



Healthy Eating Resource Pack

*“The best school visit I have
been on in 10 years of
teaching...”*



The Tatton Park
Charitable Trust





Introduction to Tatton Park

This booklet has been produced as a free, downloadable resource by the Learning and Visitor Services Department at Tatton Park, to provide ideas for the teaching of STEM subjects to Key Stage 2.

Tatton Park, near Knutsford in Cheshire, is one of the most complete historic estates in Britain. Tatton today reflects many centuries of human occupation. It is home to a Neo-Classical Mansion, a Tudor Old Hall, 50 acres of landscaped gardens, a working farm and over 1,000 acres of deer park. Tatton is enjoyed by over three quarters of a million people each year, including over 20,000 children who come on educational visits. There is evidence of human occupation on the site since 8000BC. Research has shown that Stone Age people hunted here and that there was farming activity in the Bronze Age. In more recent times, the Estate has been owned by many families, passing in to the hands of the Egerton Family in 1598 when they occupied the Old Hall. The current mansion was completed in 1716, but was extensively altered over the next hundred years to the Mansion visitors see today. By 1795 the wider estate had extended to 25,000 acres, reaching nearly to Manchester and Bosley Cloud. At this stage the Estate was largely self-sufficient due to the presence on the Estate of Tatton Dale Home Farm. The Farm consisted of cattle yards, stables, piggeries, a smithy and a granary and had steam-powered machinery installed. As well as feeding the Mansion, the farm also serviced the outlying farms.

In 1958 Maurice Egerton died and left the Estate to The National Trust. In 1960, a lease was drawn up between the National Trust and Cheshire County Council for the property to be financed, maintained and administered by the County Council in close consultation with The National Trust. In 2009 this was transferred to Cheshire East Council.

Development of the site continues today. Heritage Lottery Funding has enabled us to further develop the Farm through the Field to Fork Project. The Mill and Granary and the Slaughter House are refurbished and open to the public for the first time. A new schoolroom containing cookery facilities has been bespoke built and the hatchery is being extended. We also aim to position the farm as a centre for the study of STEM (science, technology, engineering and mathematics), which includes food production and healthy eating.

This booklet forms part of our commitment to STEM education.



Introduction to Healthy Eating Information & Activities

The information and activities provided in this booklet are designed to be delivered within a classroom or as part of a STEM club programme for KS2/3. They can be supported by a visit to Tatton Farm to see food production and food use from Field to Fork.

Healthy Eating now forms a key part of the National Curriculum for both Primary and Secondary School children and is fully integrated into programmes of study in science, design and technology and PSHE. There are also lots of opportunities in school to include it in cross-curricular links. The information and ideas contained in this booklet have been taken from several excellent websites which provide resources for schools to support the study of Healthy Eating. It is hoped that this will be useful as a starting point for teachers planning full class lessons or developing a programme of STEM Club activities.

In 2016 Public Health England, in association with the Welsh Government, Food Standards Scotland and the Food Standards Agency in Northern Ireland, developed The Eatwell Guide, which has been adopted as the blueprint for a healthy, balanced diet for all ages. Lessons for children aged 8-11 years exploring healthy eating should deliver the key messages and concepts through 5 key facts derived from the Eatwell Guide;

- Around the world people chose and combine different foods to make meals and snacks. The total amount and range of foods eaten is called the diet.
- A healthy diet is made up from a variety and balance of different foods and drinks, as depicted in the Eatwell Guide.
- To be active and healthy, food is needed to provide energy for the body.
- A variety of food is needed in the diet because different foods contain the different substances that are needed for health. These are nutrients, water and fibre.
- Being active and looking after yourself are important for health.

The 5 key facts have been developed to provide a comprehensive and progressive approach to teaching the topic of Healthy Eating. Using this framework, children will be gradually introduced to the concepts that food provides energy and nutrients; have a wider appreciation of different foods and diets; understand the importance of balance and variety in the diet; that food provides energy for the body and that it is only some of the nutrients in food that provide this energy. Overall, it is hoped that this approach will ensure that children can apply the principles of healthy eating to their own lives – now and in the future.

