



## Curiosity Guide #502

### Simple Machines: Wedge

Accompanies Curious Crew, Season 5, Episode 2 (#502)

#### Wedge Dragging

Investigation #3

#### Description

How can using a simple tool make a job less of a drag?

#### Materials

- Triangular wood block
- Square wood block
- Hammer
- Nails
- Spring scale
- Large clear container
- 3 bags of rice

#### Procedure

- 1) Drive a nail 1-2 centimeters deep in the middle of the flat side of each block.
- 2) Pour the bags of rice into the clear container.
- 3) Place the square block into the rice on one end of the container so that the nail is sticking up.
- 4) Attach the spring scale to the nail.
- 5) While gently pressing a finger on the back end of the block, pull the spring scale to drag the block through the rice.
- 6) How much force is required to move the block?
- 7) Repeat the experiment again using the triangular block.
- 8) How does the force compare?

## My Results

### Explanation

Because the triangular block is a wedge, it can separate and redirect the grains of rice more easily than the flat-faced square block can. As a result, pulling the triangular wedge through the rice requires less force than pulling the square block in the same conditions. Wedges are simple machines that provide a mechanical advantage to make work easier. The wedge is often used to separate, hold, or lift objects.

Parents and Educators: use **#CuriousCrew**  
**#CuriosityGuide** to share what your Curious  
Crew learned!



*Curious Crew is a production of Michigan State University.*

*Learn more at [WKAR.org](http://WKAR.org).*

*© MSU Board of Trustees. All rights reserved.*