research resources
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 4: MACHINES

Assignment	Summary	Video Demo	Supplies
*Report: Galileo	In this report, you will learn more about this important man.	No	<ul style="list-style-type: none"> • research resources
*Experiment: Gravity	In this experiment, you are going to examine how air friction affects gravity	No	<ul style="list-style-type: none"> • two or three pieces of newspaper • a marble • a piece of paper • a chair • a partner
Experiment: Lever	In this experiment, You will explain how a lever works	Online Lab	<ul style="list-style-type: none"> • 30 pennies • a sturdy wooden ruler • a large binder clip • 2 small clear cups, one labeled "Load", one labeled "Effort" • tape
*Experiment: Seesaw	In this experiment, you are going to examine how fulcrum location affects amount of work needed for a lever	No	<ul style="list-style-type: none"> • a seesaw • a friend who weighs about the same as you
*Experiment: Inclined Plane	In this experiment, you are going to compare work with and without use of a simple machine	Yes	<ul style="list-style-type: none"> • four textbooks (3 inches thick) • a toy truck or car • a spring scale • a board about 1 meter long (should be wider than the toy truck)

*Experiment: Screw and Nail	In this experiment, you are going to compare the strength of a nail and a screw	Yes	<ul style="list-style-type: none"> two thin pieces of wood (less than 1 cm thick) a hammer
*Experiment: Pulleys	In this experiment, you are going to compare the mechanical advantage of two pulley types	Yes	<ul style="list-style-type: none"> two pulleys a light rope about two meters long scissors 500-gram weight a spring scale a meter stick two ring stands
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 5: ELECTRICITY AND MAGNETISM

Assignment	Summary	Video Demo	Supplies
Report: Thomas Edison	In this report, you will learn more about Thomas Edison.	No	<ul style="list-style-type: none"> research resources
Experiment: Static Electricity	In this experiment, you will "charge" objects and create static electricity.	Online Lab	<ul style="list-style-type: none"> string two balloons piece of woolen cloth a wool sweater
Project: Conductors	In this project, you will classify items as conductors or nonconductors	No	<ul style="list-style-type: none"> metal spoon screwdriver handle screwdriver blade chalkboard eraser glass dish tin can rubber ball paper paper clip wood
*Experiment: Wet Cell	In this experiment, you will make your own electric cell.	Yes	<ul style="list-style-type: none"> three strips each of copper and zinc (15 x 3 cm) four lengths of covered copper wire, each about 50 cm long. a glass of vinegar a juicy lemon a galvanometer

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			<ul style="list-style-type: none"> • a sharp knife 	
*Project: Electric Objects	In this project you will take a closer look at the electrical objects in your home.	No	<ul style="list-style-type: none"> • various object around your house 	
Project: Fuses In Use	In this project, you will study and write about car fuses.	No	<ul style="list-style-type: none"> • access to a car 	
Experiment: Use a Magnet	In this experiment you will test different objects to see which ones are attracted to a magnet and which ones are not.	No	<ul style="list-style-type: none"> • one magnet • one small piece of paper • two paper clips • five pens • one small plastic cup 	<ul style="list-style-type: none"> • one penny • two rubber bands • one nickel • one tin can • One piece of chalk • Two sewing needles
Experiment: Make A Magnet	In this experiment you will turn a nail into a magnet.	Yes	<ul style="list-style-type: none"> • some iron filings • a large iron nail • a bar magnet 	
*Experiment: Magnet Poles	In this experiment you will use iron fillings to "see" the magnetic field around the poles.	Yes	<ul style="list-style-type: none"> • bar magnet • iron filings • one sheet of paper 	
*Experiment: Testing A Magnet	In this experiment you will use a compass to find the north pole of a magnet.	Yes	<ul style="list-style-type: none"> • a compass • about 40 cm of heavy string • a bar magnet • a stack of books • meter stick 	

*Experiment: Generate Electricity	In this experiment you will use a magnet to make an electrical current.	Yes	<ul style="list-style-type: none"> • a galvanometer • a mailing tube or the cardboard tube from a roll of paper towels • a bar magnet • bell wire
*Experiment: Electromagnet	In this experiment you will use electricity to turn a nail into an electromagnet.	Yes	<ul style="list-style-type: none"> • a large iron nail • a knife switch • thin copper wire • electrical tape • small metal objects like paper clips • a 6 or 12-volt lantern battery(drycell)
*Report: Explorers	In this report you will learn about the people who discovered these areas.	No	<ul style="list-style-type: none"> • research resources
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 6: WATER AND MATTER

