

K-2 SCIENCE

PERFORMANCE TASK

STUDENT INSTRUCTIONS



TASK TITLE

Push, Pull, Play

INTRODUCTION

What do you enjoy doing on the playground? Did you know that when you're playing on the slide, swings, seesaw you are actually using a push and/or pull motion? In this task you will be working together to explore and show what you know about pushes and pulls and how strength and direction act on an object. You will collect data on the playground, play a game, plan and investigate the motion of objects on ramps.

SCORING CRITERIA¹

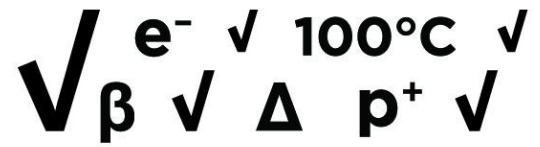
PERFORMANCE INDICATOR	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
<p>#1 Physical Sciences - Structure and Properties of Matter / Forces and Interactions: A</p> <p>Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. (K-PS2-1)</p>	<p>Answers teacher guided questions, recalling direct information the teacher gave about the phenomenon.</p> <p>Works with peers to implement the plan.</p> <p>Identifies and gathers (records) data related to the investigation.</p>	<p>Asks questions about the phenomenon. Through answering teacher guided questions, student identifies the phenomenon.</p> <p>Works with peers to investigate the phenomenon and implement the plan.</p> <p>Identifies, gathers (records) and discusses data related to the investigation.</p>	<p>Asks and answers questions that the teacher poses and is able to explain the phenomenon.</p> <p>Works with peers to come up with a way to investigate the phenomenon and implement the plan.</p> <p>Identifies and gathers (records) data related to the investigation. Uses the collected data to compare the effect of different strengths and directions on the motion of an object.</p>	<p>Independently asks questions and answers guiding questions that the teacher poses to introduce the phenomenon. Generates multiple ways to investigate the phenomenon, as well as justifies which way might be a better way to explore than another.</p> <p>Works with peers to come up with multiple ways to investigate the phenomenon. Implements the plan, and makes changes to it as needed. Identifies and gathers (records) data related to the investigation. Analyzes the collected data to make a generalization about the effect of different strengths and directions on the motion of an object.</p>



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<p>Collaboration: 2</p> <p>Contribute to a common goal by exercising flexibility and accountability.</p>	<p>Share ideas related to a common goal.</p>	<p>Listen to others and exchange ideas related to a common goal.</p>	<p>Contribute to common goal by adjusting opinions or ideas.</p>	<p>Promote flexibility and accountability in others in working toward a common goal.</p>
<p>Problem Solving and Critical Thinking: 4</p> <p>Implement a plan or process of approach using tools and information.</p>	<p>Identify tools to solve a problem.</p>	<p>Identify a range of appropriate tools to help solve a problem and begin to implement a plan or process of approach.</p>	<p>Utilize information, appropriate tools, and/or technology strategically to implement a plan or process of approach to provide a potential solution or product.</p>	<p>Demonstrate creativity and innovation in selection and use of tools and anticipate and address possible implementation challenges.</p>
<p>Problem Solving and Critical Thinking: 5</p> <p>Show flexibility and persist through frustrations; continue to revise a plan or process of approach in order to arrive at a viable solution.</p>	<p>Identify a strategy that could be used to overcome an obstacle in problem solving.</p>	<p>Make an attempt to reach a viable solution by applying a strategy.</p>	<p>Make multiple attempts, persisting as needed, to reach a viable solution by applying and adjusting varied strategies and approaches.</p>	<p>Make multiple attempts, if needed, until an effective solution is reached by applying, evaluating and adjusting strategies and approaches.</p>

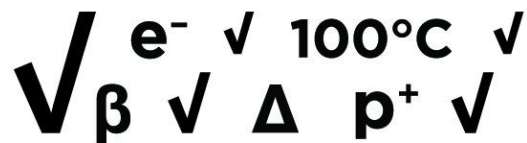
¹ Modifications were made to the Content Scoring Criteria after the task was administered. These modifications were based on a more thoughtful interpretation of the relevant NGSS standards. The modified versions are shown below.

PERFORMANCE INDICATOR	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
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<p>A. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. (K-PS2-1)</p>	<p>Participate in an investigation to make observations about the motion of objects.</p>	<p>Participate in an investigation to identify the effects of various pushes or pulls on the motion of objects.</p>	<p>Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.</p>	<p>Plan and conduct an investigation to explain why different strengths or directions of pushes and pulls affect the motion of objects.</p>
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STUDENT DIRECTIONS AND MATERIALS

TASK DIRECTIONS

Engage in the Scientific Method to collaboratively plan and implement an investigation to answer a wondering question about force and motion.

MATERIALS

NOTE

CHECKLIST

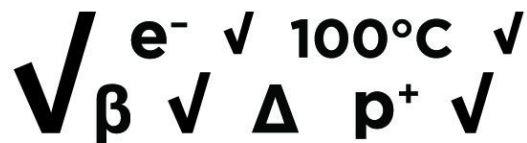
STUDENT EVIDENCE

Use the following as individual student evidence to determine the proficiency level of each indicator on the scoring criteria:

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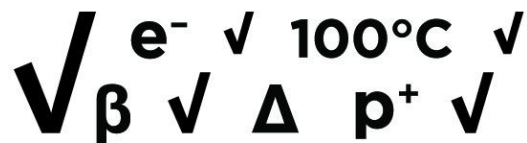
- [Student Planning Sheet](#)
- [Evidence Ticket](#)
- [Class Observational Data Anchor Chart Template](#)
- [Original Observational Data Collection Collaboration Sheet](#) ²
- Anecdotal Data of Student Questioning
- Student Reflection and Goal Setting Sheet

Feedback:

²The Observational Data Collection Collaboration Sheet was redesigned and renamed as [Observational Data Collection Collaboration PI2](#).




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STUDENT REFLECTION AND/OR GOAL SETTING

Name: _____

How do you feel about this task?		
		
Next time I will...		
(draw your goal)		