



**BeanMeals**  
Thinking beyond the can



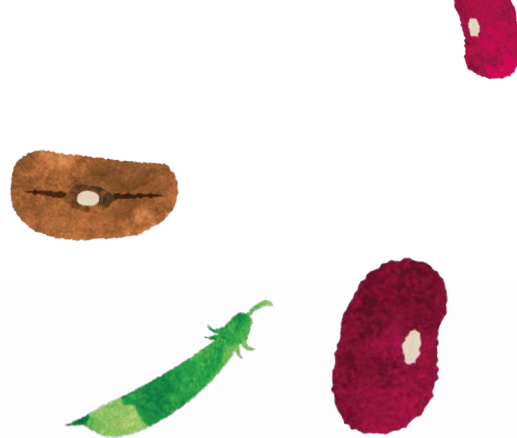
# BEANMEALS A RECIPE FOR CHANGE



Learning about  
Beans through  
Cooking, Growing  
and Farming.



# BEANMEALS A RECIPE FOR CHANGE



**The purpose of this resource is to support schools in bringing together the whole community including teachers, pupils and school cooks to learn about the BeanMeals project. BeanMeals supports The Food For Life Award and the different strands of Food for Life in the curriculum so that it is not an add-on but embedded into pupils' learning. We advocate a practical curriculum that provides opportunities for outdoor learning and hands-on activities as much as possible.**

This resource is essentially a mind map of learning around food through cooking, growing and farming. It starts with a seasonal recipe through which cooking, growing and farming are the focus for learning in science, DT, geography, PSHE and art.

**The resource has been set out under the following headings:**

- **SCHOOL GROUNDS / FARM VISIT**
- **IN THE CLASSROOM**
- **AT HOME**

We have deliberately not used maths and literacy as focus areas as our understanding from teachers is that these areas of the curriculum have very full programmes of study in place to support their delivery. However, there are opportunities to tie in maths and literacy, and brief notes have been added as a reminder to possible links where appropriate.

In addition, we have not been too prescriptive with this resource so that it can be used flexibly. Different seasonal recipes can be used as a start point and the ideas and signposting will remain relevant.

BeanMeals is a 2-year research project that aims to improve the sustainability of supply chains, focusing on bean growth and consumption in the UK.

BeanMeals will encourage the cooking and eating of meals made with dried beans to support an increase in low fat, sugar and salt meals made with healthy plant-based proteins. Starting with introducing beans into school meals and following the food system from fork to farm.

BeanMeals aims to deliver activities to promote the eating of beans in schools and the wider community. This will include adding some new bean-based dishes to the menu at school.

On **page 5** you will find a recipe for **BEAN BALLS**, a simple recipe using beans as the main ingredient.

This provides the focus for your growing activities on the farm, in your school grounds and learning in the classroom. The growing cards for the key ingredients in this recipe will help you plan your learning. By putting the harvest times of your produce into your timetable, you can work backwards as to when you undertake the other associated activities.

Activities are aimed at Key Stage Two children but are appropriate to be taught at a lower or deeper levels.



Haricot beans are native to the Americas and until now have been difficult to grow in British climate, meaning popular variants in UK supermarkets like baked beans rely on imported crops.

When you think of beans, the image that probably comes to mind is one of the many varieties of the Haricot bean. If you have beans in your kitchen, they are also probably from the family of Haricot beans. These are the most diverse, most common and most widespread bean species in the world, and they are a staple food in many cultures.

The University of Warwick has developed two new varieties of bean which are suitable for UK growing – **Godiva and Capulet**. These beans have been grown in Warwickshire. The aim is to increase UK food production and reduce reliance on imported bean crops.

Both Capulet and Godiva are fast-cooking and suitable for commercial canning in British baked beans.

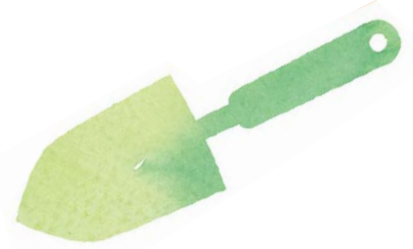
Growing haricot beans on a commercial scale in the UK also has the potential to reduce food miles and help us shift our diets to a healthier future.



These are Capulet Beans

In the UK alone, the leading brand of baked beans is responsible for shipping in 50,000t of North American beans a year, with other brands currently importing beans from North America and some African countries **Appendix 2 – Food Miles explained.**

BeanMeals will bring together key issues looking at the benefits of eating more plant-based food **Appendix 3 – Plant Based Proteins** and looking after our climate **Appendix 4a – Climate change explained.**



Beans are a versatile, cheap and delicious way to incorporate protein into diets, particularly at a time when the cost of living is hitting hard, and we all need to eat more mindfully and sustainably to protect the planet.

We know we need to change what we eat to protect climate and nature, but we need to do it in a healthy and sustainable way. This means eating fewer ultra-processed foods and eating a bit less meat, with the meat we do eat coming from higher welfare farming systems.

**A healthy and sustainable diet** means eating LESS processed food high in fat/salt/sugar, less but better-quality meat, and MORE fruit and vegetables, whole grains and sustainable fish.

**Quality food you can trust:** More fresh, local, seasonal, sustainable food, with low climate impact and high welfare standards.

## Beans Quiz

Take the Quiz at the back of this resource to find out what type of bean eater you are?

There is a lot to learn about beans. Check out the FAQ's sheet at the back of this resource for interesting facts about beans and pulses.



**SCHOOL  
GROUNDS /  
FARM VISIT**

**SCIENCE:**  
climate  
change

**SCIENCE:** Materials  
– look at the structure  
and materials used  
to build a raised  
bed for beans or  
a herb garden

Consider  
developing a growing  
area for herbs  
and beans

**SCIENCE:** Plants  
– Growing /  
reproduction

**AT  
HOME**

# Beans Meals

**DT:** Cooking & Nutrition  
– Prepare dishes to  
show the principles of  
a healthy and varied diet.  
Where food comes from  
& seasonality

**IN THE  
CLASSROOM**

**DT:** Design  
a raised bed suitable  
for growing beans  
or herbs

**PSHE:**  
Healthy  
eating

**ART:** Design  
an Eatwell Plate model  
using recyclable  
material or variety of  
beans/display of dried  
beans and label

**GEOGRAPHY:**  
Human geography /  
geographical skills  
– Mapping food from  
around the world

# MEAN BEAN BALLS

Makes approx.  
20 small balls



## METHOD

1. Preheat the oven to 180°C / Gas 4
2. Line a baking tray with greaseproof paper.
3. Place the beans, in their soaking water, in a large pan and boil for 60 minutes until soft. Drain and discard the water.
4. In a food processor or bowl (if using a hand blender) combine the beans & tomato puree. Pulse until chopped but not completely smooth.
5. Transfer the mixture to a medium sized bowl and stir in the grated onion, garlic, parsley, oregano, egg, breadcrumbs, salt & pepper until well combined.
6. Using your hands, make the mixture into small ball size shapes and space evenly on the tray.
7. Brush each ball with rapeseed oil using a pastry brush.
8. Bake until the bean balls are firm to the touch and golden brown, approx. 15 - 20 mins.
9. Serve with a fresh tomato sauce (see next recipe) & cooked pasta of your choice, topped with a sprinkle of grated cheddar cheese.

## RECIPE NOTES AND TIPS

- Ready-made panko breadcrumbs are ideal and quick to use but you could make your own breadcrumbs using wholemeal bread for added fibre.
- Breadcrumbs can be frozen in batches for future use.
- Spice these bean balls up with some added chilli flakes!
- To save time, you can use cooked tinned beans such as cannellini, butterbeans or pinto beans.