Key resource websites – www.gov.uk/eatwell and www.foodafactoflife.org.uk and www.nhs.uk/change4life-beta



Activity 1 - What Do I Eat?

In order to get the children to start thinking about food it is important for both teachers and pupils to look at what they eat now, what they don't eat (religious or lifestyle choices) and what they can't eat (allergies). This will provide baseline data and may help to guide some of the discussion as the lessons progress e.g. vegetarian children may be able to work together on activities developing meals, discussions around protein could exclude meat not eaten on religious grounds. Below is an example of a completed food diary, which can be given to pupils to show what is expected of them. Appendix 1 contains a blank food diary.

		Name – XXXX
Time	Meal	Contains
Breakfast	Cereal	Fruit, nuts, skimmed milk, wheat, oats
Snacks	Two biscuits	Sugar, flour, butter
Lunch	Vegetable soup Bread roll Yoghurt	Cauliflower, broccoli, cheese Bread, butter Milk, fruit
Snacks	Chocolate bar	Sugar, milk
Dinner	Spaghetti bolognaise	Spaghetti, minced beef, tomatoes, onions
Drinks	2 glasses of water 2 glasses of fruit juice 1 can coca cola	Fruit, sugar
Food I don't eat (religious or cultural reasons)		
Food I can't eat (allergies and intolerances)	Nuts, gluten	

Ask the children to complete this for two days, getting help from parents to fill in the key ingredients. The information can then be used as a discussion subject in the classroom, by table or with the whole class. Keep safe or collect in for use in future exercises.

Teachers should note the bottom two entries, if not already aware.



Activity 2 - The Eatwell Guide

The Eatwell Guide, as shown on the next page, divides the food and drink we consume into five main groups. It is important to choose a variety of different foods from each of the groups to help get the wide range of nutrients your body needs to stay healthy and working properly.

It is important to get some fat in the diet. However, foods high in fat, salt and sugar are placed outside of the main image as these types of foods are not essential in the diet. Unsaturated fats from plant sources, for example vegetable oil or olive oil, are healthier types of fat.

Many of the foods we eat, such as pizzas, casseroles, pasta dishes and sandwiches, are combination foods and contain ingredients from more than one of the food groups. For these sorts of foods, you need to work out the main ingredients and think about how these fit with the sections on the guide. For example, if you're having a cottage pie, the potato fits into the yellow segment, the milk in the mashed potato fits into the blue segment, the spread in the mashed potato fits into the purple segment, the meat, meat substitute or beans would fall into the pink segment, the onion, carrots and peas would fit into the green segment.

Activity

Using the food diaries that they prepared earlier, ask the children to work out how many portions of each group they ate on each day using the ingredients for each meal. This could be presented as a table or bar chart. These figures could then be combined with the rest of the class to work out an average of each food group across the class. Is this a healthy diet and what could be changed?

Food group	Tally, one vertical line for each portion e.g. III
Fruit, vegetables, fruit juice	
Potatoes, bread, rice, pasta, couscous	
Beans, pulses, fish, eggs, meat, other protein	
Dairy, cheese, milk, yoghurt	
Oil, butter, spreads	
Cake, crisps, chocolate, biscuits	

Eatwell Guide

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.

Water, lower fat milk, sugar-free drinks including tea and coffee all count.
Limit fruit juice and/or smoothies to a total of 150ml a day.

Choose wholegrain or higher fibre versions with less added fat, salt and sugar
Potatoes, bread, rice, pasta and other starchy carbohydrates



Check the label on packaged foods

Energy (kcal)	Fat	Saturated Fat	Sugars	Salt
13%	4%	7%	30%	15%
3.0g	1.3g	0.3g	34g	0.9g
LOW	LOW	LOW	HIGH	MED

Each serving (150g) contains

Typical values (as sold) per 100g/100ml/100kcal of an adult's reference intake

Choose foods lower in fat, salt and sugars

Eat less often and in small amounts

Beans, pulses, fish, eggs, meat and other proteins
Eat more beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat

