

Lesson 1.2
Activity Sheet

Name: _____

Testing materials to learn about their properties Date: _____

ACTIVITY

Question to investigate:

What are some of the properties of plastic, paper, and aluminum foil you can easily observe?

Materials

- 2 pieces of plastic (15cm x 15cm square)
- 2 pieces of copier paper (15cm x 15cm square)
- 2 pieces of aluminum foil (15cm x 15 cm square)

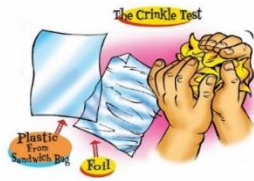
1. Look closely at the plastic, paper, and aluminum foil. Write down some properties that you notice about each material.

Plastic	Paper	Aluminum Foil
Smooth Can see through it (transparent)	A little rougher than the plastic Can't see through it (opaque)	Shiny on one side, duller on the other Looks like silver-colored metal

2. Do each test the way your teacher demonstrated and record your observations.



Fold Test		
Plastic	Paper	Aluminum Foil
Does not stay flat when folded. The fold doesn't make a good crease.	Makes a good crease when folded but there is still space between the two halves.	Makes a very good crease when folded and two halves stay right next to each other.



Crinkle Test		
Plastic	Paper	Aluminum Foil
Does not stay in a ball but opens up completely.	Stays crunched up in a ball and does not open up much.	Stays in a very tight small ball and does not open up at all.



Tear Test		
Plastic	Paper	Aluminum Foil
Kind of difficult to tear. Seems easier to tear in one direction than the other.	Easy to tear. Tears straighter going down the paper than across.	Easy to tear. Difficult to tear straight in either direction.



Stretch Test		
Plastic	Paper	Aluminum Foil
Stretches a lot better in one direction than the other.	Does not stretch.	Does not stretch.

Lesson 1.2
Activity Sheet
Strength Test

Name: _____

Date: _____

ACTIVITY

Question to investigate:

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

1. Make a prediction: Which material do you think will hold up more weight?

Answers will vary depending on gauge of paper, plastic, and aluminum foil.

Paper, Plastic, or Aluminum Foil

I predict that Paper will hold up the most weight.

Materials

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

Procedure

1. Cut your paper, plastic, and aluminum foil into strips that are 15 centimeters long and 5 centimeters wide.
2. Put the books on the table so they are about 3 centimeters 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
<u>7</u> Pennies	<u>1</u> Pennies	<u>10</u> Pennies



6. Repeat steps 3-5 for the aluminum foil strip and then for the plastic strip.

2. When I finished the Strength Test, I discovered that Aluminum Foil was the strongest material.