## INGREDIENTS (ALLERGENS IN BOLD)

- 150g dried haricot beans - soak in boiling water for 1 hour
- 2 tablespoons tomato puree
- ½ medium onion, grated
- 1 garlic clove, crushed, or 1 teaspoon garlic granules
- 2 teaspoons chopped parsley (fresh or dried)
- 1 teaspoon dried oregano
- 1 egg beaten
- 2 tablespoons **breadcrumbs**
- Rapeseed oil, for brushing
- Salt & pepper to season
- Grated **cheddar cheese** to garnish
- Cooked **spaghetti** or **pasta**

## EQUIPMENT

- Baking tray
- Pan
- Medium sized bowl
- Sieve
- Food processor or hand blender
- Grater
- Veg knife
- Tablespoon
- Teaspoon
- Fork
- Pastry Brush



# BASIC TOMATO SAUCE

To serve with your bean balls but also a great recipe to use in pasta and pizza dishes



## METHOD

1. Heat the oil in the pan over a medium heat and add the diced onion. Stir in the garlic and chilli (if using) and cook gently until the onions are translucent.
2. Add the vinegar to the pan and cook for a minute to drive off the vinegary fumes. Add the tomatoes, water, tomato puree, sugar, salt and pepper to the pan. Bring to the boil, put the lid on and then lower the heat to keep the sauce at a simmer.
3. Cook for about 20 minutes, stirring occasionally, until the tomatoes and onions have broken down and the sauce is shiny. Check and adjust the consistency\* (see notes).
4. Taste and adjust the seasoning to suit the recipe you are using.

## RECIPE NOTES AND TIPS

- Make the sauce with fresh ripe tomatoes when they are cheap and in season.
- Fresh basil, added at the end of cooking, suits Italian recipes.
- \*If the sauce looks too thick during cooking, add a little more water to thin it down. If you want it thick for a pizza, cook it without the lid on to evaporate some liquid.
- Make a big batch of this sauce and freeze it in portions.

## INGREDIENTS

(ALLERGENS IN BOLD)

- 1 tbsp rapeseed oil
- 1 small onion - peeled and diced
- 1 garlic clove - peeled and finely chopped
- pinch chilli flakes (optional)
- 1 tsp vinegar (malt or red wine vinegar are suitable)
- 400g canned chopped tomatoes
- 1 tbsp water (swirl it round the empty tomato can and get all the tomatoes out!)
- 1 tbsp tomato puree
- 1 tsp caster sugar
- pinch salt & ground black pepper

## EQUIPMENT

- measuring spoons
- chopping board
- small sharp knife
- saucepan with lid
- wooden spoon

# SCHOOL GROUNDS / FARM VISIT

Using a recipe as a start point for growing in your school grounds provides a real focus and purpose to the children's growing and learning. Choose a date / week on which you plan to make your recipe and work backwards, taking into account growing times of different recipe ingredients.

## SCIENCE: Plants – Growing

If you are new to growing in your school grounds, you may want to involve the children in considering where to locate your growing beds and with testing the soil:

[www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/flp/A9-Testing-soil-and-improving-fertility.pdf](http://www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/flp/A9-Testing-soil-and-improving-fertility.pdf)

Here are the links to Growing cards that relate to the recipe for Bean Balls:

### BEANS

See Appendix 1 for our Growing Card for Beans.

### ONIONS

[www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/public/34-Onion-Bulb.pdf](http://www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/public/34-Onion-Bulb.pdf)

- **Onions are harder to grow** – you could source these from the farm you visit or a local farm shop. If you decide to try growing your own onions (from sets / bulbs), opt to do this recipe in the autumn term in line with when your onions will be ready to harvest and choose a 'late' variety of potato so that harvest for each ingredient will be aligned.
- **An alternative would be to grow salad onions** – [www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/public/35-Onion-Salad.pdf](http://www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/public/35-Onion-Salad.pdf)

These are easier to grow, can be grown throughout the year and, in peak growing weather, are ready in 8 weeks. Use 6 salad onions to replace one medium regular onion. Remember to chop these spring onions very finely!



**MATHS OPPORTUNITY**  
(measuring): when  
planting out  
your onions.

## GARLIC

- [www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/public/26-Garlic.pdf](http://www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/public/26-Garlic.pdf)



## PARSLEY

This can grow on a window ledge

[www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/public/85-Parsley.pdf](http://www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/public/85-Parsley.pdf)

- To save money and to reuse old newspapers, why not make your own newspaper pots for growing your parsley?

[www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/flp/A19-Making-a-paper-pot.pdf](http://www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/flp/A19-Making-a-paper-pot.pdf)

Please don't forget, if any of your ingredients don't grow as planned, don't worry! Try sourcing them from a local farm shop or if not possible, buy British produce to reinforce the message about seasonal food.

## CROP AND FAMILY GAMES

[www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/flp/A7-Crop-and-family-games.pdf](http://www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/flp/A7-Crop-and-family-games.pdf)

This resource can be printed and used to help children understand and recognise different fruit and vegetables, and which families they belong to, helping their understanding of organic growing.

The children's experience of what they see growing on a farm can be reinforced by using these cards to recreate the farm's rotation of vegetables back at school.





If you are able to go on a farm visit, take the opportunity to see any crops growing that relate to your recipe, in the case of Bean Balls, beans, onions, garlic and parsley.

**ACTIVE LEARNING:** Discuss your recipe focus with the farmer in advance of your visit and, if possible, coincide your trip with the harvesting of produce relevant to your chosen recipe. It may be possible for the children to harvest beans, onions or garlic themselves.

## SCIENCE: Plants

A farm visit provides the opportunity to see a wide variety of common plants growing - cereals, vegetables and fruit, plus hedgerow plants and possibly fruit trees. Depending upon the season and stage of growth, children may be able to identify different crops and relate them to food that they eat.

Seeing vegetables growing at field-scale can be very inspiring for children who have started or would like to grow vegetables back at school. Spend time looking at the different vegetables growing, naming the part that we eat as either the fruit, seed, root, leaf, shoot or flower – **Appendix 5 Fruit or Root?** can be used collectively during your farm visit or used independently by the children back at school.

## SCIENCE: Materials

Task the children with designing raised beds for growing in your school grounds. A farm visit can provide an opportunity to research raised beds and ask the farmer / grower any questions they may have.

**See Appendix 6 for a Design Brief.**

For more detailed information about building raised beds, visit [www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/flp/A10-Building-a-raised-bed.pdf](http://www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/flp/A10-Building-a-raised-bed.pdf)

**Maths opportunity:** calculating the area of a raised bed and the volume of soil required to fill it

### FARM VISIT

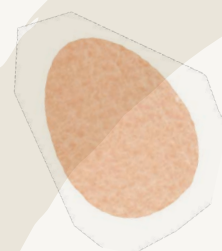
If the farm keeps laying hens, this is an opportunity for the children to see where eggs for their recipe come from and it provides an opportunity to learn about lifecycles that is connected to their wider learning.

[www.foodforlife.org.uk/schools/skills/farming/setting-up-a-farm-visit](http://www.foodforlife.org.uk/schools/skills/farming/setting-up-a-farm-visit)

### CHICKEN KEEPING

Eggs are in lots of healthy recipes – have you considered keeping chickens at school? Visit our Chicken Keeping page on the Learning and Skills hub for advice and guidance.

[www.foodforlife.org.uk/schools/skills/farming/chicken-keeping](http://www.foodforlife.org.uk/schools/skills/farming/chicken-keeping)



**MATHS  
OPPORTUNITY**



# IN THE CLASSROOM

## PSHE: Healthy Eating

Please see **Appendix 9 Why baking not frying?** for supporting information around the healthy elements of the Bean Balls recipe.

