Key Question: Why does it matter where my food comes from?

Learning objectives

During the enquiry pupils will have opportunities through the application and analysis of a wide range of geographical skills and resources to:

- **Recognise** that all the food we eat comes from either plants or animals and that a farm is an area of land and buildings where those plants and animals are produced;
- **Identify, describe** and offer **reasons** for the main features of a dairy farm and **observe** how milk is used as a raw material in a wide range of dairy products;
- **Identify** and **describe** the main geographical features of the physical landscape of Devon and **compare and contrast** these with some of the human features of its towns and cities;
- Offer **reasons** and begin to **explain** why the weather in Devon makes it a good place for dairy farming;
- **Compare and contrast** the average annual weather conditions in Devon with those of the United Kingdom as a whole;
- **Describe** how cheese is manufactured on one Devon farm and how it is exported;
- **Identify** the top 10 most popular fruits in the United Kingdom and **understand** why half of these are imported;

Purpose of the enquiry

Nearly three-quarters of the land area of the United Kingdom is classified as farmland and this enquiry aims to provide an introduction to farming and farms for younger geographers. This is built upon and extended in enquiries at Key Stage 2. The central paradigm of geography is the investigation of how people interact and are interdependent with the environments that surround them (be they rural or urban). Investigating farming is an important way of illustrating this with younger pupils.

This investigation enables pupils to explore a number of key geographical concepts such as location and distribution as well as establishing a clear grasp, in simple terms, of fundamental geographical processes including economic activity and trade. The enquiry therefore is not just about pupils knowing 'where' their food comes from but also – and equally importantly – it's about enabling pupils to understand 'why' it's important to know. To this end pupils have opportunities to begin to understand and reflect upon, in basic terms, why locally sourced food and free-range production regimes are considered environmentally friendly and sustainable.

Context

With younger geographers it is important to begin with the known and familiar and then, with confidence established, begin to explore the unknown and less familiar. At the beginning of the enquiry pupils investigate just one farm with the aim of establishing the key fact that everything they eat comes either from a plant or animal – in this case animals in the context of a dairy farm producing milk. This milk is either consumed fresh or used as a raw material in the production of a wide range of dairy products.

Pupils then look more closely at the county of Devon in South West England and enquire as to why there are so many dairy farms to be found here compared with the rest of the United Kingdom. The investigation then introduces pupils to fruits that we are unable to grow in the United Kingdom for climatic reasons.

A global perspective to the investigation through the study of banana growing, harvesting, packing and export in Costa Rica is then explored, which develops key understanding of trade and economic activity. Throughout the enquiry there are opportunities to enrich the pupils' experience and consolidate their understanding by undertaking local fieldwork investigations, perhaps at a local farm or greengrocers, bakery or supermarket as well as working at home on relevant tasks linked to commonly-eaten meals.

National Curriculum coverage Geography

Locational knowledge

- Name and locate the world's seven continents and five oceans.
- Name, locate and identify characteristics of the four countries and capital cities of the United Kingdom and its surrounding seas.

Human and physical geography

- Identify daily and seasonal weather patterns in the United Kingdom and the location of hot and cold areas of the world in relation to the Equator and the north and south poles.
- Use basic geographical vocabulary to refer to key physical and human features.

Geographical skills and fieldwork

- Use world maps, atlases and globes to identify the United Kingdom and its countries as well as the countries, continents and oceans studied at this key stage.
- Use aerial photographs and plan perspectives to recognise landmarks and basic human and physical features.
- Use simple observational skills to study key human and physical features of environments.
- Use simple fieldwork and observational skills to study the geography of their school and its grounds and the key human and physical features of its surrounding environment.

Key Question: Why does it matter where my food comes from?

- **Identify** and **describe** the main stages in the harvesting, packaging and export of bananas from Costa Rica to the United Kingdom;
- **Explain** why Costa Rica is a good location for farmers to grow bananas and how exported bananas reach the United Kingdom;
- **Identify** and **describe** how sugar is refined from sugar beet on British farms;
- **Understand** why being careful about how much added sugar we eat each day is important for maintaining a healthy lifestyle;
- **Identify** and **categorise** fruit and vegetables sold at a high street greengrocer, their cost and whether they are locally produced, UK grown or imported;
- **Describe** and **explain** some of the benefits of greengrocers and supermarkets buying fruit and vegetables from local farmers;
- **Identify** the animals from which common meats sold at butcher shops and supermarkets derive and **explain** what 'free-range' means and why this is beneficial;
- **Identify** ingredients of the top 10 dishes cooked at home by people in Britain and **explain** whether these are home produced or imported.

