Y8 Science Enrichment Homework
Topic: Plants and Environmental Interactions

Investigation on water transport in plants

It is difficult to get flowers in some colours such as blue or green. We have been set a challenge by the Royal Horticultural Society to study water transport in plants so that white flowers can be dyed.

You need to **conduct** a simple scientific experiment at home to study water transport in plants and how flowers can be dyed. Please ask for **parental permission** as this project can be messy!

Submit your work on Google Classroom 'Year 8 - Science Enrichment Homework' – code qpsmpfa.

Equipment

- 3 or 4 jam jars or glasses
- Water
- Food colourings
- 3 or 4 fresh flowers (white carnations or roses are recommended)
- Sharp knife and cutting board

Method

1. Put a ¼ cup of water in each of the jam jars or glasses.
2. Add twenty drops of food colouring and stir.
3. Carefully cut the last centimetre off each of the flower stems at a 45^{o} angle.
4. Immediately put each flower in one of the jars.
5. Do not disturb the flowers. Observe them after 4, 8, 24, and 48 hours and record any changes you see. Take photos if possible.
6. After the flowers have changed colour cut 4cm off the stem of one of the finished flowers to observe the inside of the stem more closely. Take photos if possible.

Reporting

Create a short report on your experiment and observations. **Describe** your results and **explain** how the **xylem** transports water to the plant. Include diagrams and use appropriate scientific language. Merits are available for outstanding work.

Challenge: Why is understanding water transport in plants important to both SDG2 Zero Hunger and SDG15 Life on Land?

Deadline: The homework is due in by Friday 9th October.