By using a healthy recipe as the vehicle for learning, its ingredients can be analysed within the bigger picture of what makes a balanced diet. Activities from 'Food: A Fact of Life' offer a way to learn about the different food groups and a balanced diet. These activities then form the basis on which the children can examine, adapt and evaluate the recipe.

- **Food: A Fact of Life (Eat well - A variety of food and drinks are needed for health, as depicted by the Eatwell Guide)**

To learn about eating well, this collection of activities helps the children to learn about the 5 different food groups and think about a balanced meal by choosing foods from different food groups.

Following this learning, ask the children to put the ingredients for the Bean Balls recipe into the correct food groups and think about what foods are missing. How might they add to the meal by creating a side dish using some missing food group items?



IT  
OPPORTUNITY

**For Key Stage Two:** <https://www.foodafactoflife.org.uk/7-11-years/healthy-eating/nutrients/>

- **Food: A Fact of Life (Nutrients: A variety of food is needed in the diet because different food contains different substances that are needed for health. These are nutrients, water and fibre).**

This collection of activities helps the children to understand how much energy different foods provide, understand that protein, fat and carbohydrate provide this energy and also about the vitamins and minerals that different foods give us.

Provide the children with the nutritional information provided with the Bean Balls recipe (**see Recipe on page 5**). What side dishes could they create to ensure that the meal will provide a balance of nutrients? Or plenty of energy in preparation for a sporting event, for example?

- **IT opportunity:** The children can take the Eatwell challenge by placing each food item into the correct food group on the Eatwell Guide (found at the bottom of the page) <https://www.foodafactoflife.org.uk/7-11-years/healthy-eating/eat-well/>

**For the Teachers' Guide to all activities for Key Stage Two, please visit** <https://www.foodafactoflife.org.uk/7-11-years/> – Areas of learning include Healthy Eating, Cooking, Where Food Comes From and Food Commodities.

**Taste testing** – (try doing this activity on your **farm visit** if they grow herbs and are happy for you to sample them)

Touch, taste and smell parsley & oregano. Place each plant plus washed leaves on a large piece of paper each. Invite the children to record what they think each herb feels, tastes and smells like. Keep a tally of children's favourite herbs and descriptive words. Use the outcomes from this activity to support any evaluation and development of the recipe after it has been made and sampled. Add the words they generate to a 'Taste Word Bank'.

- Take a look at the TastEd website for lots of lesson plans and activities: <https://www.foodforlife.org.uk/schools/tasted>

### Key Stage Two:

- Adapt the original Bean Balls recipe using different herbs and/or spices
- Analyse how balanced a meal Bean Balls is on its own using the [Eatwell Guide](#)
- What could you serve with Bean Balls to make it a balanced meal?

## GEOGRAPHY: Food from around the World

Buy sample Bean Balls recipe ingredients from the supermarket and ask the children to find out from the packaging in which country it was produced. Challenge them to then find that country on a large world map.

Using **Appendix 7 Food from around the world**, match the image to the correct word (where possible) and attach the images and/or words to your world map.



### Key Stage Two:

**IT opportunity:** research from where in the world different vegetables, herbs and spices from your recipe originate (i.e. where they historically come from).

- Which ingredients do we now grow in this country? These Godiva & Capulet beans grow in Warwickshire in the UK
- Are there any ingredients that have been imported but could have been grown here?
- Discuss the benefit of using local ingredients – fresh, lower impact on the environment, money remains in the local economy
- For how long does the ingredient remain fresh?
- How are food items transported around the world? By air or boat
- Task the children with grouping the ingredients by how they think they are likely to have been transported here.
- Use **Appendix 8 How far has your food travelled?** to calculate the possible number of kilometres the ingredients have travelled.

Specific webpages regarding ingredients for Bean Balls:

**Onions:**

- [www.onions-usa.org/all-about-onions/history-of-onions](http://www.onions-usa.org/all-about-onions/history-of-onions)
- [www.bbcgoodfood.com/glossary/onion-glossary](http://www.bbcgoodfood.com/glossary/onion-glossary)

**Garlic:**

- [www.bbcgoodfood.com/glossary/garlic-glossary](http://www.bbcgoodfood.com/glossary/garlic-glossary)

**Parsley:**

- <https://kids.kiddle.co/Parsley>

## DT: Design

Using research carried out on your farm visit challenge the children to design a raised bed or growing site for beans or herbs. **Appendix 6 - Design a raised bed or herb box.**

**Maths opportunity:** area (KS2)

MATHS  
OPPORTUNITY

## ART & DESIGN

### Key Stage Two:

- Challenge the children to design a food label using the information learnt about beans, the benefits of beans, food miles, climate change and ingredients.
- Challenge the children to design the front cover of a BeanMeals recipe book using the information learnt about beans, the varieties of beans, growing, food miles, climate change and ingredients around the world.
- Using a variety of dried beans, design a mosaic or bean collage.

# AT HOME

To support the children's learning in school, the recipe and accompanying activity ideas can be sent home.

## 1. Bean Balls recipe (See page 5)

**Literacy opportunity:** Key Stage Two - Task the children with writing their own version of the Bean Balls recipe following their evaluation, to include changes to the herbs used.

## 2. Supporting health information **Appendix 9 Why baking not frying**

## 3. Growing cards for parsley, garlic and onions and potatoes, plus associated advice:

### A. GROWING HARICOT BEANS / BEANS

Please see **Appendix 1 - Growing card for beans**

### B. GROWING ONIONS OR SALAD ONIONS

[www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/public/34-Onion-Bulb.pdf](http://www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/public/34-Onion-Bulb.pdf)

[www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/public/35-Onion-Salad.pdf](http://www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/public/35-Onion-Salad.pdf)

### C. GROWING GARLIC

<https://www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/public/26-Garlic.pdf>

### D. GROWING PARSLEY

<https://www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/public/85-Parsley.pdf>

### E. MAKING NEWSPAPER POTS

<https://www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/resources/fflp/A19-Making-a-paper-pot.pdf>

## 4. **Literacy opportunity:** Key Stage Two: Task the children with creating their own 'Sow and Grow' kits for parsley to take home or sell at a Farmers' Market. One or two packets of parsley seeds could be divided into enough for each child to take some home in their kit. See - **How to make a Sow and Grow kit in additional resources.**

LITERACY OPPORTUNITY





**BEAN  
MEALS  
APPENDICES**

# How to grow your haricot beans

Appendix 1



## EQUIPMENT

- Capulet and Godiva haricot beans
- Peat free compost
- Reused small pots or sectioned tray
- Pencil/dibber
- Netting/plastic bottles
- Watering can/bottle

## Top Tips!

Plant roots (not leaves) need water

Choose a sunny spot to grow your beans

You'll need to plan for watering your plants over the summer holidays

## SOWING

APRIL - indoors in pots

MAY - outdoors (after frosts)

### IN POTS:

- Fill small pot/tray with peat free compost (or 50:50 mix of compost:topsoil) - tap pot firmly on table to settle contents.
- Use the flat end of a pencil or dibber to make a hole 2cm deep.
- Place bean in hole.
- Gently cover over with compost. Label.
- Water until compost moist.
- Place in warm, light place - shoots should appear within 14 days. Water when dry.

### IN BED OUTDOORS:

Sow seeds in May (after frosts). Space seeds 15cm apart, 5cm deep, in short rows to form a block. Skip next section on planting out.

