

# Anna's Adventures

## Simple Machines

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### Simple Machines Match



Help the Jamestown colonists get their work done by drawing a line from the job on the left to the simple machine that can help on the right. Remember John Smith's rule "Those who do not work, neither shall they eat"!



screw

Oh no! The colonists hit a big rock while they were building the palisade. They need you to find a simple machine that can lift the rock out of the hole.

wedge

Now that the rock is out, the colonists need you to go into the forest and chop some wood to help finish the wall.

inclined plane

Once the wall is done, the colonists need you to help them move some heavy barrels of supplies into the fort.

pulley

With all of the supplies moved in, it is time to lift the barrels into place in the storehouse.

lever

Now one of the guards needs gunpowder for sentry duty. A small hole drilled in the barrel will do.

wheel & axle

The guard is having a hard time getting to his post on the wall. You need to find a simple machine that will make climbing up to the wall easier.



Anna discovered lots of simple machines at Jamestown Settlement. How many can you find in your house? List them here:

lever: \_\_\_\_\_  
screw: \_\_\_\_\_  
inclined plane: \_\_\_\_\_  
wheel & axle: \_\_\_\_\_  
pulley: \_\_\_\_\_  
wedge: \_\_\_\_\_

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### Find the Simple Machines

This is an image from De Re Metallica (1556). See if you can name the simple machines circled in the picture.

Bonus question: What was this compound machine used for?



Answers from right to left: pulley, lever, wedge  
Bonus: This machine used man power to lift things in and out of a mine!

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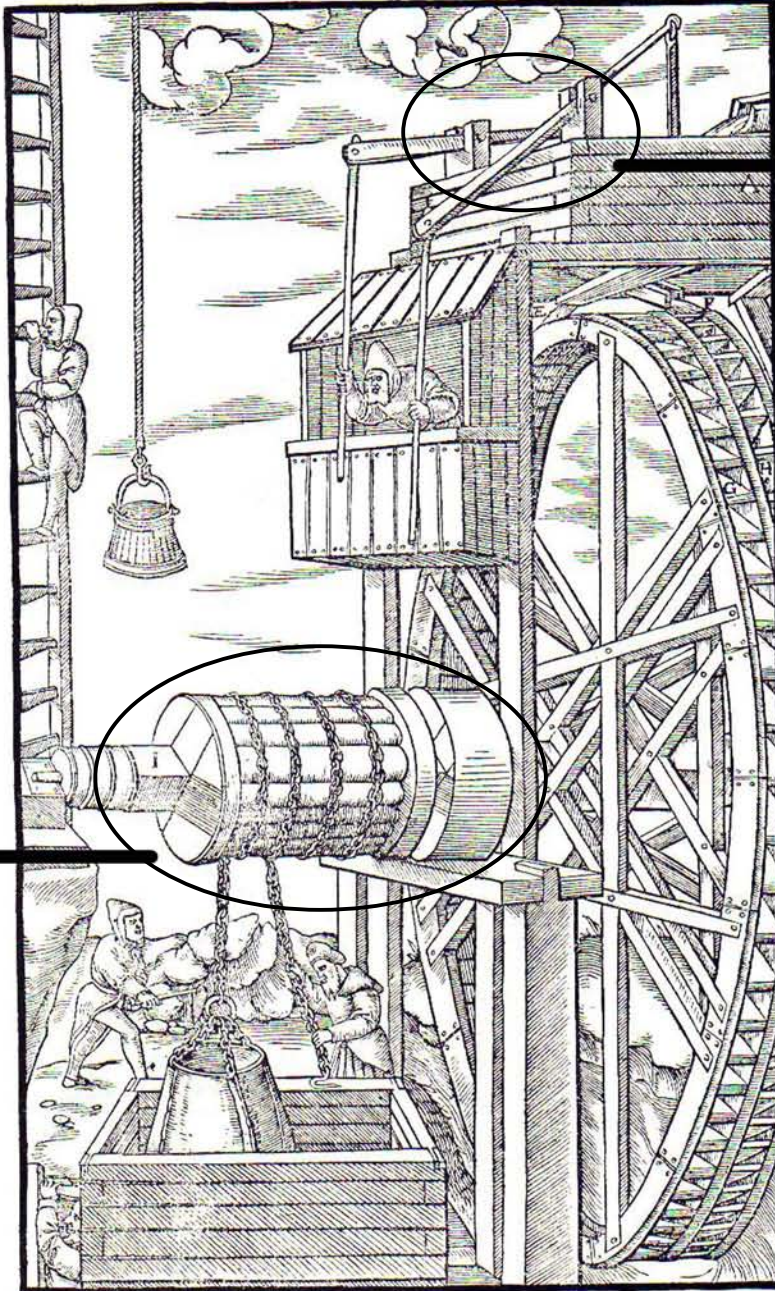
## Simple Machines

