

Growing, cooking and composting in schools

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1. Introduction

Growing and cooking fruit and vegetables with children is beneficial in so many ways. It helps them develop a whole range of skills and knowledge and can be linked to many parts of the curriculum, including science, literacy, maths, geography, cultural awareness and history. It is also a good way to get children outside doing physical activities that are rewarding and fun.



The experience of growing can also expose children to new foods, as often they are more likely to try foods if they've had a hand in growing and cooking them! Growing and cooking can help children to understand where food comes from and to begin to form a relationship with food above and beyond eating their favourite snacks, and come to understand that food is seasonal, that certain fruit and vegetables are only available at certain times of the year.

Growing can also help build confidence, and school gardens are a great place to get some fresh air and relax. Sometimes students who don't do as well in the classroom really excel in the garden setting where they can learn practical skills in a different environment.

2. Growing

A great variety of fruit and vegetables can be grown during the school year, so try to focus on these. There's no point growing something that will be ready to pick during the summer holidays so won't be harvested and eaten, and you don't want to be worrying about plants that will die without being watered for 6 weeks. Focusing on crops that are ready during the school year will give the kids the opportunity to experience the whole process of sowing a seed right through to harvesting and eating the crop.

And you don't need acres of land to set up a school garden, even a couple of raised beds can be really productive and can go a long way in teaching children about the cycles of food growing.

2.a What to grow throughout the school year

What to grow in Spring

Potatoes: Sow early potatoes in mid-March. Swift is a good early variety. It tastes delicious and doesn't take up as much room as others. Harvest end of June beginning of July.

Beetroot: Boltardy is a good variety for early sowing. Sow end of March and April, harvest early July.

Lettuces: Sow in late March and harvest lettuce heads in early July. You can also harvest these as cut and come again types, a good way of making your salad last longer. Cut the leaves after 3-4 weeks or when they are about 3 inches tall and use as salad greens. As the name implies, the leaves will grow back again. There are lots of different varieties and colours to try here, a good idea is to try a salad mix which you can find in any garden shop.

Peas: Sow mid March to early April. If you can begin these in a cloche and then plant out it's more reliable. Early crops outside may be slow to germinate, April sowings are more reliable and you should be able to harvest by late June. You could also try eating the shoots, these are a delicious addition to a salad and good in containers. Serge is a good variety for pea shoots.

Radishes: Sow March onwards for quick crops.

Welsh Onions: Perennial and easy to look after. Sow in March, harvest from early June.

Carrots: These are fun to grow in pots, Parmex is a good variety. Otherwise sow in the ground in late March and early April



under fleece and you should have young carrots to harvest at the end of June and early July.

Spinach: Sow March onwards for cut and come again leaves.

Chard: Sow March onwards for cut and come again leaves.

Oriental Greens as salad and stir fry: Sow April onwards. Some types to try include rocket, mustard, mizuna and pak choi.

Jerusalem Artichokes: Plant tubers in good ground in March. They are very hardy and vigorous so give them a bed on their own. Harvest from October onwards. These may not get watered in the Summer holiday but stand a good chance of surviving.

Chinese Artichokes: Plant tubers in good ground in March. Harvest October to February. These will need watering in the summer, however these are a wonderful novelty plants and taste nutty so the children may really enjoy these.

Herbs: Try sowing or transplanting small plants at end of March into the ground. Some good options include thyme, parsley, Summer Savoury and Winter

Savoury, sage, marjoram, ordinary and garlic chives, chervil and fennel.

Edible Flowers: Sow in April - Marigolds (only the calendula variety are edible), Borage which produces masses of small blue flowers which can be added to drinks and give a fruity taste (don't use the leaves) and Nasturtiums. Sunflowers can be grown in pots for the children to take home in the summer holidays.

Fruit: Strawberries and rhubarb. You can plant rhubarb plants in February and leave for a year to establish. The next year you can harvest from March to early July. Try planting strawberries in March for harvesting in early summer.

What to grow in Autumn

See below for some crops to plant in the autumn term. Assuming no one is available to look after plants during the summer

holiday it is advisable to order small plants from a catalogue to plant at this time. It is also worth asking parents or teachers if they

can sow seeds at home, look after them over the summer and bring them to school in the autumn.

Winter Salads: You can try sowing in early September Winter Purslane, corn salad, radicchio Treviso, texsal greens, rocket and radishes.

You could also try sowing oriental salad and stir fries again. Sowing direct and this late in the year is a gamble and the plants will be smaller. If you are able, sow all of these in August and then slide the whole



contents of the gutters into the soil in early September. This is much more reliable and will give you better plants that you can harvest until you have a hard frost.