Assignment	Summary	Video Demo	Supplies
Experiment: Ice	In this experiment you will test what you know about this property of ice.	Yes	<ul style="list-style-type: none"> • a plastic bowl large enough to hold 3 or 4 cups of water • 2 or 3 ice cubes • cold water
*Experiment: Ice Volume	In this experiment you will test what you know about the volume of ice.	Yes	<ul style="list-style-type: none"> • a measuring cup or small beaker • two mL of water • a piece of tape
*Experiment: Potato	In this experiment you will measure the water in a potato.	Yes	<ul style="list-style-type: none"> • 1 raw potato • 1 scale (to weigh ounces or grams) • 1 heavy-duty plastic knife • a paper towel
*Experiment: Forming Dew	In this experiment you will see water change state.	Yes	<ul style="list-style-type: none"> • 1 small tin can, fruit juice type (be sure there are no sharp edges) • enough ice to fill the can
Experiment: Solubility	In this experiment you will test the solubility of salt, sugar, sand, and oil.	Yes	<ul style="list-style-type: none"> • 4 plastic glasses • 1 tsp of sand

			<ul style="list-style-type: none"> • 1 tsp of salt • 1 tsp of sugar 	<ul style="list-style-type: none"> • 1 tsp of salad or cooking oil • plastic spoon
*Experiment: Molecules	In this experiment you will smell different odors.	No	<ul style="list-style-type: none"> • 1 bottle of strong-smelling perfume • household ammonia • A room about 12 x 12 in dimensions. 	<ul style="list-style-type: none"> • An adult to help perform experiment. • A clock with a second hand. • A couple of sheets of paper.
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A		N/A

UNIT 7: WEATHER

Assignment	Summary	Video Demo	Supplies
*Experiment: Air and Space	In this experiment you will answer this question.	Yes	<ul style="list-style-type: none"> • two small clear plastic cup, one with a hole in the bottom • two paper towels • tape • a large clear container
Experiment: Temperature	In this experiment you will test the heat absorption of different materials.	No	<ul style="list-style-type: none"> • sheet of black paper • window • sunlight shining through the window
Experiment: Pressure	In this experiment you will see the strength of air pressure.	Yes	<ul style="list-style-type: none"> • clear drinking glass full of water • piece of cardboard large enough to cover the glass • a sink or tub to catch the water
*Report: Hurricanes	In this report you will learn more about these dangerous storms.	No	<ul style="list-style-type: none"> • research resources
*Project: Thermometers	In this project you will learn more about the two most common thermometers.	No	<ul style="list-style-type: none"> • research resources
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 8: OUR SOLAR SYSTEM AND THE UNIVERSE

Assignment	Summary	Video Demo	Supplies
Report: Astronomy Instruments	In this report you will learn more about one type of instrument.	No	<ul style="list-style-type: none"> research resources
*Essay: Astronomy	In this report you will think about an astronomer's most important instrument... their mind.	No	N/A
*Essay: Ancient People	In this essay you will write about ancient beliefs.	No	N/A
*Report: Isaac Newton	In this report you will learn more about this famous English scientist.	No	<ul style="list-style-type: none"> research resources
Experiment: Moon Phases	In this experiment you will use a model to show the moon's phase changes.	No	<ul style="list-style-type: none"> 8 Oreo cookies paper plate
*Essay: Astrology	In this essay you will explain why astrology should not be studied.	No	N/A
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 9: THE PLANET EARTH

Assignment	Summary	Video Demo	Supplies
Experiment: Condensation	In this experiment you will watch water vapor change state.	Yes	<ul style="list-style-type: none"> a drinking glass some ice cubes some flavored beverage a clean cloth or tissue
*Essay: Psalm 147	In this essay you will read a Psalm and discuss its meaning.	No	N/A
*Experiment: Currents	In this experiment you will use differences in water temperature to create a current.	Yes	<ul style="list-style-type: none"> a clear plastic tub or container a jug full of tap water a spoon blue and red food coloring a small plastic bottle without lid a small funnel an ice cube tray

Experiment: Shadows	In this experiment you will see how shadows helped scientists and explorers discover that the earth was not flat.	Yes	<ul style="list-style-type: none"> • a ball (3 to 5 inches) • a light source
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 10: UNDERSTANDING GOD’S WONDERFUL CREATION

Assignment	Summary	Video Demo	Supplies
Project: Weather Scrapbook	In this project you will review what you know about the forces of weather.	No	<ul style="list-style-type: none"> • magazines • newspaper
*Project: Thomas Alva Edison	In this project you will review important facts about Edison.	No	<ul style="list-style-type: none"> • the news story you wrote in unit 5
*Report: Passenger Pigeon	In this report you will learn about an extinct animal called the Passenger Pigeon.	No	<ul style="list-style-type: none"> • research resources
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

* indicates an alternative assignment