

Second Grade Standards Connections for Labs

Physics of Roller Coasters	Advanced Physics of Roller Coasters	Make it Matter	Chemicals of Innovation	Down the Drain	Engineering for Earthquakes	Simplicity of Electricity	Chemistry of Platination	DNA and Genetics
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Next Generation Science Standards								
Matter and its Interactions								
2-PS1-1	Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties			✓				
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			✓				
2-PS1-3	Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object			✓				
2-PS1-4	Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot			✓				
Engineering Design								
K-2-ETS1-1x	Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.	✓						
K-2-ETS1-2	Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.	✓						
K-2-ETS1-3	Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.	✓						
Science and Engineering Practices								
Practice 1	Asking questions and defining problems	✓		✓				
Practice 2	Developing and using models	✓		✓				
Practice 3	Planning and carrying out investigations	✓		✓				
Practice 4	Analyzing and interpreting data			✓				
Practice 6	Constructing explanations and designing solutions	✓						
Practice 7	Engaging in argument from evidence			✓				
Disciplinary Core Ideas								
PS1.A	<i>Structure and Properties of Matter</i> • Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties. • Different properties are suited to different purposes. • A great variety of objects can be built up from a small set of pieces.			✓				
PS2.A	<i>Forces and Motion</i> • Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it.	✓						

PS1.B	<i>Chemical Reactions</i> • Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not.			✓										
PS3.C	<i>Relationship Between Energy and Forces</i> • A bigger push or pull makes things go faster.	✓												
ETS1.A	<i>Defining and Delimiting an Engineering Problem</i> • A situation the people want to change or create can be approached as a problem to be solved through engineering. Such problems may have many acceptable solutions. • Before beginning to design a solution, it is important to clearly understand the problem.	✓												
ETS1.B	<i>Developing Possible Solutions</i> • Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to the other people.	✓												
ETS1.C	<i>Optimizing the Design Solution</i> • Because there is always more than one possible solution to a problem, it is useful to compare and test designs.	✓												
Crosscutting Concepts														
Energy and Matter	Objects may break into smaller pieces and be put together into larger pieces, or change shapes			✓										
Cause and Effect	Simple tests can be designed to gather evidence to support or refute student ideas about causes.	✓		✓										
Structure and Function	The shape and stability of structures of natural and designed objects are related to their function(s).	✓		✓										
Common Core Language Arts														
Speaking and Listening														
SL.2.1	Participate in collaborative conversations with diverse partners about Grade 2 topics and texts with peers and adults in small and larger groups.	✓		✓										
SL.2.1a	Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways listening to others with care, speaking one at a time about the topics and texts under discussion).	✓		✓										
SL.2.1b	Build on others' talk in conversations by linking their comments to the remarks of others.	✓		✓										
SL.2.1c	Ask for clarification and further explanation as needed about the topics and texts under discussion.	✓		✓										
SL.2.2	Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.	✓		✓										
SL.2.2a	Give and follow three- and four-step oral directions.	✓		✓										
SL.2.3	Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.	✓		✓										
Common Core Math														
Measurement and Data														
2.MD.1	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	✓												

