Watch the video clip below explaining how rockets launch into space, using a special force called 'thrust':

## https://www.bbc.co.uk/bitesize/clips/zthpg82

Using our knowledge of thrust, friction and air resistance, it's time to challenge your family to a rocket launch competition! Watch the video clip below to learn how to make an awesome paper rocket and bottle launcher:

https://ioi.london/latest/new-video-make-your-own-paper-rocket-launcher/?gclid=CjwKCAjwvOHzBRBoEiwA48i6Ah4o5qV1mSXwcAORBd70xLDTyms-28BbPNmVfAIdkO2xQVRVq\_nKyhoChnIQAvD\_BwE

Measure how far your rockets travel using a timer or a measuring stick – try not to get them stuck on the roof!

## Challenge -

Now use your scientific knowledge to adapt your design so that your rocket can travel even further!!

Here's some extra things to think about, so you can adapt the challenge and keep prototyping:

- What would happen to your rocket if you change the bottle size or shape?
- How could you change your rocket launcher so that you can stamp on the bottle to make your rocket go higher?
- How can you change the shape of the wings to make it more aerodynamic?
- What can you do to personalise your rocket with your own designs?