Connections to the subject content of other curriculum areas

English

Teachers should develop pupils' spoken language, reading, writing and vocabulary as integral aspects of the teaching of every subject. English is both a subject in its own right and the medium for teaching; for pupils, understanding the language provides access to the whole curriculum. Fluency in the English language is an essential foundation for success in all subjects.

Spoken language

Pupils should be taught to speak clearly and convey ideas confidently using Standard English. They should learn to justify ideas with reasons; ask questions to check understanding; develop vocabulary and build knowledge; negotiate; evaluate and build on the ideas of others; and select the appropriate register for effective communication. They should be taught to give well-structured descriptions and explanations and develop their understanding through speculating, hypothesising and exploring ideas. This will enable them to clarify their thinking as well as organise their ideas for writing.

Reading and writing

Teachers should develop pupils' reading and writing in all subjects to support their acquisition of knowledge. Pupils should be taught to read fluently, understand extended prose (both fiction and non-fiction) and be encouraged to read for pleasure. Schools should do everything to promote wider reading. They should provide library facilities and set ambitious expectations for reading at home.

Pupils should develop the stamina and skills to write at length, with accurate spelling and punctuation. They should be taught the correct use of grammar. They should build on what they have been taught to expand the range of their writing and the variety of the grammar they use. The writing they do should include narratives, explanations, descriptions, comparisons, summaries and evaluations: such writing supports them in rehearsing, understanding and consolidating what they have heard or read.

Numeracy and Mathematics

Teachers should use every relevant subject to develop pupils' mathematical fluency. Confidence in numeracy and other mathematical skills is a precondition of success across the national curriculum.

Teachers should develop pupils' numeracy and mathematical reasoning in all subjects so that they understand and appreciate the importance of mathematics. Pupils should be taught to apply arithmetic fluently to problems, understand and use measures, make estimates and sense check their work.

Pupils should apply their geometric and algebraic understanding, and relate their understanding of probability to the notions of risk and uncertainty. They should also understand the cycle of collecting, presenting and analysing data. They should be taught to apply their mathematics to both routine and non-routine problems, including breaking down more complex problems into a series of simpler steps.

Science

Plants

Pupils should be taught to:

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

Animals including humans

Pupils should be taught to:

- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.
- Identify and name a variety of common animals that are carnivores, herbivores and omnivores.

Key Question: Why does it matter where my food comes from?

Key Subject Vocabulary

Farm; Dairy products; Supermarket; Shop; Pasture; Grass; Jersey; Channel Islands; Economic activity; Business; Raw material; County; Devon; South West England; United Kingdom; Landscape; Wood; Hedgerow; Tree; Field; Lake; Weather; Average; Temperature; Growing season; Rainfall; Sunshine; Settlement; Town; City; Village; Industry; Airport; Motorway; Office; Factory; Railway; Cathedral; Aeroplane; Trade; Plantation; Harvest; Export; Costa Rica; South America; North America; Central America; Harvest; Container ship; Import; Tropical; Calories; Vegetable; Processing; Health; Butcher; Greengrocer; Locally produced; Free-range; Refining; Vitamins; Nutrition.

- Notice that animals, including humans, have offspring that grow into adults.
- Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).
- Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

Seasonal change

Pupils should be taught to:

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

Living things and their habitats

Pupils should be taught to:

- Explore and compare the differences between things that are living, dead, and things that have never been alive.
- Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.
- Identify and name a variety of plants and animals in their habitats.
- 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.

Design and Technology

Cooking and nutrition

Pupils should be taught to:

- Use the basic principles of a healthy and varied diet to prepare dishes.
- Understand where food comes from.

NOTES

Ancillary Question 1: Where do dairy products come from?

