

SIMPLE MACHINES



 **LNK** **ativity**
Interactive Learning Guides

WAIT!

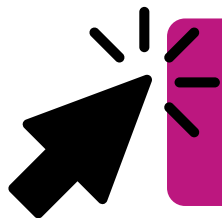
Thank you for considering this LINKtivity for your classroom, but before you make a decision - you should know that you can get **access to this LINKtivity + PLUS our entire library** for about the same price as a single LINKtivity!

The results are in: **Teachers LOVE LINKtivities...** and want more! So, we've made it SUPER easy and cost effective for you to access any and ALL of our LINKtivities inside our LINKtivity Learning membership option! Instead of purchasing just ONE LINKtivity - why not get access to ALL of them... for about the SAME PRICE!



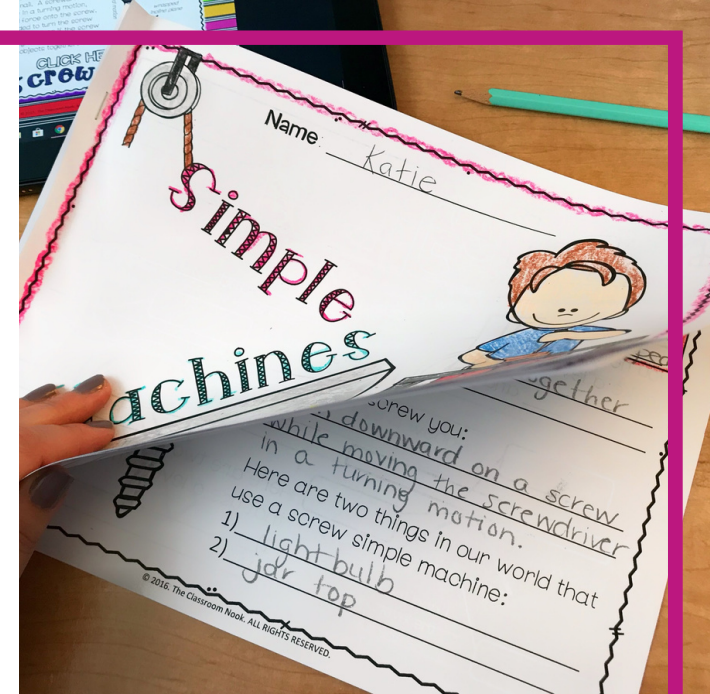
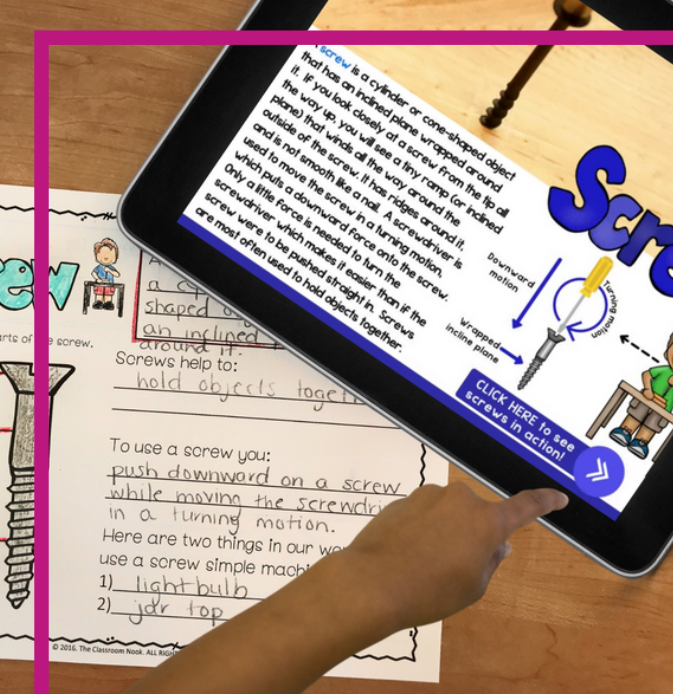
INSIDE THE MEMBERSHIP YOU'LL HAVE UNLIMITED ACCESS TO:

- ✓ The **entire growing LINKtivity® library** inside the Membership (LINKtivities for all content areas)
- ✓ ALL **future LINKtivities** to be added to the membership (new releases each month!)
- ✓ **Teacher guides** to help you set up each LINKtivity® successfully in your classroom
- ✓ **Student resources** that go along with each LINKtivity (printable OR digital)
- ✓ **Kid-friendly rubrics** and **answer keys** for each LINKtivity®

