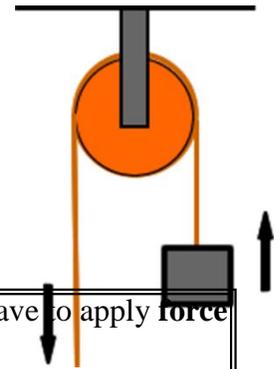


Name:

Pulleys

Simple Machines



Pulleys are used to help lift heavy objects

Pulley: a simple machine that is used to change the direction you have to apply force to move an object

- ▶ The more pulley's you put together, the easier it becomes to move

- ▶ They work by using a **wheel**, an **axle**, and a **rope**
- ▶ The **axle** holds the **wheel** in place
- ▶ The **wheel** allows the **rope** to move around it smoothly
- ▶ The **rope** is pulled across the **wheel** and **axle**, making it easy to lift objects attached to the other side

Draw a diagram of a **pulley**: label the **wheel**, **axle**, and **rope**

Name 3 pulleys you might see in everyday life:

1. _____
2. _____
3. _____

- ▶ Pulleys are used when objects are too **large** or **difficult** to pick up by hand
- ▶ Using a **pulley** allows you to change the direction you lift to move an object
- ▶ Instead of trying to lift an object from the side, a pulley will allow you to lift it from the top
- ▶ This allows you to pull the object up with more strength because you can get all of your weight into it!

Types of Pulleys

- ▶ **Fixed Pulley:** this type of pulley is attached to a supporting structure and stays in place
- ▶ **Movable Pulley:** this type of pulley is able to move with the object being lifted
- ▶ **Compound Pulley:** this is when 2 or more pulleys are put together; each pulley makes it easier to lift

Draw a diagram of a **compound** pulley with **3 pulleys** in the system: label the **fixed** and **movable** pulleys

Build your own **pulleys!**

Draw diagrams of all the different types of pulleys you and your group can create with the pulley kits:

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