Without giving the pupils any idea about what they are going to investigate, lay out a wide range of dairy food products on a display table – fresh milk, cheese, butter, yoghurt, ice cream, chocolate or other flavoured milk, cream cheese, custard etc. Ask the pupils to examine each product and ask them what each is and whether any of them have eaten one or more recently? Next ask the pupils to speculate as to what each of the food products on the table have in common? What does each contain as a very important ingredient – milk.

So where does milk come from then? Some of the pupils may very well say 'from a shop' and that's fine as a starting point. Yes, many people will buy milk and dairy products from a shop such as a supermarket (**Resource 1**) but from where does the shop get the milk – from farms and farmers. So what is a farm then? What happens there? A farm is an area of land and its buildings which are used for growing crops and raising animals. Explain that a dairy farm is a farm that keeps herds of cows in order to produce milk that is either then sold fresh or used as an ingredient in dairy products such as those on the table.

Next show the children the short film at www.youtube.com/watch?v=9J8Kjn0s1FM which shows a herd of Jersey cows, on Darren and Julia Quenault's farm on the island of Jersey in the Channel Islands, being brought in for milking. There is no commentary to the film so encourage the pupils to describe what is going on – the cows are being milked. How? What is the milk being collected in? When the milk has been collected by Darren and Julia they will sell it (economic activity). A tanker comes and collects it and takes it away (**Resource 2**). Some of the milk will then be put into cartons and sold fresh and the remainder used as a raw material for many dairy products such as those shown on the table. It is important here that the pupils begin to understand that farmers such as Darren and Julia run a business or economic activity in order to make a profit and earn a living – they don't just keep the animals because they are kind and generous people (which they are of course).

Show the pupils the film at www.youtube.com/watch?v=mmOf3u3cuMc. Molly is a 13 year old Friesian cow and during her lifetime she has produced an average of 9000 litres of milk a year. What does she need to make the very best milk – rich pasture grass along with shelter, security and care to ensure she remains fit, healthy and content.

NOTES

Ancillary Question 2: Why are there so many dairy farms in Devon?

The county of Devon is in South West England. Spend time with the pupils using the map in **Resource 3** in combination with the vector map in **Resource 4** to discuss the location of Devon in South West England. In Devon you can find lots of dairy farms. Divide the pupils into pairs and give each pair a set of the photographs of Devon in **Resource 5.** Encourage the pupils to identify and describe the natural features of the environment they observe – fields of grass (pasture), hedgerows, trees, groups of trees (woods), rolling hills etc.

Next, provide the pupils with an A4 copy of **Resource 6** and get them to stick it into the middle of an A3 piece of plain paper. Having done this support the pupils to annotate the photograph (labels around the outside of the photograph directed with arrows to the correct point on the photograph) for each of the following features:

- *Pasture*
- *Field*
- *Friesian cows*
- *Tree*
- *Hedgerow*
- *Hill*

A rather more challenging activity is for the pupils to do the same annotated labelling exercise using a copy of the photograph in **Resource 7** and this time labelling:

- *Farm*
- *Wood*
- *Hedgerow*
- *Fields of pasture*
- *Hill*
- *Lake*

Explain to the pupils that Devon is one of the very best places for dairy farming because of its weather. Take time here to discuss with the pupils the type of weather that would be really good for dairy farmers (given that the main food for cows is grass pasture) and the longer they can be kept outdoors eating grass, the better. Encourage speculation and summarise points that are made, on the board. Ask questions that develop and extend thinking e.g. would a lot of rain be a good or bad thing for grass and what would happen if it was very cold with a lot of snow in winter? Focus the thinking of pupils during the discussion to consider what grass needs to grow – rain and temperatures that are not too cold for most of the year perhaps?