Oriental salads will also survive better under fleece protection or cloches. If you have a green house sow all the above inside in September and you should get a good crop of cut and come again plants through the winter.

Chard and Perpetual Spinach, Cabbages and Kale, early sprouting broccoli Sow Kale (Calvolo Nero and Red Russian are good varieties), Perpetual Spinach and Chard (try the Bright Lights variety or Rainbow Chard) in July until mid August. Plant these out as young plants in early September. Mooli radishes can be sown directly in early September.

Kale can be used as a cut and come again plant and Rainbow chard looks very pretty and colourful so the children may want to eat it more!

Japanese Onion sets: Plant these in September and harvest late next June or early July.

Garlic: Plant in October or November and harvest next June or July

Fruit: Plant autumn varieties of rhubarb in late October and November and spring varieties in March. Fruit trees, currants and raspberries can be planted from late October to March. Plant strawberries in September or March.

Broad Beans: Sow autumn varieties such as the Aquadulce or the Sutton in October and November. Try starting these off under fleece or cloches to prevent losing plants to bad weather and pest damage. For more reliable results plant these under

cloches and fleece in February. Harvest in May and June.

These growing tips were written by Sarah Waters, former Harvest Growing Officer

2.b Food growing and the national curriculum

Food growing fits into several areas of the national curriculum for both primary and secondary education. Here are just a few example of how gardening crosses over with subjects in the curriculum such as Science, Geography, History, Numeracy and Citizenship. Gardening, cooking and composting can provide multiple opportunities for learning across curriculum subject areas, such as:

Science

- Plants and animals as food
- How things grow / seasonality of produce
- How compost works
- Pesticides and insects
- Crops and crop rotation

PSHE / Citizenship

- Working as a team
- Developing relationships through work and play
- Understanding our for environmental sustainability as global citizens
- Healthy eating
- Looking after local environments (e.g. in the school)
- Developing self esteem



Geography

- Understanding landscape
- Knowledge and understanding of environmental change and sustainable development (e.g. understanding environmental change, exploring sustainable development)

History

- Dig for Victory
- How food production and distribution in the UK has changed over time

3. Composting

Composting at school is beneficial both environmentally and educationally. It helps cut the school's waste, provides free compost for the garden and provides many opportunities for fun and learning, for example around mini beasts and life cycles.

Things to consider when setting up a scheme:

The Compost site

The site should be situated in an easy to access site. It should be easy to put the material in, it should be a central point from which it is easy to use and distribute the compost, and should be an unobstructed site in which it is easy to turn and manage the compost (to have a large open area in front of the compost bins).

If space allows, it is advisable to set up two or three compost bins on site. This is useful because when one is full and ready to rot down it can be left (6months-1year) while you are filling a second bin. The two bins can be right next to each other.



What materials can be composted?

Due to the possible attraction of rats it is important to only collect uncooked food for composting.

A good compost will be made up of a balance of materials. At least half of what you put in should be dry, carbon rich material. This can include dry plant stems, shredded paper, cardboard, loo rolls and egg boxes, dead leaves (though not too many together as they go soggy), wood chippings, sawdust and hay.

In a school it is likely that you have lost a lot of paper and card waste, as well as confidential waste that might be shredded for you already – very handy for making compost!

The other half of your compost ingredients should be uncooked fruit and vegetables and their peels, tea bags and coffee grounds. Remember – no cooked food and no animal products.

Where will compost be collected?

It is often easier to start small and build up a good composting scheme. Choose a couple of places on the list below and then build up once you have established a good working rota and know how much waste to expect. The dining hall will be the hardest to control in terms of what goes into the bin and will need to be accompanied by an educational scheme to inform the whole school about what is being collected and why.

- Staffroom
- Food tech room
- Kitchen (veg peelings and salad)
- Dining hall

How will the materials be collected?

Collections will need to be a regular thing. How often will depend on how much is produced and how long it can be left at the point of collection (this will most likely need to be daily for the kitchen and dining hall but could possibly be left for longer in the staffroom).

Collection containers need to have a lid and will also need to be small enough that they are easy to carry when full of heavy food waste.

Teams of students can be responsible for the collection of this and any paper waste, which is to be added. A unique rota which suits the size and set up of the school should be decided by staff and pupils involved. Collections can be taken and emptied out straight into an active compost bin.

How to Manage the Compost

It is best to mix the compost components where possible with either a regular fork as new materials are added or by turning the whole thing once the compost has sat for approximately 6 months.

Linking to the national curriculum

Composting can be a great way to integrate gardening work into the National Curriculum (see above).

