



Leonardo Da Vinci

LINKED CHALLENGE

To make a flying machine; a hoop glider



ACTIVITY OVERVIEW

Children to work in pairs. Each pair to collect the resources they need to make a hoop glider (see resources list). Children to use the video overview shown on the QR code and make their own version of the hoop glider.

Children will need to: cut two different lengths of paper and use them to form hoops; secure hoops to either end of the straw; launch the straw with the smaller hoop at the front; watch it fly!

Health & Safety: don't throw the glider at anyone.

*Top Tip. Children could investigate different variables: throwing the glider with the large hoop first; using different types of paper; using different sizes or numbers of hoops; different placements of the hoop on the straw.

RESOURCES

- | | |
|---------------------------------------------------------|-------------|
| Straws | Sticky tape |
| Variety of paper:
different colours and
thickness | Rulers |
| | Scissors |

QUESTIONS/FURTHER LEARNING

- How does it work?
- What did you/will you need to change?
- Could you make the glider fly for longer?
- What makes a good hoop glider?

KEY FACTS/SCIENCE

When the glider is thrown, the pushing (driving) force makes it move forwards through the air. The hoops act like wings and the air flows around them, creating an upward force called 'lift'.

Initially, the glider will go up and increase in speed if the force of lift (upwards) and driving force (forwards) are greater than those of gravity (downwards) and drag (opposing forward motion).

When the forces are balanced, the glider will fly at a steady speed and remain level.

Without a continuous driving force, drag will slow the movement, lift will decrease and gravity will pull the glider down to Earth.

