

5th Grade Science Teacher Guidelines

In 5th Grade Science, students will take an integrated approach to learning science. Topics covered include matter, energy and forces, geology, the atmosphere and solar system, cells and body systems, and ecosystems. Labs and activities are included in every Unit. Please make sure all activities and investigations are completed safely.

Unit 1: Scientific Method

Unit 2: Matter

Unit 3: Energy

Unit 4: Force and Motion

Unit 5: Geology

Unit 6: Weather

Unit 7: Solar System

Unit 8: Cells and Body Systems

Unit 9: Plants and Animals

Unit 10: Ecosystems

Unit	Activity Name	Activity Description	Materials Needed	Finished Before
1	Make a Science Journal	Activity: Students create a science journal and write safety rules.	Composition notebook, permanent-ink pen or marker, crayons or colored pencils, ruler, pencil	Quiz 1
1	Bouncing Ball	Investigation: Students practice the scientific method by bouncing a ball on different surfaces and seeing how high it bounces.	Bouncing ball, meter stick, three different surfaces	Quiz 2
1	Evaluate Claims	Activity: Students evaluate claims from the packaging of a food item.	1 packaged food item that makes at least 3 claims, camera (optional)	Quiz 3
2	Classify Matter	Investigation: Students observe and record the physical properties of matter and then classify the matter.	10 items that can get wet, with one item being a metal paper clip; balance; bowl large enough to fit in each item; water; meter stick; metric ruler, graduated cylinder	Quiz 1
2	Expansion and Contraction	Investigation: Students test the effect of temperature on the	2 9-inch balloons (round); two containers large enough to fit a balloon that has been blown	Quiz 2

		expansion and contraction of gases.	up; ice water; warm water; metric ruler; safety goggles	
2	Mixtures and Solutions	Investigation: Students make several mixtures and solutions and then come up with ways to separate them.	Iron filings; sand; sugar; salt; gravel; lemon juice; 6 beakers; masking tape; permanent marker; graduated cylinder; water; safety gloves and goggles	Quiz 3
3	Sound Energy	Investigation: Students explore sound energy by making a cup "talk".	Safety goggles; 16 oz plastic cup; string; toothpick; sharp pencil; scissors; paper towel; metric ruler	Quiz 1
3	Light Energy	Investigation: Students investigate light and how it travels through matter.	Flashlight; mirror; clear glass; colored plastic wrap; book; an object of the student's choosing; water; prism; hand lens	Quiz 2
3	Circuits	Investigation: Students make a circuit and test what happens when the circuit is open and closed.	One 9-volt battery, one 9-volt light bulb, light bulb holder, two wired (one red, one black), light switch (optional), scissors or wire stripper, rubber gloves, safety goggles	Quiz 3
4	Design Your Own Experiment	Investigation: Students design their own experiment to test a force.	Materials vary based on experiment	Quiz 1
4	Present Findings	Investigation: Students make computer graphs and write and present a lab report based on their experiment on forces.	Computer; slide show software	Quiz 2
4	Arm Model	Investigation: Students design and build a catapult.	7 popsicle sticks; 3 rubber bands; a plastic milk cap; 5 marshmallows	Quiz 3
5	Grow Crystals	Investigation: Students grow and compare crystals from salt and sugar solutions.	A cup or small bowl; ½ cup Epsom salt, ½ cup hot tap water; a drop of food coloring; refrigerator; 1 cup water; 3 cups table sugar; clean glass jar; pencil; string or yarn (do not use nylon string); pan for boiling water; hot plate; spoon for stirring; paper clip; safety goggles; oven mitts	Quiz 1

5	Fossil	Activity: Students make a fossil model and write a story or draw a comic strip about it.	Computer; modeling clay; clean empty tuna can or small disposable bowl;	Quiz 2
5	Soil	Investigation: Students observe and investigate soil properties.	Computer; small bucket; small shovel or spade; hand lens; beaker; coffee filter; graduated cylinder; sieve; plastic container	Quiz 3
6	Local Land forms	Activity: Students research a local landform and write a report.	Computer with internet; library	Quiz 1
6	Climate vs. Weather	Investigation: Students research the weather and climate of a city.	Computer with internet; library	Quiz 3
7	Scaled Solar System Model	Activity: Students create a solar system model to scale.	Meter stick; metric ruler; different sized balls or other objects to represent the planets; string (at least 4 meters); tape	Quiz 1
7	Gravity and Weight	Activity: Students research what their weight would be on different planets and on the Sun.	Computer with internet	Quiz 2
7	Day and Night	Investigation: Students demonstrate that Earth experiences day and night because of rotation on its axis.	Globe; sticker; flashlight; dark room; clock	Quiz 3
8	Observe Cells	Investigation: Students observe cells through a microscope.	Compound microscope; safety goggles; 3 prepared slides that have unicellular organisms on them	Quiz 1
8	Plant and Animal Cells	Model: Students create models of plant and animal cells.	Clay or Play-doh (many different colors; toothpicks; small pieces of paper; tape	Quiz 2
8	Organ System	Activity: Students research an organ system and create a labeled drawing.	Computer with internet; library	Quiz 3
9	Aquarium Setup	Investigation: Students set up an aquarium to observe its ecosystem.	Any materials needed to set up an aquarium; at least 3 different types of organisms (at least one plant and one animal)	Quiz 1

9	Captive Breeding Research	Activity: Students research a captive breeding program for an animal of their choice and make a poster board of their findings.	Computer with internet; library; poster board	Quiz 2
9	Aquarium Observations	Students make observations of their aquarium.	aquarium	Quiz 2
9	Aquarium Observations	Students make observations of their aquarium.	aquarium	Quiz 3
10	Ecosystem Investigation	Investigation: Students explore an ecosystem in their backyard or schoolyard.	Camera; collecting net; journal; computer; printer	Quiz 1
10	Aquarium Observations	Students make observations of their aquarium.	aquarium	Quiz 1
10	Aquarium Observations	Students make observations of their aquarium.	aquarium	Quiz 2
10	Aquarium Observations	Students make observations of their aquarium.	aquarium	Quiz 3