The Food Partnership can offer further advice on composting to schools if required.

This section was written by Donna Armstrong from Earth Education.

4. Cooking at school

Cooking the produce you've grown in your school garden is a great way to encourage children to try something new and to increase knowledge and understanding of seasonality. Many times you'll find that a child, even a fussy eater, is much more likely to try something if they've grown, picked or cooked it. There are many simple, healthy and tasty dishes that can be cooked using produce from the school garden – you'll find some good recipes in Appendix A.



Baking breads with children is a real winner. There are lots of different kinds of breads that can be made quickly such as pizzas and flat breads. These require a shorter rising time so work well within a class or after school session, and they are versatile – you can eat them with a variety of toppings or dips.

You can also find lots of great seasonal recipes on the Food Partnership website, www.bhfood.org.uk, or call the Food Partnership's cookery team on 01273 431700 – we've got loads of recipes to share and can give you some suggestions for recipes that work well in schools.

Some tips for running cooking and growing sessions



Cooking: A 1.5 hour cookery session is a good length for cooking and eating. We recommend an optimal group size of 8 children – any larger begins to be difficult to manage. A smaller group means that everyone can see what is going on and can get a chance to get actively involved in the session.

Gardening: We find that a 1 hour gardening session is a good amount of time to get most gardening jobs done. One day a week is normally sufficient but in hot weather it is likely that someone will need to water between sessions.

Celebrating: A harvest festival or other celebratory feast is a great way to celebrate everyone's hard work in the garden and to show off what the children have grown. Get the children involved in picking and then cooking a big feast and then invite teachers, parents and carers to come share it after school. September is a good month for this – lots of local produce is ready to harvest at this time, and there should hopefully be fruit and veg in the school garden too!

Simon Parker from the Food Partnership's former Sticky Fingers project in schools provided the information for this section and has put together a selection of recipes he used in schools (see below, Appendix A).

5. Resources and help for your school gardens

Local contacts

- Visit the Food Partnership website or contact the Harvest team to find out about training courses, grants, school garden networking events, recipes and monthly gardening tips. <http://www.bhfood.org.uk/schools/> / 01273 431700.

Funding

There are a variety of sources of funding that schools can access, whether that's donations or sponsorship from local businesses or grants from funders like Southern Water, Ernst Cook and Awards for All. Here is a link to.

- [RHS Campaign for School Gardening website](#) has some ideas about how to fundraise for your school gardens, with a further link to a great list of potential funders for school gardens.
- The Harvest project can also offer funding advice for school gardens, and the Food Partnership runs a small grants scheme annually for food projects in schools and communities called Good Food Grants. The grants are usually open to applications in November and awarded in March. [More info here.](#)

Equipment and materials

- **Tools:** The right tool for any job is key – and don't forget that child-size tools are available and make gardening easier for little hands. There's some handy info on how to choose garden tools for children on the [School Vegetable Patch website](#). Suppliers of children's gardening tools include [Spotty Green Frog](#) and [Harrod Horticultural](#).
- **Water management:** a good place to look for inexpensive water butt solutions for any size garden is [D&V Fuels](#), they sell containers that can be easily converted into water butts.

Links to more information on growing, cooking at eating in schools

- [Garden Organic](#) has some great resources on starting and planning a school garden, including how to link it to the curriculum (see Teaching Zone), as well downloadable activity sheets and games for the garden, including practical topics such as how to build a raised bed (see Activity sheets).
- [RHS Campaign for School Gardening](#), a website full of practical resources to help you get gardening in your school.

- [The School Vegetable Patch](#) contains a gardening calendar and month-to-month tips, links to curriculum, help with choosing what to grow and much more.
- [Food for Life Partnership](#) is a network of schools and communities across England committed to transforming food culture. The website contains loads of useful resources to help teach children about growing and cooking food, and the network is free to join.
- [Food a Fact of Life](#) is a website full of information and free resources to help children ages 3-16 learn about cooking, healthy eating, food and farming.
- [Fairtrade Foundation – Fairtrade Schools](#): find loads of resources for learning about Fairtrade and how to make your school a fairtrade school

Appendix A: Recipes

Here are some simple and tasty recipes from Simon Parker, former Sticky Fingers project coordinator. You'll find recipes for soups, veggie burgers and other savoury dishes, breads, and cakes that use the fruit and veg you've grown in your school garden. These use seasonal ingredients and in many cases are versatile – feel free to experiment!

