

Intermediate Math & Science Project

This week we are going to be thinking about forces, energy and motion. We will investigate different forces and how to measure and graph our results.

Visit your school's playground or think about force and motion as you are playing a sport. When do you experience pushes or pulls to do things? When you are climbing, throwing, skating or running, do you feel your body pushing? Where is the stored energy behind that force? When you are going down a slide or pole or falling, what is pulling you down? What is that force called? Draw a diagram showing how your body uses forces to move.

Design a maze or use ramps or tubes to move a ball or marble. Create an exit spot or "finish line" and measure how far your ball travels past that spot or line. What variables can you change so that your ball will travel farther? Test your ideas and record in a chart what you changed and the distance your ball travelled. What happens if you make the ramp higher? How can you change the direction of your ball? How can you make your ball move faster or slower? Does the type of ball you use change how far it travels? Why do you think that is? Create a bar graph showing your measurements.

A catapult is a machine/device that launches objects. Design and build a catapult using materials you have around your home. There are many ideas and videos on the internet or in library books. Test your catapult. How far can you launch something? Measure where it lands. Can you adjust your design to make your object go farther? Compare your measurements. Draw a diagram of your catapult, showing where the stored energy is and create a graph of the distances you were able to launch an object.

At the end of the week, put all your project work together on one page to submit to your teacher.

