

Table of Delights



LESSON PLAN FOR POTATO FARLS EARLY YEARS THROUGH TO KEY STAGE 3

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Topic

Take your pick! This is the beauty of this recipe it can fit into all areas of the curriculum.

Aims

To work cross curriculum by teaching English, Maths, Science, Art and Design, Design and Technology, Cooking and Nutrition, Geography, History.

Age

Early years, through to key stage 3

Level

Key stage 1, 2 and 3

Time

Remember the preparation time, if you are using school grown potatoes make sure you wash the dirty potatoes in a bucket outside with the outside scrubbing brush. Boil, steam or roast in the skin for around 45 minutes (microwave in about 10 minutes). Once cooled peel ready for the children or if you feel they could peel it with their fingers.

Materials - recipe at bottom of lesson plan

500g floury potatoes, peeled and cut into approx 4cm squared

50g butter

60g plain flour, plus extra for dusting (or, if you like, you can use fine oatmeal here instead)

¼ tsp baking powder - mixed into the flour before adding

Salt and freshly ground black pepper

Extra butter or vegetable, sunflower or groundnut oil, for cooking

Flash cards for potato and flour

1 bowl for demonstration for the teacher

Potato mashers

Plastic bowls for children

Wooden spoons

Oven/s for the teacher to take charge of

Oven glove for the teacher
Rolling pin
Frying pan

Introduction

In this lesson the children will be learning the following skills;

- Weighing and measuring using spoons and cups, measuring liquids (oil), using balance and digital scales. All ingredients
- Using a sharp knife. To cut potatoes
- Adding liquid to flour.
- Rolling a dough
- Scraping out a bowl with a spatula.
- Fry the potatoes in a pan
- Dividing mixture into rounds
- Mixing ingredients together.

Procedure

- See recipe at bottom of lesson plan for method.
- Make sure you clean all the environment before cooking. I recommend you buy a wipeable table cloth for the tables and store it away dry and only use it for cooking.
- Line the children up to wash their hands, put on an apron, tie their hair back and remove nail varnish.
- Weigh the ingredients out in a maths lesson the day before and set aside on trays. Put out the ingredients and equipment the night or morning before the cooking. Or weigh and measure the ingredients out for the children and lay out on the tables before the children arrive along with the equipment.
- The children could wash up if there is a suitable height sink and the water is not too hot. Or the adults clean as part of their clean down at the end of the day.

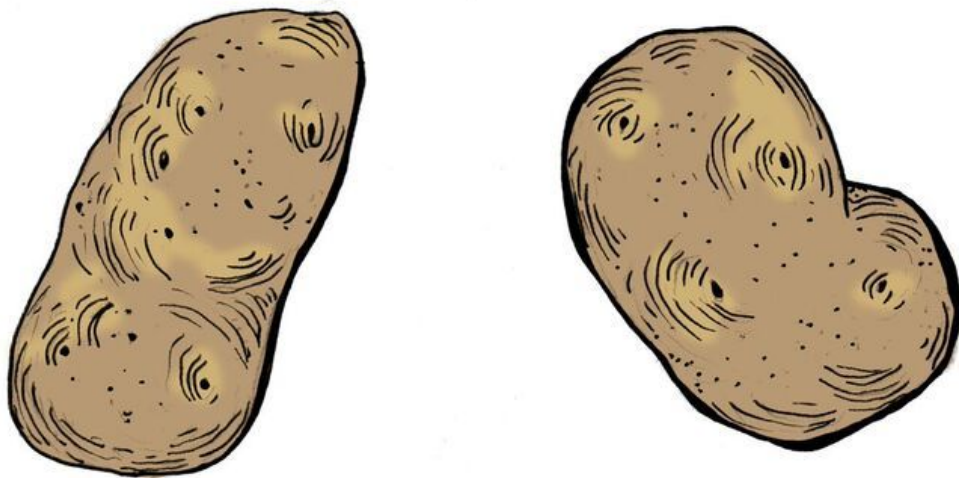
Follow up tasks

- If you have lots of potatoes try and think of another recipe including potato. Maybe something that could be put into a packed lunch. For example potato salad or spanish tortilla.
- Maybe a project on breakfast enriching their knowledge on wheat flour. Make sweet pancakes but use natural sugars like honey and maple syrup. You could discuss the maple syrup trees if you choose to focus on recognising trees. Try different pancakes from around the world

