

Culturally Relevant Principles	Instruction	Curriculum	Visuals/Charts/Graphs
Activate Students' Prior Knowledge and Connect the Learning to Their Experiences	Prompt students to bring household objects to school that can be used in investigations such as kitchen utensils, pens, small toys, magazines, and coins.	Ask students to predict if U.S. coins will be attracted to the magnet and give an explanation. Ask students to predict if Mexican coins will be attracted to magnets. Explain the results. 2-PS1 Matter and Its Interactions (NGSS Lead States 2013, p. 16).	Encourage students to create charts and graphs that predict which objects are attracted to a magnet. Students can develop a game called "Myth or Truth?" for other students to consider magnetic properties of objects.
Standard: 2-PS1 Matter and Its Interactions			
Performance Expectation: 2-PS1-1 Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.			
Science and Engineering Practice Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question.	Disciplinary Core Idea Matter can be described and classified by its observable properties	Crosscutting Concept Patterns in the natural and human designed world can be observed.	

NGSS Lead States. 2013. *Next Generation Science Standards: For states, by states*. Washington, DC: National Academies Press. www.nextgenscience.org/next-generation-science-standards.

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Engage Students in Subject-Area Discourse	Ask student groups to plan and carry out an investigation on friction. Direct groups to engage in discussions based on evidence gathered about the speed of an object. Use small toy cars and various surfaces from plush carpet to sandpaper. 3-PS2 Motion and Stability: Forces and Interactions (NGSS Lead States 2013, p. 25)	Ask students to give examples of how friction influences their lives from walking to riding a bicycle; include a discussion of the force of gravity. 3-PS2 Motion and Stability: Forces and Interactions (NGSS Lead States 2013, p. 25).	Have students create charts which describe and explain the force of friction using examples from their lives. Discussion of forces and interactions should be included. Students communicate core ideas via the poster/chart.
Standard: 3-PS2 Motion and Stability: Forces and Interactions			
Performance Expectation: 3-PS2-1 Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.			
Science and Engineering Practice Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence using fair tests in which variables are controlled and the number of trials is considered.	Disciplinary Core Idea Each force acts on one particular object and has both strength and a direction.	Crosscutting Concept Cause and effect relationships are routinely identified.	

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Provide Higher Order Thinking and Decision-Making Opportunities	Develop class criteria which students use to identify which bubble is the “best bubble.” Students bring an object from home that typically is not a bubble toy wand to make a bubble. 2-PS1 Matter and its Interactions (NGSS Lead States 2013, p. 16).	Ask students to create a bubble using what they brought from home and a Dawn dish detergent mixture. Teachers can bring items such as a potato masher, plastic hanger, rope loop, and tennis racket for students to use in the investigation. Students rate their bubbles based on the class criteria. 2-PS1 Matter and its Interactions (NGSS Lead States 2013, p. 16).	Have students plan, design, and create charts that identify items from home that may or may not make bubbles. Have students ask their peers to predict which object makes the “best bubble.” Students can use the evidence to draw conclusions on why particular items make bubbles. Photos of students and their bubbles can be taken and added to charts.
Standard: 2-PS1 Matter and Its Interactions			
Performance Expectation: 2-PS1-2 Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.			
Science and Engineering Practice: Analyze data from test of an object or tool to determine if it works as intended.	Disciplinary Core Idea: Different properties are suited to different purposes.	Crosscutting Concept: Simple tests can be designed to gather evidence to support or refute student ideas about causes.	

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