



STEM Challenge Cards



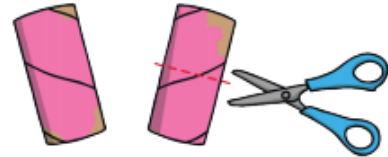
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$$8 \times 5$$

STEM Challenge Cards

Make the tallest tower you can which is capable of standing freely and not attached to anything.

Competition – Which is the tallest tower?



STEM Challenge Cards

Make a boat which floats successfully in a tank of water and can carry a cargo of at least one penny.

Competition – Which boat can carry the most pennies before it sinks?



STEM Challenge Cards

Make a marble roller coaster which brings a marble down from a start height of 1 metre without any drops of longer than 5 cm.

Competition - Which marble takes the longest to successfully descend 1 metre?



STEM Challenge Cards

Use the materials you have been given to make a creative sculpture. It can be abstract or a 'thing' – you decide!

Competition – Which sculpture would other learners pay most for? Hold a ballot.



STEM Challenge Cards

Design and make an umbrella or any device to keep the user dry during a rain shower.

Competition – Which device would keep the user the driest? You can judge this by inspecting the quality of the materials and the seams (does any daylight show through?) or wait for it to rain and try them out for real!



STEM Challenge Cards

Construct a zip wire or a similar thrill seeking experience for a chosen type of mini figure.

Competition – Which experience would have been the most thrilling for the mini-figure (i.e. the best compromise of excitement and safety)?



STEM Challenge Cards

Create a catapult which can be used to fire a chosen projectile without the operator either touching the object or propelling it forward with their own power.

Competitions – Which catapult can launch the projectile the furthest? Which catapult is the most accurate when firing at a given target?

