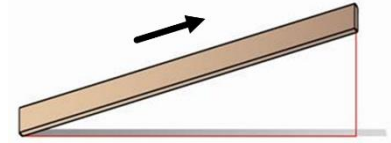


Name:

## Inclined Planes

### Simple Machines



Inclined planes are used to help move heavy objects up a certain height

**Inclined plane:** a simple machine that is used to spread out the **force** needed to move an object

- ▶ By moving in small, gradual steps instead of all at once, it becomes easier to move objects up a certain height
- ▶ They work by using a long surface to create a **ramp** where one side is higher than the other
  - ▶ Objects can be moved up or down the ramp
  - ▶ Moving an object gradually over a longer distance is easier than lifting it by hand

Name 3 inclined planes you might see in everyday life:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

- ▶ **Inclined planes** are used when objects have to be moved up to a **height** that is difficult to lift up to by hand
- ▶ Instead of trying to lift an object up high all at once, an inclined plane will allow you to lift it **gradually** across a greater **distance**
  - ▶ This allows you to push the object slowly up a **slope** which is easier to do!
  - ▶ Inclined planes also make it easier to go down the ramp!

Types of Inclined Planes

- ▶ **Slope:** the angle that the inclined plane is set up at
  - ▶ The greater the slope, the more difficult it is to use an inclined plane
- ▶ **Long ramps** set at a **low angle** create an easy **slope** to move objects up
  - ▶ This increases the **mechanical advantage!**
- ▶ Draw a diagram of an **inclined plane**: label the **ramp**, **slope**, and **angle**

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Build your own **inclined planes**!

Draw diagrams of all the different types of inclined planes you and your group can create with the inclined plane kits:

- ▶ Label all the parts with the correct vocabulary!
- ▶ See how much weight each can move!
- ▶ What functions could they serve?

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