## PLANTING OUT

May (after last frost)

- Seedlings will be ready to pot on when you see roots through the bottom of the pot.
- Pre-dig planting holes in the growing bed in a block formation, 15cm apart.
- Gently squeeze round the pot to loosen the compost and ease out the plant on to your hand, taking care not to damage the roots of the baby plant. You can gently hold the leaves and use a pencil/dibber round the edge of the pot to help ease the plant out.
- Place in the hole, pull soil across and firm in.
- Water well.





## PLANT CARE

June to  
September

- Protect baby plants from pigeons, slugs and snails by cutting off the bottom of a plastic bottle and placing it over the plant.
- If pigeons or cats are a problem then place netting over the block of plants for protection
- Water regularly, particularly when the pods appear and when it is hot and dry.
- Keep the plants clear of weeds.
- Watch out for greenfly on young shoots and remove.



## HARVESTING BEANS

September

- Ready to harvest when the leaves drop and leave dry, yellow coloured pods.
- Harvest on a dry day by pulling up complete plants.



## DRYING AND STORING BEANS

Autumn/  
Winter

- Hang plants upside down to dry under cover, but not in direct heat e.g. in a shed.
- Once the pods seem dry, strip them from the plants which can be composted. Leave the pods to dry further until the beans rattle when shaken.
- Remove the beans and store in a cool, dry place for cooking, or sowing next year.



**Bees love visiting bean plants to collect nectar to feed!** They may spread pollen between plants, although the beans usually self-pollinate before the flowers open.

# FOOD MILES EXPLAINED

## Appendix 2



### WHAT ARE FOOD MILES?

The total **distance** food has travelled to get from where it was produced to where it is sold. Simply put – the transportation of food.

### WHAT IS A CARBON FOOTPRINT?

The **amount** of CO2 emitted as a result of the production and transportation of a product.

### WHY IS THIS IMPORTANT?

Many of the foods we eat are either grown or produced in other countries. They are transported by plane, train, boat and lorry to reach the UK. This causes pollution and carbon dioxide to be released into the atmosphere, contributing to **climate change**.

## CLIMATE CHANGE IS THE SPEED OUR PLANET IS HEATING UP.

### Impacts of climate change:

- environmental impacts: pollution, increase disposable waste
- increased transport costs
- food quality and nutritional value
- food insecurity
- lower wages



### QUESTIONS TO THINK ABOUT:

- **Where does our food come from?**
- **Who produces our food and how?**
- **What are living conditions like for the people who produce our food?**
- **How far has our food travelled?**
- **Is there a more local alternative?**



What we grow, buy, and eat can have an impact on climate change. The food system in the UK contributes around 20% to UK human made CO2 emissions.

If we want to reduce the impact that our actions are having on our climate change, eating food that is grown locally is one of the best ways to do this.

There are examples of ways we can help to reduce food miles in the Food Miles Activities resource.



# FOOD MILES ACTIVITIES

## Appendix 2



These activities are designed for your SNAG to learn about food miles and what their own 'food print' might be. This is to encourage the group to become more aware of food citizenship and have a deeper understanding between climate change and the food we buy to eat. The activities can be done together, or you can pick and choose the activities best suited to the group. We recommend reading the Food Miles Explained document before you start to give you some background information.

### This activity would help evidence criteria;

**B2.0** Our School Nutrition Action Group has led a review of food culture in our school, and actions have been agreed

**B3.0** We use the topic of healthy and sustainable food as a theme for assemblies

**S3.3** Our pupils explore the ethical and environmental issues around food choices and this is linked to changes in our school meals

### LEARNING OUTCOMES:

- To understand where food has travelled from
- To understand how food has travelled and the impacts of this
- How to choose more sustainable food that is good for the planet

### YOU WILL NEED:

- Food products from different countries
- A map or globe
- String
- Laptop

**Other FFL resources this activity links to (see Appendix):** Transport Pictures, Environmental Impact Illustrations, Food Print, Food Miles Explained.

### This resource also links to:

#### The story of a banana (Oxfam Education)

- **Remind** students the process of getting food from farm to fork.

#### The story of a banana (Oxfam Education)

<https://www.oxfam.org.uk/education/resources/go-bananas>

- **Discuss** what food miles are with the students. You can refer to the Food Miles Explained document.

- **How far has your food travelled?**

Using a map and a piece of string ask what food would have travelled further (which string is longer?)

e.g. A tomato from Spain or an avocado from South Africa



## HOW FAR HAS YOUR FOOD TRAVELLED?

- **Discuss** how a food product might have been transported (e.g. plane / ship / lorry). Use our Transport Pictures (see appendix) to help you.
- **Discuss** the reasons why food is transported so far:
  - Some climates are suitable for certain crops such as bananas and coffee.
  - Refrigeration, preservatives and fast transportation all mean that foods can survive long journeys.
  - Heated greenhouses and other intensive methods enable countries to grow crops out of season, for example we can grow strawberries all year round in the UK.
  - Supermarkets say people want to have access to all kinds of foods all year round, for example strawberries in the winter.
- **What do children think about the fact that we import foods that we can produce ourselves?** For example, for every pint of milk we export, we import approximately two pints.

But heated greenhouses use a lot of energy!

## IMPACTS OF TRANSPORTATION

Pupils need to understand that transporting food over great distances creates a great deal of pollution, and that is one of the key problems with the global trade in food.

- Use the Environmental Impact Illustrations and the Transport images (see appendix) to match the impacts to the different modes of transport: e.g. congestion – lorry, water pollution – ship
- **Ask other leading questions:** Are there any impacts that would go with 2 or all 3 modes of transport e.g. air pollution? Discuss why. Does noise pollution only affect us?
- **Watch our 'Eating to save the planet' video on YouTube:**  
[www.youtube.com/watch?v=PyoxVwAIX\\_M](http://www.youtube.com/watch?v=PyoxVwAIX_M)
- **Mind map:** Explore how to reduce food miles using a mind map

growing your own fruit and vegetables in a garden or allotment

eating food that is in season

Reduce Food Miles

buying from local markets

asking supermarkets to stock locally produced food

buy from farm shops and vegetable box schemes

## ADDITIONAL ACTIVITIES

### Food Print

Using our resource, each child picks a food product and fills in their 'food print'. Alternatively, pupils could produce posters to promote other ways of shopping. These can then be displayed in the dining room.

### Sharing with the school

Think about how you might want to share what you have learnt with the rest of the school to raise awareness. You could:

- Hold an assembly
- **Celebrate World Food Day / Fairtrade Fortnight for sustainability**
- Plan for a whole school project, looking at sourcing food locally and sustainably

## FURTHER RESOURCES

[www.foodforlife.org.uk/schools/skills/farming/climate-change/food-miles](http://www.foodforlife.org.uk/schools/skills/farming/climate-change/food-miles)

# Plant-Based Proteins

## Appendix 3



**It is important for children to have a diet rich in protein to ensure good nutrition, growth & development.**

Many schools and settings are starting to cut down on meat being served on school meal menus due to increased costs & supply issues.

To ensure children are getting good nutrition there are various ways of incorporating rich protein sources in the form of plant-based proteins into their diet.

### Plant based proteins include:

- Peas
- Beans
- Lentils
- Chickpeas
- Edamame
- Seeds
- Quinoa

With the cost-of-living crisis hitting individuals hard, the likes of these plant-based proteins will be making an appearance on menus more and more.