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### Find the Simple Machines

This is an image from *De Re Metallica* (That's Latin for: "About the Metals"). Try to identify the simple machines within the circles.

Bonus question: What was this **compound** machine used for?



Answers top down: lever, wheel & axle  
Bonus question: This machine used water power to lift ore out of mines.

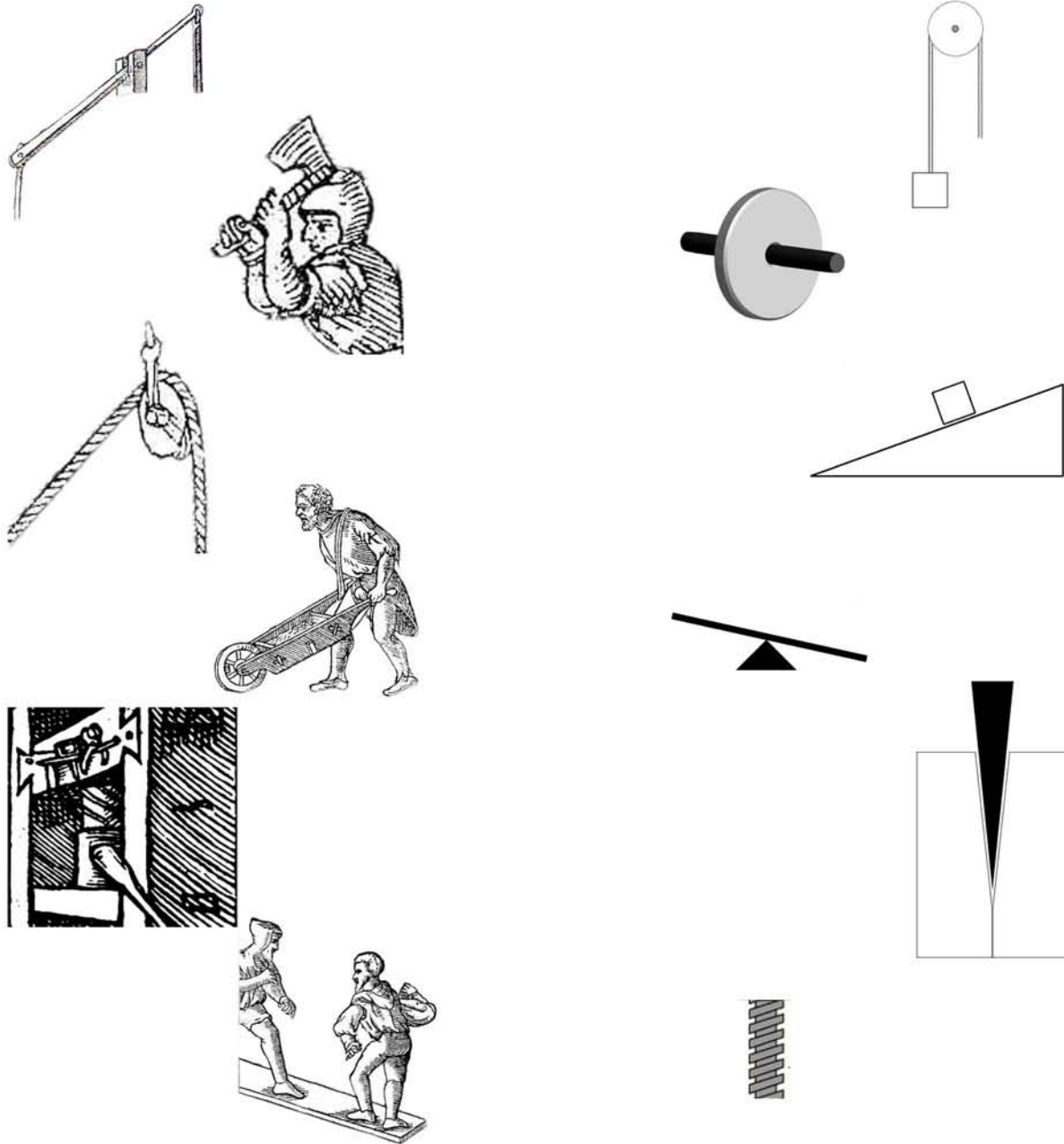
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### Primary Source Picture Match