Move the pupils on now to consider the following data about the weather in Devon:

	Average for Devon	Average for the UK
Rainfall each year in mm	1018	885
Temperature each year in °C	10.5	9.7
Number of hours of sunshine each year	1643	1493
Number of months in the year when it is warm enough for grass to grow (above 6 °C)	10	8
Average number of days when it rains during the year (more than 1 mm)	191	133

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If desired the class could be divided up at this point into groups of five pupils, with each pupil drawing a bar graph to represent the difference between Devon and the UK for one of the five data sets above. These could then be used for a group display: *Comparing the weather in Devon with the rest of the United Kingdom.* Each group will then also need to answer the original question as to why Devon is such a good place for dairy farming. Looking at the information what do they notice? Encourage them to think back to earlier discussions about what was important for grass to grow? How does the temperature during the year in Devon compare with the UK average? Similarly, how does the rainfall compare? Devon is well suited to dairy farming because it is generally warmer and wetter throughout the year than most places in the UK – perfect conditions for the growth of rich grass pasture. It's also good from the perspective that the cows can stay outdoors in the fields longer than anywhere else in the country. This point is well made in the short film about lamb farming in Devon at www.youtube.com/watch?v=OWORTGSTM-k

Before moving on with the enquiries take the opportunity to share the additional imagery of Devon in **Resource 8** with the pupils. Whilst much of the county is rural and farming based with many small villages there are also significant towns, cities and industrial areas. Encourage discussion and support the pupils to identify and describe the **human** features and characteristics they can observe. All the features we can see that are part of the natural environment, geographers refer to as **physical** features, whilst all features that have been created by people are classified as **human** features.

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Ancillary Question 3: How does Quicke's Dairy Farm in Devon make cheese?

Remind the pupils that milk from cows is either sold fresh in cartons or used as a raw material to make many other dairy products. One of the most important of these dairy products is cheese. Show the children the sections of film from 00.42–2.08 and 2.44–5.12 of the East Devon *Food for Thought* Project at www.youtube.com/watch?v=CpwWNjj91bM

Ask the pupils to listen out for:

- How many years is it before calves produce milk?
- How much milk on average does an adult milking cow produce per day?
- What happens to the cheese that this company makes from the milk? Which country in particular is it sent to? How does it get there?

Take time to discuss with the pupils important things such as the fact that the cheese is sold in order to make a profit because Quicke's Farm is a business – they don't give it away for free! The pupils will pick up that Australia is one of the countries that the cheese is sold and sent to. Using a world wall map, approximately how far will this journey be in kilometres? Can the pupils plot a route for the ship to follow from the UK to Australia? Where would it stop to refuel and take on fresh supplies? There is a practical opportunity here to do some basic cooking with the pupils using simple recipes containing cheese and a number of suggestions can be found at www.easy-kids-recipes.com/cheese-recipes.html including:

Easy Cheese Puffs

1 package puff pastry dough
1 small can of tomato paste
1 block cheddar cheese, grated

Preheat oven to 180 °C (350 °F). Use a rolling pin to roll the dough out. Next spread tomato paste all over. Then cover with aluminium foil. Roll the dough up and close one side. Stuff grated cheese inside and then close the other side. Place on a baking tray and bake in the oven for 45 minutes until golden brown on the outside and cheesy on the inside.

NOTES

Ancillary Question 4: How does our list of favourite fruit and vegetables compare with the favourites of other people?

Gather the pupils around and tell them that in your shopping bags there are 10 fruits (yet unseen by the pupils). As you pull them out of the bag one by one ask the pupils if they can name them – plum, apple, grape, pear, banana, orange, mango, tomato, pineapple and peach. The tomato may cause some confusion amongst the pupils but it is defined as a fruit since it contains the seeds of the plant. Explain to the pupils that these 10 fruits are the most popular in Britain – the top 10 most enjoyed by people (according to a survey by the *Health Food Manufacturer's Association* in 2013).

It would be ideal at this point for the pupils to be able to taste a small piece of each of the 10 fruits. If this is possible then ask the pupils to rank the 10 fruits in order from number '1' for the one they like the most, to number '10' for the one they like the least. Are there any that they haven't tasted before? This is a good opportunity to do some tallying of results to discover an order of preference for the class as a whole, by adding up the scores out of 10 for each fruit. The one with the lowest total will be the class favourite and the one with the highest cumulative score will be the least popular. Now the class can compare their preference 1–10 with that of the nation as a whole which is: 1: Banana, 2: Tomato, 3: Apple, 4: Grape, 5: Orange, 6: Pineapple, 7: Peach, 8: Plum, 9: Mango and 10: Pear.

