

# Seed Germination - Testing Seed Viability



SPEC School Gardens

*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.





# 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





# 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.



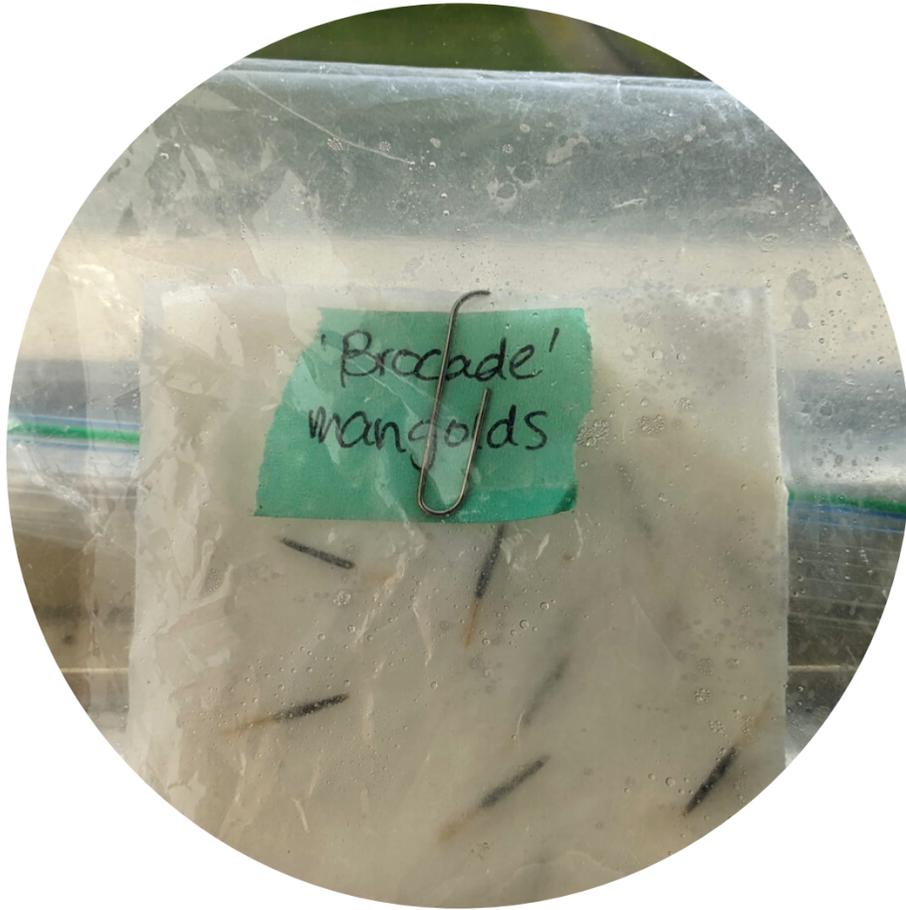
2

Fold the paper towel once, and fold again.



# 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.