SCIENCE learning springboards

Living things and their habitats

Sticky, seedy socks: "1 year's seeds, 7 years' weeds"

Aim: Pupils explore seed dispersal and longevity of seeds lying dormant in soil. What types of surfaces are likely to have the most seeds lying dormant?

Ask pupils to bring an old sock into school. They should wear the sock OVER one of their shoes as you all take a walk around the school grounds. Split the group so that smaller groups walk around on different surfaces, for example on tarmac, grass, woodland, undergrowth. Plot the locations on a map of the grounds.

- Fill each seedy sock with compost, tie up the open end and place (seedy side up) on plant trays. Label each tray with the location and leave in a sheltered place to find out what grows. Make sure they do not dry out, nor become waterlogged.
- Allow at least 4 weeks for growth to occur (if it's going to). Compare the different seedlings and abundance in each location, recording data each week.
- Leave the seeds to grow on to maturity to identify the plant species now growing.

Pupils should devise a method of assessing seed abundance.
What grows will be a surprise to everyone and will demonstrate the resilience of seeds.

Living things and their habitats

Seed bombing for pollinators

Aim: Pupils become seed distributors in school grounds (or any other site with the landowner's permission).

Activity:

- Pupils research which wild and/or ornamental flowers are most suitable for the encouragement of pollinating insects to their site.
- Write a letter to explain the importance of flowers for wildlife and humans and ask permission to seed bomb the area.
- Choose a suitable location and distribute the seed bombs.

Look in *Pappus* resource library to download the Muddy Faces "How to make seed bombs" guidance.

Seed bombs

Dandelion clock investigation

Can we really tell the time by blowing a dandelion head?

Aim: Devise an experiment to investigate if there is any scientific theory that the number of breaths it takes to blow the seeds off = the hour.

Gather several bunches of dandelions with full seed heads. Use a tally chart to record the number of breaths it takes to fully blow all the seeds (the pappuses) off a dandelion head, compared to the actual time of day.
Does the time of the day affect the number of puffs required to blow all the seeds off? Pupils should analyse their data to prove or disprove this folklore myth.

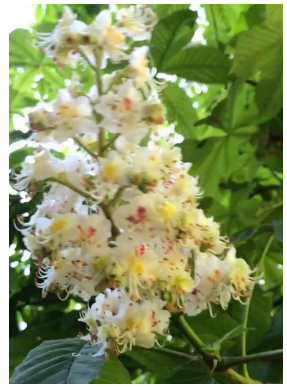
This simple, fun experiment can lead to research into other dandelion folklore and myths. It is said to be a 'rustic oracle', a 'sheperds clock', and a weather 'barometer' – use the *Pappus* Dandelion ID sheet to find out more.

Dandelion folklore

Horse chestnut traffic lights

The secret signal to pollinators

Aim: Pupils observe the changes to horse chestnut flowers and understand the reason why.



The flowers of the horse chestnut have a very special characteristic: as soon as the flowers open, a yellow glow appears on the upper petals. A few days later the color changes to a bright red. This is called a sap mark. It is like a kind of 'traffic light' for the pollinating insects. If the sap mark is yellow, they know that there is nectar to find in the blossom. If it has turned red, however, a visit to the blossom is no longer worthwhile. This is how horse chestnuts ensure their flowers are properly pollinated.
Find out more with the *Pappus* horse chestnut ID sheet.

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