

Simple Machines Packet

Simple Machines

wheel and axle
pulley
inclined plane
lever
wedge
screw

Simple Machines

wedge
screw
wheel and axle
pulley
lever
inclined plane

Simple Machines

A simple machine is a basic mechanical device for applying a force. Simple machines make work easier for us because it allows us to push or pull over longer distances.

Simple machines are some of the first machines ever created!

There are six simple machines.

The wheel and axle is a type of simple machine. It is a wheel with a rod through its center. The wheel and axle lifts or moves loads. The wheel reduces friction and allows us to transport heavy objects over longer distances.

A pulley is a simple machine that uses grooved wheels and a rope to raise, lower or move a load.

An inclined plane is a slanting surface connecting a lower level to a higher level.

A lever is a stiff bar that rests on a support called a fulcrum which lifts or moves loads.

A wedge is an object with at least one slanting side ending in a sharp edge, which can be moved apart.

A screw is an inclined plane wrapped around a pole which holds things together or lifts materials.

Simple Machines

Simple Machine Picture Sort

Cut out the following pictures and glue them in the correct category on the previous three pages!

Levers

First Class Lever - the fulcrum is in the middle between the effort and the load

Second Class Lever - the load is in the middle between the fulcrum and the effort

Third Class Lever - the effort is between the fulcrum and the load

The Three Types of Levers:

Draw pictures identify the fulcrum (F), effort (E) and load (L)

Class One

Class Two

Class Three

Simple Machines Packet about 30 pages

Simple Machine Matching

lever
inclined plane
screw
wedge
wheel and axle
pulley

Hands-on Activities

LEVER! Challenge: Use a long bar (like a wooden board) to lift a small object to a higher level than it started from. Use a long stick, push it up from the fulcrum and try to lift an object.

Wedge Challenge: Use a wedge to split a block of wood. Use a wedge to split a block of wood. Use a wedge to split a block of wood.

Lapboard - Memory Pages

Cut out the pieces below and hold up the flap to see the illustration on the bottom.

Color the pages in the order they are numbered.

Color the pages in the order they are numbered.

pulley screw wedge inclined plane lever wheel and axle

Simple Machine Matching

wheel and axle
lever
wedge
pulley
inclined plane

What simple machines do you see in use at this construction site?

What simple machines do you see in use at the construction site?

Why - Write one simple machine that you use every day.

How - Write one simple machine that you use every day.

What - Write one simple machine that you use every day.

Where - Write one simple machine that you use every day.

When - Write one simple machine that you use every day.

Who - Write one simple machine that you use every day.

How - Write one simple machine that you use every day.

What - Write one simple machine that you use every day.

Where - Write one simple machine that you use every day.

When - Write one simple machine that you use every day.

Who - Write one simple machine that you use every day.

Simple Machines at a Construction Site

Worksheets

Suggested Answers

What simple machines do you see in use at this construction site?

Wheel & Axle Pulley Wedge Lever Inclined Plane

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What simple machines do you see in use at this construction site? Name: _____

What simple machines do you see in use at this construction site? Suggested Answers

Roller: Wheel & Axle Crane: Pulley Cement truck: Wheel & Axle Jackhammer: Lever

Crane: Pulley Hand saw: Wheel & Axle

Wheelbarrow: Wheel & Axle Wrench: Lever

Shovel: Lever (just a wheel & axle)

Hammer: Lever Forklift: Wheel & Axle

Power drill: Screw

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Levers

1st Class Lever 2nd Class Lever 3rd Class Lever

Cut out the pictures below. Glue the diagrams into the right area into the flap above. Glue the pictures of objects directly onto the notebook page on the next page. Make sure they are glued into the right section! There are 3 examples for each class. Cut out the two flaps above. Cut across the solid lines and cut along the dotted lines. Then tape the flaps onto the notebook page with the "Levers" flap on top and the "class" flap in the middle.



