



Grade 3

3.2.3.D Physical Science: Motion and Stability: Forces and Interactions

Students who demonstrate understanding can *define a simple design problem that can be solved by applying scientific ideas about magnets.*

Clarifying Statement: Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other.

Assessment Boundary: N/A

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Crosscutting Concepts (CCC)
<p>Asking Questions and Defining Problems</p> <p>Asking questions and defining problems in 3–5 builds on K–2 experiences and progresses to specifying qualitative relationships.</p> <ul style="list-style-type: none"> Define a simple problem that can be solved through the development of a new or improved object or tool. 	<p>PS2.B: Types of Interactions</p> <ul style="list-style-type: none"> Electric, and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart and, for forces between two magnets, on their orientation relative to each other. 	<p><i>Connections to Engineering, Technology, and Applications of Science</i></p> <p>Interdependence of Science, Engineering, and Technology</p> <ul style="list-style-type: none"> Scientific discoveries about the natural world can often lead to new and improved technologies, which are developed through the engineering design process.

Pennsylvania Context: N/A

PA Career Ready Skills: Identify consequences of a decision to oneself and others prior to action.

Connections to Other Standards Content and Practices

Standard Source	Possible Connections to Other Standard(s) or Practice(s)
Agriculture (AFNR)	CS.01.02.01.c: Solve problems in AFNR work-places or scenarios using technology.
Science, Environmental Literacy and Sustainability (NAAEE)	K-4 Strand 2.3.A. Human-environment interactions: Learners identify ways that people depend on, change, and are affected by the environment.
PA Core Standards: ELA	N/A
PA Core Standards and Practices: Math	MP.1: Make sense of problems and persevere in solving them. MP.5: Use appropriate tools strategically. CC.2.4.3.A.1: Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
PA Standards: Social Studies	N/A



Standard Source	Possible Connections to Other Standard(s) or Practice(s)
Educational Technology (ISTE)	1.5. Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Technology and Engineering (ITEEA)	STEL-7I: Apply the technology and engineering design process.