**Plant based proteins are flavoursome, palatable, cheap, and easy to work with and have the following health benefits:**

- Increase fibre in the diet
- Lowers the risk of cardiovascular disease & some types of cancers
- Benefits weight management – gives the feeling of fullness for longer
- Plant based proteins do not contain some of the less healthy compounds found in meat, including fat and cholesterol
- Provide plenty nutrients & antioxidants which improves health by supporting the immune system



## KEY WORDS THAT RELATE TO CLIMATE CHANGE:



### THE GREENHOUSE EFFECT:

greenhouse gases (e.g. carbon dioxide, methane) trapping heat into the atmosphere

### WEATHER:

A description of what conditions are like in one place at one time (hot, cold, windy, calm)

### GLOBAL WARMING:

the process of our planet heating up (increase in Earth's average temperature)



### CLIMATE:

the average of weather over time and across large geographic areas

## WHAT IS CLIMATE CHANGE?

Climate change explains the long-term changes to our weather patterns.

There will always be natural changes in the climate. However, the climate is significantly changing now at speed.

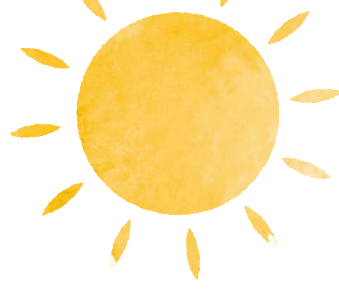
### Causes of climate change:

- Burning fossil fuels (oil, gas) for energy
- Agriculture (planting crops, rearing animals)
- Deforestation



### Why does climate change matter?

The consequences of the Earth's surface warming will have an impact on human society and the natural world. Many of the world's biggest challenges (from poverty to wildlife extinction) are made more difficult by climate change.



## Effects:

- Extreme weather (more rainfall, prolonged heat waves)
- Rising sea levels
- Ice melting (e.g. arctic sea ice)
- Threat to wildlife (flowers, plants, animals)
- Wildfires and droughts

## How can we help?

There are many ways we can reduce greenhouse gas emissions (e.g. reducing car use, reducing the amount of meat we eat, reducing water use, planting trees).

You will look at ways of individually helping in the Climate Change Activities resource.



## Climate and food:

### HOW DOES WHAT WE EAT IMPACT THE CLIMATE?

- Food security
- Crop yields
- What crops can be grown
- Fish stocks
- Nutritional value

Food security - how safely a country can access the food they need to keep them healthy); Crop yields - how much of a plant is grown; Fish stocks - how many fish there are in the sea; nutritional value - how much goodness we get from our food.

### FURTHER RESOURCES

[www.foodforlife.org.uk/schools/skills/farming/climate-change/climate-change](http://www.foodforlife.org.uk/schools/skills/farming/climate-change/climate-change)

### HOW DOES WHAT WE EAT IMPACT THE CLIMATE?

All farming and food processing (getting food ready to eat) impacts the climate. But some farming and foods have more impact on the climate than others. Food impacts the climate due to:

- Water use
- Fertilisers and pesticides (chemicals that help plants to grow and protect them from insects)
- Farm machinery like tractors
- Damaging and not looking after the soil
- Vehicles transporting food a long way from farms to shops
- Processing food a lot (changing it from its natural state)
- Packaging food
- Wasting food

Can you make a difference to these things?



# PROBLEM TREE

Appendix 4b





# SOLUTION TREE

Appendix 4c



Making it easier for people to eat more veg and less meat

**SLOWED CLIMATE CHANGE**

More people growing their own

# Fruit or Root?



Appendix 5



Name: ..... Date: .....

We eat all the parts of plants. Can you think of one to go in each box and draw it?

Fruit	Seed	Root
Leaf	Stem	Flower

# Design a raised bed or herb box

Appendix 6



## DESIGN BRIEF KS2

**YOUR CHALLENGE...** to design a raised bed or herb box to grow beans or herbs.

Before you start, have a discussion with your partner or group about what you plan to design

- Think about the shape
- Think about what material it will be made from
- Think about where your raised bed or box will be built – direct/indirect sunlight?
- Think about a wind proof location
- Will you be protecting your design from birds and pests?
- Think about accessibility – is water nearby? Does it allow wheelchair access?
- Will your design be off the ground? If yes, what will it be built on?

**STAGE ONE:** to draw your design, showing dimensions, and label it as you go. Decide on:

- Raised bed for beans or herb box
- Material it to be made from – type of wood
- Size
- Shape

**STAGE TWO:** to think about access to and from the raised bed or herb box.

- The raised bed will need to be wide enough for wheelchair access
- The herb box will have to be at the right level for access to watering – on the ground or on a ledge?
- The bed/box will need to be close to a water supply
- Will there be tools and gardening equipment stored nearby?
- Will your bed/box be covered by bird/insect netting for protection?

**STAGE THREE:** make a 3D model of your raised bed or herb box using recycling materials (e.g empty boxes)



An example of a raised bed box

# Food from around the World

Appendix 7



## BEAN BALLS INGREDIENTS



CAPULET BEANS



OLIVE OIL



GODIVA BEANS



CHILLIS



HARICOT BEANS



ONION



TOMATO PUREE



PARSLEY



EGGS



GARLIC



BREAD CRUMBS



OREGANO

# How far has your food travelled?

## Appendix 8



ARGENTINA 11082 KM

AUSTRALIA 16984 KM

BRAZIL 9186 KM

CANADA 5376 KM

CHILE 11649 KM

COSTA RICA 8732 KM

CYPRUS 3218 KM

COLOMBIA 8472 KM

CHINA 8161 KM

DOMINICAN REPUBLIC 7013 KM

ECUADOR 9215 KM

EGYPT 3520 KM

FRANCE 343 KM

GREECE 2391 KM

INDIA 6701 KM

IRELAND 469 KM

ISRAEL 3594 KM

IVORY COAST 4977 KM

ITALY 1444 KM

JAMAICA 7541 KM

KENYA 6804 KM

MEXICO 8941 KM

MOROCCO 2011 KM

NEW ZEALAND 18331 KM

PERU 10158 KM

SCOTLAND 535 KM

SPAIN 1261 KM

TANZANIA 7473 KM

THAILAND 9534 KM

TUNISIA 1821 KM

TURKEY 2835 KM

U.S.A 5913 KM

VENEZUELA 7503 KM

ZAMBIA 7906 KM

ZIMBABWE 8258 KM

SOUTH AFRICA 9027 KM

Distances in kilometres from countries' capitals to London



# Why Baking not Frying?

## Appendix 9



## THE HEALTH BENEFITS OF THE BEAN BALLS RECIPE

This recipe suggests baking rather than frying your Bean Balls.

When cooking it is a good idea to use cooking methods that don't introduce a lot of fat/oil to our food. Frying food in fat/oil (deep and shallow) introduces a lot more fat/oil than baking or grilling.

### KEY POINTS:

- Some fat in the diet is essential, but fat should be limited to small amounts.
- There are 2 main types of fat: saturated and unsaturated.
  - **Saturated fats** often used for cooking include butter, ghee, lard, palm oil and coconut oil.
  - **Unsaturated fats/oils** include rapeseed or vegetable oil, sunflower, olive, corn and walnut oils.
- Too much saturated fat can increase the amount of **cholesterol** in the blood, which increases the risk of developing heart disease. Swapping to unsaturated fats/oils can help lower cholesterol
- Therefore, it is important to get most of our fat from unsaturated oils and spreads such as rapeseed or vegetable oil, sunflower, olive, corn and walnut oils.
- Fat has a lot of energy/calories per gram – 9 calories per gram. Starchy food and protein foods have around 4 kcal/gram. By cutting down on **all fat**, preventing weight gain will be helped.
- There are about 8g oil in a tablespoon, this Bean Balls recipe contains a brushing of rapeseed oil (approx 2 tablespoons per recipe) so this will provide 16g oil which is  $16 \times 9 = 144$  calories. If these were deep or shallow fried the calorie content could increase by 2 or 3 times.