Inclined Plane

Screw

Pulley

Wedge

Wheel and Axle



Simple Machines Notebook Page

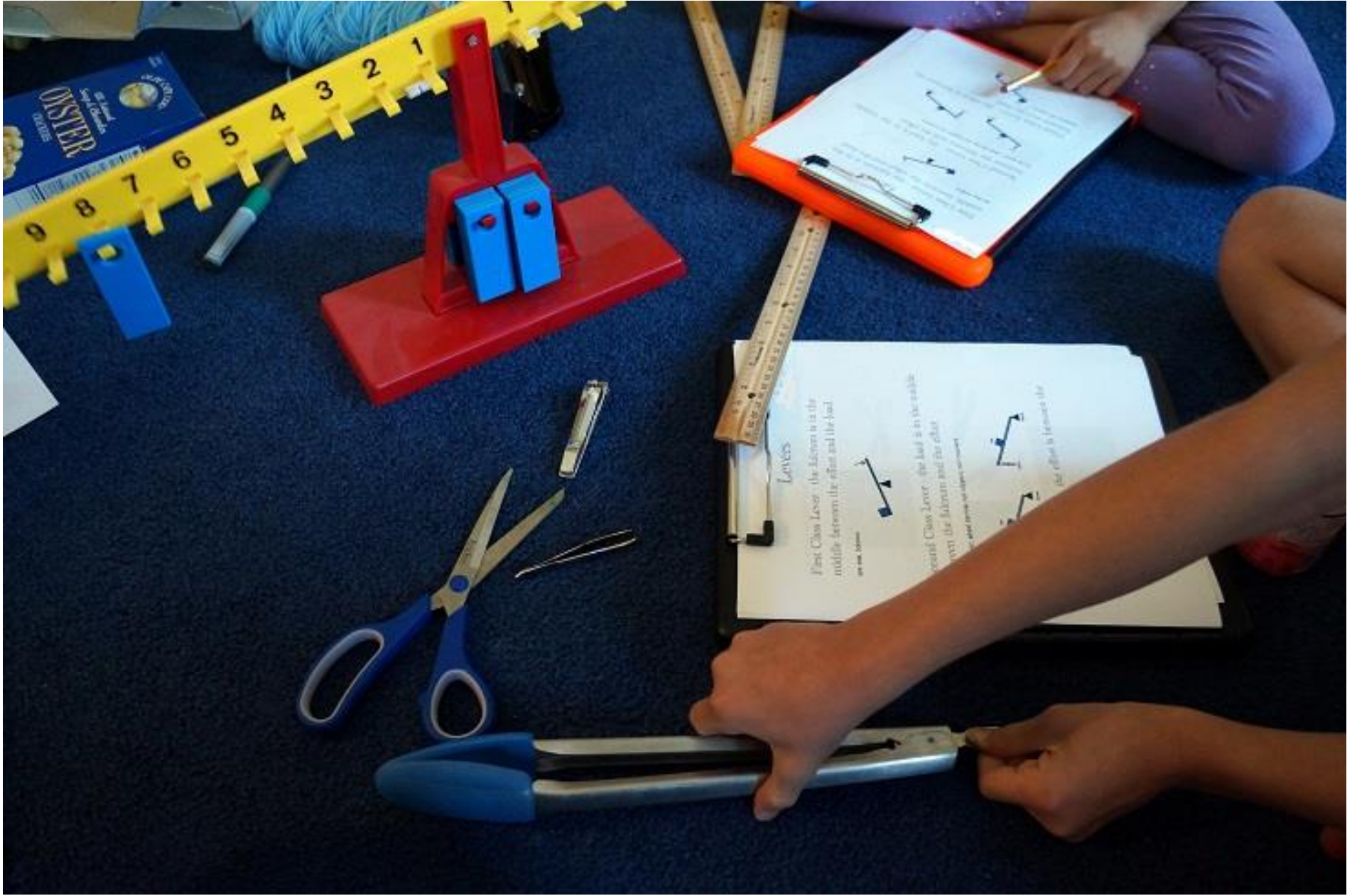
Name: _____



Simple Machines Interactive Notebook Activity



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Levers

Inclined
Plane

Screw

Pulley

Wedge

Wheel
and
Axle

Inclined
Plane

Screw

Pulley

Wedge



Name: _____ Date: _____

Simple Machine Matching

lever 

 inclined plane

screw 

 wedge

wheel and axle 

 pulley

 inclined plane

 screw

 wheel and axle

 _____

 wedge

 _____

 wheel and axle

 _____

Simple Machine Worksheets

Simple Machine Picture Sort:

Wedge

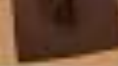


Wheel and Axle



Simple Machine Picture Sort:

