



# Simple Machines

[Spontaneous Resources](#)

[Creativity Practice Activities](#)

## Suggested Materials:

dominos, ramps, balloons, rubber bands, marbles, tubes, yardsticks, tape, cups, etc.

Technology such as laptops or cell phones



Unit 6 of 8

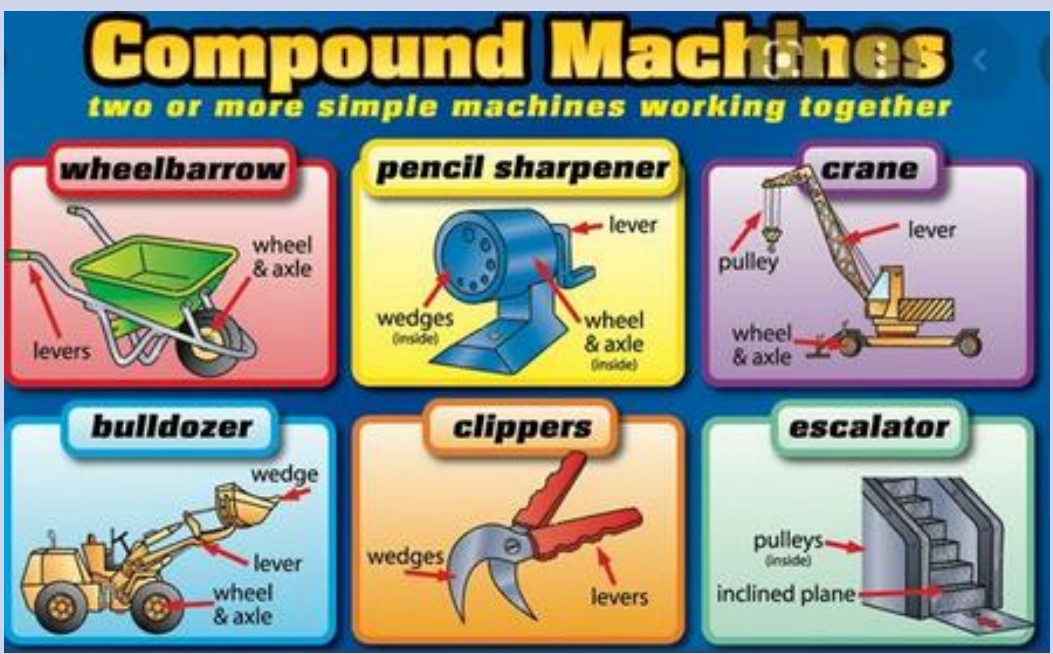
Time	Activity
<i>Info for Coaches</i>	<p><b>Introduction</b></p> <p>Regardless of the long-term problem that the team decides on, understanding simple machines and how they work can help develop the story line or props in the long-term solution. Knowledge of simple machines also helps with solving hands-on spontaneous problems.</p>
15 min	<p><b>7 Simple Machines</b></p> <p>Tell the team, “Today we will be learning about the 7 simple machines. These machines are in things that we use every day to make any type of ‘work’ easier. For example, consider the wheel and axle we use every day when we ride a vehicle to school. It makes the task of traveling easier than if something had to push or pull a car to school without wheels. We will watch a video to introduce the 7 simple machines and then discuss how we can use these machines to solve tasks in our everyday life.”</p> <p><b>Video:</b> <a href="https://www.youtube.com/watch?v=fvOmaf2GfCY">https://www.youtube.com/watch?v=fvOmaf2GfCY</a></p> <p>Watch the video and then review the 7 simple machines. Ask the team some of the following questions and lead a discussion.</p> <ul style="list-style-type: none"> <li>• What simple machines do you see being used on a daily basis?</li> <li>• How do simple machines make a task easier?</li> <li>• Compound machines are when two or more simple machines are working together.</li> </ul> <p>What simple machines are in:</p> <ul style="list-style-type: none"> <li>• A wheelbarrow</li> <li>• A crane</li> <li>• Clippers</li> <li>• A pencil sharpener</li> <li>• A bulldozer</li> <li>• A escalator</li> </ul> <p>(Answers in picture on next page)</p> <p style="text-align: center;">### continued ###</p>





Time	Activity
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Info for the Coach



15 min **Independent research**  
 Allow team members to work independently or with a partner (depending on the amount of technology) to look up Rube Goldberg machines. They will have fun watching videos. These videos are a great resource to inspire creative use of materials and understanding of how simple machines can work together to complete a task. Below is a list of example videos you could show the team.  
[The Best Way to Share a Coke](#)  
[The Page Turner](#)  
[This Too Shall Pass- OK Go](#)

5 min **Discussion and sharing**  
 Ask the team members to share some of the things that they saw in the videos. You could make a list of commonly used materials (dominos, ramps, balloons, rubber bands, marbles, tubes, etc.)

20 min **Spontaneous Hands-on Problem:**  
 Build a Rube Goldberg machine that will accomplish the task of: turning off a light switch, shutting a door, ringing a bell (Coaches choice!) The team should draw and label their ideas for the machine before beginning to build. Give the team several materials and allow them to use whatever items are in the room.





Time	Activity
5 min	<p><b>Closing Discussion:</b> Discuss as a team the issues that they had while building the machine. Talk about perseverance and how they had to keep trying and testing to make sure that the machine worked. Solving this problem is a lot like developing the long-term solution in that the team will have to keep working to perfect different aspects of the solution throughout the months spent working together before the competition.</p>