Dairy and alternatives
Choose lower fat and alternatives
lower sugar

Oil & spreads
Choose unsaturated oils and use in small amounts

Per day 2000kcal 2500kcal = ALL FOOD + ALL DRINKS

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Source: Public Health England in association with the Welsh Government, Food Standards Scotland and the Food Branding Agency in Northern Ireland





Information: Food Groups

Fruit and Vegetables should make up just over a third of what we eat each day. Aim to eat at least five portions of a variety of fruit and vegetables each day. Choose from fresh, frozen, canned, dried or juiced. A portion is 80g or any of these: 1 apple, banana, pear, orange or other similar sized fruit, 3 heaped tablespoons of vegetables, a dessert bowl of salad, 30g dried fruit (which should be kept to mealtimes or a 150ml glass of fruit juice or smoothie (maximum of one portion a day. Fruit and vegetables are important sources of fibre, which helps with digestion and removing waste products from the body, and they also contain key vitamins

Carbohydrates should make up just over a third of what we eat each day. Potatoes, bread, rice, pasta and other starchy carbohydrates form a really important part of a healthy diet. Choose higher fibre, wholegrain varieties when you can by purchasing wholewheat pasta, brown rice or simply by leaving the skins on potatoes. Meals should be based around starchy carbohydrate foods so could include wholegrain breakfast cereal, sandwich for lunch and then an evening meal based on potatoes, pasta or rice. Starchy food is not fattening as, gram for gram, it contains less than half the calories of fat. However, you need to be aware of the fats that are added when cooking and serving this sort of food eg sauces added to pasta and butter added to potatoes. Wholegrain food contains more fibre than white or refined products and often more of other nutrients. We also digest wholegrain food more slowly so it can help us feel full for longer. Wholegrain food includes: wholemeal and wholegrain bread, pitta and chapatti, wholewheat pasta, brown rice, wholegrain breakfast cereals and whole oats. High fibre white bread and pasta is also a good option. Carbohydrates provide energy for the body and are essential for respiration.

Proteins include beans, pulses, fish, eggs, and meat. It is important to eat some foods from this group each day. Beans, peas and lentils (which are all types of pulses) are good alternatives to meat because they are naturally very low in fat, and they're high in fibre, protein, vitamins and minerals. Pulses, or legumes as they are sometimes called, are edible seeds that grow in pods and include foods such as lentils, chickpeas, beans and peas. Other vegetable based sources of protein include tofu, bean curd and mycoprotein. Aim for at least two portions of fish a week, including a portion of oily fish. Some types of meat are high in fat, particularly saturated fat. Choose lean cuts of meat or cut the fat off meat and skin off chicken, grill meat and fish instead of frying it and have a boiled or poached egg instead of fried. Try to limit yourself to 70g of red or processed meat each day. Protein is essential for building and repairing all the tissues in the body and for producing antibodies to fit infection and essential hormones.

Hydration

Aim to drink 6-8 glasses of fluid every day. Water, lower fat milk and sugar free drinks including tea and coffee all count. Fruit juice and smoothies also count towards your fluid consumption, although they are a source of free sugars and so consumption should be limited to 150ml per day.



Activity 3: Food Groups

- Laminate and cut out several sets of the food cards given in Appendix 2 (or purchase sets of ready made cards)
- Get each child to draw a circle (or provide a paper plate or use the template in Appendix 3). Colour in and label the sections of the Eatwell Plate
- Using the cards, allocate each to it's own food group (individual or table exercise)
- Use the cards to look at the daily intake from the food diaries each child produced
- Use the cards to put together ingredients to make up healthy meals (more cards could be drawn or pictures taken from magazines)





Information & Activities: Food Labels

Food labels can help you choose between products and keep a check on the amount of food you're eating that is high in fat, salt and added sugar, enabling us all to make healthier choices. The Food Standards Agency controls the labelling of all food in the UK and has introduced key information that has to appear on all pre-packed products.

ACTIVITY: Ask all the children to bring in some empty and clean food packets, boxes, tins etc so that they can look at different food labels during this session and assess the information themselves.