Health and safety

- Using a hot oven. The adult takes responsibility in using the oven.
- Using a hot pan. The adult takes responsibility in using the oven.
- When using a sharp knife teach the children the bridge and claw techniques. For key stage 1 and 2 use a small bladed serrated knife. A small size for their hands and if it is serrated the children can tell which is the sharp side. As some children like to rest their index finger on the top of the knife to steady this. If they do this and the teeth are facing upwards they could cut themselves. Teach them it's like a saw or a crocodile's teeth.

- When cutting something in half make a bridge shape with the other hand the knife is not in. Teach the children to put the knife through the bridge to keep the blade away from their fingers and use a sawing movement to cut through. If continually cutting find the flat side as it will prevent the food rolling around. If cutting food into pieces use a claw technique, shape the hand that does not have the knife into an animal's claw and rest on the food. The fingers and thumb are tucked underneath so they cannot be cut and keep moving their hand back when the knife gets close to the hand. Before using the knife they can practice with their index fingers.



Healthy eating messages

- I recommend you make or buy some flash cards of fruit and vegetables and how they grow.
- Potatoes are low in fat, provide lots of vitamins and minerals and are a great source of fibre, especially if eaten with the skin, and are a good source of fibre. Potatoes are known as starchy food. Starchy foods are those that mainly provide carbohydrate and should make up a third of our diet. Along with other starchy foods, potatoes play an important role in a healthy balanced diet.
- Carbohydrate - Your main source of energy, needed for growth and activity. Protein Helps the body grow and repair itself. B Vitamins Needed to help the body to get energy from carbohydrate. They also help the nervous system, heart and skin. Vitamin C Important to keep skin healthy and to heal any cuts or grazes. Iron Helps blood carry oxygen around the body. Fibre Helps the body get rid of waste.
- Did you know...? ***One medium-sized jacket potato with skin provides more Vitamin C than two apples or an average serving of peas. It has even more fibre than 3 slices of whole meal bread***
- Using oil, such as olive oil, as the fat rather than butter. This is reducing the saturated fat in the recipe.

- Increase the amount of fruit and vegetables. Working towards the 5 a day. An example of how vegetables can be used in baking. Parsnips, courgettes and butternut squash can be use too once cooked.
- Nutrition benefit of potato. Great for liver function and cancer suppressing. High in fibre and improve bowel function. Prevents constipation and lowers cholesterol and can help in the prevention of heart disease and strokes.
- Toppings that are healthy

Skills

- Weighing and measuring. The ingredients could be weighed and measured the day before as part of a numeracy lesson. The children don't have to weigh and measure every time you cook, ingredients can be already weighed and measured and placed on a tray ready for the children to cook.
- Mixing. Teach the children to hold the side of the bowl with one hand and stir with the other, slowly, as some children mix very quickly and lose their mixture.
- Mashing. Teach children to mash the potatoes without stirring.
- Frying. Teach children how to use a frying pan and how to safely turn items being cooked..
- Cutting. Teach the children the bridge and claw techniques.

Progression of skills/how the recipe could change for key stage 2 and 3.

- Key stage 3 children can take charge of the oven and frying pan under supervision.

