

# Paper Helicopters

Mad Scientists @ Gaynes

Nature using helicopters to help spread their seeds...



In nature one the most recognisable ways to distribute is the sycamore.



- This led to the design and development of the helicopter.

# The way to ask a question in science...

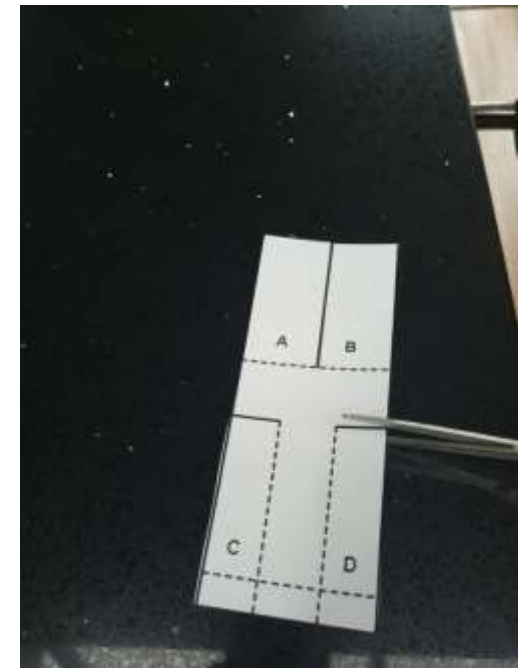
- Lots of things can effect the result of an experiment.
- As a scientist we measure a result (dependent variable) by changing just one variable at a time (independent variable), while keeping all the other variables the same (control variable).

# An easy experiment you can do at home...

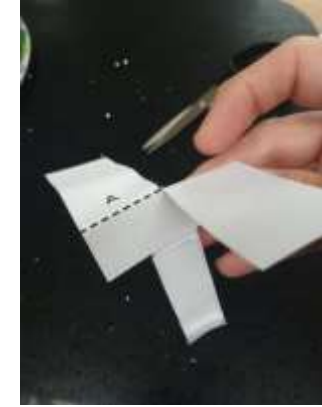
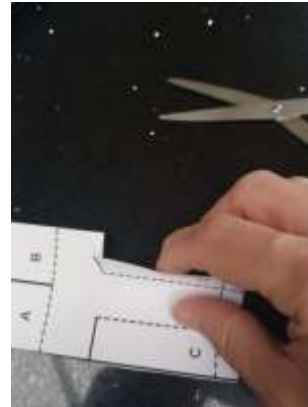
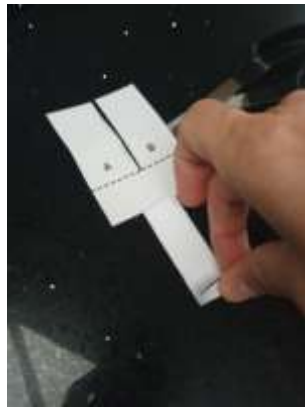
- Print out the paper helicopter template.
- The dependent variable is going to be the time taken for it to drop.
- A good independent variable to choose can be the length or width of the rotors. You can change the variable by cutting bits of the rotor each time to see what effect it has.
- Another variable to investigate might be the number of paperclips added.
- What other variables do you think you would have to keep the same....?

# Set up...

- Cut along the bold lines



- Fold along the dotted lines



- Add a paperclip to the bottom if you wish

# The experiment

- Stand up with your hand in the air and from a fixed height (control) drop your helicopter and time how long it takes to drop to the floor.
- Do this at least three times to make sure your results are repeatable.
- Then change the rotor size or add a paperclip and go again.
- What do you think removing 5mm length off each rotor is going to do to the drop time???

# The experiment





# Based on the results of your experiment...

- Which one of these seeds is going to travel the furthest??



- Why is it important for seeds to travel as far away from the tree as possible?