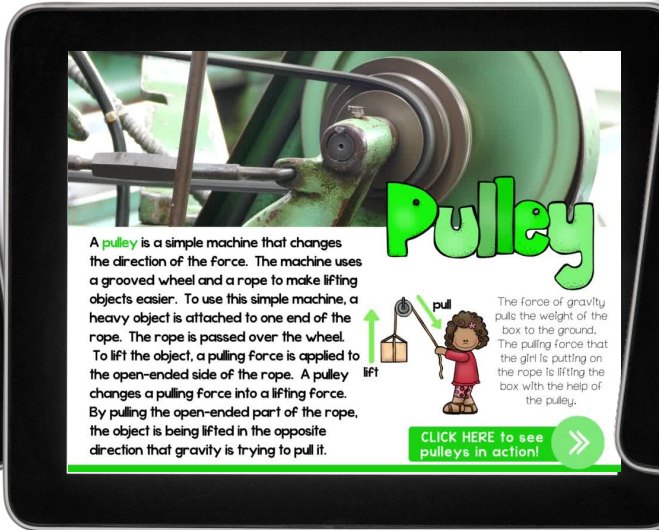


JOIN NOW





Your students are going to love this hands-on approach to learning about simple machines including pulley, screw, level, wheel & axle, wedge, and inclined plane! Resource includes a LINKtivity digital learning guide, a student flipbook (printable or digital), answer key, a rubric, student directions, and a teacher guide.



More Sample Slides

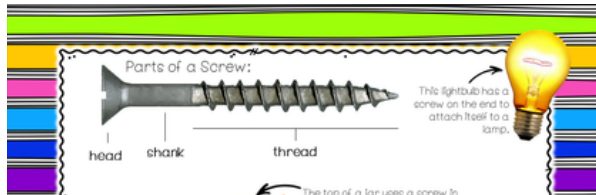


Wedge

A **wedge** is wide at one end and pointed at the other to help cut or split objects apart. To use this simple machine, you place the pointed end in between two objects. Then, you apply a pushing force to begin moving the wedge further between the two objects. This will cause the objects to move farther apart from each other and eventually split.

Wedges can also be placed between two objects to keep them from moving. This wedge is being placed between the car's wheel and the road. It will keep the car from rolling backwards. We also use wedges to hold doors open.

[CLICK HERE to see wedges in action!](#)



Parts of a Screw:

head shank thread

This lightbulb has a screw on the end to attach itself to a lamp.


The top of a jar uses a screw in order to hold the lid on tight.

Screws come in a variety of sizes.

A screw can be used to hold 2 things together.

Watch these videos to learn more about screws!

[CLICK HERE to see screws in action!](#)



Screw

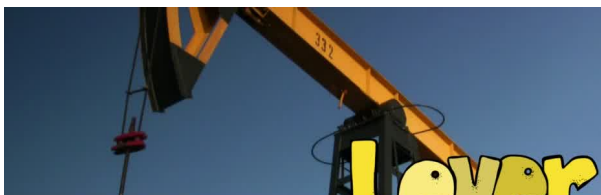
A **screw** is a cylinder or cone-shaped object that has an inclined plane wrapped around it. If you look closely at a screw from the tip all the way up, you will see a tiny ramp (or inclined plane) that winds all the way around the outside of the screw. It has ridges around it, and is not smooth like a nail. A screwdriver is used to move the screw in a turning motion, which puts a downward force onto the screw. Only a little force is needed to turn the screwdriver which makes it easier than if the screw were to be pushed straight in. Screws are most often used to hold objects together.

Turning motion

Downward motion

Wrapped incline plane

[CLICK HERE to see screws in action!](#)



Lever

Levers are simple machines that help lift heavy objects. A lever is a bar, or similar object, resting on a pivot. It is used to help move a heavy load on one end of the bar by pushing down on the opposite end. The point at which the bar pivots is called a fulcrum. As a force pushes down on one end, the bar tilts on the fulcrum, lifting the heavy object.

This boy is using a hammer and a wooden block to create a lever. By placing the hammer over the wooden block, the boy is able to remove a nail.

bar

fulcrum pivot

[CLICK HERE to see levers in action!](#)




Wedge

A wedge can be used to keep a door from closing.

A knife is a very sharp wedge that can slice through food.

An axe is a wedge that can push through wood.

[Click here to see wedges in action!](#)



Wheel and Axle

A **wheel and axle** is made up of two parts. The first part is a rod, also known as an axle, which is a long pole. The rod is placed through the center of a round wheel. Together, these two parts work together to make it easier to move or turn certain things. The axle turns when you put force on the wheel to push it in one direction.

axle (rod)

wheel

[CLICK HERE to see wheels & axles in action!](#)




Lever

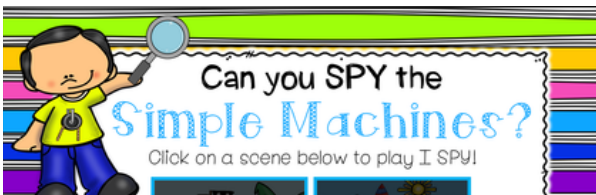
This man is using a lever to lift the wheel of the car.

