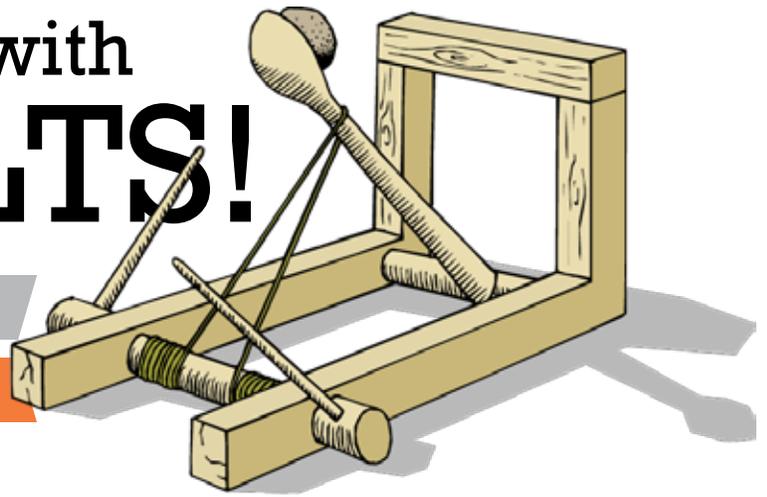


Launch into STEM with CATAPULTS!

Saturday, April 26 ♦ 10am - 3pm

@ Kitsap Mall, Silverdale



Test your launching skills at the
2nd Annual West Sound STEM Showcase.

The Showcase features free, hands-on STEM (**science, technology, engineering & math**) activities for youth of all ages and their families. Events include a **catapult challenge**, with competition by age group: elementary, middle school and high school!

Elementary School Student Design Challenge:

Plan and create a catapult that can launch a mini marshmallow as far as possible using the materials listed below:

Authorized Materials:

- 1 school size (8oz) milk carton
- Up to 3 rubber bands
- Up to 3 pencils
- Up to 1 meter masking tape
- Up to 3 toothpicks
- Up to 2 plastic spoons

Catapult History: When you hear the word “catapult”, you might think of devices used during battles in the Middle Ages. Today, catapults are used many different ways. Did you know that the military sometimes uses catapults to launch planes on aircraft carriers? And, at the amusement park Knott’s Berry Farm, a catapult helps power the Montezuma’s Revenge roller coaster ride!

Launch: A catapult is a device used to launch or throw something a great distance without electricity. There are many types of catapults, including trebuchets, mangonels, and ballistas. A trebuchet is one of the most powerful types. The way it is built gives it lots of potential energy. When the catapult drops its load, kinetic energy goes to the object being thrown, and that object (or projectile) is launched with a lot of force.

Science Behind Catapults: When you push or pull an object, you are exerting a force. People exert this force to move objects from one place to another. This exerted force is called work. Simple machines help people perform work. A lever is an example of a simple machine. A lever consists of a plank that is free at both ends (like a teeter-totter) and a steady object on which the plank can rest. The object the plank rests on is called the fulcrum. The object on the plank that one is trying to move is called the load. (On a teeter-totter, *you* are the load!) Force pushing down one end of the plank moves the load in the opposite direction. On the teeter-totter, if the far end is forced down, you go up! This is a lever in action. A catapult is a kind of lever.

Science

Technology

Engineering

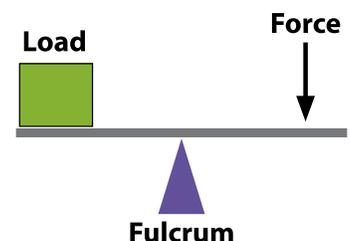
Math

forces, simple machines, energy transfers

using what you know about force, energy and simple machines to design and build a tool to meet the challenge

design, build and test your ideas to meet the challenge

measurement, averages, accuracy



For more info on the Showcase and Catapult Challenge, and for catapult resources, visit www.westsoundstem.org.