

# Planting Outside, Soil & Rotations

## Time of Year

March to June and October.

## Aim

To plant a variety of vegetables in the school vegetable garden.

## Cross Curriculum Relevance

SESE:	Living things, environmental awareness & care, recording, observing.
SPHE:	Country of origin of plants.
Maths:	Measuring, counting, estimating, recording, active learning.
Literacy:	Writing, spelling.
Art:	Drawing map of rotations, making signs.
Informal Curriculum:	Food Dudes, Healthy Eating, Discover Primary Science.



### 1 Resources needed

Seed potato, garlic cloves, onion sets, (depending on planting project), spades, shovels, forks, hand trowels, peat-free compost, rotted manure, gloves, lollipop sticks, labels, signs for individual vegetables, signs to explain rotations & vegetable families, camera.

### 2 Research Project

Carry out soil tests around the school grounds.

Research Words:

**ROTATIONS,  
VEGETABLE FAMILIES,  
CHITTING,  
INTER-PLANTING,  
NITROGEN FIXING**

### 3 Garlic

A clump of garlic can be divided into individual cloves to be planted – you can use garlic that you buy in the shop but sometimes it has been sprayed to prevent it sprouting so try to get organic garlic. If your soil is not too heavy they can be planted in October or November. If you have heavy and wet soil, leave the planting until Spring.

- Research how to sprout & plant out garlic from a book/internet.
- Prepare beds by pulling back plastic from beds, or removing weeds
- Add well-rotted compost/seaweed/manure.
- Use lollipop sticks to mark spots 10cm apart in rows 30cm apart.
- Demonstrate to the class how to remove the stick and plant the garlic.
- Press the clove just under the soil, out of sight.
- Cover with garden netting or an old net curtain to protect from the birds until the plants have established themselves.
- The rows can be inter-planted with crops such as lettuce, parsley or marigolds.
- Record planting in garden diary & make signs for the garlic.



# Planting Outside, Soil & Rotations *contd.*

## Health & Safety

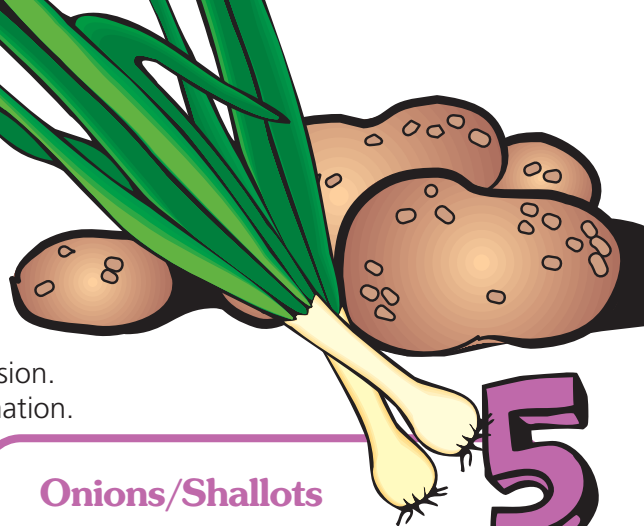
Stay with your group. Use tools safely. Wash hands after garden session.  
Please refer to the worksheet on Health & Safety for detailed information.

4

### Potatoes

There are earlies, maincrop & late maincrop varieties. They can be planted from March to the end of April. Earlies are planted early & can be harvested & eaten before the summer holidays. The later varieties can be planted later & harvested in the Autumn.

- Research how to sprout & plant out potatoes from a book or the internet.
- Start sprouting (or chitting) the potatoes in the classroom in egg-cartons (not in direct sunlight) from late January to March.
- Prepare beds as instructed in worksheet 'making raised beds'; or by pulling back black plastic from beds; or by weeding and lightly digging over as necessary.
- Mark off the rows – earlies can be planted with rows spaced 60cm apart; maincrops can be with rows spaced 90cm apart.
- If you are using the raised bed system, dig a trench 20cm deep. Then put the soil in a wheelbarrow and leave at the other end of the raised bed. This soil will be used to cover over the last row that you will plant at the far end of the bed.
- Put manure in the bottom of the trench.
- Potatoes can be placed 30cm apart within the row, in well-rotted manure. If only fresh manure is available, cover it with a thin layer of soil before placing the potato tubers in the trench.
- Place the potato tubers on their sides and take care not to break the sprout when you are covering them with soil.
- Record your planting in garden diary & make signs for the potatoes.
- As the plants grow, earth them up by gently covering with more soil.