This seesaw is an example of a lever.

A clothes pin uses a lever to open and close.

A wheelbarrow uses a lever to lift a load up, pivoting on the wheel.

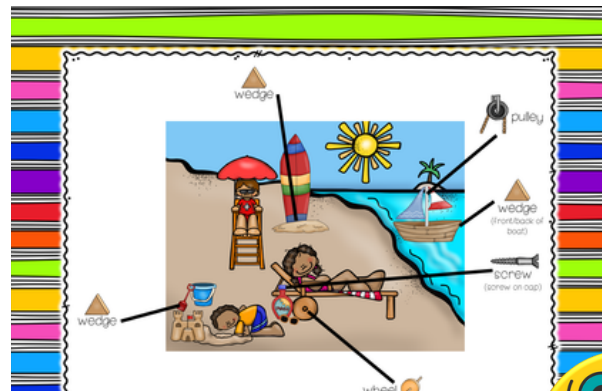
[Click here to learn more about levers.](#)



Can you SPY the Simple Machines?

Click on a scene below to play I SPY!

Pirate's Paradise	Beach Day
In The Classroom	The Playground



wedge

wedge (front/back of boat)

screw (screw on cap)

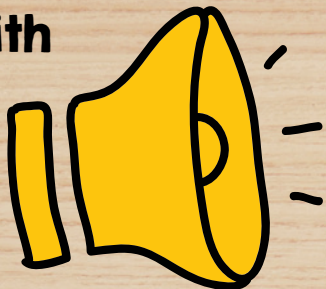
wheel and axle

pulley



This LINKtivity is provided with

AUDIO SUPPORT



Perfect for English
language learners or
students who could use
a little extra support!

Inclined Plane

An **inclined plane** is a sloped surface that makes it easier to go from one height to another height. If you need to get a heavy item from a lower level to a higher level, an inclined plane will help make the work easier. To use an inclined plane, you apply a pushing force to the heavy object that needs moved. Then, as the object is pushed, the inclined plane will force the object upward to the higher level. The reverse action happens when getting an item from a higher level to a lower level. A pushing force will be used to lower the object down the inclined plane. Gravity helps as well to pull the object downward.



This boy is applying force to the box, causing it to move upward on the inclined plane (ramp).

[CLICK HERE to see inclined planes in action!](#) 



Printable & Digital Student Flipbook

Printable Flipbook for LINKtivity

Name _____

Simple Machines

Screw

A screw is: _____

Label the three parts of the screw:

Screws help to: _____

To use a screw you: _____

Here are two things in our world that use a screw simple machine:

- 1) _____
- 2) _____

Pulley

A pulley is: _____

Label the two parts of the pulley:

You need these two things to make a pulley: _____ and _____

Pulleys help to: _____

To use a pulley you: _____

Here are two things in our world that use a pulley simple machine:

- 1) _____
- 2) _____

Lever

A lever is: _____

You need these two things to make a lever: _____ and _____

Levers help to: _____

Levers lift or pivot at the _____ of the lever.

To use a lever you: _____

Here are two things in our world that use a lever simple machine:

- 1) _____
- 2) _____

Inclined Plane

An inclined plane is: _____

Incline planes help to: _____

Draw an arrow to show the direction of force needed to get an object from the lower level to the higher level.

When an object is pushed, an inclined plane forces the object to: _____

Here are two things in our world that use an inclined plane simple machine:

- 1) _____
- 2) _____

Wedge

A wedge is: _____

The shape of a wedge is: _____

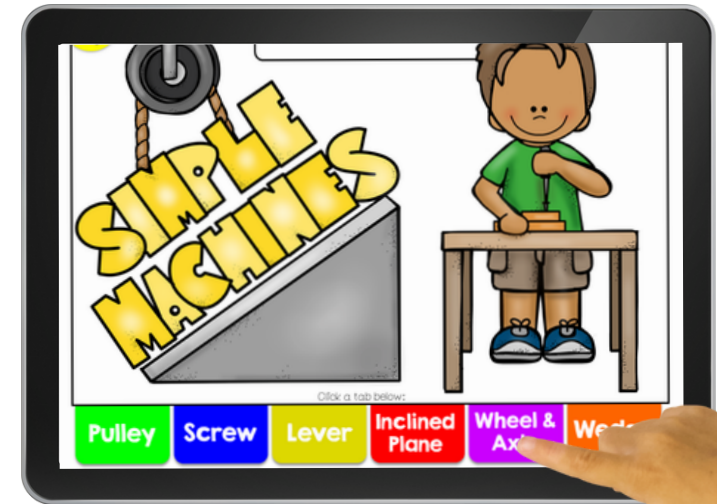
Draw a star next to the areas of the wedge that will be used to push two objects apart.

