READING MATERIAL

Read About Simple Machines

WHAT ARE SIMPLE MACHINES?

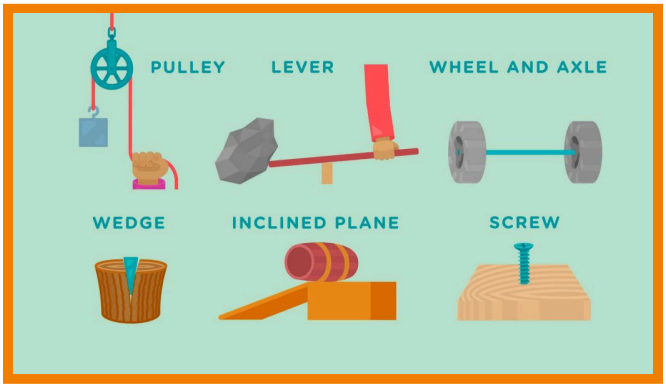
Simple machines make work easier. They have few or no moving parts and they work by changing the direction of a force or the amount of force needed to do something.

To better understand how simple machines work...

LET'S BREAK IT DOWN!

There are six different simple machines.

The six simple machines are the wedge, screw, lever, pulley, inclined plane and the wheel and axle. They all make work easier and have few or no moving parts.



A pulley can move things from a low area to a higher one.

A pulley has a wheel that allows you to change the direction of a force. As you pull down on the rope, the wheel turns and whatever is attached to the other end goes up.

A lever helps move heavy objects.

When you push down on one side of a lever, the other side goes up. Levers can also be used to lift heavy objects such as a rock or furniture. A seesaw is an example of a lever.

A wedge is a simple machine used to split material.

By placing the thin end of the wedge onto a log, you can hit it with a hammer. The wedge changes the direction of the force and it pushes the log apart.

An inclined plane can help you to move heavy objects.

It is easier to move heavy things up a ramp than it is to lift them straight up. A ramp is a common example of an inclined plane. It takes longer to go up one, but it is easier.

SIMPLE MACHINES VOCABULARY

Simple Machines	Tools that make difficult tasks easier by changing the direction of the force or the amount of force needed to do something.
Inclined Plane	A simple machine that has a gently sloped surface so it can be used to move objects upwards with less force. Ramps are examples of inclined planes.
Screw	An inclined plane wrapped around a center rod. An example of a screw is a spiral staircase.
Wedge	A simple machine that gets thinner at one end that is used to split material such as wood. A knife is an example of a wedge.
Lever	A plank that rests on something underneath and moves up and down. A seesaw is a lever.
Pulley	A wheel and rope that can change the direction of a force. A flagpole uses a pulley to raise the flag.

SIMPLE MACHINES DISCUSSION QUESTIONS

Describe a simple machine.

Simple machines have few or no moving parts. They make work easier by changing the direction of a force or by changing the amount of force needed.

Why are simple machines important?

Simple machines can help make work easier. Without simple machines you might not be able to move something really heavy.

How does a pulley help lift things?

A pulley uses a wheel to change the direction of a force. As you pull down, the object goes up. Sometimes pulling down is easier because the force of gravity helps.

How does a lever help move heavy objects?

When you push down on one end of a lever, the other end moves up in the opposite direction, like a seesaw. By moving the middle part of it called the fulcrum close to the object you want to lift, it becomes easier to lift it. Elijah did this in the video to lift the rock.

How does the wheel and axle make it easier to move heavy objects?

When the ground is not smooth, friction can make it difficult to move heavy things, which is what happens when things rub against each other. A wheel and axle reduce friction by allowing things to roll, which makes them rub against each other less.

What are some examples of using a wedge?

An axe is a wedge that can be used to split a piece of wood. A knife is a wedge you use every day. You can also use a wedge to hold open a door.