5

### Onions/Shallots

You will need onion sets or shallot sets. Over-wintering onions can be planted in October or November for an early harvest the following Spring.

Follow the processes for planting garlic. The steps are the exact same for planting onions and shallots.

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### Soil

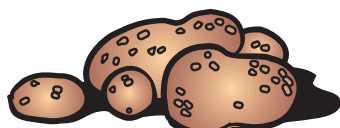
Fertile soil is essential for healthy vegetables to grow.

- Get to know your soil by digging a hole and looking at the colour – is it clay (heavy and grey), sandy (light & grainy), peaty (dark & wet)?
- Every soil type has advantages and disadvantages – accept your soil type as it represents the bedrock that is under your school grounds and you cannot change that.
- You can carry out some simple tests but generally if you are using a raised bed system and adding compost, rotted manure or seaweed every year then you will have a soil with a pH of 6.5, which is suitable for most vegetables.
- Another important part of soil care in the organic garden is rotation.



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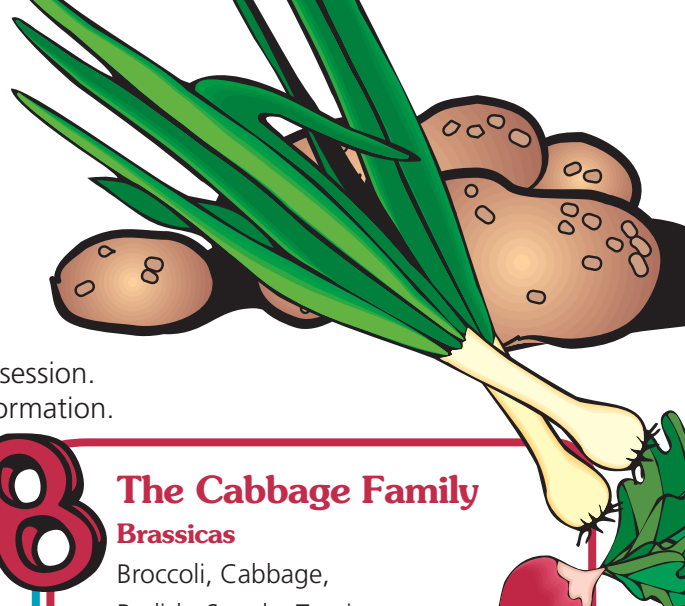


**Organic Gardening for Primary Schools**  
Planting Outside, Soil & Rotations

# Planting Outside, Soil & Rotations *contd.*

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## 7 Rotations & Vegetable families

- Vegetables belong to families, just like us.
- Plants that are from the same family are generally grown together as they require similar nutrients. However, they also tend to get the same pests and diseases. Therefore they should be planted in a different bed or different part of the bed every year, for at least 3-4 years, in order to prevent a build-up of pests or diseases.
- Do not worry if you cannot remember Latin names or all the families – they will grow on you the more you grow them.
- Pea/Bean family 'fix' nitrogen in the soil – cut the stems at soil level to leave the roots in the soil when clearing the bed.

## 8 The Cabbage Family

### Brassicaceae

Broccoli, Cabbage, Radish, Swede, Turnip.

### The Potato Family

#### Solanum

Potatoes, Tomatoes, Peppers.

### Beetroot family

#### Chenopodiaceae

Beetroot, Spinach, Chards.

### Carrot family

#### Umbelliferae

Carrot, Parsnip, Parsley, Celery.

### Pea and Bean family

#### Leguminosae

Peas, Broad beans, Runner Beans.

### Daisy family

#### Compositae

Lettuce.

### Onion family

#### Alliaceae

Garlic, Leek, Onion, Shallot, Spring onions.

### Marrow family

#### Cucurbitaceae

Courgette, Pumpkin, Cucumber.



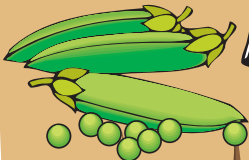
## A very basic 4-year rotation could be 'BASL'



1 Year 1:  
Brassicaceae

2 Year 2  
Allium

3 Year 3  
Spuds



4 Year 4  
Legumes

