



Pulley System - Activity Guide

Name at least 2 uses of pulleys in the real world:

1. Ski Lift, To lift things, Gym machines, Car Engines,
2. Cranes. etc.

WORK = FORCE x DISTANCE



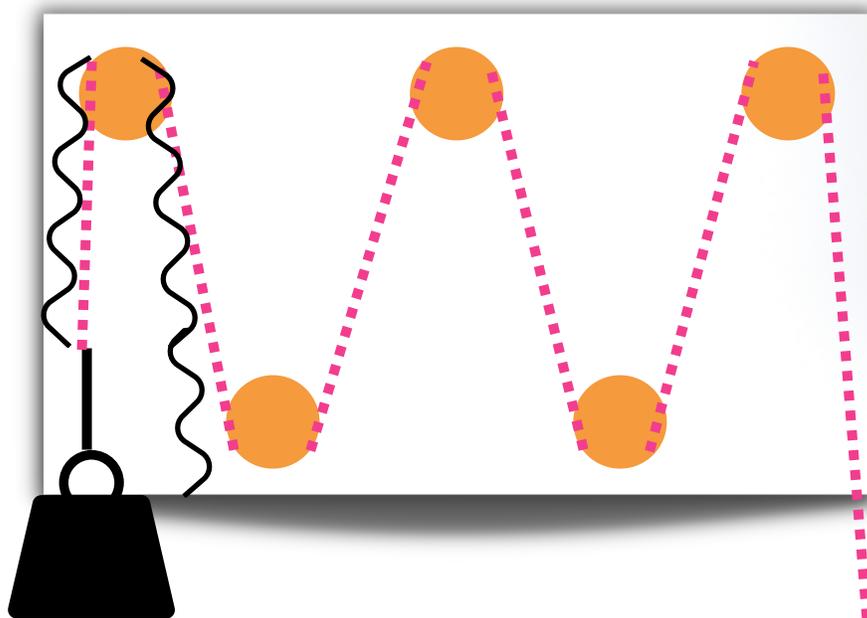
What does this formula mean to you?

Hint: as one goes up, the other goes down

'Work' is a tricky thing to grasp...but essentially you can arrive at the same amount of work multiple ways. If you increase the distance something is traveled over, the force becomes much less!!

See the example in video 2 that shows different scenarios.

Use a dotted line to trace around the pulleys the path that would be the easiest to lift the weight and a squiggly line to trace the path that would be the hardest to lift the weight:





Quiz



1. Why did STIIX-Ville need a Pulley System in the first place?

'STIIX-Ville is a port city, and also has a space program. They wanted to build a system that can help them lift the boats out of the water and their rocket ships off the ground for maintenance much easier!

2. Describe what a pulley is in your own words:

A pulley is a circular device with a rope threaded around it to spread a force out over a distance and help make lifting or moving something easier.

3. How do some experts think the ancient Egyptian pyramids were built?

It is still a little bit of a mystery, but many experts think they used pulleys to help lift the materials to the top!

4. What does Mechanical Advantage mean?

A large mechanical advantage means it is much easier to move something. A mechanical advantage of 5 means it takes x5 less force to move something than it would without the system.

5. Why do pulleys have a groove that goes around them?

The groove is so a rope can wrap around it and not slip off.

6. Why is it easier to lift something with 5 pulleys rather than with 1 pulley?

A 5 pulley system requires more rope, and a longer distance to move something over.

7. What do you think about a career in building cool machines & inventions using things like pulleys?