Pulley

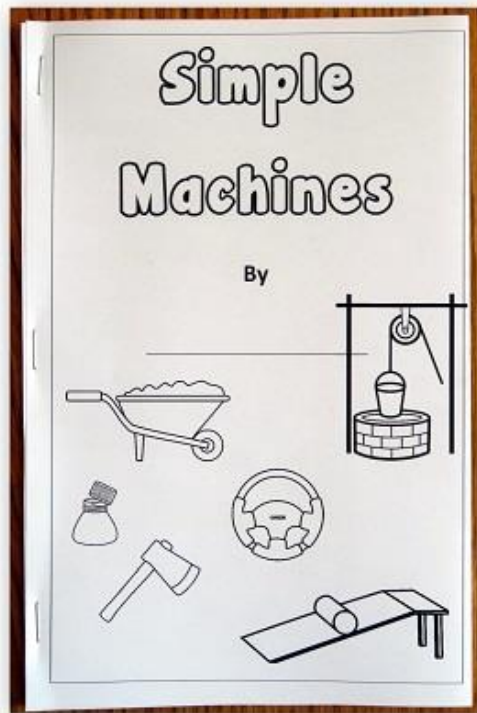


Simple Machine Picture Sort:

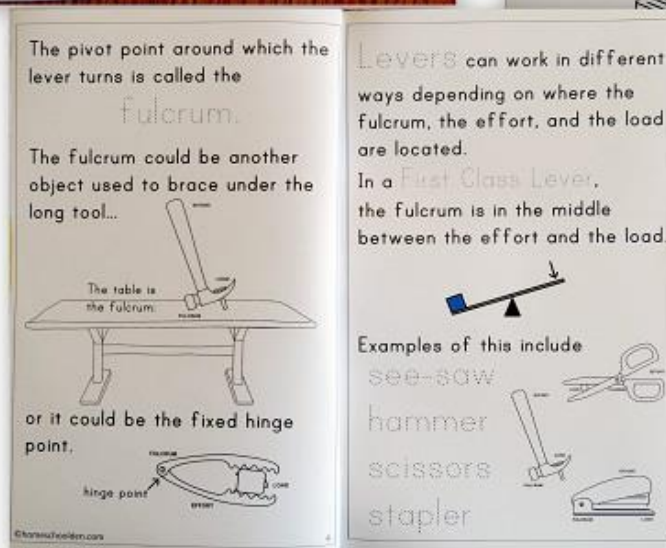
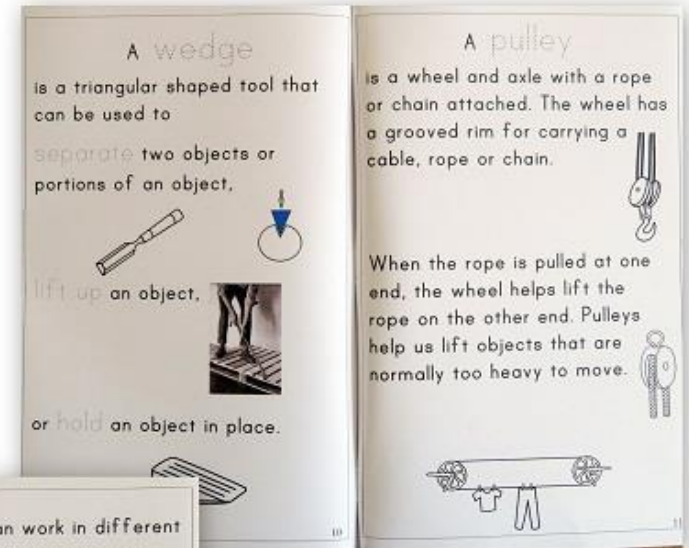
Wedge



Simple Machines Booklet:



Simple Machines Booklet



Kids can trace the key words and color the pictures provided.

This booklet is 14 half-pages. Print one-sided. Fold each page in half, Stack and staple the booklet together on the left-hand side.

Simple Machines Booklet

Simple Machines

By

Simple machines are tools that make our lives easier! They are basic mechanical devices for applying a force and doing work. The six types of simple machines include:

- levers
- wheel & axle
- inclined plane
- wedge
- pulley
- screw

A lever is a bar that rests on a support and can be used to lift or move loads. A lever is made of a stiff bar that rests on a fulcrum.

The bar moves up or down, but the fulcrum does not move.

The pivot point around which a lever turns is called the fulcrum. The fulcrum could be another object used to brace under the long tool...

The table is the fulcrum.

or it could be the fixed hinge point.

A pulley is a wheel and axle with a rope or chain attached. The wheel has a grooved rim for carrying a cable, rope or chain.

When the rope is pulled at one end, the wheel helps lift the rope on the other end. Pulleys help us lift objects that are normally too heavy to move.

There are three main types of pulleys:

- fixed: the pulley's wheel and axle stay in one place
- movable: pulley that is free to move up and down, and is attached to a ceiling or other object by two lengths of the same rope.
- and compound pulley which consists of combinations of fixed and movable pulleys

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Plus some of our Hand-On Activities

