

Activity	Materials	Reasoning	Directions
Wednesday			
Popsicle stick catapult	Popsicle sticks Rubber bands Glue Bottle cap Cotton ball (if none available, crumple up paper)	When you bend your stick, you load the launching stick with energy called potential energy. When you let go, this energy is released and converted into motion or kinetic energy. Most of the energy transfers to the cotton ball, which then shoots through the air. Pushing the stick down farther takes more effort. You need to exert more force or work harder to bend the stick farther. This means that more potential energy gets stored in the stick and when you let go all this stored energy is converted into energy of motion so the cotton ball flies through the air at a higher speed and goes even further!	<ol style="list-style-type: none"> 1. Take six popsicle sticks, stack them one on top of the other. Secure these sticks by wrapping rubber bands around both ends of the stack 2. Take one stick and attach it perpendicular to the stack you just made so you get a cross shape. Secure it with one or two rubber bands that are crossed in an X over the sticks. You just added the launching stick. 3. Next, add the base by attaching a stick to one end of the launching stick with a rubber band. The launching stick and the base form a V shape lying on its side with the stack of sticks in the middle. 4. Put your catapults on its base, glue the bottle cap at the end of the launching stick that sticks up. Wait until the glue is dry. 5. Put your catapult in an open area with a sturdy flat surface 6. Place a cotton ball or crumpled up piece of paper in the launching cup, push the cup down just a little bit and let go. Now push the cup down even further and repeat!
Static Electricity	Pepper Salt Plastic fork (or spoon) Measuring spoons Paper plate Something made of wool (ex: wool sweater)	Static electricity is the imbalance inside an object that contains protons which are positively charged and electrons which are negatively charged. In the students' activity, the students are rubbing a plastic fork or spoon on an article of clothing made of wool then hovering this fork or spoon over a paper plate of pepper and salt. The students will find that the utensil begins to pick-up the pepper from the paper plate due to the static electricity that they created when rubbing the wool clothing on the plastic fork or spoon. This rubbing created a negative charge on the fork or spoon and therefore when it was placed over the positively charged salt and pepper, it began to pick it up. However, it is important to note, that the fork or spoon only picked up the pepper since it was lighter and weighed less than the salt.	<ol style="list-style-type: none"> 1. Pour ¼ teaspoons of pepper onto the paper plate 2. Pour ¼ teaspoons of salt onto the paper plate 3. Mix the salt and pepper together on the paper plate 4. Take the plastic fork or spoon and move back and forth fast for 10 seconds on the article of clothing made out of wool 5. Then, take the fork or plastic spoon and hold it about an inch above the paper plate with the salt and pepper 6. Observe what is happening 7. Repeat steps 4-5 if necessary_
Insulated water bottle	3-4 water bottles aluminum foil cloth paper towels paper sun rubber bands thermometer sun	In order to preserve our natural resources, we want to reduce our energy use whenever we can. One of the ways that we try to reduce our energy consumption is by using insulators to maintain heat or cold. We experience this every day in our homes because there is insulation to try to keep our homes a consistent temperature. We will do an activity that will test the insulating properties of different materials.	<ol style="list-style-type: none"> 1. Take out 3 or 4 different water bottles. 2. Select different household items that you would like to insulate the bottles with. Try things like foam, aluminum foil, cloth, cardboard, etc. Make a prediction about which material will be the best insulator. 3. Place the bottles in the sun for 1 hour or more. 4. Wrap rubber bands around each material 5. At the end of the hour, take the temperature of both bottles to see which one was insulated the best. 6. Think about whether or not your prediction was correct.