This learning activity can be extended by setting the pupils a challenge. Explain that only five of the country's favourite fruits are grown in Britain. Can they work out which five they are? Perhaps they grow some of these five at home or around the school or maybe a family member grows fruit on an allotment? Why are bananas, oranges, pineapples, peaches and mangos not grown on farms in Britain? Encourage the pupils to think about the weather in particular – what do these fruits need that perhaps the weather in Britain can't provide? If they are grown in other countries around the world how do they end up in Britain? We buy them from other countries and ship them to Britain and this is called **trade**. Take the example of bananas – Britain's most popular fruit, with on average each person in the UK eating the equivalent of 100 a year, which is five billion (5 000 000 000) every 12 months! So where do we get them from if we can't grow them in the UK?

Give out copies of the map in **Resource 9** and then ask the pupils to locate the country of Costa Rica. Costa Rica grows a lot of bananas that are sold in shops in the UK. Ask the pupils to consider, from the evidence of the map only, why they think that Costa Rica is able to grow bananas when farmers in the UK are not able to? Let them compare the map in **Resource 9** with the map of hot and cold places of the world in **Resource 10**. The answer is that Costa Rica has a climate that is hot and wet (check the key) – ideal for growing bananas and it's much warmer than the UK because it's closer to the Equator.

Show the pupils the photograph in **Resource 11**. It shows bananas growing on a tree in Costa Rica. Next show the pupils the film at www.youtube.com/watch?v=ePHqUbHBlHY Explain that a banana farm is called a plantation and the film shows all of the stages in bananas being harvested to being loaded in containers and placed on a ship to bring them to the UK. As a result Costa Rica is exporting (selling and sending out) its bananas and the UK is importing them (buying and bringing in). When countries do this it's called trading.

The pupils may need to watch the film a number of times in order to complete the exercise in **Resource 12**. This requires them to draw a diagram to illustrate each of the six stages in preparing bananas for export at the plantation and ideally should be enlarged to A3 size:

- Harvesting
- Bananas move along cableway to packing plant
- Bananas are washed and inspected
- Bananas are cut into 'fingers' (bunches) of 5–7
- Bananas are packed into boxes
- The boxes are loaded onto a container ship at a port.

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Following this, encourage the pupils now to think about vegetables they eat. What exactly is a vegetable – a plant or part of a plant that humans eat as food. Which do they like the most? Which vegetables did they eat most recently? Ask the pupils to think of as many vegetables as they can and make a list on the board. Have they forgotten any? What about salad vegetables such as cucumber, or root vegetables such as turnips? Having compiled an exhaustive list as possible ask the children to rank their own personal top 10 favourites – in the same way as they did for fruits earlier – '1' for their most favourite and '10' for their least favourite. These 'scores' can then be tallied and as with the fruits the vegetable with the lowest score will be most popular with the pupils and the vegetable with the highest cumulative score will be the least popular. Graphs and charts can be produced at this stage if considered appropriate. How do the pupils' preferences compare with what people like right across the UK? The top 10 nationally are carrot, potato, onion, broccoli, lettuce, cucumber, cauliflower, spring greens, spinach and celery – all grown by farmers in the UK.

NOTES

Ancillary Question 5: Why is it important to know all about sugar?

Show the pupils a kilo bag of granulated sugar, open it and pour it all out into a bowl. Ask the pupils what it is? Encourage discussion and speculation about where sugar comes from? A kilo bag of sugar will contain about five million sugar crystals! Have they ever seen a sugar plant? Explain that because sugar is not a plant it can't be considered a vegetable. It doesn't grow on trees or bushes either so where does it come from? Over half of the two million tonnes of sugar which people eat each year in the UK comes from plants that we grow in our own country – the sugar beet plant **Resource 13**. Now show the pupils the film at www.youtube.com/watch?v=0QRmJQoI-xU. Encourage the pupils to observe how the natural sugar in the big root of the beet plant is extracted and is made into sugar crystals.

