



Let's Move!

Pre and Post Visit Materials

The goal of this program and its pre and post-visit activities is to learn about different types of movement and simple machines.

Understandings: Students will understand how humans move and how we use simple machines.

Pre-Visit Activities

1. Go over new vocabulary words as a class. (some words may have multiple definitions but the ones pertaining to the program are listed)
 - Angle - the shape of two lines coming together or going apart, often at a diagonal.
 - Axle – The shaft around which a wheel turns.
 - Back – What is behind.
 - Complex Machine – the combining of two or more simple machines to create a new tool for a job.
 - Distribution – the placement of weight.
 - Forward – In front or ahead.
 - Front – Beginning point.
 - Fulcrum – Pivot point for a lever.
 - Incline Plane – a plank resting on a fulcrum.
 - Lift – To move something from low to high.
 - Machine – a mechanical aid for work.
 - Motion – a single movement.
 - Movement – the act of something changing location.

- Pulley – a system of ropes bent over objects (often wheels) to create a fulcrum that helps to distribute the weight in order to make an object easier to move.
 - Ramp – a type of incline plane.
 - Screw – a type of incline plane that twists around a central shaft or pole.
 - Simple Machine – a single action tool that makes work easier.
 - Slow – moving without speed.
 - Through – into one side and out the other.
 - Up – above.
 - Wedge – the pointed edge of an incline plane.
 - Wheel – a circular object that spins on an axle.
 - Zig-Zag – moving from side to side while moving forward or backward.
2. Object based activity. Choose a tool from home or school (like a hammer or screw driver) and do the attached object inquiry sheet.

Post-Visit Activities

1. Have the students journal about their trip. The prompt should be, “what was your favorite part of the trip to the museum?” They can either write or draw their response.
2. Penny Lever Experiment
 - a. This experiment will look at how the amount of weight that a lever can lift is affected by the placement of the fulcrum.
 - b. Materials: a ruler, pencil, masking tape, small paper cups (3 oz), pennies.
 - c. Tape a paper cup right side up to each end of the ruler.
 - d. Use the pencil to create a fulcrum, and place pennies into the cups.
 - e. Follow the rest of the directions on the worksheet.

Object Inquiry Sheet



1. Draw the tool in the space to the left.
2. Tell me what the tool looks like.

3. What do you think the tool does?

4. Have you ever seen anyone using something like this? _____

5. What were they doing?

6. What kind of tool do you think this is? _____

7. If you were to invent a tool to do this job, what would it look like? Draw it to the right.



Can you lift those pennies?



Materials: ruler, pencil, two small cups, tape, 25 pennies.

Procedure:

- 1. Begin by taping each cup to the ends of the ruler.**
- 2. Place the pencil under the ruler at the six inch mark.**
- 3. Place 5 pennies into the cup on the right side of the ruler.**
- 4. You will now begin to place pennies one at a time into the left hand cup until the right side of the ruler is in the air. How many pennies do you think it will take to lift the right side of the ruler? _____.**
How many did it take? _____.
- 5. Now remove the pennies from the left side. Move the pencil to the 4 inch mark. You will now begin to place pennies one at a time into the left hand cup until the right side of the ruler is in the air. How many pennies do you think it will take to lift the right side of the ruler? _____.**
How many did it take? _____.
- 6. Now remove the pennies from the left side. Move the pencil to the 8 inch mark. You will now begin to place pennies one at a time into the left hand cup until the right side of the ruler is in the air. How many pennies do you think it will take to lift the right side of the ruler? _____.**
How many did it take? _____.

7. At which mark did you need the fewest pennies to lift the pennies from the right side? _____.

8. Why do you think that happened?

9. How do you think you could use this idea outside of school?
