



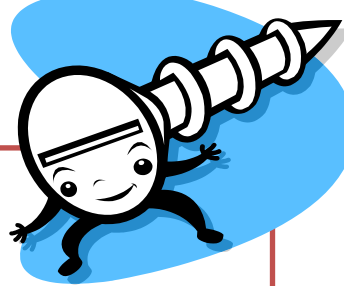








<b>Purpose</b> 	 <b>To determine how a screw works.</b> 
<b>Hypothesis</b> 	<p>I will hold the screw steady with one hand &amp; twist it with the other.</p> <div style="border: 1px solid red; padding: 5px;"> <input type="radio"/> I think the screw will thread down &amp; pierce my palm!  <input type="radio"/> I think the screw will spin in place repeatedly.  <input type="radio"/> I think the screw will thread itself up while my holding hand stays in place.         </div> 
<b>Materials</b> 	<ul style="list-style-type: none"> <li>• large screw</li> </ul>
<b>Procedure</b> 	<ol style="list-style-type: none"> <li>1. Hold the head of the screw with one hand.</li> <li>2. Put two fingernails on the first ridge at the tip of the screw.</li> <li>3. Turn the head of the screw <i>clockwise</i>.</li> </ol>
<b>Results</b> 	<p>Did the screw pierce your palm? <b>Yes / No</b></p> <p>Did the screw spin in place repeatedly? <b>Yes / No</b></p> <p>Did the screw thread itself upwards while your holding hand stayed in place? <b>Yes / No</b></p> <p style="color: blue; font-size: small;">As the screw turns, the ridges spiral downward. Your fingers stay in place &amp; this unique winding road moves past them.</p>
<b>Conclusion</b> 	<p>The screw is an example of a <i>simple machine</i> called an <i>inclined plane</i> that is <i>wrapped around a cylinder</i>.</p> <p><i>The screw is like a winding wedge.</i></p> <p>The closer the threads are together, the easier it is to turn the screw. Screws are used to connect things, but they are also used to lift things; for example, screw jacks lift houses &amp; cars.</p>



<b>Purpose</b> 	<p>To demonstrate that a winding mountain road <i>is an inclined plane.</i></p>
<b>Hypothesis</b> 	<p>Both paths will get me to the top of the mountain, but which is easier--- not quicker---EASIER?</p>
<b>Materials</b> 	<ul style="list-style-type: none"> <li>•scissors</li> <li>•ruler</li> <li>•sheet of paper</li> <li>•pencil</li> <li>•cellophane tape</li> </ul>
<b>Procedure</b> 	<ol style="list-style-type: none"> <li>1. Cut a 5 inch square from the paper.</li> <li>2. Draw a diagonal line across the square and cut across the line.</li> <li>3. Color the longest edge of the paper triangle with the pencil.</li> <li>4. Tape the triangle to the pencil as shown in the diagram.</li> <li>5. Wind the paper onto the pencil.</li> </ol>
<b>Results</b> 	<p>Draw what this triangle looked like when wrapped around the pencil.</p> <p><i>The colored side of the triangle is shaped like a ramp.</i>  <i>Wrapping the paper around the pencil makes it look like a winding road or a screw.</i></p>
<b>Conclusion</b> 	<p>An <i>inclined plane</i> is a sloped surface.          Like the threads on a screw, a winding road is an inclined plane.          If the road could be unwound, it would look like the long, colored sides of the paper triangle.  <i>It is true that it is farther up a road winding around a mountain than it would be directly up the mountain's side, but it takes much less effort to travel the longer distance.</i>          The <i>inclined plane</i> is a simple machine that makes a job easier.          In this case, the job is climbing a mountain.</p>