

Flower Power

Botanical Experiment

Setting the Scene - Discussion about plants.....

Trigger questions

What do plants need to survive? (water, soil, sunlight)

Most plants drink water from the ground through their roots. The water travels up the stem of the plant into the leaves and flowers, where it makes food. (This process is called photosynthesis - process by which C_2O and H_2O in the presence of light are converted to sugar and oxygen). Plants do this by soaking up sunlight in their leaves and using the nutrition from the soil.

What happens if you cut the roots of a flower?

When a flower is cut, it no longer has its roots, but the stem of the flower still drinks up the water and provides it to the leaves and flowers.

What happens if plants drink something other than water (e.g chemicals, insecticides)

It may affect the plants health and growth.

What happens if you put a flower in a cup of coloured water?

Before the children conduct their experiment - ask them to write down their hypothesis (ask the children to guess the answer).

Using food colouring does not harm the plants in any way but allows children to see the journey the water takes from the roots to the shoots.

In time the food colouring will be sucked up the stem along tiny tubes (called vessels) and the petals of the flower will start to change in colour.



'Flower Power' Activity

Materials you will need:

- ✓ Water
- ✓ Red food colouring (you can use green and blue too if you wish)!
- ✓ Jam Jar
- ✓ White flowers (one per group) e.g Carnation, Chrysanthemum, Marigold

Steps:

1. Fill the glass jar with 2cm of water.
2. Add 25 drops of food colouring.
3. Put the flower in the water (ensure that the flower is either freshly cut or trim the stem of the flower at an angle to create a fresh cut).
4. If possible, ask the children to check the flowers every few hours to record any progress. It may take up to 24 hours for the food colouring and water to journey from the stem to the petals (but the results are worth waiting for!)

Conclusion

Trigger: What has happened? (Hint, look very closely at the petals and the stamen (the bits in the middle of the flower)). Ask the children to record their findings on their worksheet

Experiment conclusion and discussion

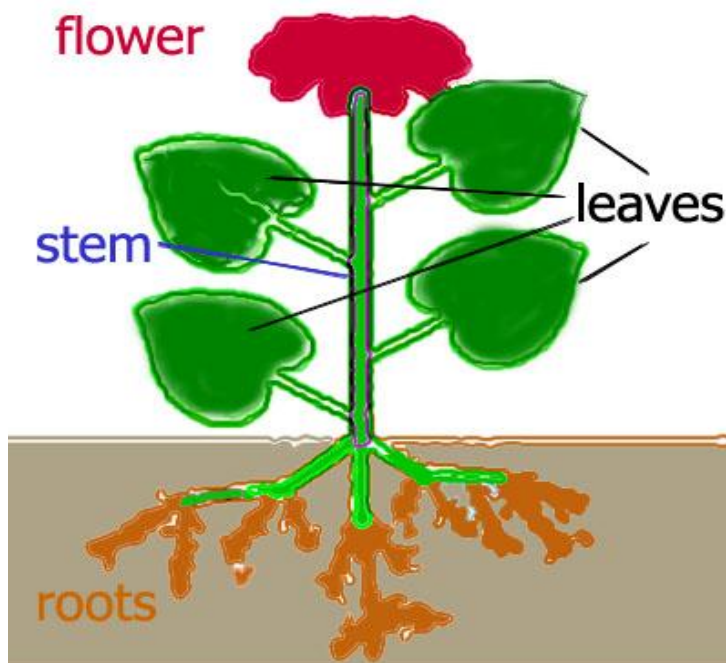
Let's find out what happened to the flowers in each group. Ask each group to announce what happened to their flower, and how long it took for the colour change to occur.

Why do you think the flower changed colour?

The flower absorbed the water through the stem and because the water was coloured, the water turned the petals this colour. Did you know that plants need water to live? Like humans, plants are living things which need food and water to survive. Nutrients from the soil and water are absorbed through the roots and stems of plants.

Explaining the basic anatomy (parts) of a plant.

- Point out the stem (where the plant absorbed the water)
- Point out where the roots would be if the flower had been in the ground, the leaves, the veins on the leaves, and the petals (which can change colour depending on what's in the water) Plants can also absorb water from the atmosphere (the air) through their petals.



Another way to try this experiment is to get a flower with a long thick stem (or celery stalk with leaves) and slit it carefully from the bottom and put one end in separate jam jars (with different food colourings). Your flower (or celery) should have petals (or leaves) in two different colours. If you used the celery stalk for the above experiment you could cut the stalk and see that the little holes inside are coloured too.