A wedge helps to: _____

To use a wedge you: _____

Here are two things in our world that use a wedge simple machine:

- 1) _____
- 2) _____



Digital Flipbook for LINKtivity in Google Slides

LINKtivity : STUDENT FLIPBOOK RUBRIC

	4 - EXCELLENT	3 - GOOD	2 - SATISFACTORY	1 - NEEDS IMPROVEMENT
NEATNESS & APPEARANCE	My Flipbook is very neat and easy to read. I neatly colored in my illustrations with great detail. It is clear that I took my time to make my Flipbook reflect my learning.	My Flipbook is neat and my writing is easy to read. I neatly colored in my illustrations.	My Flipbook is somewhat neat. Some of my writing is hard to read. Illustrations are NOT colored, or are sparsely done.	My Flipbook is quite sloppy. My writing is hard to read. Illustrations are NOT colored, or are sparsely done.
ACCURACY & COMPLETENESS	The information in my Flipbook is 100%. I've included many details from the Link 4 Think and have put what I've learned clearly in my own words. I have included information that goes above and beyond what is required.	The information in my Flipbook is mostly correct. I've included several details from the Link 4 Think, written mostly in my own words. My Flipbook includes all of the required written responses.	My Flipbook contains several incorrect or missing pieces of information. The information in my Flipbook lacks details from the Link 4 Think to complete my Flipbook correctly.	My Flipbook has many incorrect or missing pieces of information. I struggled to use the information from the Link 4 Think to complete my Flipbook correctly.
SPELLING & GRAMMAR	My Flipbook contains no errors in spelling and grammar.	My Flipbook contains some errors in spelling and grammar.		My Flipbook contains many errors in spelling and grammar.

Answer Key

Pulley

A pulley is: **a simple machine that changes the direction of force.**

Label the two parts of the pulley:

You need these two things to make a pulley: **rope and wheel.**

Pulleys help to: **hold objects together.**

To use a pulley you: **pull down on the rope while holding the screwdriver in a turning motion.**

Here are two things in our world that use a pulley simple machine: **1) light bulb 2) jdr top**

Screw

A screw is: **a simple machine that pushes two objects together.**

Label the three parts of the screw:

Screws help to: **hold objects together.**

To use a screw you: **push downward on a screw while moving the screwdriver in a turning motion.**

Here are two things in our world that use a screw simple machine: **1) light bulb 2) jdr top**

Lever

A lever is: **a simple machine that lifts or pivots an object.**

You need these two things to make a lever: **fulcrum and load.**

Levers help to: **lift or pivot an object.**

Levers lift or pivot at the **fulcrum** of the lever.

To use a lever you: **push down on one end of the lever while lifting the object at the other end.**

Here are two things in our world that use a lever simple machine: **1) light bulb 2) jdr top**

Inclined Plane

An inclined plane is: **a simple machine that goes from one height to another.**

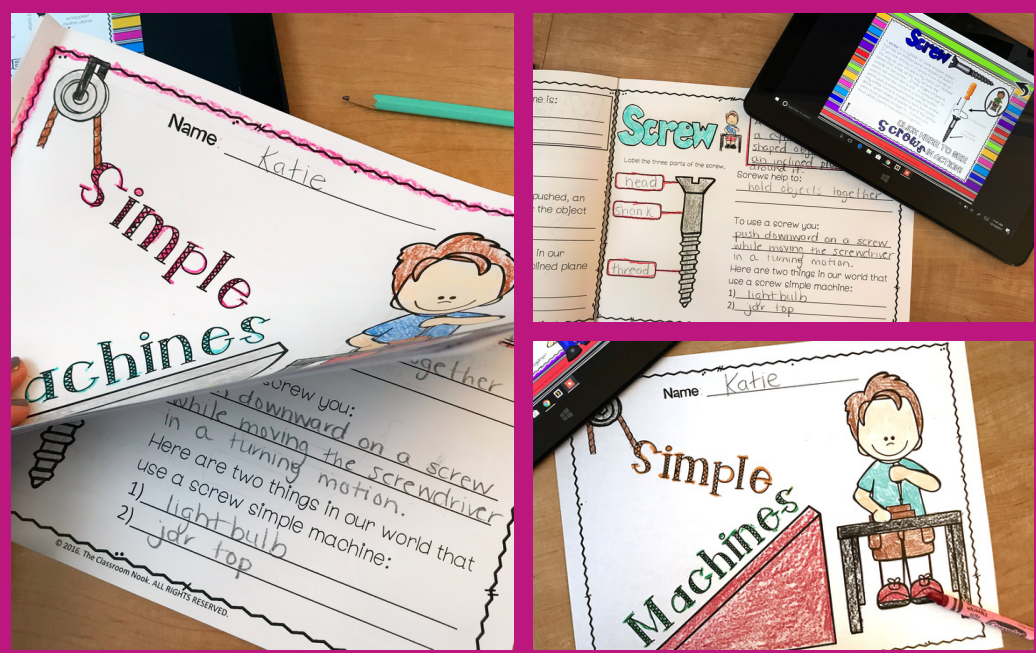
Incline planes help to: **go from one height to another.**