Borscht

Ingredients:

1 lb/500g beetroot
2 sprigs of rosemary
10 peppercorns
2 bay leaves
1 lb/500g potatoes
1 large onion
1 carrot
1 leek
2 garlic cloves
1 bay leaf
2 tbsp oil
2 pints vegetable stock or beetroot cooking liquid
Salt and Pepper
Pinch of chopped chives
6 fl oz thick plain yoghurt or soured cream

Method

Cook the beetroot with the rosemary, peppercorns and bay in a saucepan of salted water, bring to the boil and then simmer until tender. Allow to cool, peel and chop.

Peel and chop the onion, carrot, leek and potatoes and sauté in the oil, stirring frequently, for about 10 minutes.

Crush the garlic cloves and add to the sautéed onions and potatoes and continue cooking for 5 minutes.

Add the stock, chopped beetroot, and salt and pepper, bring back to the boil and simmer for 20 minutes.

Allow to cool slightly and then put through a liquidiser until smooth.

Reheat before serving, pour into bowls and garnish with a swirl of the yoghurt or sour cream and the chopped chives.

New seasons garlic soup

Ingredients

450g green garlic (young garlic bulbs)
250g potatoes
2 medium onions
125g unsalted butter
Salt
1.5 litres chicken or vegetable stock

Method

Cut the garlic into thin rounds or half-circles. Unless very tough, the lower foot or so of the stem and leaves are fine to use. Peel the potatoes and cut into 1cm cubes. Peel and chop the onions into small dice. Melt the butter in a heavy-bottomed pot, add the onions, and cook slowly until translucent and tender. Salt, and add the garlic and potatoes. Cook these together for 5 minutes, then pour in the stock and bring to a boil. Lower the heat to a simmer and cook the soup until the potatoes are tender. Check the seasoning. This soup can be served rustic and chunky, or puréed.

Broad bean burgers

Serves four

Ingredients

½ tsp each, coriander and fennel seeds
4 tbsp sunflower oil
350g potatoes, peeled and diced
350g shelled broad beans
2 garlic cloves, peeled and crushed
3 tbsp fresh coriander, chopped
40g dried breadcrumbs
1 egg
50g plain flour
120ml sunflower oil
Salt and pepper

Method

Put the seeds in a pan, dry-roast until they release their aromas, then grind. Boil the potatoes in salted water for five minutes, then add the beans and simmer for eight minutes more. Drain, transfer to a bowl and add the ground spices, garlic, two tablespoons of olive oil, salt and pepper, then mash roughly. Add the, coriander, breadcrumbs and egg, and stir. Fry a tiny bit of the mix in sunflower oil, taste and adjust the seasoning. Shape into fat patties (wet your hands first), coat in flour and chill for half an hour.

Heat the sunflower oil and fry the 'burgers' on a high setting for five minutes a side, until golden-brown.



Pesto

Ingredients

2 garlic cloves
50g cashew nuts
80g basil leaves
¼ tsp salt
150ml sunflower oil

Method

1. Put garlic, nuts and basil into a pestle and mortar or a food processor and pound or mix to a paste.
2. Add the oil in a steady stream, mixing continuously, add the salt to taste.
3. Place in a clean jar, cover with a little more oil and refrigerate (will keep for 3 weeks) or freeze for up to 6 months.

Calzone pizza

Starter for the pizza dough

90ml warm water
1 tbsp of honey
2 tsp dried yeast

Mix together then leave in a draught free place to activate. If the yeast and honey do not bubble and foam in 5 minutes, throw it away and start again.

Main dough ingredients

450g plain flour
½ tsp salt
3 tbsp sunflower oil
125ml warm water

Method

Pre heat oven to the highest setting.

1. Mix the flour and the salt in a large bowl, add the yeast mixture and the rest of the ingredients. Mix until the dough loosely clumps together.
2. Transfer to a lightly floured surface and knead with your hands for 5 minutes. Rub the inside of a bowl with a little oil. Place the dough in the bowl, cover with a tea towel or plastic bag and leave in a draught free place for 1-1 ½ hours to rise double in size.
3. When ready punch down dough to its original size then divide into 10 portions.
4. Working with one portion at a time, push the dough out to make a thin circle on a lightly floured surface.
5. Then add desired filling to one half of the dough. Rub water around the whole circle, and then fold over to make a half circle and crimp edges together.



6. Cook for 10 to 15 minutes in a very hot oven

Roasted and spiced pumpkin soup

Serves 6

Ingredients

1 medium pumpkin or 2 small squash
A bunch of rosemary
Half dozen cloves of garlic
1 medium onion grated
1 tsp of coriander seeds
1 tsp of cumin seeds
1 tsp of fennel seeds
1 litre of vegetable stock
A handful of fresh coriander (if in season)

If you can always try and buy local, seasonal and organic for the most benefit to our planet, yourself and to the other people you're cooking for. Always remember to compost all the vegetable peelings to get the most out of your food.

