



# Inquiry Science – Simple Machines

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## Problem Solving

Here's the situation; your family is moving into a new house and winter is coming. You will be living on the second floor of this house. Most of the items you are moving can be lifted and carried up the stairs quite easily. However the wood stove, which is how you will heat the home, is over 350 pounds and bulky.

The weather forecast calls for a cold, blustery night. The wood stove has been delivered, but it's sitting on the front porch. You and a friend have to figure out how to get the stove up the stairs and set it in place. You're both unsure of what to do and don't want to endanger your safety, moving such a big, heavy item up 14 stairs.

You look around in the garage for anything that may help solve this problem. Your creativity kicks in, you grab a few items from the garage, and one hour later you and your friend are sitting in your upstairs living room enjoying a hot chocolate in front your just installed wood stove! How did you and your friend solve this problem and move the stove easily and safely up the stairs?

Here's a list of items in the garage. You can use any of the items to solve this problem

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Axe                  | <input type="checkbox"/> An old bicycle | <input type="checkbox"/> Old newspapers         |
| <input type="checkbox"/> Big pile of boards   | <input type="checkbox"/> 100' of rope   | <input type="checkbox"/> 10' of fire hose       |
| <input type="checkbox"/> Old little red wagon | <input type="checkbox"/> Box of nails   | <input type="checkbox"/> Bike lock and 4' cable |

## Your Solution (draw a sketch and describe)

Simple machines were invented thousands of years ago, but the same concepts are used today in countless applications. Here is the list of Simple Machines

- |   |   |                                |
|---|---|--------------------------------|
| <input type="checkbox"/> Lever          | <input type="checkbox"/> Pulley         | <input type="checkbox"/> Screw |
| <input type="checkbox"/> Wheel and Axle | <input type="checkbox"/> Inclined plane | <input type="checkbox"/> Wedge |