# Kit & Caboodle Creative Contraptions NGSS Standards, Common Core, and other connections

***The kit was designed to be versatile for use with different subject matter. The following NGSS PEs can be addressed using the materials for this project. The teacher should develop specific prompts and challenges to address the desired PEs.* For example, one for 2-PS3-1, a prompt could be, *Use the materials and box to develop a playground set. Take apart your set and use the same materials to make a house. What differences did you notice in how you used the same materials for your two engineering projects?*

## NGSS

### K-PS2-1 Motion and Stability: Forces and Interactions

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-PS2-2 Motion and Stability: Forces and Interactions

Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.

### 2-PS1-3 Matter and Its Interactions

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.

### K-2-ETS1-1 Engineering Design

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 Engineering Design

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 Engineering Design

Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

### 3-PS2-1 Motion and Stability: Forces and Interactions

Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

### 3-PS2-2 Motion and Stability: Forces and Interactions

Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

**3-5-ETS1-3 Engineering Design**

Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

CCSS.ELA-LITERACY.SL.K.3
Ask and answer questions in order to seek help, get information, or clarify something that is not understood.

CCSS.ELA-LITERACY.SL.1.4
Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.

CCSS.MATH.CONTENT.K.G.A.1
Describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.

CMOSC Storytime

Rosie Revere, Engineer

https://www.youtube.com/watch?v=2cRhpETx3Uw&list=PLopjk4EiofEBc_j-xRNts5saEn48HduwT

Iggy Peck, Architect

https://www.youtube.com/watch?v=vsYsTuz7cko&list=PLopjk4EiofEBc_j-xRNts5saEn48HduwT&index=2