Ingredients and cultural diversity

- Potatoes don't originate in the UK, but have become very important food crop. Less people are eating potato. Why.
- Classification of potato. Why is it a prominent ingredient in Northern Europe? This is a good chance to talk about how the weather of a country affects what they grow. Potato can grow in cold climates, it can be stored for months. Some countries like to fry potato as crisps which keeps it for longer, a method of preservation. Potato needs to be stored in the dark. Potatoes will sprout if left too long. Why is that? Why not buy a range of products which has potato in it.
- Wheat. Is classified as a cereal. Where does it grow? And why? The health benefits of wheat. There are also lots of alternative flours that are available especially if there is a wheat allergy within your class or school. They do react quiet differently so make sure you test the recipe first before cooking with the class. Some absorb more liquid than others for example. Try experimenting with potato flour. Where do they use potato flour in the world?
- What is baking powder? Why is it used, for what purpose? It is a leavening agent. It reacts with acidic components in batters. It releases a gas called carbon dioxide which makes the doughs rise.

Provenance and sustainability

- If you have growing facilities in school sow your seeds in March, April and May to harvest June, July, August, September and October. NOTE; remember to sow early on in the year and harvest early as there is often no one to harvest over the summer holiday. If you sow early you can harvest early before the summer holidays. Please note that new potato varieties will mature much earlier, while maincrop with mature later.
- Planting and harvesting will introduce the children to seasonality.

- It is grown in Great Britain.
- The leaves cannot be eaten. Why is that? What is a tuber?
- Describe what environment is needed for a plant to grow.

Potato Varieties

There are over 80 different varieties grown commercially in the UK and thousands of varieties are grown all around the world.

When choosing which potato variety to buy, you need to know what type it is. Fluffy, salad or smooth. Different types are better for different ways of cooking. There are three types:

Fluffy potatoes

These go crumbly round the edges. They are best for roasting, baking as jacket potatoes, or for chips.

Salad potatoes

These stay firm and keep their shape. They are best for potato salad, steaming or roasting whole.

Smooth potatoes

These go soft and are best for mash, boiling or making wedges.

Potato variety chart link;

<http://www.growyourownpotatoes.org.uk/media/dynamic-content/documents/New%20AHDB%20worksheets%202015/2.Knowing/F%205%20Types%20of%20potato.pdf>

Question the children:

Which forms of potato have you tried? (e.g. wedges, jacket, boiled, mashed)

How do they taste?

What was the texture?

What are the differences in taste between them?

Get your class to conduct a survey to find out which types of potato dishes, and what types of potato are most popular in the class.



Growing Potatoes at School

Potatoes for Christmas

Here's a project to grow potatoes that can be ready for Christmas. Now that's an exciting project for Christmas!

Potatoes planted in summer are called second-crop potatoes. Seed potatoes for second cropping are sold by garden suppliers and potato merchants anytime from mid to late summer. The seeds are exactly the same as those sold for spring planting, only these ones have been held back in a cold store to stop them developing any further; they're literally in suspended animation. These are what you need. If you're thinking you could replant some of your summer-harvested potatoes, I'm afraid this won't work. Potatoes need a period of dormancy before they can sprout into a new plant.

1. So you can buy some seed potatoes or save some from when you plant your potatoes in the spring. Good seed potatoes to save are first early varieties. save some in a paper bag and either keep in a cool place or in the fridge.
2. Plant out at the end of July to early August. This means you don't need to 'chit' them as they will benefit from the soil being warm.
3. If you plant them on your return back to school in early September I suggest you 'chit' them for approx 4 weeks (placing in an egg box and kept in a cool light place). This will mean you have to plan this. Don't forget!
4. Plant out into hessian or woven plastic bags or containers.
5. The weather as we know can be cold and wet from September. I suggest placing the containers/bags in your greenhouse or polytunnel and cover with horticultural fleece when it gets cold. As we know they don't like the cold. Bubble wrap or cardboard placed around the containers will help.
6. Harvest is when the leaves start to turn yellow and die back. Cut off the leaves and then harvest when you like! Happy Christmas!

Potatoes - planting in the spring after the last frost.

In general the majority of potatoes are grown after the last frost which can be April/ early May. Potatoes are susceptible to damage from frost (Climate in the Peruvian Andes varies considerably and potatoes can be grown in the mountains there).

You can grow several different types of potato in the UK. To help schools I would go with an early, salad or second early variety. This will ensure you can harvest before you finish school for the summer holidays.

