

Why do spinners spin?

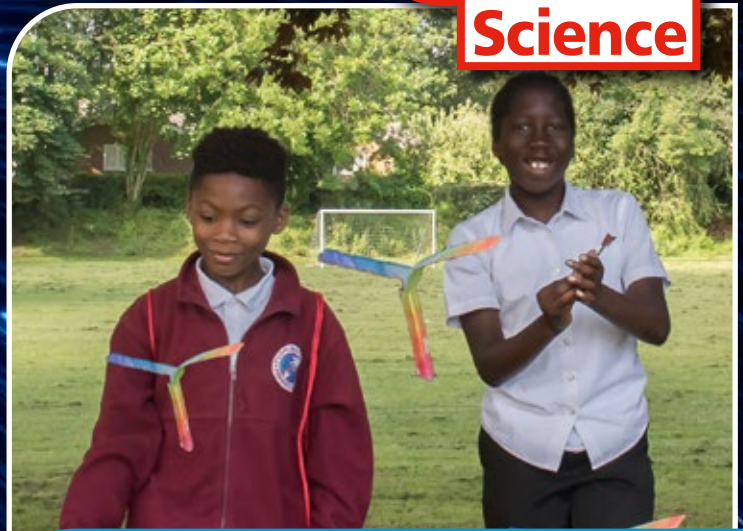


Paper Race

I have two same sized sheets of paper. One is flat and one is scrunched into a ball.

What will happen when I drop them both at the same time from the same height?

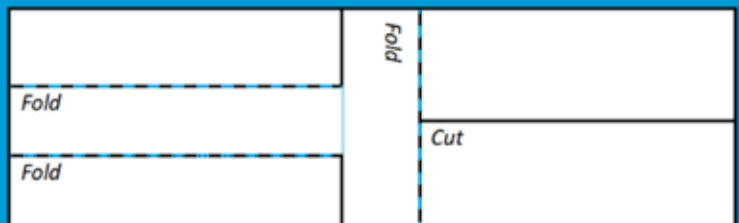
Which one will hit the ground first? Do you know why? Try it out!



Observe, Measure, Record

To make a spinner

Copy the template below onto a piece of paper. Fold the dotted lines and cut the solid lines. Fold the two wings in opposite directions. Make 2 spinners.



Challenge 1: Make a spinner that falls quickly. What did you do?

Challenge 2: Make a spinner that falls slowly. What did you do differently?

Challenge 3: Make a spinner that spins quickly. What did you do?

Observe and Record your results.

Why do spinners spin?



Gravity pulls the spinner downwards.

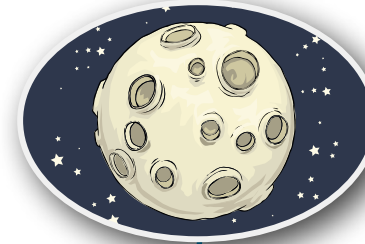
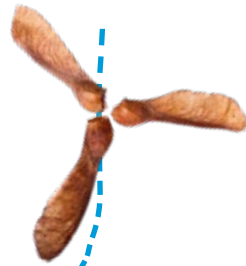
Think about a parachute. More surface area, means more air resistance. And that means it falls more slowly.



Air resistance is a kind of friction. As the spinner falls, it is slowed down by the air that pushes up on its wing.



Astronauts dropped a hammer and a feather on the moon. Guess what! They hit the ground together! So no air = no air resistance!



On the moon, there's no air.

Sycamore seeds with more wings or wider or longer wings have more surface area – and fall more slowly. Try folding the wings on your spinner.



You can also add weights to your spinner, what happens now?



But why does it spin?

We saw this in the paper race!



The wings of spinners are not symmetrical. Sometimes they are at an angle. Sometimes they are not opposite the centre point. It means the forces are uneven and twist the spinner around.

Can you make a paper spinner that spins the other way?

