

Don't touch the tower!

Challenge:

Build a plastic cup tower without touching the cups with any part of your body.

Resources (per group of four):

- 20 plastic cups
- 4 pieces of string, approx. 30cm long
- 1 rubber band

Suggestion: Remember, you can touch the string and the rubber band, just not the cups.



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Rain, rain go away

Challenge:

Build a structure that will keep a tissue dry when water is poured over it.

Resources (per group):

- 2 pieces of A4 paper
- 3 rubber bands
- 4 pipe cleaners
- 3 playing cards (plastic coated)
- 2 paper cups
- 30cm of masking tape
- a small ball of plasticine
- 1 tissue
- a plastic tub to build the structure in (this will catch the water when you test it)
- watering can

Suggestion: Collect the water at the end of the challenge and reuse! Why not water the school garden?



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Geronimo!!!

Challenge:

Build a parachute that will stay in the air the longest.

Resources (groups can choose what they will use):

- paper of varying size and weight
- tissue paper
- plastic bags
- string
- tape
- glue
- hole punch
- paper clips
- Lego figurine (or similar)
- stopwatch (optional)

Suggestion: Use a stopwatch to time your parachute. Which parachute stayed in the air the longest? Why do you think this was so?



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Let's go fly a kite

Challenge:

Build a kite that will rise and stay in the air the longest.

Resources (groups can choose what they will use):

- paper of varying size and weight
- tissue paper
- plastic bags
- pop sticks
- string
- tape
- glue
- stopwatch (optional)

Suggestion: Use a stopwatch to time your kite. Which kite stayed in the air the longest? Why do you think this was so?



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Vroom! Vroom!

Challenge:

Move a toy car from one side of a table to the other without touching it, tipping the table or using ramps.

Resources (groups can choose what they will use):

- toy cars
- magnets
- straws
- balloons
- tape
- string
- paper

Suggestion: Choose your favourite method and then race another team!



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A tasty tower

Challenge:

Build a tower using dry spaghetti and marshmallows. How high can you go?

Resources:

- dry spaghetti
- marshmallows (various sizes)

Suggestion: If you don't want to use food, this can be done with wooden skewers and plasticine.



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Ball down the wall

Challenge:

Build a vertical marble run (possibly on a wall). Who can build the longest one?

Resources (per group, or for the groups to choose from):

- paper cups
- cardboard tubes (e.g. paper towel rolls or cling film tubes)
- masking tape and/or Blutak™
- marbles

Suggestion: Design and draw your vertical marble run first. Note any changes you made during the building stage.



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3, 2, 1 – bungee!!!

Challenge:

Estimate how many rubber bands you will need to create a bungee cord that is long enough to get a doll (or action figure) close to the ground without touching it.

Resources:

- doll or action figure
- rubber bands (varying sizes)
- tape measure

Suggestion: For this you will need to drop the doll/action figure from a safe height. Always seek permission from an adult/teacher first.



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Float your boat

Challenge:

Build a boat that will stay afloat.

Resources (groups can choose what they will use):

- aluminium foil
- plastic cups
- paper
- straws
- tape

Suggestion: Test the buoyancy of your boat by slowly placing small objects into it, one at a time.



Paper planes

Challenge:

Make a paper plane that will fly the longest distance.

Resources:

- paper of varying sizes and weights
- tape measure

Suggestion: Measure the distance that your paper plane flew. Which plane flew the furthest? Why?

