

Instructional Sequence Chart

Kindergarten | Unit 5 | Push and Pull

Essential question: How do pushes and pulls affect the motion of an object?

Sequence	General Summary/Description		Duration
	Content	Literacy	
1	<p>ORACY & BACKGROUND KNOWLEDGE FA 1 <i>K-PS2-1 SL.K.1, SL.K.4 (integrated language practice)</i></p> <p>Introduce the meanings of object, push, pull, and motion. Model and have students identify objects and describe what happens when an object is pushed or pulled.</p> <p>IDENTIFYING EFFECTS OF FORCES FA 2 <i>K-PS2-1</i></p> <p>Use images (e.g., a wagon being pulled, a box being pushed, cars on ramps) to distinguish pushing forces from pulling forces. Compare images showing different strengths or ramp inclinations to identify the greater force at work. With images of colliding objects, predict which direction each object will travel. Students may point, draw, or explain.</p>	<p>INFORMATIONAL READING FA 5 (introduce) <i>RI.K.1; RI.K.6; RI.K.10 (a-b)</i></p> <p>Read informational texts about how pushes and pulls move objects. Teach students to ask and answer questions about key details, locate the author and illustrator, and describe how each presents information. Activate experiences with forces and motion; use illustrations and context to predict what a text will explain.</p> <p>INFORMATIONAL WRITING FA 6 + FA 7 (brainstorm) <i>W.K.2; W.K.7; W.K.8</i></p> <p>Using science experiences and shared sources, orally name the topic (pushes and pulls) and gather ideas about what happens when objects move. Use a graphic organizer to brainstorm a research report. Begin representing information with drawing, dictating, and emerging writing; monitor development with FA 6 and brainstorming with FA 7.</p>	___ days
2	<p>ORACY & CONCEPT DEVELOPMENT FA 1 (ongoing) <i>K-PS2-1 SL.K.1, SL.K.4 (integrated language practice)</i></p> <p>Revisit pushes and pulls while students explain motion using force, stronger, weaker, faster, slower, direction, collide, and stop. Provide structured partner talk and teacher models so students describe and compare the effects of different strengths and directions of force.</p> <p>DESCRIBING/SHOWING EFFECTS FA 3 <i>K-PS2-2</i></p> <p>With ramps, balls, toy cars, and blocks, teach students to observe and demonstrate that stronger pushes can move objects faster and smaller pushes can move them slower. Investigate how objects that collide can change direction or stop. Have students show, point to, or describe how a change works and whether it produces the intended movement.</p>	<p>INFORMATIONAL READING FA 5 (develop) <i>RI.K.1; RI.K.8; RI.K.6; RI.K.10 (a-b)</i></p> <p>Continue reading grade-level informational texts on forces and motion. Teach students to locate key details and identify reasons the author gives to support points about pushes, pulls, speed, or direction. Ask and answer text-relevant questions, with sentence prompts as needed, and revisit the roles of the author and illustrator.</p> <p>INFORMATIONAL WRITING FA 6 + FA 7 (draft) <i>W.K.2; W.K.7; W.K.8</i></p> <p>Use observations and informational sources to draft explanations of what happens when objects collide or when a push makes an object move faster or slower. Students name the topic, supply information, and illustrate what they learned through drawing, dictation, or writing. Track developmental writing with FA 6 and drafting with FA 7.</p>	___ days

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3	<p>ORACY, EVIDENCE & DISCUSSION FA 1 (application) <i>K-PS2-1; K-PS2-2 SL.K.1, SL.K.4 (integrated language practice)</i></p> <p>Have students describe and compare observations from tests, explain the effects of force and direction, and discuss how they might adjust a design to change an object's motion. Support scientific conversations using the unit vocabulary and student evidence.</p> <p>PLAN, INVESTIGATE & ANALYZE FA 4 <i>K-PS2-2; K-2-ETS1-3 K-PS2-1 (investigation foundation)</i></p> <p>Plan and conduct an investigation comparing the effects of pushes and pulls. Test two objects or designs intended to solve the same motion problem. Teach students to state the purpose, develop a plan, name materials, and identify what evidence to collect. Record observations in words and pictures; analyze whether the solution worked and compare strengths and weaknesses. Share findings with another group, then improve the design based on the results.</p>	<p>INFORMATIONAL READING FA 5 (apply) <i>RI.K.9; RI.K.8; RI.K.1; RI.K.6; RI.K.10 (a-b)</i></p> <p>Compare two informational texts about forces or motion. Identify basic similarities and differences in the texts' illustrations, descriptions, or information. Revisit reasons the authors give to support their points, ask and answer key-detail questions, and connect what students learn from the texts to the investigation.</p> <p>RESEARCH WRITING & REVISION FA 6 + FA 7 <i>W.K.2; W.K.5; W.K.6; W.K.7; W.K.8</i></p> <p>Prepare explanatory pieces or an investigation summary naming push and pull and describing what the tests show. Add illustrations, labels, and information from observations and reading. Respond to teacher and peer questions, revise with helpful details, and explore digital tools for producing/publishing the writing. Continue using FA 6 for writing development and FA 7 for brainstorm-draft-revise evidence.</p>	___ days
4	<p>SCIENCE KNOWLEDGE & INVESTIGATION EVIDENCE <i>K-PS2-1; K-PS2-2; K-2-ETS1-3</i></p> <p>Draw on the investigations to explain how different strengths and directions of pushes and pulls affect an object's speed or direction; include examples of collisions, stopping, or changing motion. Use observations and comparisons of designs as evidence for the final research report.</p> <p>INDIVIDUAL EXPLANATORY RESEARCH REPORT SUMMATIVE <i>Primary: W.K.2 Supporting: W.K.5; W.K.6; W.K.7; W.K.8; RI.K.1; RI.K.8; RI.K.9</i></p> <p>Students prepare a research report that references at least two informational texts and explains at least two to three different ways pushes and pulls affect an object's motion. The report includes a compilation of at least two explanatory texts; each names the topic, provides information, and includes an illustration that supports or adds details. Students may draw, dictate, and write, with peer feedback and guided use of digital tools. Assess with the district Kindergarten informational/explanatory rubric and FA 7 checklist. Do not provide a template for students to copy.</p>		___ days