

Seed Germination - Testing Seed Viability



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In this lesson, students will explore:

- What is a seed?
- Are seeds alive?
- Do seeds expire?

Create a seed tray with an assortment of seeds shapes, sizes, textures and colours collected from the garden, saved seed, or in nature.





Seed

An embryonic plant that is asleep (dormant) until it is given the right conditions to grow.

Germination

The growth of a young seed into a plant.



Seed Coat

A protective covering over the seed which shields the inside from becoming damaged.



It can be thick layer (walnut - left) or paper thin (lunaria - right) depending on the seed.



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Cotyledons

The first set of seed leaves that emerge (sometimes kidney shaped) these will be different in shape from the leaves of the mature plant.

Radicle

First to emerge from the seed embryo, a tiny white tail which will develop into the main root of the plant.





Stratification

Breaking dormancy of a seed by exposing the seed to cold conditions before germination. Store in fridge.
(lavender seeds have to stratify for a month in cold)

Scarification

Breaking/softening the seed coat using heat, chemicals or scratching to allow water to penetrate the seed coat.
(forest fire, birds eating seeds)



Seed Viability

Seeds will not always germinate due to various factors:

- old seeds - check shelf life on seed packet (1 - 4 years)
- poor storage (kept in humid spaces)
- planted too deeply
- not enough nutrients in soil
- pest damage



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Activity

Seed Germination Test

Test the viability of seeds by conducting a germination test before sowing seeds.

Supplies needed:

- paper towel
- seeds
- silicone food bag or ziploc bag
- marker

Activity

Seed Germination Test



1

Dampen a large piece of paper towel and lay it on a flat surface, Grab a handful of seeds and scatter them evenly on the wet surface of the towel.



2

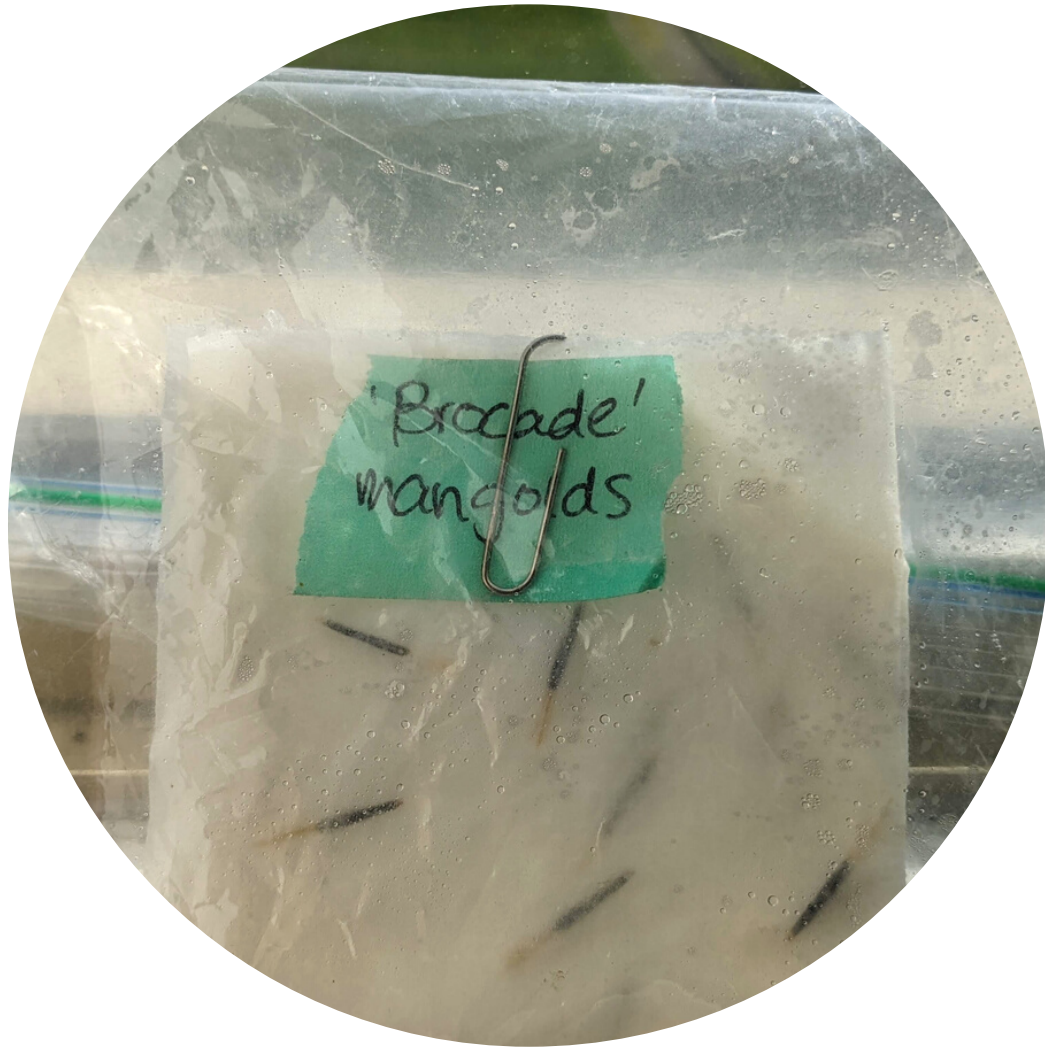
Fold the paper towel once, and fold again.



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Activity

Seed Germination Test



3

Place in a re-useable silicone bag or ziploc bag. Partially seal to allow for some air flow. Label the bag with the variety (name) of the plant and the date.



4

Check the bag every two days. If the paper towel has dried, re-moisten. If 80% of the seeds sprout within 1 - 2 weeks, germination rate is good.



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