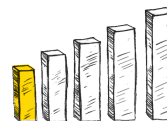


Paper Bridges



MESS
METER: 1



NO ADULT
SUPERVISION
REQUIRED



PREP TIME: 2 MINUTES
EXPERIMENT DURATION: 15 MINUTES

Supplies Needed

3 pieces of construction paper
2 plastic or paper cups
Pennies
Scissors
Tape

Science Question:

What is the strongest type of bridge?

Think about some of the bridges you've seen. In this experiment, you will build a bridge and test it with weight to see if it holds up.

The Experiment

Bridge #1: Fold a piece of paper in half lengthwise. Place two cups upside down on a table about 3 inches (7.5 cm) apart. Put your folded paper on top of the cups, so that the paper "bridges" the gap between the two cups. Place pennies onto your bridge until it collapses. How many pennies did it hold?

Bridge #2: Cut a second piece of construction paper in half lengthwise. Fold each strip on each side to make a U shape. Tape the two U-shaped strips together to form a box. Place the paper on top of the cups. How many pennies do you think this bridge can hold before it will collapse?

Bridge #3: With your final piece of paper, fold it like an accordion. Balance the folded paper over the two cups and place your pennies onto the bridge. How many pennies could this bridge hold?

The Outcome

The first "sling" bridge was not very stable and could not hold many coins. The second "box" bridge bowed in the center, and it was able to hold more pennies. The third "folded" bridge was probably your best bridge. It probably held a lot of pennies.

Why It Worked

In the third bridge, the weight was more spread out along the ridges of the paper, making this bridge the strongest.

Variation

- Try this experiment with longer and shorter pieces of paper. How great of a span can you make?