



Free resources

The Why and How Challenge

The 'Why and How' Challenge is intended to be something for the staffroom table that lots of teachers will try.

This issue's Why and How Challenge is based on a **PAPER SPINNER** – something that may already be very familiar, but have you used it as a **WHOLE SCHOOL COMPETITION** before? Set every class the question 'can you make the slowest spinner?'

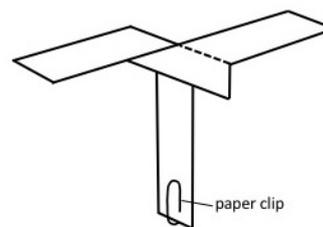
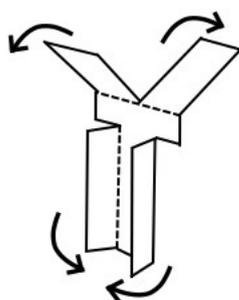
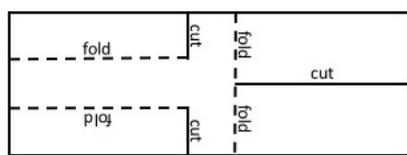
Paper spinner: starter template and instructions

FOLD along the dotted lines

CUT along the solid lines

FOLD the two 'wings' in opposite directions

PAPER CLIP the three folded pieces of the tail of the spinner



RESOURCES

Spinner template - download [HERE](#)

Different types of paper or card

Paper clips

Scissors

WHAT TO DO

Give each child a copy of the spinner template and draw their attention to the lines – dotted lines are for folding and solid lines for cutting. They should cut and fold the spinner and put a paper clip at the bottom to hold the three parts of the tail together. Tell them to hold the top of the spinner between their fingers and just let it fall to the ground. They might need a bit of time to practise this.

The children can then be encouraged to think about and explore all the factors that might affect how fast the spinner falls, e.g. length of wings, width of wings, length of tail, width of tail, number of paper clips, type of paper the spinner is made from, height of drop.

HINT – it is easier if children work in pairs/groups and compare two or more spinners when dropped at the same time, rather than time one with a stopwatch

After the children have had time to explore, give them the question: "Can you make the slowest spinner?"

Tell the children about the whole school competition and that, as a class, they are going to produce **one spinner**, that **falls as slowly as possible**. This will then be their class entry to the competition.

RULES FOR THE WHOLE SCHOOL COMPETITION:

- the spinner itself has to be made only from one layer of paper/card
- the weights have to be paper clips
- the basic design should be based on the one provided (i.e. will open out as a rectangle), but adaptations to this are allowed
- no glue or tape can be used
- no restrictions on the number of paper clips you can use
- no restrictions on size or proportions of the spinner

RUNNING THE COMPETITION:

This is best done as a knock out. Two classes at a time race their spinners against each other in a best of three. The winner (slowest) goes through to the next round and so on.