The images on the left come from primary sources around the time of Jamestown. The images on the right are modern drawings of the same simple machines. Draw a line from the historic simple machine on the left to the modern match on the right!

Bonus question: Can you name all of these simple machines?



Bonus question left side: lever, wedge, pulley, wheel & axle, screw, inclined plane  
 Bonus question right side: pulley, wheel & axle, inclined plane, lever, wedge, screw

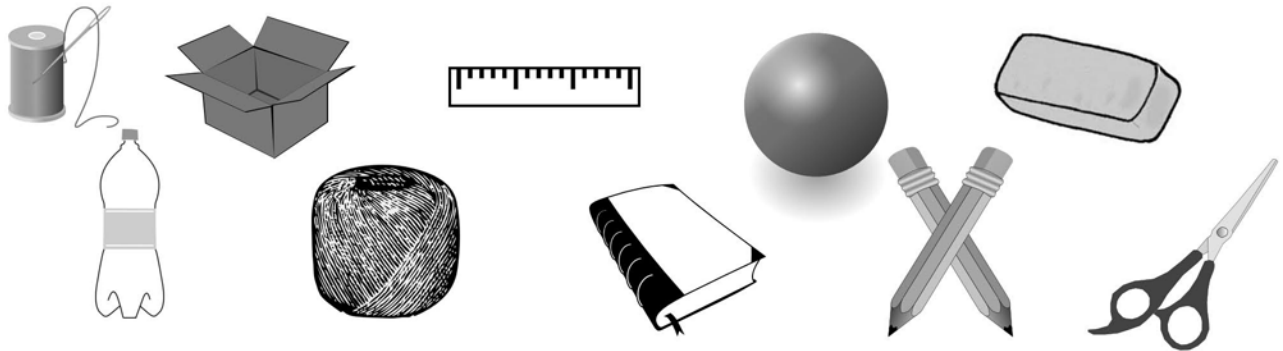
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### Simple Machines Build Off!

The colonists faced many hardships when they arrived in Virginia in 1607. Luckily, they had simple machines to make life easier. In this activity you are going to make some simple machines out of common items, then combine them to help the colonists!



Supplies Needed: ruler, large pink eraser, empty soda bottle, rubber ball, old hard cover book, scissors, 2 pencils, spool, string, and a sheet of cardboard.

1. Place the ruler across the large pink eraser, push down on one end. What type of simple machine is this? \_\_\_\_\_
2. Hold the empty soda bottle in your right hand, twist the top with your right hand in a counter-clockwise direction. What type of simple machine is this? \_\_\_\_\_
3. Place the old book on the floor, open the cover so that it is resting on the floor. Roll the ball down the cover of the book like a ramp. What type of simple machine is this? \_\_\_\_\_
4. Use the scissors to cut the sheet of cardboard into a circle. The edge of the scissors is what type of simple machine? \_\_\_\_\_
5. Take one of the pencils and place it through the center of the spool. Have your partner hold the pencil and spool level with the floor. Run the piece of string over the spool, then hold one end of the string, and tie the other end to the eraser. Try lifting the eraser up off the floor by pulling on the string. What type of simple machine is this? \_\_\_\_\_
6. Take the circle of cardboard that you cut out earlier and push the other pencil through the center so it is even on both sides. What type of simple machine is this? \_\_\_\_\_

Congratulations! You have built all six simple machines. Now you need to help the colonists. Your challenge is to combine all six simple machines into one **compound** machine that will make the colonists' life at Jamestown easier. What are some problems that they faced? How will your machine help? \_\_\_\_\_

Compound Machine:

Any machine made of two or more simple machines combined to make work easier