



monarch

Curriculum Catalog

Science 300

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UNIT 1: YOU GROW AND CHANGE

Assignment	Summary	Video Demo	Supplies
Experiment: Breathing Patterns	In this experiment, you will measure breathing patterns and learn why the body needs oxygen.	No	<ul style="list-style-type: none"> a clock with a second hand
*Experiment: Your Lungs	In this experiment, you will feel how lungs move during breathing	No	<ul style="list-style-type: none"> a sponge
Experiment: Taste Test	In this experiment, you will compare how foods pass through a paper towel	No	<ul style="list-style-type: none"> cocoa salt teaspoon a small drinking glass cone shaped coffee filter or paper towel a large drinking glass half full of water
Experiment: Taking Your Pulse	In this experiment, you will practice taking a pulse and understand that a pulse tells how fast the heart is beating.	No	<ul style="list-style-type: none"> a timer, a stopwatch or a clock with a second hand.
*Project: Bone Numbers	In this project you will compare the bones in your body to the bones in a friend's body.	No	<ul style="list-style-type: none"> a friend who will let you count the bones in their foot.
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 2: PLANTS

Assignment	Summary	Video Demo	Supplies
Experiment: Root Hairs	In this experiment, you will study root hairs on a plant.	No	<ul style="list-style-type: none"> • a small plant • a small magnifying glass
*Experiment: Study a Stem	In this experiment, you will study the stem of a plant	No	<ul style="list-style-type: none"> • a small jar with water • food coloring • a celery stem • magnify glass
Experiment: Grow Some Plants	In this experiment, you will test how light affects plant growth	No	<ul style="list-style-type: none"> • two small potted plants or bean seedlings • a box • a sunny window
Experiment: Watch Bean Seeds Grow	In this experiment, you will understand that plants come from seeds and list the things seeds need to grow.	No	<ul style="list-style-type: none"> • a jar with water • five paper cups • about fifteen (15) lima beans • potting soil • wet paper towel
*Experiment: Plant a Piece of Potato	In this experiment, you will study the growth of a potato plant.	No	<ul style="list-style-type: none"> • a white potato (one with eyes on it) • a pot of soil • a knife • some water
*Experiment: Bean Plant	In this experiment, you will study the growth of a bean plant and understand that some parts of a plant grow faster than other parts.	No	<ul style="list-style-type: none"> • a glass jar • wet paper towel • felt marker • three lima beans • a centimeter ruler
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 3: ANIMALS: GROWTH AND CHANGE

Assignment	Summary	Video Demo	Supplies
Experiment: Hourly Temperature Changes	In this experiment, you will study how temperature changes with time.	No	<ul style="list-style-type: none"> • a clock • a thermometer
*Experiment: Heat Energy Comparison	In this experiment, you will compare the energy needed to heat water and soil.	No	<ul style="list-style-type: none"> • two pint glass jars or bowls • two thermometers • ruler • soil • water
*Project: Desert Locations	In this project you will identify deserts around the world.	No	<ul style="list-style-type: none"> • encyclopedia
Project: Vertebrate Chart	In this project you will practice grouping vertebrates into different groups.	No	<ul style="list-style-type: none"> • paper
*Project: Sort Birds by Type Of Food They Eat	In this experiment, you will practice grouping birds by what they like to eat.	No	<ul style="list-style-type: none"> • pictures of birds
Project: Sow Bug Environment	In this experiment, you will study the behavior of sow bugs.	No	<ul style="list-style-type: none"> • a gallon jar • a lid with some small holes in it that will fit the gallon jar • moist soil • potato • three or four sow bugs
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 4: YOU ARE WHAT YOU EAT

Assignment	Summary	Video Demo	Supplies
Project: Breakfast Chart	In this project you will keep track of the foods you eat for breakfast.	No	• paper
*Project: Lunch Chart	In this project you will keep track of the foods you eat for lunch.	No	• paper
*Project: Dinner Chart	In this project you will keep track of the foods you eat for dinner.	No	• paper
*Project: Chart Totals	In this project you will look at the types of food you eat during an entire day.	No	• paper
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 5: PROPERTIES OF MATTER

Assignment	Summary	Video Demo	Supplies
Experiment: Be A Chemist	In this experiment, you will experiment with matter.	No	<ul style="list-style-type: none"> • a pan of water • a cup of sand • a stick
Experiment: Volume	In this experiment, you will find the volume of different objects.	No	<ul style="list-style-type: none"> • two different sizes of books • metric ruler (with millimeter markings) • calculator • pencil and paper
*Experiment: Think About Mass	In this experiment, you will understand that objects can have different weights and masses.	No	<ul style="list-style-type: none"> • book • brick
*Experiment: Is Air Matter?	In this experiment, you will test the mass of air.	No	<ul style="list-style-type: none"> • two balloons of the same size, the larger the better • wire coat hanger • door
*Project: Matter List	You have learned that matter has different properties. Not all matter is the same. In this project you think about different kinds of matter.	No	<ul style="list-style-type: none"> • paper
*Experiment: Is Water Matter?	In this experiment, you will test the mass of water.	No	<ul style="list-style-type: none"> • small diet scale • cup • water
Experiment: Mass Measurement	In this experiment, you will test compare the mass of matter in different states.	No	<ul style="list-style-type: none"> • food scale that reads in grams • baby-food jar • ice cube
*Experiment: Melting Ice Cubes	In this experiment, you will study how temperature affects ice cubes.	No	<ul style="list-style-type: none"> • 5 paper cups • 5 ice cubes • Refrigerator • cool water • hot water • clock or watch
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 6: SOUNDS AND YOU