You will need:

- 'Chitted' potatoes
- Spade
- Rake
- Plant label
- Gardening gloves
- Watering can

What to do:

The 'chitted' potatoes are ready for planting when the sprouts are about 2cm long and they can be planted outside towards the end of March. To chit your potatoes place the tubers in an egg tray or something similar. Sprout or 'chit' the seed potatoes by arranging them, with 'eyes' uppermost, in egg boxes or seed trays in light in a cool but frost-free room. Don't forget to label each variety! They are ready for planting when the sprouts have reached 2cm in length, which will take approximately 4–6 weeks.

1. Plant either in a drill or in individual holes in the soil, 7–15cm deep, with the sprouts pointing upwards and cover with at least 2.5cm of soil.
2. Space early potatoes as close as 30–38cm between the tubers, and 38–50cm between the rows. However, a wider row spacing of 50–60cm makes 'earthing up' much easier and is recommended if you have the space.
3. They can also be grown easily in pots, tubs and dustbins if there are drainage holes.
4. Maintenance:
5. When there are about 20–30cm of growth above the soil, you will need to 'earth up'. This is when the soil is drawn up around the stems to prevent tubers being pushed to the surface and turning green in the light, making them inedible. The soil should be drawn up to leave 10cm of leaves exposed to the light and this should be done on a regular basis. Remember to water well in dry times. They love water and of recent we have experienced dry times. If you don't water well then you will notice a reduction in the amount you will harvest. You could do an experiment? • First Early varieties – plant from end of February until end of May, harvest in approx. 10 weeks. Second Early varieties – plant from March until late May, harvest in approx. 13 weeks.



Links to the national curriculum

English-

Listen and respond appropriately to adults and their peers.

While the teacher demonstrates the children will be listening, responding and asking questions.

Ask relevant questions to extend their understanding and knowledge.

The children will be encouraged to ask questions on why certain things are done or added, for example what is the role of the baking powder.

Use relevant strategies to build their vocabulary.

The children will be building their vocabulary by the teacher introducing new words including ingredients, methods of cooking etc.

Articulate and justify answers, arguments and opinions.

The children will be encouraged to share their opinions on ingredients and methods, likes, dislikes and why?

Give well-structured descriptions, explanations and narratives for different purposes, including for expressing feelings.

It is a good idea to have a word bank on the wall of the classroom to increase and encourage feelings, descriptions, explanations etc.

Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments.

All children will stay on topic as they will be too busy to engage in other activities. As all ingredients and equipment will be set out for them.

Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas.

What will happen to the cake in the oven? What is the role of the baking powder? What will the cake look like when cooked, or taste like?

Speak audibly and fluently with an increasing command of Standard English.

While demonstrated the teacher will be asking questions throughout, increasing their Standard English.

Participate in discussions, presentations, performances, role play, improvisations and debates.

You could get the children to present their fairs and toppings, and have a debate/discussion on how they could change it next time. What they like and disliked about the process and the end result.

Gain, maintain and monitor the interest of the listeners.

The children will be watching and listening very closely as they will understand that they will have to do it in my memory afterwards.

Consider and evaluate different viewpoints, attending to and building on the contributions of others.

Evaluate how many children liked the cooking and decorating process and how they would change it/build on the skills and knowledge in the future.

Mathematics-

- Count to and across 100, forwards and backwards, beginning with 0 or 1, or from a given number.
- Count, read and write numbers to 100 in numerals, count multiples of twos, fives and tens.

- Given a number, identify one more or less.
- Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least
- Read and write numbers from 1 to 20 in numerals and words.
- Add and subtract one-digit and two-digit numbers to 20, including zero.
- Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems.
- Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

All the above will and can be taught through weighing and measuring all the ingredients.

- Fractions-recognise, find and name half as one of two equal parts of an object, shape or quantity.
- Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.

This can be taught using the potato. The children can cut the potato from a whole into $\frac{1}{2}$'s, $\frac{1}{4}$'s before grating or blending.

- Pupils should be taught, Lengths and heights, mass and weight, capacity and volume, time.

This can be demonstrated with the liquid, oil.