Britain grows seven million tonnes of sugar beet a year and this is processed down into one million tonnes of crystallised sugar (50 per cent of the sugar we eat as a country in one year). Ask the pupils who eats sugar? How do they eat it? Do they add it to their cereal at breakfast in the morning or in cups of tea or coffee? What about adding it to puddings and on tops of cakes? What else do they add sugar to each day? Make a list on the board of all the ways of adding sugar to their diet that the pupils think of. Now take one teaspoon of sugar out of the bowl and hold it up. How many teaspoons of sugar do the pupils think children of their age add to their diet during an average day, every day of the year? Encourage speculation and discussion. Now transfer 21 teaspoons of sugar from the bowl into a smaller cup or mug. Explain that this is how many teaspoons of sugar, children aged between 4 and 8 years, add to what they eat on average every day. Are the pupils surprised by this?

It is very important to stress at this point that it is essential to have some sugar in our diet because cells of the body would die without it and we can get this amount from sugars found naturally in fresh fruit, vegetables or milk. So, where does the remainder of this added sugar come from?

Place a selection of chocolate bars, soft drinks, cereals and cakes from the list below on the table. Divide the pupils into pairs and encourage them to estimate how many teaspoons of added sugar there is in each food product.

- Nut and nougat caramel bar (52.7 g) – 6.75 teaspoons of sugar
- Milk chocolate bar (44 g) – 5.75 teaspoons of sugar
- Whipped nougat chocolate bar (58 g) – 8.75 teaspoons of sugar
- Caramel biscuit twin bars (50.7 g) – 6 teaspoons of sugar
- Candy coated milk chocolate beans (47.9 g) – 7.5 teaspoons of sugar.
- Cola (one regular can) – 8.25 teaspoons of sugar
- Lemonade (one regular can) – 8.25 teaspoons of sugar
- Museli – 5.75 teaspoons of sugar per 100 g
- Toasted whole-grain oat rings – 1 teaspoon of sugar per 100 g
- Cornflakes – 2.4 teaspoons of sugar per 100 g
- Raisin bran cereal – 7.75 teaspoons of sugar per 100 g
- Frosted flake cereal – 8.75 teaspoons of sugar per 100 g
- Puffed rice cereal – 2.5 teaspoons of sugar per 100 g
- Flaked rice cereal – 3 teaspoons of sugar per 100 g
- Honey and nut whole-grain oat rings – 8.25 teaspoons of sugar per 100 g
- Cocoa puffed cereal – 9.25 teaspoons of sugar per 100 g
- Shredded wheat cereal – 0.1 teaspoons of sugar per 100 g
- Banoffee pie (1 medium portion) – 4.25 teaspoons of sugar
- Carrot cake (1 medium slice) – 3 teaspoons of sugar
- Custard (1 medium portion) – 3.25 teaspoons of sugar
- Chocolate mousse (1 medium portion) – 3 teaspoons of sugar
- Doughnut (1 jam doughnut) – 3.5 teaspoons of sugar
- Fruit pie (1 medium portion) – 3.5 teaspoons of sugar

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- Fruit cake (1 medium slice) – 5 teaspoons of sugar
- Chocolate chip muffin – 4.75 teaspoons of sugar
- Ice cream (1 scoop) – 3 teaspoons of sugar
- Rice pudding (1 portion) – 3.75 teaspoons of sugar
- Sponge cake (1 medium slice) – 5.5 teaspoons of sugar
- Swiss roll (1 roll) – 2.5 teaspoons of sugar
- Fruit juice blackcurrant pouch – 6 teaspoons of sugar per 200 ml
- Blackcurrant juice – 5 teaspoons of sugar per 200 ml
- Pure orange juice – 4.5 teaspoons of sugar per 200 ml
- Pure apple juice – 5.5 teaspoons of sugar per 200 ml
- Apple and mango squash/cordial – 4 teaspoons of sugar per 200 ml when diluted
- Blackcurrant squash/cordial – 3.9 teaspoons of sugar per 200 ml when diluted

See www.medicalnewstoday.com/articles/262978.php and www.madeformums.com/school-and-family/how-much-sugar-is-there-in-fruit-juice/38394.html for additional information.

Take time to discuss with the pupils what they learned from this exercise. Were they shocked at how much sugar there is in the products they looked at? Explain that most doctors agree that it is best for children aged between 4 and 8 years not to add more than 4–6 teaspoons of sugar to their diet each day – especially as refined added sugar has no nutritional value as it's without vitamins or minerals. This can be difficult of course because we are often not aware of the sugar 'hidden' in the food we eat. Are the pupils aware of how their health can be affected by eating too much added sugar? What kind of things can happen? What about our teeth? Tooth decay is caused by the acid made by bacteria that grow in sugar. Too much sugar can lead to becoming overweight and your mood swinging between being overexcited and very active on the one hand to then being lethargic and sleepy on the other. It can also lead to a serious disease later in life known as diabetes.

