



Elementary Engineering #1: Teacher Tips & Helpful Hints

The Student Activity Pack is broken up into three different activities:

- **Activity 1: Catapult**
- **Activity 2: Parachute**
- **Activity 3: Marble Maze**

Activity 1: Catapult

- Students should only launch the pom-pom.
- To help students know what a catapult is, show pictures of catapults.
- [Nat Geo Kids](#) is a video that explains how a trebuchet works. A trebuchet is a type of catapult.
- [The Marshmallow Incident By Judi Barrett](#) provides for a fictional text integration.
- Extension: Have students find materials around their house to improve their design.

Activity 2: Parachute

- There are two ways that students can test their parachute.
 - Throw the parachute and washer as high as they can.
 - Let the parachute go from a specified height. For example, the top of a set of stairs.
- If the parachute doesn't open students can:
 - increase the height at which the parachute is dropped
 - throw the parachute higher in the air
 - hold the washer in one hand and the parachute in the other when throwing it into the air
 - make sure the string is not wrapped around the parachute.
- To help students know what a parachute is, show pictures of parachutes.
- [Scishow Kids](#) is a video that explains how a parachute works.
- [Parachute by Danny Parker & Matt Ottley](#) provides for a fictional text integration.

Activity 3: Marble Maze

- Chipboard is a thick paper similar to cardstock.
- To help students know what a maze is, show pictures of simple mazes.
- Extension: Have students find materials around their house to improve their design.
- [Paddington and the Marmalade Maze by Michael Bond](#) provides for a fictional text integration.

N.C.S.S:

- K.P.1.1 Compare the relative position of various objects observed in the classroom and outside using position words such as: in front of, behind, between, on top of, under, above, below, and beside.
- K.P.1.2 Give examples of different ways objects and organisms move (to include falling to the ground when dropped)
- 1.P.1.3 Predict the effect of a given force on the motion of an object, including balanced forces.
- 3.P.1.1 Infer changes in speed or direction resulting from forces acting on an object
- 3.P.1.2 Compare the relative speeds (faster or slower) of objects that travel the same distance in different amounts of time.
- 5.P.1.4 Predict the effect of a given force or a change in mass on the motion of an object.