- Sequences events in chronological order using language for example before and after, next, first etc.

You have to add wet to dry ingredients. The order of the ingredients to be used.

- Recognise and use language relating to dates, including days of the week, weeks, months and years.

You can use the eggs for this, see above for "the story" idea. Look at the date, how long do we have left to use it?

- Recognise and name 2D and 3D shapes

What are potatoes?

- Choose and use appropriate standard units to estimate and measure length/height in any direction, mass, temperature, capacity to the nearest appropriate unit, using rulers, scales, thermometer and measuring vessels.

What shall we use to weigh and measure? Measuring jugs, scales, spoons, what is the temperature of the oven, how much mixture can we fit in the tin?

- Read and write numbers up to 100 in numerals and in words.

You can ask the children to read the amounts of the ingredients placing in the cake.

- Know the number of seconds in a minute.
- Compare durations of events (for example to calculate the time taken to particular event or task)

The two above will be taught through telling the children how long the cake takes to bake, look at the clock and let the children know what time they will come out of the oven. They could estimate how long it will take.

Science-

- Asking simple questions and recognising that they can be answered in different ways.
- Observing closely, using simple equipment.

Using mixing bowls, wooden spoons what are their roles in making farls. Watching what happens to the mix when it is all added together, change in texture, colour etc.

- Performing simple tests.

Check the potatoes are not green. Checking the oven is on at the correct temperature

- Identifying and classifying.

What is liquid and what is solid and how you can change the structure, for example adding flour to mash

- Using their observations and ideas to suggest answers to questions.

What will happen to the potato in the oven?

- Plants, identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.

Where does flour come from, (wheat), where does it grow and why? Where is potato grown and why?

- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.

Take this opportunity to talk to the children the where butter comes from.

- Identify and name a variety of common animals that re carnivores, herbivores and omnivores.

What does a cow look like? What animals have a similar diet and produce cheese, Goats and sheep

- Describe and compare the structure of a variety of common animals.

A cow is a living animal, it has a heart, lungs legs etc. Where is the milk produced on a cow and why? Be careful when discussing this subject teach to their age,.

- Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock.

You could talk about the baking tray, what it's made of? Why the tin has to be solid, why?

- Observe changes across the four seasons.

If growing fruit and vegetables in school the children will have a far better understanding of the seasons and how it affects the growing and harvesting of fruit and vegetables. This is where you can talk about the potato, see notes above.

- Observe and describe weather associated with the seasons and how day length varies.

Talk to children about what is grown in autumn and spring and the effect the weather has on the seasons and what grows at that time.

- Explore and compare the differences between things that are living, dead, and things that have never been alive.

You can talk through the ingredients naming what was or came from a live animal. For example butter came from a cow and bicarbonate of soda is a man made product.

- Identify that most living things live in habitat to which they are suited and describe how different habits provide for the basic needs of different kinds of animals and plants, and how they depend on each other.

You can take the example of a cow habitat in terms of what is a grazing dairy cow and what is a zero grazing cow. How their habitats are different, and the effects this has on the butter.

Which is better for the cow. Which is better for the environment

- Identify and name a variety of plants and animals in their habitats, including micro-habitats

What else grows in the ground other than potato? Carrots, parsnips, beetroot etc.

What grazes in the fields? Cows, sheep, pigs etc.

- Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

Humans eat cows and cows eat grass.

- Observe and describe how seeds and bulbs grow into mature plants.

It would be great to grow some potato, check growing guidance

- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

If you're growing potato the children will fully understand that water is needed from the rain, light from the sun, and the warm of the spring, summer months.

- Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)

See above.

- Describe the importance for humans of exercise, the right amounts of different types of food and hygiene.

This could be included in while talking about the zero graze and free range and how movement affects the food.

- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and strengthening.

This will be highlighted when the potato is being baked or mashed Also how the flour strengthen the dough.

Art and design-

- To use a range of material creatively to design and make products.

This will happen in every practical cooking lesson.

- To use drawing, painting and sculpture to develop and share their ideas, experiences and imagination.

