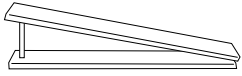


# SIMPLE MACHINES PRE-VISIT ACTIVITIES

## INCLINED PLANE



An **inclined plane** is a flat surface with one edge raised higher than the other.

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### MATERIALS

- A stack of books tied together
- A chair
- Long board
- Spring scale (note: a large rubber band can be used for a spring scale)

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### STEPS

- 1) Place stack of books on floor next to chair. Attach the spring scale to stack of books tied together.
- 2) Have a student lift the books using the spring scale onto the chair. How much force was used?



- 3) Put the board against the chair to create an incline.



- 4) Have a student pull the books up the incline using the spring scale. How much force was used? Was it easier with or without the incline?

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### WHAT'S GOING ON HERE?

Inclined planes are used to increase the distance over which work is done, reducing the amount of force needed. Pushing a box up a ramp requires less force than lifting it straight up off the ground.