

NAME: \_\_\_\_\_



# Activity One



## Rube Goldberg Machines

### A Report

**About 100 years ago a man named Rube Goldberg started drawing cartoons of goofy machines that are now called “Rube Goldberg machines”.**

These machines were designed to do a very simple task in a very complicated (and funny) way. The machines were a series of connected parts. Each part made the next part do something. Some of the parts were things like rockets, parrots, and popping balloons. Many of the parts were simple machines.



PREPARE A SHORT REPORT on Rube Goldberg machines. It can be written or spoken, but either way you will need some **pictures**. Search a library or the Internet for “Rube Goldberg” and “Rube Goldberg Machines”. A web site for image searches will lead you to some pictures of these machines.

Copy and print some pictures of Rube Goldberg machines. Make two copies of each picture. On one copy, **label all the simple machines** you can find that are part of the Rube Goldberg machine. They all have some, especially levers. You may also want to include a little information on the life of Rube Goldberg himself.



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# Activity Three



## Circus Machines

Simple machines are often an important part of circus acts. For example, the tightrope walker below is using a LEVER when he uses the balancing pole.



**See how many pictures you can find of simple machines in the circus.** Try the Internet or books about circuses. Here are some pictures you can look for:

- Look for a **SPRINGBOARD ACT**. That's where a big person jumps on one end of a board, and a small person on the other end flies into the air and lands on someone's shoulders.
- Look for simple machines in **JUGGLING ACTS**.
- Look for **STILT WALKERS**.

If you have a chance to watch some acts, that would be even better.

**IDENTIFY and LABEL the simple machines in each picture of a circus act.**

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# Activity Four



## Antique Tools

Some people think things were simpler in the old days. Machines certainly were. Many things that are now powered by electric motors and gasoline engines were once done with hand tools. Those tools were often simple or compound machines. **See how many old tools and appliances you can find that are simple or compound machines.** Look in books, on the Internet, and in antique stores.

The picture below shows a machine that was used to squeeze the juice out of grapes. How many simple machines can you find in this machine?



Try to find other old tools and machines that are simple or compound machines. Look for pictures of these things or look for the actual tools. Here are some things you can look for:

- Printing press
- Manual typewriter
- Apple corer
- Meat grinder
- Washing machine
- Carpenter's hand tools

**Try to find the simple machines in each compound machine or tool.** For example, a manual typewriter has dozens of levers.

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# Activity Five

## Antique Machinery



A hundred and fifty years ago, FACTORY and FARM MACHINERY was much different than today. Power in factories came from one big power source, like a steam engine. The power was sent to each machine by a system of wheel and axles and pulleys. **Try to find some pictures of people working in one of these factories.** Search for “nineteenth century factory” and “antique machinery”. See how many simple and compound machines you can find in the pictures.

Farm machinery was a lot different, too. **Try to find pictures of antique farm machinery** like those shown below.



**Plow**



**Windmill**

Search for “antique farm machinery.” You might even be able to see some of these machines in a museum or at a county fair. Try to figure out how the machines work. **Try to name the simple machines that make up each machine.**

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# Activity Six

## Build a Catapult

Have you ever seen a catapult? You may have seen one in a movie or on television. A picture of a catapult is shown below.



Catapults were used in wars before canons were invented. Catapults could throw large rocks long distances.

**A catapult is a huge simple machine.** Some catapults also have parts that are other simple machines. For example, a simple machine in a catapult does the throwing.

For this activity, you will build a smaller, simpler catapult. Look for instruction plans on the Internet. Search for "catapult plans" and "trebuchet." Gather your materials, and construct your catapult. When you are finished building it, display your labeled model in your classroom for other students to see.