Before cooking you could paint, draw or sculpture what they will be cooking. Discussion why they chose to make what they did.

- To develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form and space.

This will happen in every practical cooking lesson.

- About the work of a range of artist, craft makers and designers, describing the differences and similarities between different practices and disciplines, and making links to their own work.

Don't forget cooking is a culinary art form, the children could look at some cooking books for inspiration, ideas, some of the greats, idols of the cooking world.

Design and Technology-

- Design purposeful, functional, appealing products for themselves and other users based on design criteria.

This will happen in every practical cooking lesson.

- Generate, develop, model and communicate their ideas through talking, drawing, templates, mock ups and where appropriate, information and communication technology.

This will happen in every practical cooking lesson.

- Select from and use a range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing)

This will happen in every practical cooking lesson.

- Select from a wide range of material and components, including construction materials, textiles and ingredients, according to their characteristics.

This will happen in every practical cooking lesson.

- Explore and evaluate a range of existing products.

If there is a similar product on the market you could buy it and compare it to what the children have made. Nutritional and cost wise.

- Evaluate their ideas and products against design criteria.

This will happen after every practical cooking lesson.

- Build structures, exploring how they can be made stronger, stiffer and more stable.

*What makes the farl and gives it its structure? What keeps it together? What makes it hold?
See notes above.*

Cooking and nutrition-

- Use the basic principles of a healthy and varied diet to prepare dishes.

See notes above

- Understand where food comes from.

See notes above.

- Understand and apply the principles of a healthy diet and varied diet.

See notes above.

- Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.

Even though this is a bread it contains a vegetable.

- Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

See notes above.

Geography-

- Name and locate the world's seven continents and 5 oceans.

When talking about the potato, you will be talking about South America.

- Understand geographical similarities and differences through studying the human and physical geography of a small area of the United Kingdom, and of a small area in a contrasting non-European country.

You could also talk about what things grow in the same countries and why?

- Identify seasonal and daily weather patterns in the UK and the location of hot and cold areas of the world in relation to the Equator and the north and south poles

See notes above.

- Use physical features, including beach, cliff, forest, hill, mountain, sea, ocean, river, soil, valley, vegetation, season and weather.

Potato grows in soil, wheat is grown on flat land.

- Key human features including city, town, village, factory, farm, house, office, port, harbour and shop.

Try and visit a farm with the children so they can see, smell and hear the difference.

- Physical including climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle.

See notes above.

- Human including types of settlements and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water.

A good opportunity to talk about the production of food and how that affects the price, air miles, fair trade, sustainability.

History

- Age of Exploration, European discovery of new foods.

Potato was introduced by European explorers after being shown it by peoples in the Americas



The Recipe

Baked Potatoes - base recipe

Ingredients;

4 medium baking potatoes (fluffy)

Method;

Get an adult to heat the oven to 200C/180C fan/gas 6 and bake the potatoes for about 1 hr until cooked and the skins are crispy.

Potato Farfs

Makes 8

Ingredients;

600g cooked baked potatoes, cooked flesh scooped out (skins reserved to make skins)

50g butter

60g plain flour, plus extra for dusting (or, if you like, you can use fine oatmeal here instead)

¼ tsp baking powder - mixed into the flour before adding

Salt and freshly ground black pepper

Extra butter or vegetable, sunflower or groundnut oil, for cooking

nb; if using cold leftover mashed potato here - warm through about 500gr cooked weight mashed potato, add the butter and then fold in the 60g flour mixed and ¼ tsp baking powder.

Method;

1. Mash the potatoes with the butter and salt and pepper until smooth and combined.
2. Add the flour and baking powder and work this into the potato quickly with a light kneading action. Divide the dough in two and roll out each half on a lightly floured board to form a circle about the size of a dinner plate. Cut into quarters (farfs).
3. In a non stick frying pan over a moderate heat, add the cooking fat and when hot, add the farfs, frying for about 3 minutes on each side until nicely coloured and hot through.
4. Repeat with the other half of the dough.