NOTES

Ancillary Question 6: Why does John have so many happy customers at his shop?

Show the pupils the photograph of John in **Resource 14**. He is standing outside his shop in the town of Exmouth in Devon (photograph also in **Resource 14**). What is his shop called? What does he sell? John's shop is a greengrocers so he sells fruit and vegetables. John has many happy customers each day because people know he tries hard to sell fruit and vegetables produced by local farmers in Devon and from other farms in the UK – as close to his shop as possible.

Divide the pupils into pairs giving each pair a set of the photographs of the inside of John's greengrocer shop (The Farm Shop) where they will see Merle working (**Resource 15**). Remind the pupils that a vegetable is a plant or part of a plant (leaves, roots or stem) that we eat and a fruit is the edible part of the plant that contains the seeds. In **Resource 16** there are photographs of 48 fruits and vegetables. Ask each pair of pupils to find just two or three in the photographs so that all the produce is covered amongst the group. Encourage the pupils to look carefully at their allocated fruit and vegetables in the photographs and then fill in the relevant rows in the table in **Resource 17**:

- Is it a fruit – 'yes' or 'no'
- Is it a vegetable which grows above ground – 'yes' or 'no'
- Is it a vegetable which grows below ground – 'yes' or 'no'
- How much will it cost? (important here for the pupils to write in the quantity or weight for the price)
- Has the fruit or vegetable been grown locally, either in Devon or somewhere else in the UK (look for the Devon flag – white cross on green background, the UK flag, labels or packaging) – 'yes' or 'no'

Go around the group and ask each pair of pupils to feedback their results. What did they have to look out for? Were they fruits or vegetables? If they were vegetables do they grow above or below ground? Were any grown in Devon and/or the UK? After this, take time to discuss with pupils why Rob's customers think it's a good thing that many of his fruit and vegetables come from nearby farms? How many good things can they think of associated with buying from local farms – food doesn't travel so far and is fresher; money goes to farmers in the UK rather than in other countries; delivery lorries drive shorter distances so less traffic jams and pollution from exhausts/noise etc. If desired, after their discussion the pupils could produce a poster to explain the advantages of buying locally.

There are other shops on the street in the photograph in **Resource 14**. One is a butcher's. Ask the pupils which animals the meats they eat come from. Explain that some butchers are very particular about the farms from which they buy their meat and that this is an important reason why those butchers are very popular with their customers.

Project the photograph of the free-range sign **Resource 18**. What do the pupils think it means if sheep, geese, chickens and ducks and eggs are all 'free-range'? Show the pupils the images in **Resource 19** to focus thinking. Encourage discussion and consolidate ideas. Free-range means that for at least part of the day the animals are allowed to roam over a large area rather than being in a barn or other building for 24 hours a day. How do the pupils think this will be better for both the animals and also produce better quality meat for people to buy in the butchers? Why might customers be happier to buy meat that they know has come from 'free-range' animals and birds? If desired the pupils could write a short paragraph describing what 'free-range' means with a drawing and include at least two reasons to explain why people think it's a good thing for farmers to do.

This final ancillary question can be carried out in along with local fieldwork in a nearby town or at a supermarket so the pupils can see first-hand, meat, fruit and vegetables being prepared and presented for sale. A visit to a local farm would be a perfect accompaniment at any point in this enquiry. Support for teachers to set up farm visits as well as other learning and teaching resources is available from *Farming & Countryside Education* at www.face-online.org.uk/

NOTES

Assessment

This enquiry presents several opportunities, at different stages, to evaluate how the pupils are progressing in geography through the mastery of key geographical skills and outcomes. It is not necessarily intended that all of the following learning activities should be assessed. Rather that the list is used as a guide for selecting one or two assessment opportunities relevant to individual pupils, rather than on a whole group basis.

