

Plant Regeneration Powers: Cultivate new plants from cuttings

Annis Richardson, 28th May 2020

Aim: To explore how plants can regrow

Age: 6 +

Complexity and duration: low, 1-3 weeks

Location: inside

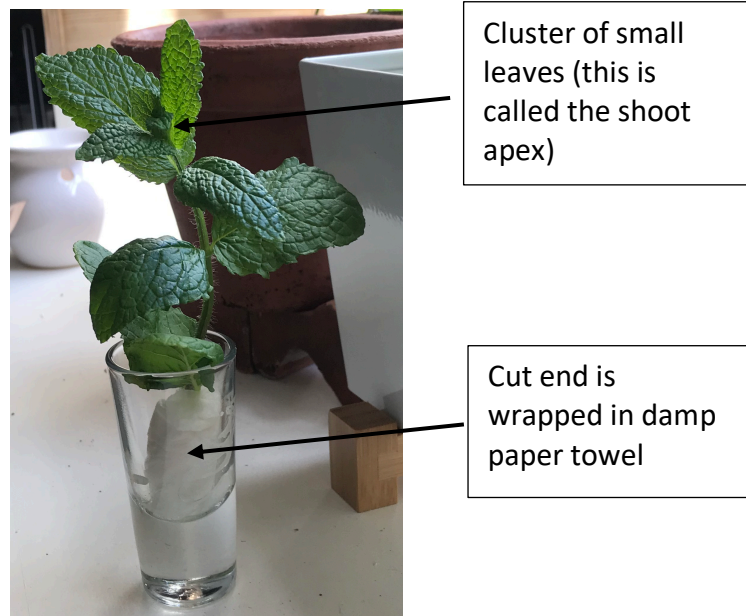
Cost: <£5

Materials:

- Mint or basil: either a live plant or fresh sprigs from the supermarket
- Paper towel
- Scissors
- Small container
- Water
- Compost
- Plant pot

Method:

1. Cut a 2-3inch long “sprig” from the plant, or trim the end of your supermarket sprig (pick a sprig that has a cluster of small leaves at the tip).
2. Wrap the cut end in paper towel.
3. Put in a small container and add a little water (enough to make the towel damp but not fill the glass).



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Adult supervision is required for any experiment.

4. Place in a sunny spot and keep damp for ~ 1 week
5. After a week you should see new roots forming on the cut end.
6. Once the roots are ~1cm long you can plant your cutting to damp compost and watch it grow.
7. After ~1 week in soil your cutting should have grown and be well established. Try cutting off the apex, after a few days what do you notice?

Science Facts: This method is called vegetative clonal propagation: it means that a new plant is made from part of the old plant before it started to reproduce, all of the new plants are exact genetic clones of the parent plant. Many different plants that we see in our gardens or that we eat are grown this way, for example tea. It takes a long time (years) to breed new varieties so breeders use this technique for some plants, to guarantee that the seedlings they send to farmers are exactly the same as the new variety they advertised.

If you look after your plant, and repeat this process every now and then to make new healthy young plants, you will never need to buy mint or basil again!

Cutting off the tip of the plant, should activate buds along the stem, these will grow into new branches, making your plant bushier! This happens because of a process called apical dominance- this means that the main tip of the plant is able to suppress the growth of buds lower down. Different activation of buds along the main stem of a plant can affect its overall shape. Plants use this to grow to cope with the environment, for example if half of a plant is in deep shade only buds on the sunny side will grow. Have you seen any examples in the world of this?

Risk Assessment:

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| Hazard | Likelihood and seriousness of injury | Control Measures | Remaining risk |
|-------------------------|--|---|-----------------------|
| Scissors/ sharps | Low to high risk of cutting/ stabbing injury | Use under adult supervision. In the case of injury follow first aid and NHS advice. https://www.nhs.uk/common-health-questions/accidents-first-aid-and-treatments/ | Low |
| Water/ electrical shock | Low/ medium | Keep water away from all electrical sources | Low |
| Choking | Low/medium | Do not ingest the paper towel, soil or plant cutting. If choking occurs follow NHS advice: https://www.nhs.uk/conditions/pregnancy-and-baby/helping-choking-baby/ | Low |

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