

Build a Better World Paperbag Challenge

Each week take home a bag full of materials to solve a different building challenge. Bring back your results to show the librarian & receive a small prize. You can record results with a drawing, photo or video.

POM-POM LAUNCHER

Bag contents: 3 or 4 pompoms
3 or 4 large index cards
2 or more paper cups
6 popsicle sticks
4 straws
rubber bands
string
paper clips

POM-POM LAUNCHER

The Challenge: Invent a device that launches a pom-pom into the air. The further it travels the better!

Tips:

- Think about devices that launch things into the air. How do they work?
- Will your launcher be hand-held or sit on the floor or table?

Materials:

The contents of the bag should be used to make your pom-pom launcher but you do not have to use all of them.

You may use the following items from home to help you with your challenge: scissors, stapler and any kind of tape.

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Bridge Building

Bag Contents (you can change contents according to what you have hanging around):

copy paper

craft sticks

index cards

clothespins

straws

cardboard strips

Bridge Building

The Challenge: Place two chairs a foot apart. Build a bridge across the great divide. How many toy cars can your bridge hold?

Materials: The contents of the bag should be used to make your marble run but you do not have to use them all.

You may use the following items from home to help you with your challenge: Scissors, toy cars and any kind of tape.

Bonus Challenge: Bring your bridge to the library to test it's strength. How much weight does your bridge support?

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A Long Way to Water

Bag Contents:

straws

string

modeling clay

milk caps

index cards

corks

Bubble wrap

wax paper

Small popsicle sticks

Large toothpicks

paperclips

pipe cleaners

A Long Way To Water- Help Build A Better World



The Challenge: In Africa, many woman and children travel miles to find clean drinking water for their families. The buckets of water they carry often weigh up to 40lbs or more. Help make their job easier. Create a model of a device that allows them to bring water home without a lot of effort or spillage. Use the materials in the bag.

Materials: The contents of the bag should be used to make your carrier but you do not have to use them all. You may use the following items from home to help you with your challenge: scissors, stapler, plastic wrap, foil, any kind of tape.

Bonus Challenge: Can your model hold 1/4 cup of water without leaking? What is the most it can hold before the carrier leaks.

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LUNAR LANDER

Bag contents: 8 straws
3 large index cards
1 3oz. paper cup
3 rubber bands
10 mini marshmallows
2 large marshmallows

LUNAR LANDER

The Challenge: Design a lunar lander for 2 “astronauts” (large marshmallows) in their “cabin” (3-oz cup) that cushions their landing from a height of two feet. The “astronauts” must remain in their “cabin” when they land.

Tips:

- Experiment with the height of the “drop”. Increase the height and challenge your design to withstand a higher drop.
- How high can you go? Will your design change as you increase the height?

Materials:

The contents of the bag should be used to make your lunar lander but you do not have to use them all. You may use the following items from home to help you with your challenge: scissors, stapler and any kind of tape.

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MARSHMALLOW TOWER

Bag contents: 1 large marshmallow
1 yard of yarn or string
20 sticks of raw spaghetti
1 yard of masking tape

MARSHMALLOW TOWER

The Challenge: Build the tallest free-standing tower possible with the entire marshmallow on top.

Tips:

- Think about how you are going to measure the tower.
- You can break the spaghetti &/or the tape.
- Think about how you are going to transport your tower OR take a photo or draw a picture, if it is too fragile.

Materials:

The contents of the bag should be used to make your marshmallow tower but you do not have to use all of them.

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Go Float a Boat

Bag Contents (you can change contents according to what you have hanging around):

6-8 popsicle sticks

6-8 straws

small styrofoam plates

10 paperclips

rubberbands

different types of paper

corks

bubblewrap

milk lids

modeling clay

Go Float a Boat!

The Challenge: Create a boat that floats and holds cargo. How many pennies can your boat hold? Make a boat that holds more than 20 pennies. Make a boat that holds a toy car.

TIPS: Test your boat in a large plastic container, large turkey pan, sink or bath tub.

Materials: The contents of the bag should be used to make your boat but you do not have to use them all. You may use the following items from home to help you with your challenge: Scissors, stapler, plastic wrap, foil, pennies, toy car and any kind of tape.

Bonus Challenge: Add a sail to your boat. Place a fan on the floor. Put your pan with boat in front of fan. Can your boat travel across the water without tipping over?

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Marble Run

Bag Contents (you can change contents according to what you have hanging around):

3 or 4 cardboard tubes

4 Large index cards

6 large popsicle sticks

paperclips

two marbles

MARBLE RUN

The Challenge: Create a 3D, free standing marble run. The marble must travel at least 12 inches.

Tips: Experiment with the height of the starting point - how does the height impact upon the distance your marble will travel?

Materials: The contents of the bag should be used to make your marble run but you do not have to use them all.

You may use the following items from home to help you with your challenge: Scissors, Stapler, and any kind of tape.

Bonus Challenge: Can you include at least 2 turns and still have the marble travel 12 inches?

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