## HOW IS THIS RECIPE GOOD FOR YOU?

### ONIONS

Onions are part of the 'allium' family of foods (garlic, onion, leek etc). There is good evidence of the health benefits of the allium family on gut health and cardiovascular protection, anti-cancer activity, lowering blood levels of cholesterol and triglycerides and lowering blood pressure. Of course, as with any healthy food, these benefits are realised to their fullest when eaten as part of a healthy diet.

### HERBS AND SPICES

Herbs and spices provide a healthy way of adding flavour to your foods. The parsley, oregano and garlic in this recipe will make it flavoursome without the need for salt, too much of which in the diet is damaging to health. Adults should eat no more than 6g of salt per day (one teaspoon). The maximum amount of salt children should have depends on their age:

- 1 TO 3 YEARS - 2G SALT PER DAY
- 4 TO 6 YEARS - 3G SALT PER DAY
- 7 TO 10 YEARS - 5G SALT PER DAY
- 11 YEARS AND OVER - 6G SALT PER DAY

**Source:** [www.nhs.uk](http://www.nhs.uk)

A diet high in salt can raise blood pressure, which can increase your risk of heart disease and stroke. There is evidence that dietary habits in childhood influence eating patterns in adulthood. Therefore, a lower salt diet in childhood helps children to more easily follow a low salt diet as an adult and reduce risk of high blood pressure and its associated health issues.

Including herbs and spices in your cooking can also help you avoid other artificial flavour enhancers such as MSG.



A diet high in salt can raise blood pressure





**BEAN  
MEALS  
RECIPES**



# BEAN & LENTIL CHILLI

Serves 6



## METHOD

1. Place the beans, in their soaking water, in a large pan and boil for 30 minutes. Drain and discard the water.
2. Heat the oil in a large pan and gently fry the onion, garlic, carrot, celery and chilli for 5 minutes. Don't let it brown.
3. Add the canned tomatoes, tomato purée, the drained beans and lentils, spices, bay leaf and vegetable stock and bring to the boil. Reduce the heat and simmer for 30 minutes.
4. Add the chopped peppers and seasonal vegetables and continue to simmer for another 30 minutes or until everything is tender.
5. Taste and season with salt and pepper.

## EQUIPMENT

- mixing bowl
- colander or sieve
- large pan with lid
- chopping board
- sharp knife
- measuring jug
- wooden spoon or spatula
- teaspoon
- tablespoon

## INGREDIENTS

(ALLERGENS IN BOLD)

- 150g haricot beans, soaked in boiling water for 1 hour, drained
- 150g whole green or brown lentils, soaked for 30 minutes, drained
- 2 tbsp olive oil for cooking
- 1 large onion, peeled and chopped
- 2 cloves garlic, peeled and crushed
- 1 fresh green or red chilli, de-seeded and finely chopped
- 3 carrots, scrubbed and finely sliced or diced
- 2 sticks **celery**, washed and finely sliced
- 1 x 400g canned tomatoes
- 1 tbsp tomato puree
- ½ - 1 tsp chilli powder or hot smoked paprika
- 1 tsp ground cumin
- 1 bay leaf
- 1 vegetable **stock cube**, made up with 600ml boiling water
- 1 red or green pepper \*plus additional seasonal veg if available
- Salt and pepper

## RECIPE NOTES AND TIPS

- \*Seasonal veg like courgette & sweetcorn work well in this.
- You may have to add a little more water during cooking if the beans get too dry.
- Serve with brown rice, wholewheat pitta bread or homemade potato wedges.
- Can be chilled and reheated the next day – make sure it is piping hot!

# BROCCOLI & BEAN SALAD

Makes 4 servings



## METHOD

1. Blanch the prepared broccoli and fine green beans by putting them in a pan of boiling water. Leave for 1 minute, drain and plunge into cold water. This will stop the cooking process and keep the colour of the broccoli.
2. In a measuring jug, thoroughly mix all the dressing ingredients with a fork.
3. Put all the prepared salad ingredients into a mixing bowl. Pour the dressing over them. Toss the salad ingredients together and serve immediately.

## EQUIPMENT

- 2 saucepans with lids
- colander
- chopping board
- sharp knife
- measuring jug
- fork
- mixing bowl
- teaspoon

## INGREDIENTS

(ALLERGENS IN BOLD)

- 1 head of broccoli - broken into florets
- 100g fine green beans - trimmed
- 100g fresh or frozen broad beans - boiled until soft
- 50g cherry tomatoes - halved
- 50g reduced fat **Feta cheese** - cubed

## FOR THE DRESSING

- 2 tablespoons olive oil
- 1 tablespoon red wine vinegar
- 1 teaspoon **wholegrain mustard**
- 1 teaspoon honey
- 1 clove garlic - crushed
- ground black pepper

## RECIPE NOTES AND TIPS

- Broccoli, beans and cherry tomatoes are all easy to grow in a school garden so this is a great cook-to-eat recipe
- Feta cheese is quite salty so don't add any extra salt as seasoning.

# MEAN BEAN BURGER

Makes 8



## METHOD

1. Pre heat the oven to 180°C
2. Line a baking tray with greaseproof paper
3. Place the beans, in their soaking water, in a large pan and boil for 50 - 60 minutes until soft. Drain and discard the water.
4. In a food processor or bowl (if using a hand blender) combine the beans & tomato puree. Pulse until chopped but not completely smooth
5. Transfer the mixture to a medium sized bowl and stir in the grated onion, garlic, parsley, oregano, chilli, egg, breadcrumbs, salt & pepper until well combined
6. Using your hands make the mixture into burger size shapes and space evenly on the tray
7. Bake until burgers are firm to the touch and golden brown approx. 15 - 20 mins.
8. Serve in a seeded bun with sliced tomato & salad leaves!

## RECIPE NOTES AND TIPS

- Ready made panko breadcrumbs are ideal and quick but you could make your own breadcrumbs using wholemeal bread for added fibre
- Breadcrumbs can be frozen in batches for future use

## INGREDIENTS

(ALLERGENS IN BOLD)

- 150g haricot beans - soaked in boiling water for 1 hour, drained
- 2 tablespoons tomato puree
- ½ medium onion grated
- 1 clove garlic crushed or 1 tsp garlic granules
- 2 teaspoons chopped parsley (fresh or dried)
- 1 teaspoon dried oregano
- ½ teaspoon mild chilli powder or paprika
- 1 **egg** beaten
- 2 tablespoons **breadcrumbs**
- Salt & pepper to season
- **Burger buns**

## EQUIPMENT

- Baking tray
- Pan
- Medium sized bowl
- Sieve
- Food processor or hand blender
- Grater
- Veg knife
- Tablespoon
- Teaspoon
- Fork

# MIXED BEAN SOUP

Serves 8



## METHOD

1. Chop the onion & the garlic finely and add to the pan with the heated oil.
2. Cook until soft, but not brown.
3. Add in the thyme, rosemary, smoked paprika & garlic granules and stir.
4. Add the tomato puree and mix well.
5. Pour in the butter beans and kidney beans mixing well.
6. Pour in the pint of veg stock and cook for 2 mins.
7. Blitz with a hand blender until smooth.
8. Enjoy!

