

# GROWING PLANTS FROM SEED



Growing plants from seed teaches children about the magic of nature and the natural lifecycle of plants. Fruit and vegetable seeds come in all shapes and sizes, each with the potential to grow a plant which we can eat all or part of. Growing plants from seed provides opportunities for you to talk with your children about what factors a seed needs to germinate and grow, and the parts of a plant that will develop as it grows.

## Starting indoors vs Sowing direct

Some seeds can be germinated indoors in pots or trays, which gives you greater control over temperature and the amount of light and water seedlings will receive during their first days and weeks of development. You can get a head start in spring by sowing seeds indoors before the weather conditions are quite right for them to be planted outside eg. when there is still a risk of frost. However, some plants suffer more than others from root disturbance or “transplant shock” (the stress of moving from an indoor environment to an outdoor one) so should be sown directly into your garden in the place where they will be grown, without ever having to be moved. Other seeds, such as peas and beans, are hardy enough that there’s no real benefit to starting them indoors, so those can be direct sown as well. Seed packets will generally advise you the best way to sow, as well as the ideal temperature for germination. One rule of thumb is that root crops like carrots and beetroot don’t like being transplanted so are best sown direct.

## Growing media

Seeds can be started in a variety of media, from garden soil or compost to specialist seed raising mix. Commercial seed raising mixes generally contain components to hold moisture but provide drainage of excess water, to feed the growing plants, and to help protect young seedlings from fungi and diseases. They can, however, be expensive and you can make your own seed raising mix (see the sidebar for a simple “recipe”) or just use garden soil or compost, particularly for bigger, more robust seeds and plants. If you do use soil or compost, consider sieving or screening it to remove any big lumps which might impede the growth of shoots or roots.

## DIY seed raising mix

The following “recipe” uses three ingredients to meet the needs of young seedlings - screened compost provides nutrients as food for the growing plants, absorbent coir fibre helps retain moisture in the mix, and sand lightens the mix to allow excess water to drain through so seeds won’t rot.

You can buy dried and compressed coir briquettes from garden stores and rehydrate them in a bucket of water (make sure you buy fine coir fibre, not the coarse, chunky version used as mulch or in hanging baskets). Use river sand or clean sand bought from the garden store. Any trace of salt left on beach sand could damage or kill young seedlings.

### Ingredients:

- 1 part sand;
- 2 parts rehydrated coir fibre;
- 3 parts screened compost (or substitute 1 part for vermicast from your worm farm)

Mix the ingredients evenly to create a light, friable seed raising mix.



### Pots and trays

Depending on how many seedlings you grow, and what kinds, you may require a lot of pots or trays. Many home gardeners accumulate plastic plant pots and punnets at home and don't know how to get rid of them. Consider putting notices in your school newsletter, on Facebook gardening groups and on Neighbourly offering to collect and reuse pots. Your local garden centre might have pots available – some offer a return scheme where you can help yourself to pots which other gardeners have brought back to the shop. Some landfills have recycling centres or stores where seedling punnets and pots are sold very cheaply. Tell them it's for a school garden and they may give you some for free! Or you could have students collect suitable plastic containers from their recycling bins at home – yoghurt containers and other small pottles can be useful (again, you could ask your wider school community to contribute), and repurposing these illustrates your school's commitment to sustainability.

Peat pots are biodegradable, single use pots which are planted into the soil with the roots inside. Paper pot makers can be bought from some garden centres or online, and allow for a large number of biodegradable pots to be produced quickly at no cost, using recycled newspaper rolled around a wooden cylinder and then pressed into a mould to compress and close the bottom tightly.

### How to sow

Planting seeds can be as simple as sprinkling them across or pressing them gently into soil, but there are a few simple rules and techniques which will increase your chances of a good outcome.

As a rule of thumb, all seeds should be planted to a depth approximately equivalent to twice their width. When a seed is laid on its side in a hole twice its width, the seed will take up half the depth of the hole and be covered with soil as deep as the seed is wide. Tiny seeds like those of lettuces and broccoli can be sprinkled onto the surface of a tray or pots, with a very thin layer of soil sprinkled over the top (an old gardeners' trick for sprinkling really tiny seeds evenly is to first mix them with a little sand). For large seeds, poke a hole twice as deep as the

seed's width, pop the seed in and fill the hole over with soil.

Water gently, carefully and regularly - seeds will germinate in moist soil but may rot in wet or soggy soil. Young seedlings should never be allowed to dry out, and should have ample light to prevent them from growing "leggy" (tall and thin) if they have to stretch for light.

### Pricking out

Seeds sown thickly in trays can be left to germinate then "pricked out" into pots or secondary trays at more appropriate spacings, giving them enough room to grow to a bigger size before planting out into your garden. When the first two "seed leaves" (cotyledons) have appeared and while the roots are small and simple, gently remove seedlings from the seed raising mix by sliding a widger, iceblock stick, blunt-edged knife or similar downwards alongside the seedling and lifting from below while gently pulling the seedling upwards, holding it by the leaves. Keep as much soil on the roots as possible. The small seedling can then be lowered into a new hole until its cotyledons are just above the surface, and gently pressed or watered in.

### Hardening off

Seedlings which are moved abruptly from a controlled, nurturing indoor environment into an outdoor garden can suffer from transplant shock due to the significant change in environmental conditions. This may slow or stunt their growth. Instead, plants can be "hardened off" by gradually introducing them to outdoor conditions. Sit them outside for an hour or two on a nice day, then for increasingly longer periods over a few days or up to a week before transplanting them permanently into the garden.