Assignment	Summary	Video Demo	Supplies
Experiment: Vibrations	In this experiment, you will experiment with sound vibrations from a drum.	Online Lab	<ul style="list-style-type: none"> pencil
Experiment: Sound Patterns	In this experiment, you will experiment with sound vibrations from a drum.	No	<ul style="list-style-type: none"> a partner ruler water in a large glass stones
Report: Read and Write About Sound	You have learned how sounds are made and how they travel. In this report you will use books to learn more about sound.	No	<ul style="list-style-type: none"> a book about sound.
Experiment: High and Low Sounds	In this experiment, you will study how vibration speed affects sound.	No	<ul style="list-style-type: none"> strong box, open on one side rubber bands of different sizes
*Experiment: Loud or Soft?	In this experiment, you will experiment with sound vibrations from a coffee can.	No	<ul style="list-style-type: none"> coffee can with plastic lid dry cereal
Experiment: Think About Hearing	In this experiment, you will compare how well sounds are heard.	No	<ul style="list-style-type: none"> a clock that ticks yardstick a large sheet of paper
*Report: How Animals Hear	In this report you will learn how animal ears hear sound.	No	<ul style="list-style-type: none"> research materials
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 7: TIME AND SEASONS

Assignment	Summary	Video Demo	Supplies
Experiment: The Earth	In this experiment, you will understand that it cannot be light all over the earth at once.	No	<ul style="list-style-type: none"> • bright flashlight • paper towel tube • globe • tape
Experiment: Night	In this experiment, you will understand that when one side of the earth is light the other side is dark.	No	<ul style="list-style-type: none"> • lamp
*Experiment: The Earth's Rotation	In this experiment you will use a model to learn more about the earth's axis.	No	<ul style="list-style-type: none"> • clay • pencil • two pins
Experiment: Different Times	In this experiment, you will understand that it is day during different times around the world	No	<ul style="list-style-type: none"> • flashlight • globe
*Report: Months	In this report you will learn more about months of the year.	No	<ul style="list-style-type: none"> • research materials
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 8: ROCKS AND THEIR CHANGE

Assignment	Summary	Video Demo	Supplies
Experiment: Bubbling Grains of Rock	In this experiment, you will watch how vinegar reacts with limestone	No	<ul style="list-style-type: none"> • a piece of limestone • a pocket knife • some vinegar • an eye dropper
Report: Mount Rushmore	In this report you will learn about the rocks of Mount Rushmore.	No	<ul style="list-style-type: none"> • research materials
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 9: HEAT ENERGY

Assignment	Summary	Video Demo	Supplies
Experiment: Feeling Friction	In this experiment, you will use friction to create heat.	No	<ul style="list-style-type: none"> • Wood • Sandpaper • a nail • a hammer
Experiment: Oxygen and Fire	In this experiment, you will understand that fire needs oxygen to burn.	No	<ul style="list-style-type: none"> • 3 candles in holders • 1-quart jar • 1-pint jar • matches • clock or timer
*Experiment: Static Electricity	In this experiment, you will create static electricity.	No	<ul style="list-style-type: none"> • a small flat box • plastic food wrap • small bits of paper (tissue) or small bits of lint
Experiment: Water Molecules	In this experiment, you will understand that water molecules move faster in hot water.	No	<ul style="list-style-type: none"> • two clear glasses • food coloring • hot water • dropper • cold water • clock or timer
Experiment: Changing Liquid to Gas	In this experiment, you will understand that heat can change liquid into gas.	No	<ul style="list-style-type: none"> • an adult to help you use the stove • a one cup measure • water • a pan or kettle • clock or timer • pot holder
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 10: REVIEW

Assignment	Summary	Video Demo	Supplies
Project: Rock Collection	In this project, you will write about rocks.	No	<ul style="list-style-type: none"> • 5 different rocks

Experiment: How Sound Travels	In this experiment, you will understand that sound can travel through objects.	No	<ul style="list-style-type: none"> • string • chair • coat hanger
Experiment: Temperature Comparisons	In this experiment, you will study how color affects temperature.	No	<ul style="list-style-type: none"> • 2 small cardboard boxes (same size) • black paper • white paper • 2 thermometers • glue
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

* indicates an alternative assignment