Year 6 Science

Transition Work

**Laboratory Rules**

* Pupils must not enter a laboratory unless told to do so by a member of staff.
* Place coats on the rack near the door and bags out of the way under the bench.
* Never eat or drink anything in a laboratory.
* If you have to move around the laboratory then walk carefully, never run.
* Follow instructions precisely and don’t try your own experiments with equipment or materials.
* When using a Bunsen burner make sure that hair is tied back and ties are tucked in.
* Wear safety spectacles when told to do so and keep them in place until all clearing away is done.
* Stand up when pouring liquids.
* Report all accidents - cuts, burns, chemicals in the mouth or eyes, breakages - to the teacher.
* Wash your hands and dry them on a paper towel after working with chemicals or with animal or vegetable material.
* At the end of a lesson tidy up after yourself using cloths to wipe benches and return equipment to the place where you found it.

1. **Read the laboratory rules, then choose one to illustrate in the form of a poster.**

**Think about what symbols you could include and how you can make it bright and appealing.**

1. **The Bunsen Burner**

Using the internet to do the following:

Draw and label the parts of a Bunsen Burner. Remember to write down the address of the site you used.

Who is the Bunsen Burner named after?

In a few sentences, describe how you would light a Bunsen Burner.

What are the three types of flame on a Bunsen Burner?

1. **Paper Aeroplane Experiment**

Why do paper aeroplanes fly? Some planes fly better than others, but why? You are going to experiment with the design of a paper aeroplane and see how changes affect its flight.

The same forces act on a real aeroplane that act on a paper aeroplane. A force is a push or a pull on something. When you throw a paper aeroplane you are giving it a push. This force is called thrust. Whilst the paper aeroplane is flying, air is pushing back against it. This force is called drag. The air is also moving over and under the wings. This force is called lift. The weight of the paper aeroplane also affects its flight. This force is called gravity. These four forces – thrust, drag, lift and gravity all affect how the paper aeroplane flies.

Reference

<https://www.scientificamerican.com/article/bring-science-home-paper-planes-drag/>

**Method**

Make a paper aeroplane out a sheet of paper

Reference

<https://www.youtube.com/watch?v=r9ReNKZiZNc>

After you have made your paper aeroplane, it’s now time to fly it.

Find an open space – a hallway or garden for example and fly your plane.

Fly it three times and record how far it has travelled – use a tape measure if you have one or place an object to show where it landed.

Now you can start to make changes to your plane – change the wings to change the lift and drag, add a paperclip to change its weight and make it out of different paper (e.g. newspaper, cardboard) to change its weight.

Remember to fly each plane three times for accurate results.

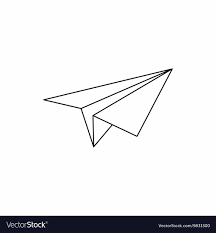
**Observations**

Which plane flew the furthest?

Which material (paper, newspaper, card, cardboard) flew the furthest?

Did attaching a paperclip to the plane change the distance it travelled?

Where was the best place to put the paperclip?

Draw or take a picture of the best plane.