

**Push Car Derby**

Build a spring launcher and a car with a removable brake to explore push and pull forces and the effects of friction.

## Missouri Learning Standards

**Science - Grade K****MO.K.PS2. Motion and Stability: Forces and Interactions****K.PS2.A.**

Forces and Motion

**K.PS2.A.1.**

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.

[Clarification Statement: Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other.]

**K.PS2.A.2.**

Describe ways to change the motion of an object (i.e., how to cause an object to go slower, go faster, go farther, change direction, stop).

**Language Arts - Grade K****Reading****R.1.**

Develop and apply skills to the reading process.

**R.1.A.**

Comprehension

With assistance, develop and demonstrate reading skills in response to read alouds by:

**K.R.1.A.b.**

Asking and responding to questions about texts read aloud

**K.R.1.A.c.**

Retelling main ideas or important facts from a read aloud or familiar story

**Speaking/Listening****SL.3.**

Speak effectively in collaborative discussions.

**SL.3.A.**

Collaborative Discussions

Speak clearly using conventions of language when presenting individually or with a group by:

**K.SL.3.A.c.**

Confirming comprehension by retelling information and asking appropriate questions based on read-alouds or other media

**Language Arts - Grade 1****Reading****R.1.**

Develop and apply skills to the reading process.

**R.1.A.**

Comprehension

Develop and demonstrate reading skills in response to reading text and read alouds by:

**1.R.1.A.c.**

Seeking clarification and locating facts and details about stories and other texts



**1.R.1.A.d.**

Retelling main ideas in sequence including key details

**Speaking/Listening**

**SL.3.**

Speak effectively in collaborative discussions.

**SL.3.A.**

Collaborative Discussions

Speak clearly and to the point, using conventions of language when presenting individually or with a group by:

**1.SL.3.A.c.**

Confirming comprehension of read-alouds and other media by retelling and asking appropriate questions

**Science - Grade 2**

**MO.2.PS2. Motion and Stability: Forces and Interactions**

**2.PS2.A.**

Forces and Motion

**2.PS2.A.1.**

Analyze data to determine how the motion of an object changed by an applied force or the mass of an object.

**Mathematics - Grade 2**

**MO.2.GM. Geometry and Measurement**

**2.GM.B.**

Measure and estimate lengths in standard units.

**2.GM.B.4.**

Measure the length of an object by selecting and using appropriate tools.

**Language Arts - Grade 2**

**Speaking/Listening**

**SL.3.**

Speak effectively in collaborative discussions.

**SL.3.A.**

Collaborative Discussions

Speak clearly and to the point, using conventions of language when presenting individually or with a group by:

**2.SL.3.A.b.**

Confirming comprehension of read-alouds and independent reading by retelling and asking appropriate questions