Simple Machine Scavenger Hunt	Grade 2 Structures and Mechanisms

Lesson Plan

Safety Notes

Be careful when handling objects around your house that might have sharp edges or that might pinch your fingers!

Description

Do you have simple machines around your house? Go on a hunt and try to find examples of simple machines that you and your family use every day to make life easier!

Materials

- Simple Machine Scavenger Hunt Handout
- Pen or Pencil

Science Background

Simple Machines are basic devices that humans use to make work easier. They help us do work by increasing the amount of force or by changing the direction of force we can use to move objects.

Simple machines fall into one of six basic groups: Levers, Wedges, Inclined Planes, Wheels and Axles, Pulleys, Screws:

- Levers consist of a beam and a fulcrum (pivot). We can apply force to one end of a lever to move a load on the other end. Examples of levers are seesaws, shovels, and scissors.
- Wedges change the direction of the force that we put into them. Wedges are driven under loads to lift, or into a load to split or separate. Examples of wedges are doorstops and axes.
- Inclined Planes are a way to lift (or lower!) a load that would be too heavy to lift straight up. Examples of Inclined planes are ramps and slides.
- Wheels and Axles reduce the amount of friction between an object and a surface, making the object easier to move. Examples of mechanisms with wheels and axles are cars, wheelbarrows, and pizza cutters.
- Pulleys let us lift, lower, and move heavy loads across distances without requiring as much force. Examples of mechanisms that use pulleys are elevators, clotheslines, and cranes.
- Screws exert a force that is much greater than the force used to turn the screw. Examples of screws are, well, screws, of course, as well as vices, and screw-on lids on pop bottles or jars.

Activity Procedure

Spend 20 minutes doing a simple machine scavenger hunt in your house. You can set a timer so that you know when 20 minutes are up.

Use your handout to write down as many simple machines as you can find — make sure you categorize what you find into at least one of the six simple machines categories and describe how that simple machine helps you to do work.

Debrief

Were you able to find examples of all six types of simple machines? Were any machines hard to classify to just one category?

You probably found examples that incorporate more than one simple machine working together. Mechanisms are devices that are made up of more than one simple machine. Examples of mechanisms that you can find in your home are:

- Nail clippers (have more than one lever working together);
- Can opener (combines levers and gears,which are specialized wheels and axles).

Which other examples from your hunt do you think might be mechanisms made up of more than one simple machine?

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Handout

Find these simple machines in your home. Write down as many as you can find in each of the categories and explain what it is used for around your home?

Simple Machines	***Simple machines found***	***What does it do?***
Lever		
Screw		
Wheel & Axle		
Inclined Plane		
Wedge		
Pulley		