## EQUIPMENT

- Large pan
- Chopping board
- Vegetable knife
- Measuring jug
- ladle
- Tablespoon
- Teaspoon
- Hand blender



## INGREDIENTS

(ALLERGENS IN BOLD)

- 1 onion, finely chopped
- 1 garlic clove, finely chopped
- 1 tablespoon oil
- ½ teaspoon dried thyme
- ½ teaspoon dried rosemary
- ½ teaspoon smoked paprika
- ½ teaspoon garlic granules
- 2 tablespoons tomato puree
- 1 can (400g butter beans) drained & rinsed
- 1 can (400g kidney beans) drained & rinsed
- **1 veg stock cube** (to make 1 pint of stock)

# HEINZ STYLE BAKED BEANS

Makes 8  
portions



## METHOD

1. Place all ingredients in a pan (except beans & corn flour) and stir, then add beans.
2. Bring to a boil, then lower heat and simmer for 20 minutes, without the lid.
3. Stir every now and then so the beans don't stick to the bottom of the pan.
4. Mix the cornflour with water until combined. Pour into pan and stir.
5. Cook for 2 minutes until sauce thickens – it will thicken quickly.
6. Enjoy!

## RECIPE NOTES AND TIPS

- You could add a little spice to your beans by adding some chilli powder or curry powder for curried beans!
- Beans can be frozen once cooled.
- Don't confuse onion and garlic granules for onion or garlic salt – the recipe will be far too salty!
- Serve these beans with a jacket potato or have as a side with omelette, fish or chicken dishes.
- You could experiment using different beans such as pinto, canellini or borlotti beans!
- Dried beans take longer to cook than beans in a tin (already cooked).
- Always soak dried beans before cooking.

## INGREDIENTS

(ALLERGENS IN BOLD)

- 300g cooked, drained haricot beans (dried beans must be soaked then cooked for at least 1 hour until tender)
- 400ml **veg stock** (1 stock cube)
- 200ml water
- 2 tsp **Worcestershire sauce**
- 2 tbsp tomato ketchup
- 2 tbsp tomato puree
- 1 tbsp brown sugar
- 1 tsp cider vinegar
- ¼ tsp onion granules
- ¼ tsp garlic granules
- ¼ tsp ground black pepper

## TO THICKEN

- 2 tsp cornflour blended in 40ml water

# EASY BAKED BEANS

Makes 16  
portions



## METHOD

1. In a saucepan add the beans and passata.
2. Add the Worcestershire sauce, balsamic vinegar, paprika, onion granules, garlic granules and sugar.
3. Give the beans a stir and gently simmer on a low heat with pan lid on for 10 mins, stirring occasionally.
4. Season with salt & pepper if required.
5. Serve with jacket potato or as an accompaniment to fish, chicken or stir into cowboy pie or chilli.
6. Enjoy!

## INGREDIENTS

(ALLERGENS IN BOLD)

- 2 x 400g tin beans (butter, pinto, cannellini or haricot) drained
- 500g passata
- 1 tbsp **Worcestershire sauce**
- 1 tsp balsamic vinegar
- 1 tsp sweet paprika
- 1 tsp onion granules
- 1 tsp garlic granules
- 1 tsp granulated sugar
- Salt & pepper to season

## RECIPE NOTES AND TIPS

- You could add a little spice to your beans by adding some chilli powder or curry powder for curried beans
- Beans can be frozen once cooled
- Don't confuse onion and garlic granules for onion or garlic salt – the recipe will be far too salty!
- If you are using dried beans make sure to soak them and cook for the required time on the packet!



**BEAN  
MEALS  
RESOURCES**

# Making a Sow and Grow kit



## To make each Sow and Grow kit, you will need the following equipment:

Put a handful of compost into the medium plastic self-seal bag and seal the bag. Put a good pinch of parsley seeds into the mini brown envelope, seal and label.

Put these and the other components into the takeaway container. Copy the growing instructions below and stick them to the takeaway container lid.

- 1 x Plastic takeaway container (as deep as you can find)
- 1 x Medium plastic self-seal bag
- 1 x Brown mini envelope
- 1 x Handful of compost
- 1 x A good pinch of parsley seeds
- 1 x Lolly stick
- 1 x Small pencil
- 1 x Set of growing instructions

1. Carefully place holes in the takeaway container or use an old plastic salad box with holes.
2. Place most of the compost in the container.
3. Keep a tiny bit of compost for later.
4. Scatter the seeds over the surface of the compost and lightly press them into the compost.
5. Sprinkle the remaining compost over the seeds.
6. Place the container on a sunny windowsill and then gently water the seeds.
7. The seeds should germinate in 14-28 days.
8. Ensure the soil is always moist by watering when needed.
9. Harvest leaves (and stems?) after 10 weeks to chop and include in your Bean Balls.





# Beans Quiz



**Are you keen for beans? A bit of an im-pulse-ive eater? Or a bit gentle on the lentils? Take our quiz to find out your style of pulses.**

**Across England we're encouraging people to start eating beans and discover the health, price, and taste benefits of adding more pulses to your life.**

## 1. How many different types of pulses can you name?

- A) I'm not really clear what a pulse is, never mind how many types there are!
- B) I can name 2-3 but don't necessarily cook with them.
- C) I can name a few that I use regularly.
- D) I know of quite a few different pulses, but don't use them.
- E) I know more than 8 different types of pulses, and cook with them.

## 2. Do you know the difference between a bean, pea, legume, and pulse?

- A) No!
- B) I think I know the difference between a bean and a pea, not sure about the others.
- C) I know the difference between a bean, a pea, and a pulse, and I know where to find them in the supermarket.
- D) Yes, just about.
- E) Yes, and I grow them and can tell you all about how good they are for the soil, too.

## 3. How confident do you feel preparing dried pulses?

- A) Preparing what? How?
- B) I've got some bags of them at home but have never gotten around to doing anything with them.
- C) There are a few dried pulses that I prepare very often.
- D) I occasionally soak and cook dried beans but not as much as I'd like.
- E) Very confident. I know the soaking times for different beans, and have developed my own technique.

## 4. How often do you cook with pulses?

- A) I like baked beans.
- B) Sometimes I throw a few beans in a chilli.
- C) Very often – I like to bulk out my meals with a few dried pulses.
- D) Pretty often – I buy them in tins and throw them in my meals a few times a week.
- E) Multiple times a week. I have lots of variety in the pulses I use.

## 5. Have you ever made your own hummus before?

- A) I didn't even know hummus came from pulses!
- B) No – it feels like too much effort to get all the ingredients together.
- C) Yes – way cheaper, way more delicious.
- D) Yes, sometimes.
- E) Very regularly! I've even made it out of broad beans before. I like to get experimental.

## 6. Can you name some pulse-based flours?

- A) What?!
- B) One or two.
- C) I sometimes blend my own beans to make flour.

- D) I know of a lot of pulse-based flours.
- E) Yes, and I use them regularly.

## 7. Have you ever used pulses as a meat replacement?

- A) Can I make baked beans the centre-piece of my Sunday dinner?
- B) I made a vegetarian shepherd's pie once.
- C) Yeah, it's way cheaper than meat or vegetarian sausage.
- D) A few times, but I prefer to use shop-bought replacements.
- E) All the time!



### Beginner Beans:

If you answered mostly A's, it sounds like you're a beginner bean eater. You might think they don't look appetising, feel put off by their gassy reputation, and generally steer clear of those weird looking things. As with anything new in life, we'd recommend adding beans incrementally to your diet. This helps your gut adapt to them, and also gets you used to the taste.

### Hesitant Haricot:

If you answered mostly B's, it sounds like you're branching out into the world of beans, but could use a bit of help along the way. We've got you covered! If you're starting out, why not try out some of our bean recipes, to help you enjoy the versatility of beans. You might be surprised at all the different places you can use beans in recipes.

### Savvy Split Pea:

If you answered mostly C's, it sounds like you're a savvy bean eater. You know that pulses are a great way to save money on

your shopping bill, and you love feeling smug knowing how much cheaper a bean chilli is to make. Check out our low-cost recipes that can be made in the slow cooker or on the stove, and are perfect for batch cooking.

