ELF STEM CHALLENGES

SHELF FOR THE ELF

One little elf has lost his shelf.

Can you build him a new one from recycled materials?



CHALLENGE - the shelf must be able to hold a small bag of sugar.

SAVE THE PRESENT



Oh no! Santa has left a present in the sleigh.

Can you build a parachute so the elves can drop a present down to him?



TOP TIP - use a sheet of paper or coffee filter with strings attached to the corners.

ZIP LINE TIME

One little elf is stuck up the tree. Can you build him a zip line so he can get down?



TOP TIP - Use string for the zip line and a pipe cleaner for the harness.

JINGLE BELLS

Oh no! The elves have all lost their jingle bells.

Can you make them something noisy as a replacement.



TOP TIP - Place small items in a paper cup, cover and shake.

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DECORATE THE TREE

The elves can't reach the top of the tree.

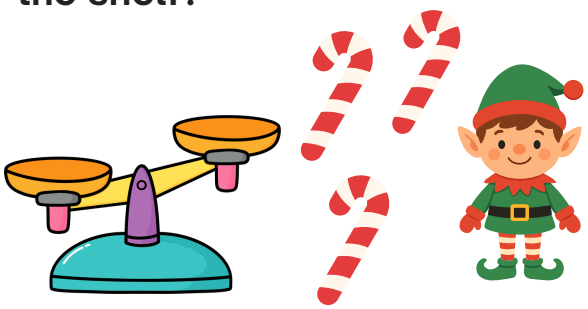
Can you build them something to help?



TOP TIP - build a lollystick catapult.

TOO HEAVY

Santa's sleigh is very heavy. Can you work out how many marshmallows or candy canes weigh the same as one elf on the shelf?



TOP TIP - use scales or make a coat hanger balance.



WET WEATHER

Oh no! It's raining and the presents in the sleigh are getting wet!

Can you create something to cover the sleigh and keep the presents dry?



TOP TIP - test different materials like foil, cling film, or paper to see which is waterproof.

BACK ON THE SHELF

One little elf has fallen off his shelf.



Can you build him something to get back up?



TOP TIP - how about a ladder made from straws, or a hook made from candy canes.

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