Method

Take your pumpkin or squash, there's no need to peel them. Cut into quarters, remove the seeds with a dessert spoon (clean and dry if you want them for seeds to grow next year or for roasting) and lay the squash on a baking tray. Scatter the rosemary and garlic (crush cloves with your hand) over the fruit and then drizzle with some sunflower oil. Season with salt and pepper.

Place in very hot oven (200 c/ gas mark 6) for 35-40 minutes, until tender and browned. Use a tablespoon to scrape out the flesh. While you wait for the fruit to cook, toast the spices in a small dry frying pan until you start getting a strong aroma, then place in a pestle and mortar and crush to a fine powder. Leave to one side.

In a large stock pot or pan heat a tbsp of sunflower oil then add your spice mix (cumin, coriander and fennel) then add your grated onion followed by the fruit and pop out the garlic from its skin and add that. Then add veg stock bring to the boil. Liquidise in batches or blitz with a hand blender in the pan. It should be thick and creamy. Then right before serving rip up your fresh coriander and add to the soup. Perfect for cold autumn and winter days. Serve with some good local bread.

Seasonal fruit jelly

Serves 4

Ingredients

300ml water
4 tsp agar flakes
500g seasonal fruits
200g unrefined caster sugar
175 ml apple juice

Method

1. Put the water into a stainless steel pan and sprinkle over the agar flakes. Stir in and leave for 5mins
2. Cut rhubarb into 2cm lengths, place in pan (berries can be left whole)
3. Add all the other ingredients and bring up to a low simmer, cover and cook for ten minutes.
4. Tip into a sieve and gently push through with a large spoon.
5. Pour into small glasses or cups and place gently into a fridge to set for at least 3-4 hours or overnight.

Rhubarb or summer fruit yoghurt ice

Ingredients

200g Rhubarb cut into roughly 1cm chunks (or replace with summer fruits like raspberries, strawberries, currants or blackberries)
75g honey
250ml natural yoghurt

Method

1. Stew down the rhubarb in a pan with the honey. For a smooth result push them through a sieve. (The leftover rhubarb is great in a cake)
2. Add yoghurt and mix together.
3. If you are lucky enough to own an ice cream maker put into the bowl of the machine with the paddle running. Allow to freeze to desired consistency.
4. Alternatively you can place the mixture in an oblong plastic container and put into the freezer and every hour take out and break up the ice crystals for approximately 5 hours.
5. When ready take out of freezer and put in the fridge for ½ an hour before serving.

Sticky fingers beetroot and chocolate cake



Serves 6

Ingredients

200g beetroot, peeled and grated (2-3 medium sized beets)
250g self raising flour, sieved
2 tsp baking powder
2 tbsp cocoa powder
150g caster sugar
2 medium eggs beaten
150 ml of sunflower oil
1 tsp of vanilla extract

Method

1. Preheat oven to 180c ,350f or gas mark 4
2. Grease and line an 8 inch loose based cake tin
3. Mix together the flour, baking powder, sugar and cocoa in a large bowl
4. Add grated beetroot and fold in.
5. Beat the oil and the eggs together, and then add to bowl fold in with a large wooden spoon
6. Spoon the mix into the prepared tin and bake for 45 mins to 1 hour. Insert a metal skewer into cake; if it comes out clean, then the cake is done.
7. Let it rest for a few minutes ,then take out of tin and cool on a wire rack.

Singin' hinnies

Ingredients

225 g plain flour
50 g butter and 50g lard
25 g currants
½ tsp salt
1 tsp baking powder
Milk and sour cream

Rub fats into flour, add other dry ingredients and mix to a soft dough with milk and sour cream. Roll out to about 2.5cm thick and cut out shapes using scone cutter. Bake both sides on hot griddle (or heavy bottomed frying pan) until brown. Allow 15 mins in total, turning and flattening them after 7 to 8 mins. Spread with butter and eat while warm.

Spelt and oat crackers

Ingredients

250g spelt flour

75g rolled oats

125g butter softened

25g dark brown sugar

½ tsp salt

1 tsp bicarbonate of soda

50 -60ml cold milk

Method

(Oven 170 c or 150 c if you have a fan assisted oven)

Rub together the flour, sugar, salt and soda with the butter in a large bowl till you have a fine crumb mixture.

Stir in the oats. Then add the milk till you have a smooth dough.

Roll out the dough with a rolling pin to about ½ cm thick, cut into 8 squares.

Place on a floured baking tray and cook for 25-30 minutes until crisp.