Toppings;

- Butter and a little salt

- Butter and jam or honey
- Grilled, roasted or fried vegetables - mushrooms, pumpkin, peas
- Poached or fried egg
- Grated cheese - and placed under a hot grill for a minute or 2 to melt

Potato Notes;

In the UK 5.6 million tonnes were grown by farmers in 2016, now that's a lot of potatoes but would you believe it but the amount of potatoes has dropped since 1960. Farmers are getting better at growing them and Scotland produces nearly half of our potatoes. Did you know that the potato variety Hermes is the most grown potato for making crisps in the UK. In the UK we enjoy the delights the potato gives us in the early summer then we can buy Cornish new potatoes which is a signpost that new potatoes can be bought, although potato storage is done very carefully to preserve potatoes so that they are available fresh all year round.

History

The growing of potatoes goes back over 10 thousand years starting in Peru in South America. It's the fourth largest food crop in the world.

In 1536 Spanish Conquistadors conquered Peru, discovering the potato, and carried them to Europe on their boats. Before the end of the sixteenth century, families of Spanish sailors began to grow potatoes along the coast of northern Spain. Remember that the Spanish like to fry too as they have olives! Sir Walter Raleigh introduced potatoes to Ireland in 1589 on the 40,000 acres of land near Cork. It took nearly four decades for the potato to spread to the rest of Europe.

In the 1840s a major outbreak of potato blight, a plant disease which can destroy the crop swept through Europe, wiping out the potato crop in many countries. In Ireland the Irish working class lived largely on potatoes as they were a cheap food that fed families well. When the blight reached Ireland, their main food disappeared. This famine left many poverty-stricken families with no choice but to struggle to survive or emigrate out of Ireland. Over the course of the famine, almost one million people died from starvation or disease. Another one million people left Ireland, mostly for Canada and the United States.

Two more potato things to try!

Making light from a potato!

Did you know you can light a lightbulb from a potato? or power a digital clock? Well here's how:

Materials List

To make a potato battery, each group needs:

- 3 potatoes (fresh)
- 3 Alligator clips
- 3 one pence coins (or copper strips), one per potato
- 3 zinc nails; these are galvanised nails
- 4 insulated wires, 15-20 cm long
- 1 low-current, light emitting diode (LED) clock (or LCD clock) requiring ~1.5 volts (or a small LED)
- For the entire class to share or one per team:

- optional) multimeter(s) or voltmeter(s); a multimeter measures current, voltage and resistance of a circuit.

What to do:

1. Place into the potato a one pence piece at one end of the potato and a galvanised nail at the other end
2. Repeat this three times
3. Attach the alligator clips to the one pence coins
4. Take off approximately 20mm of the insulating wire from each end of each length of wire. Do this to each of the four wires
5. Connect the wire to the three alligator clips
6. Connect two of the wires that come from the alligator clips that are clipped to the one pence coins to the nails. You should have at the end of the potatoes two spare wires coming from a nail at one end and a one pence piece at the other. They should be in a line of three all connected via the wires.
7. If correct we can now attach a LED bulb. If successfully connected we should see the LED bulb lighting up. If you have a LCD clock then wire this in.
8. Draw a diagram of what you've created and write a summary. If available try other fruits and vegetables and note what works.

Why does this happen?

By sticking a penny and a nail into either side of a potato they become the positive and negative terminals of a potato battery. This means a current can pass between them. This process converts chemical energy into electrical energy. It has been found that a boiled potato can provide ten times more power than a raw one. A raw potato can produce 0.5 volts of electricity where as a field one can provide 5 volts! 5 volts will power several things.

Potato printing

An easy project for children to make some shapes that can be printed from potatoes. Mums and Dads will need to help as knives will be needed. Great fun.

1. Take some potatoes. Size doesn't matter as the bigger potatoes will enable you to make bigger patterns
2. Cut the potato in half
3. Cut patterns into the potato Get help from an adult
4. Dip into poster paint
5. Place on your piece of paper and press down
6. Have several potatoes using different colours