Ancillary Question	Learning Activity	Possible source of evidence of achievement
1	**Recognise** that all the food we eat comes from either plants or animals and that a farm is an area of land and buildings where those plants and animals are produced	Oral Drawing with labels
1	**Identify, describe** and offer **reasons** for the main features of a dairy farm and **observe** how milk is used as a raw material in a wide range of dairy products	Oral Research one dairy product and make a short PowerPoint presentation
2	**Identify** and **describe** the main geographical features of the physical landscape of Devon and **compare and contrast** these with some of the human features of its towns and cities	Annotated outline of photographs
2	Offer **reasons** and begin to **explain** why the weather in Devon makes it a good place for dairy farming	Graphs and charts Oral
2	**Compare and contrast** the average annual weather conditions in Devon with those of the United Kingdom as a whole	Graphs and charts Short summary paragraph
3	**Describe** how cheese is manufactured on one Devon farm and how it is exported	Outline world map plotting route of ship
4	**Identify** the top 10 most popular fruits in the United Kingdom and **understand** why half of these are imported	Oral Labelled fruits
4	**Identify** and **describe** the main stages in the harvesting, packaging and export of bananas from Costa Rica to the United Kingdom	Flow diagram
4	**Explain** why Costa Rica is a good location for farmers to grow bananas and how exported bananas reach the United Kingdom	Annotated map of world with Costa Rica highlighted
5	**Identify** and **describe** how sugar is refined from sugar beet on British farms	Oral
5	**Understand** why being careful about how much added sugar we eat each day is important for maintaining a healthy lifestyle	Short piece of persuasive writing and poster
6	**Identify** and **categorise** fruit and vegetables sold at a high street greengrocer, their cost and whether they are locally produced, UK grown or imported	Completed table
6	**Describe** and **explain** some of the benefits of greengrocers and supermarkets buying fruit and vegetables from local farmers	Oral Short piece of explanatory writing

NOTES

Ancillary Question	Learning Activity	Possible source of evidence of achievement
6	**Identify** the animals from which common meats sold at butchers and supermarkets derive and **explain** what 'free-range' means and why this is beneficial	Labels Oral Drawing or diagram of 'free-range' farm animals with annotations
Homework	**Identify** ingredients of the top 10 dishes cooked at home by people in Britain and **explain** whether these are home produced or imported	PowerPoint presentation of one of the top 10 meals cooked at home with key information

Homework possibilities

During the course of this enquiry the pupils could carry out some simple supported research into the top 10 favourite meals most commonly made at home by people in the UK. The objective would be for pupils firstly to find out the ingredients of each meal and then to work out whether these ingredients are produced on British farms or whether they have to be imported from farmers in other countries of the world. Parents and carers could be asked to cook one of these top 10 meals with their child at home. The pupils could then present a short 'Master Chef' PowerPoint of the meal they cooked (with photographs of the ingredients and stages in preparation and cooking) identifying its ingredients and whether they are home produced or imported. The top 10 most popular home cooked meals are:

- Spaghetti bolognese
- Roast beef dinner
- Chilli con carne
- Lasagne
- Cottage or Shepherd's pie
- Chicken stir fry
- Beef casserole
- Macaroni cheese
- Toad in the hole
- Vegetable curry.

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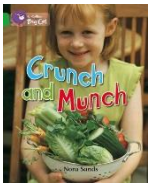
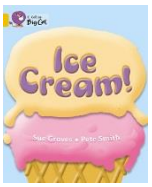
Further reading

Collins *Big Cat* has books for every child in the classroom with a wide variety of genres, top authors, relevant topics and a range of engaging formats and illustrative styles. Listed below is a selection of from the Big Cat list to support the enquiry topics in Connected Geography for KS1. Find out more at Collins *Big Cat* – www.collins.co.uk

ISBN: 978-0-00-718665-5	*Crunch and Munch*	Nora Sands	
ISBN: 978-0-00-718625-9	*Ice Cream*	Sue Graves	
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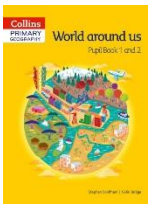
ISBN: 978-0-00-756358-6	*Primary Geography Pupil Book 1/2 World around us*	Stephen Scoffham and Colin Bridge	
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