

# Problem-Based Learning Unit Template

<b>Topic</b>
<b>Force, Motion and Energy (3.2, 3.11)</b>
<b>Goals/Objectives/SOL</b>
The student will investigate and understand simple machines and their uses. Types of simple machines (lever, screw, pulley, wheel and axle, inclined plane, and wedge); How simple machines function; Compound machines (scissors, wheelbarrow, and bicycle) Examples of simple and compound machines found in the school, home, and work environment.
<b>Theme</b>
<b>More Efficient Amusement Park</b>
<b>Problem Question</b>
How can we use principles of simple machines to make the park be more efficient?
<b>Scenario</b>
Virginia Green is run through a partnership among the Virginia Department of Environmental Quality (DEQ), the Virginia Tourism Corporation (VTC), and the Virginia Hospitality and Travel Association (VHTA). The program seeks to reduce the environmental impacts of the tourism industry and raise environmental awareness. As part of an audit, Kings Dominion has been asked to identify more efficient opportunities. As third grade engineers, you have been tasked to create ways to make the park more efficient.
<b>Student Role</b>
<b>Engineering Assistant - Virginia Green</b>
<b>Resources</b>
<a href="http://www.virginia.org/green/">http://www.virginia.org/green/</a> <a href="http://www.deq.virginia.gov/Portals/0/DEQ/PollutionPrevention/VirginiaGreen/Attractions/kings_dominion.pdf">http://www.deq.virginia.gov/Portals/0/DEQ/PollutionPrevention/VirginiaGreen/Attractions/kings_dominion.pdf</a> <a href="http://www.deq.virginia.gov/">http://www.deq.virginia.gov/</a> <a href="https://www.kingsdominion.com/">https://www.kingsdominion.com/</a>
<b>Culminating Activity</b>
Share your findings with King's Dominion personnel and an expert from Virginia Green.

