

**Safety:** Follow all safety instructions given by your teacher. Wash your hands after completing the activity.

**ACTIVITY**

**Question to investigate:**

Is paper, plastic, or aluminum foil strongest for holding up weight?

1. Prediction: Which material do you think will hold up the most weight?

**Paper, Plastic, or Aluminum Foil**

I predict that \_\_\_\_\_ will hold up the most weight.

**Materials**

- Two books of the same thickness (minimum 3 centimeters)
- Centimeter ruler
- 10 pennies
- Plastic (15 cm x 15 cm square)
- Copier paper (15 cm x 15 cm square)
- Aluminum foil (15 cm x 15 cm square)
- Scissors

**Procedure**

1. Cut your paper, plastic, and aluminum foil into strips that are 15 cm long and 5 cm wide.
2. Put the books on the table so they are 3 cm apart as shown.
3. Place the paper strip across the books so that the same amount of paper is on each book.
4. Very carefully place one penny in the center of the paper.
5. Very carefully add pennies one-by-one, to make a stack until the weight of the pennies makes the paper collapse.

In the chart, write down the number of pennies added when the paper collapsed.

| Paper         | Plastic       | Aluminum Foil |
|---------------|---------------|---------------|
| _____ Pennies | _____ Pennies | _____ Pennies |



6. Repeat steps 3-5 to test the aluminum foil strip and to test the plastic strip.

2. When I finished the Strength Test, I discovered that \_\_\_\_\_ was the strongest material.