

Hot Wheels Friction Lab

Teacher: Bethany Fralick
Unit Name: Force and Motion
Lesson Title: Hot Wheels Friction Lab
Grade Level: Fifth Grade
Time: 45 minutes

Standards	Objective(s)	Assessment
<p>CCSS: Science: Standard 5-1: The student will demonstrate an understanding of scientific inquiry, including the foundations of technological design and the processes, skills, and mathematical thinking necessary to conduct a controlled scientific investigation.</p> <p>5-5.1 Illustrate the affects of force (including magnetism, gravity, and friction) on motion.</p> <p>5-5.4 Explain ways to change the effect that friction has on the motion of objects (including changing the texture of the surfaces, changing the amount of surface area involved, and adding lubrication).</p>	<p>1. The student will be able to display an understanding of scientific inquiry.</p> <p>2. The student will be able to show their knowledge of friction.</p>	<p>1. The student will demonstrate her knowledge of scientific inquiry to complete an experiment on friction.</p> <p>2. The student will analyze data from the friction lab to understand which surfaces have more or less friction.</p>
<p>Materials and Resources:</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>1) Hot Wheels Friction Lab Sheet</p> <p>2) Promethean Board</p> <p>3) Flipchart with instructions</p> <p>4) One car for each group</p> </div> <div style="width: 45%;"> <p>5) One ruler for each group</p> <p>6) Two dictionaries for each group</p> <p>7) Sand paper and wax paper for each group</p> <p>8) PVC pipe for each group</p> </div> </div>		
<p>Lesson Introduction *How will you engage your students in the topic?</p>	<p>The teacher will start by reviewing friction from the previous day. Then, the teacher will go through the flipchart to review the process of completing a scientific lab (purpose/problem, hypothesis, procedure, materials, variables, data/results, conclusion). (10 minutes)</p>	
<p>Procedure</p>	<p>First, students will work in their assigned groups to complete the friction lab. Each group will begin by creating a hypothesis for the lab. They will continue to work together to complete section three and section four on their lab report sheet. Once students have completed the lab to find the results, they will return to their desks to complete the remaining parts of the lab individually. Students will create a graph that displays the data recorded in the table on the lab sheet. After students have created the graph, they will form a conclusion onto whether or not their hypothesis was supported. (30 minutes)</p>	
<p>Lesson Closure</p>	<p>After everyone has completed the Hot Wheels Friction Lab, the teacher will review the lab results with the class. (5 minutes)</p>	