PAPER BRIDGES

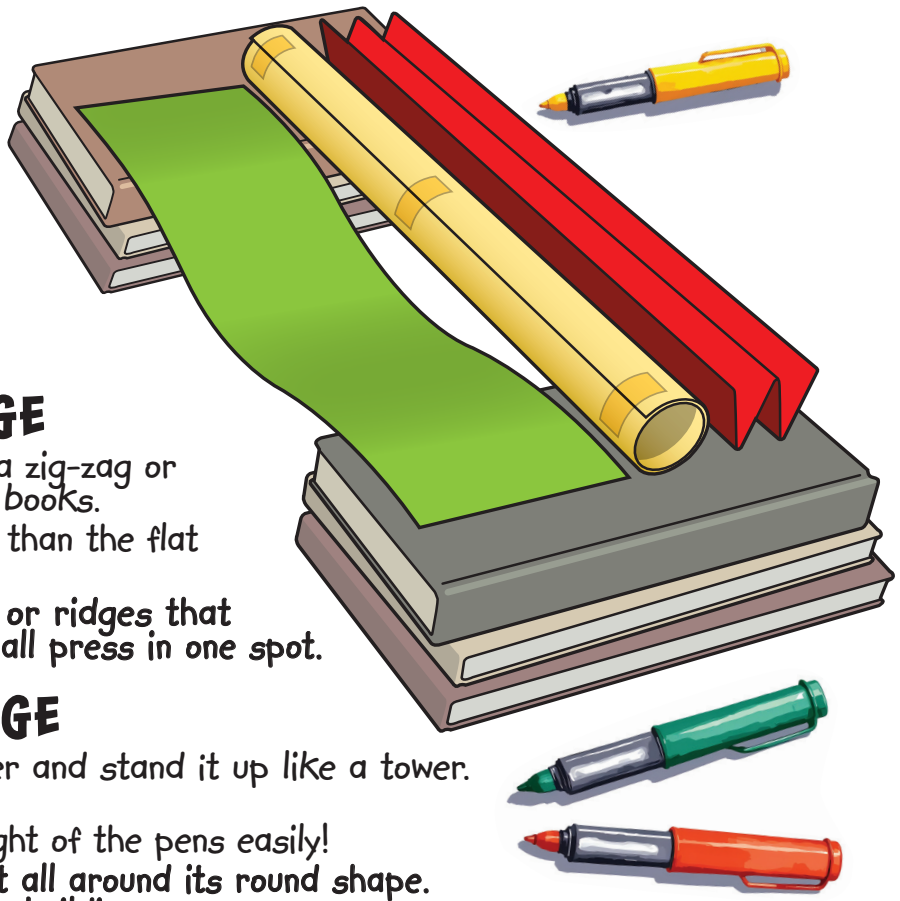
- Here is a cool experiment to try out in the classroom. You are going to build three paper bridges out of paper in three different shapes to see which paper bridge is the strongest.

1 FLAT PAPER BRIDGE

Place a plain piece of paper flat between two books. Place a few pens on it.

What happens? It bends or sags in the middle very quickly.

WHY? **It's not strong as it doesn't have any support or shape to help it hold weight.**



2 ZIG-ZAG PAPER BRIDGE

Fold the paper back and forth, like a zig-zag or fan, then lay it across the same two books.

What happens? It holds more pens than the flat paper and doesn't collapse.

WHY? **The folds act like little legs or ridges that spread the weight out, so it doesn't all press in one spot.**

3 CYLINDER PAPER BRIDGE

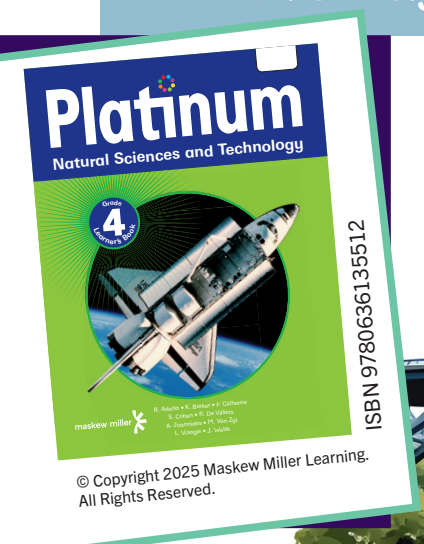
Roll the paper into a tube or cylinder and stand it up like a tower. Place the pens on top of the tower.

What happens? It can hold the weight of the pens easily!

WHY? **A cylinder spreads the weight all around its round shape. It's like a strong pillar that holds up buildings.**

SO, WHICH ONE IS BEST?

- The flat paper is the weakest.
- The zig-zag bridge is strong because of its design.
- The cylinder is super strong when standing up.



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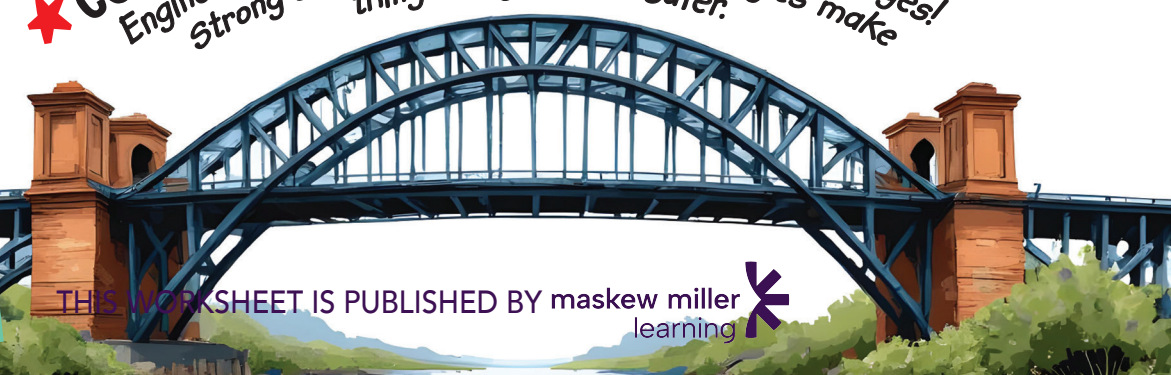
COOL FACT: Engineers use these tricks in real buildings and bridges! Strong shapes like cylinders and triangles make things tougher and safer.



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