### Familiar Fava:

If you answered mostly D's, it sounds like you're going steady in your relationship with beans. You've got a lot of knowledge of beans, even if you don't always cook with them, and you know your way around a tin of chickpeas. Why not try some of international bean recipes, to help spice up your relationship with beans and find new ways to incorporate them into your life.

### Committed Chickpea:

If you answered mostly E's, it sounds like you're in love with beans and well-accustomed to cooking with them. You're friendly with fava, pally with your pintos, and in love with legumes generally. Perhaps you have some things to teach us?!

# FAQ's



## What is the difference between a bean, a pulse and a legume?

You might have heard lots of different terms before, such as bean, pulse, and legume, in reference to things such as chickpeas, lentils, and beans.

**Legume:** Legumes are a family of flowering plants, consisting of over 20,000 varieties. Lentils, beans, and peas, all belong to the legume family. Legumes refers to the plant as a whole – the flower, the stem, and the edible seed.

**Pulse:** A pulse is the edible seed from a legume, and is probably the form you're most familiar with – a pea is a pulse, as is a bean, a lentil, a chickpea.

**Bean:** Beans are a type of legume, as are lentils and peas. A bean is the edible seed from the bean plant that you eat. Baked beans, for example, are haricot beans cooked in tomato sauce.

**Lentil:** Lentils are the dried seed of the lentil plant. The seeds are always dried before serving, and very small – which is why they don't need soaking. They come in lots of different colours – red, brown, and green being the most common.

**Peas:** Peas are a type of legume, as are beans and lentils. The difference is largely just in shape – peas are round whilst beans vary in shape.

**Split peas:** Split peas are just a pea that has been dried, with the outer skin removed. The remaining pea is split in half.



## What are the health benefits of beans?

Eating beans counts as one of your 5-a-day and they are full of vitamins and minerals. They are one of the cheapest and most accessible sources of protein and fibre in the world.

As high-fibre foods, they are also very filling, presenting an inexpensive way to eat nutritionally.

They are gluten-free, making them suitable for Coeliacs, and are suitable for plant-based diets too. As foods high in iron, they complement plant-based diets well.

## What is good about high-fibre and high-iron food?

Iron helps transport oxygen throughout the body, improving circulation. This increases the quality of your breath, which helps you feel more healthy and awake.

Fibre binds toxins and cholesterol in the gut, at the same time increasing stool volume, which helps your body flush toxins and cholesterol from the body.



# FAQ's cont.

## Are pulses good for the environment?

Yes! Pulses are one of the most sustainable crops that a farmer can grow.

This is because they use much less water than other plants. It takes 43 gallons of water to produce one pound of pulses, compared with 368 gallons of water to produce the same amount of peanuts. It takes a whopping 800 – 1800 gallons of water to produce 1lb of meat!

Moreover, pulses actually improve soil quality, by adding nitrogen to the soil. Nitrogen is crucial in sustaining soil health. All this means that pulses have one of the lowest carbon footprints of any food group.



## How do I cook with tinned pulses?

Tinned pulses do not need soaking – you can just add them into your recipe as required.

## How do I prepare dried pulses?

Most pulses, apart from lentils, need soaking before serving. To do this, you just put them in a pan and cover with plenty of water and leave them overnight (or for 6-8 hours).

Once you're ready to cook them, just boil them (you can use the same water) on the hob over medium heat until they are soft, and then turn the heat down and simmer them, and use them in your recipe as specified.

Many people like to add spices and herbs to their dried pulses in the soaking process, as it can be a way to add flavour to your pulses.

Tinned pulses  
do not need  
soaking

# Bean, Broad

Suggested varieties: *Bunyards Exhibition, Express, The Sutton*

## PLANT



**Sow seed 2cm deep in pots or rows. Thin or transplant to 20x30cm apart. Sow every three weeks for a continuous crop. Choose sunny site**

## GROW



**Water plants when the pods are swelling (if dry weather). Remove weeds and stake if needed. Pinch out shoot tips to deter black fly**

## EAT



**Regularly cut pods when 8cm long for using whole. For 'shelling', wait for the seeds to start showing through the pod**

## Growing guide

**Easy!**

## Average time to harvest

*12-16 weeks (spring sown)*

## Equipment needed

*Stakes, twine*

## Germination time

*7-14 days*

## Average plant size

*75cm tall, 30cm wide*

## Family group to grow with

*Legumes: French beans, peas*

## Seed saving group

*2 - Annual, can cross-pollinate*

## Key nutritional content

*Fibre, vitamin C, folate*

Spring Term			Summer Term				Autumn/Winter Term				
J	F	M	A	M	J	J	A	S	O	N	D
	Use cloche	Sow outdoors	Sow outdoors	Sow outdoors					Sow outdoors	Sow outdoors	
					Harvest	Harvest	Harvest				

■ Sow indoors

■ Sow outdoors

■ Plant out/transplant

■ Harvest

🏠 Use cloche

2.5cm = 1 inch 30 cm = 1 foot

# Bean, French

Vegetable

Suggested varieties: *Purple Queen, Speedy (dwarf); Helda, Neckar Queen (climbing)*

## PLANT



**Sow seed 2cm deep in pots or rows. Thin or transplant to 20x30cm apart. Sow every three weeks for a continuous crop. Choose sheltered site**

## GROW



**Water plants when the pods are swelling (if dry weather). Support dwarf plants with twiggy sticks and climbing with wigwams from bamboo canes**

## EAT



**Cut pods when they cleanly snap in half. Pick every 2-3 days. For dried beans, leave pods to go brown and hang the plant upside-down to dry in a shed**

## Growing guide

Easy!

Average time to harvest  
8-12 weeks

Equipment needed  
*Canes, twiggy sticks, twine*

Germination time  
7-14 days

Average plant size  
*60cm tall (dwarf); 2m (climbing)*

Family group to grow with  
*Legumes: broad beans, peas*

Seed saving group  
*I - Annual, self-pollinating*

Key nutritional content  
*Folate, vitamin C*

Spring Term			Summer Term				Autumn/Winter Term				
J	F	M	A	M	J	J	A	S	O	N	D
			■	■	■						
				■	■	■	■	■	■		

■ Sow indoors

■ Sow outdoors

■ Plant out/transplant

■ Harvest

🏠 Use cloche

2.5cm = 1 inch 30 cm = 1 foot

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# Bean, Runner

*Butler, Enorma Elite, Painted Lady*

Vegetable

PLANT



**Sow seed 3cm deep in pots or rows. Thin or transplant to 15cm apart in double rows 30cm apart. Choose deep fertile soil and sheltered site**

GROW



**Water plants when pods are swelling (if dry weather). Mulch to conserve moisture. Make sturdy frameworks to support growth (eg wigwams from bamboo canes)**

EAT



**Cut 15-20cm long pods every 2-3 days (longer pods are tough and stringy). Pick thoroughly as any ripe pods left on the plant will stop production**

## Growing guide

Easy!

## Average time to harvest

10-14 weeks

## Equipment needed

Canes, mulch (eg compost)

## Germination time

7-14 days

## Average plant size

2.5m tall, 30cm wide

## Family group to grow with

Legumes: French beans, peas

## Seed saving group

2 - Annual, can cross-pollinate

## Key nutritional content

Vitamin C, folate

Spring Term			Summer Term					Autumn/Winter Term			
J	F	M	A	M	J	J	A	S	O	N	D
			■	■	■						
					■	■		■	■		

■ Sow indoors

■ Sow outdoors

■ Plant out/transplant

■ Harvest

🏠 Use cloche

2.5cm = 1 inch 30 cm = 1 foot

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