Draw an arrow to show the direction of force needed to get an object from the lower level to the higher level.

When an object is pushed, an inclined plane forces the object to: **move upward or downward.**

Here are two things in our world that use an inclined plane simple machine: **1) light bulb 2) jdr top**

Answer Key & Rubric



BONUS RESOURCES

Lesson Plan

LESSON

ESSENTIAL QUESTIONS:

What is a simple machine?
How do simple machines make work easier?



Standards Covered

3.PS2.1, 5.PS2.1

Materials Needed

Simple Machines LINKtivity®
Simple Machines student flipbook (optional)
Rube Goldberg student sheet

Teacher Preparation

Preview the Simple Machines LINKtivity® and plan for how you will share the LINKtivity with students (ex. assign link in Google Classroom, prepare QR codes, etc.)

Make copies of the flipbook (optional).
Print off the Rube Goldberg student sheet

Lesson Introduction (5-10 min.)

- Introduce the essential questions.
- Provide each student with the **Rube Goldberg student sheet**.
- Have students observe the machine drawn by Goldberg by following the sequence of actions in the picture. Then, read about Goldberg.
- Explain that in this silly drawing, Goldberg invented a complicated machine to perform a simple task.
- Discuss how, in real life, people strive to accomplish the opposite: using simple machines to make a complicated task easier. Define simple machine as an object made up of few parts to help create force with less effort and energy (unlike the Goldberg drawing that used many parts).

Lesson Conclusion (2-5 min.)

Review essential questions and have students share their responses in light of what they have learned. If time allows, review the Goldberg drawing again and have students identify simple machines used throughout the contraption.

Lesson Activity (20-30 mins)

Have students complete the **Simple Machines LINKtivity®**. While navigating the LINKtivity, students have the option to complete the **flipbook**.

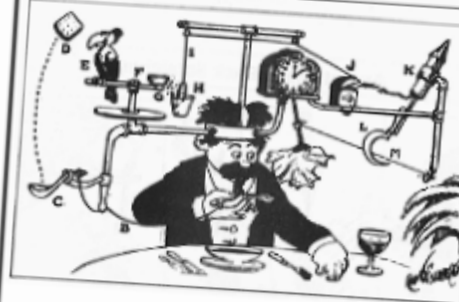
Optional Extension Activities

- Have students go on a scavenger hunt around the school, their homes, or the neighborhood, looking for simple machines in everyday life.
- Challenge students to design and draw a Rube Goldberg machine using various simple machines.

RUBE GOLDBERG

Follow the sequence of events that the machine uses to operate a napkin.

Self-Operating Napkin



The soup spoon (A) is raised to mouth, pulling the string (B) and jerking the ladle (C), which throws cracker (D) past toucan (E). The toucan jumps after cracker and the perch (F) tilts, dumping seeds (G) into pail (H). Extra weight in the pail pulls the sword (I), which opens and ignites the lighter (J), setting off the skyrocket (K), which causes the sickle (L) to cut the string (M), allowing the pendulum with attached napkin to swing back and forth, thereby wiping chin.



MASTER OF MACHINES.

Rube Goldberg (1883-1970) was an American cartoonist, sculptor, author, and inventor best known for his drawings of machines that did simple things in very silly and complicated ways. These machines are called "Rube Goldberg machines." In 1948, Goldberg won the **Pulitzer Prize** for Editorial Cartooning. Today, when something is too complicated, people say it's like a "Rube Goldberg" machine.

The Pulitzer Prize is a set of prestigious awards for achievements in newspaper, magazine, online journalism, literature, and musical composition within the United States.

