

Activity	Materials	Reasoning	Directions
Tuesday			
<b>Anemometer</b>	Two straws 5 Dixie cups Hole puncher Pencil Thumb tack	An anemometer is a weather tool that measures wind speed. As the wind blows, the cups rotate. The faster the wind the faster the cups spin on the axis. Wind speed describes how fast air is moving past a certain point. Wind speed helps indicate a change in weather patterns, such as an approaching storm.	<ol style="list-style-type: none"> <li>1. First, punch four holes across from each other right below the rim of one of the Dixie cups</li> <li>2. Second, thread the two straws through the holes across from each other in the Dixie cup making a cross.</li> <li>3. Third, punch two holes adjacent to each other in the middle of the four remaining Dixie cups</li> <li>4. Next, making sure you have the cups all facing the same direction, thread the straws through each of the Dixie cups as shown in the video.</li> <li>5. Using a sharpened pencil, punch a hole in the bottom of the middle Dixie cup.</li> <li>6. Then using the eraser end of the pencil poke the pencil through the bottom of the Dixie cup so the eraser is at the base of where the two middle straws intersect.</li> <li>7. Take a thumb tack and lightly push the thumb tack through the straws and tip of the eraser.</li> <li>8. Note, if your cups are not able to spin freely then you may need to loosen the thumb tack to decrease the friction.</li> <li>9. Hold your anemometer in front of a fan or take it outside on a windy day to observe how fast the wind is moving!</li> </ol>
<b>Hydro electricity</b>	<p>2 liter bottle Yarn or String A fishing weight or a nut (something that has a little weight)</p> <p>Cork or a styrofoam ball Duct Tape 2 small paper clips 1 Small wooden dowel or wooden skewer Scissors</p>	<p>Hydroelectric power, also called hydropower, is the process of using the energy of moving water to create electricity. The water cycle and gravity come into play when it comes to moving water.</p> <p>The theory was to build a dam on a large river, one that has a large drop in elevation. The dam stores water in a reservoir behind it. There is a water intake close to the bottom of the dam that leads to a penstock, which is a channel for conveying water. Gravity causes the water to drop down the penstock where it heads through a turbine propeller. The turbine is turned by the moving water, causing it to produce mechanical energy, just as the water wheel did. The mechanical energy in this case is kinetic energy (the energy of motion). That energy goes into a generator, where it is converted into electricity. Power lines carry the electricity to where it is needed. The plan worked. Hydroelectric power systems at dams could soon generate enough electricity to power factories, communities, cities, and eventually, entire regions.</p>	<ol style="list-style-type: none"> <li>1. Cut a 2 liter bottle in half</li> <li>2. Cut an additional 2 inch ring off of the top half of the bottle. Cut this piece into approximately 2 inch squares (can be trimmed as needed).</li> <li>3. Tape the paper clips to the top half of the bottle (at the cut edge) so that half of each paper clip is sticking up over the edge.</li> <li>4. Attach one styrofoam ball to the end of the wooden skewer.</li> <li>5. Slide the skewer through the first paper clip, attach the second styrofoam ball to the skewer, then feed the skewer through the second paper clip.</li> <li>6. Stick the 2 inch squares from step 2 into the styrofoam ball that is between the two paper clips. (Will create a water wheel)</li> <li>7. Attach one end of the string to the outside styrofoam ball, and attach a weight to the other end.</li> <li>8. Under the sink, let water run over your water wheel, and watch the weight climb.</li> </ol>