Teacher Resource - Flying Rings Experiment

Physical Sciences – Years 3 and 4

Australian Curriculum Links

Science Understanding

- identify how forces can be exerted by one object on another and investigate the effect of frictional, gravitational and magnetic forces on the motion of objects (AC9S4U03)

Use and influence of Science

- consider how people use scientific explanations to meet a need or solve a problem (AC9S3H02)

Science Inquiry

- pose questions to explore observed pattens and relationships and make predictions based on observations (AC9S3101, AC9S4101)
- use provided scaffolds to plan and conduct investigations to answer questions or test predictions, including identifying the elements of fair tests, and considering the safe use of materials and equipment (AC9S3102, AC9S4102)
- follow procedures to make and record observations, including making formal measurements using familiar scaled instruments and using digital tools as appropriate (AC9S3103, AC9S4103)
- construct and use representations, including tables, simple column graphs and visual or physical models, to organise data and information, show simple relationships and identify patterns (AC9S3104, AC9S4104)
- compare findings with those of others, consider if investigations were fair, identify questions for further investigation and draw conclusions (AC9S3105, AC9S4105)
- write and create texts to communicate findings and ideas for identified purposes and audiences, using scientific vocabulary and digital tools as appropriate (AC9S3106, AC9S4106)

Experiment Overview

How does an aeroplane stay in the sky? This experiment introduces the four forces of aerodynamics (thrust, lift, gravity and drag) and explains how they impact a flying craft. Students then make their own rather peculiar flying creation and test it out.

Lesson Intention

We are learning about the four forces that impact a flying craft and create and test the aerodynamics of a flying craft.

Success Criteria - Product	**Success Criteria -Process** The steps required for students to successfully complete the experiment. Ideally, these should be co-constructed with the students. For example:
I can explain the four forces that impact a flying craft and create and test the aerodynamics of a flying craft.	Remember: • accurately measure the paper (rings) • align the two rings of your glider.

Risk:

- Low Risk
- Risk Control - manage through usual classroom processes.

Materials (per group):

1. Straws (2)
2. Sticky tape
3. Paper
4. Scissors
5. Tape measure
6. Pencil
7. Ruler