Nutrition Labels

These are often displayed as a panel or grid on the back or side of packaging. This type of label includes information on energy (kJ/kcal), fat, saturates (saturated fat), carbohydrate, sugars, protein and salt. It may also provide information on certain nutrients, such as fibre. All nutritional information is provided per 100g and, sometimes, per portion or per pack/can/pot. Reference intakes (RI) are sometimes provided and are guidelines about the approximate daily amount of particular nutrients and energy required for a healthy adult diet

The grid below is from a loaf of white bread.

Nutrition				
Typical values	100g contains	Each slice (typically 44g) contains	% RI*	RI* for an average adult
Energy	985kJ 235kcal	435kJ 105kcal		8400kJ 2000kcal
Fat	1.5g	0.7g	1%	70g
of which saturates	0.3g	0.1g	1%	20g
Carbohydrate	45.5g	20.0g		
of which sugars	3.8g	1.7g	2%	90g
Fibre	2.8g	1.2g		
Protein	7.7g	3.4g		
Salt	1.0g	0.4g	7%	6g

This pack contains 16 servings
 *Reference intake of an average adult (8400kJ / 2000kcal)

Manufacturers are now also required to put a simpler label on the front of their packaging to make it easier to make healthy choices. This breaks the nutritional information down into servings and colour-codes the fat, saturates, sugars and salt. It also gives the percentage of an adult reference value for each of the above values, as well as a calorie count for each serving. Care needs to be taken as manufacturer's portions may be different from our assessment of a portion.



Each serving (150g) contains

Energy 1046kJ 250kcal	Fat 3.0g LOW	Saturates 1.3g LOW	Sugars 34g HIGH	Salt 0.9g MED
13%	4%	7%	38%	15%

of an adult's reference intake

Typical values (as sold) per 100g: 697kJ/ 167kcal

Colour-coded nutritional information, as shown in the image above, tells you at a glance if the food has high, medium or low amounts of fat, saturates, sugars and salt where red means high, amber means medium and green means low. The more green on the label, the healthier the choice. Amber means neither high nor low, so you can eat foods with all or mostly amber on the label most of the time. Food with red on labels should be eaten less often and in small amounts. The values associated with this coding are as follows:

Check how much fat, sugar and salt is in your food

Food Shopping Card

	Sugars	Fat	Saturates	Salt
What is HIGH per100g	Over 15g	Over 20g	Over 5g	Over 1.5g
What is MEDIUM per100g	Between 5g and 15g	Between 3g and 20g	Between 1.5g and 5g	Between 0.3g and 1.5g
What is LOW per100g	5g and below	3g and below	1.5g and below	0.3g and below

Remember that the amount you eat of a particular food affects how much sugars, fat, saturates and salt you will get from it.

ACTIVITY: In examining food packets see what else the children notice written on the packaging?

Ingredients – the ingredients in the food, including additives, are listed in descending order of weight at the time they were used to make the food. If flavourings are used, the label must say so. The ingredients list must also highlight any foods that some people are allergic to, such as eggs, nuts, soya and milk.

Use by – use by dates are included on foods which go off quickly, such as smoked fish, yoghurts, fresh meat and ready-prepared salads. Don't use any food or drink after the use-by date, even if it looks and smells fine, because it could put your health at risk. Storage instructions must be followed for the use-by date to be valid eg store in refrigerator. If food can be frozen its life can be extended beyond the use-by date

Best before - best before dates appear on a wide range of frozen, dried, tinned and other foods. Best before dates are about quality and not safety. When the date has passed, it doesn't mean that the food will be harmful, but it might begin to lose its flavour and texture.



Every year in the UK we throw away 7.2 million tonnes of food and drink, most of which could have been eaten. So think carefully before throwing away food past its 'best before' date.

Light or Lite – to say that a food is 'light' or 'lite' it must be at least 30% lower in at least one typical value, such as calories or fat, compared to a standard product. The label must explain exactly what has been reduced and by how much eg light, 30% less fat. However, it is important to thoroughly examine the nutritional information on these products compared to the standard items, particularly the information per 100g. A 'light' or 'lite' packet of crisps may contain the same amount of fat or calories as the standard version of another brand. Similarly a 'light' packet of biscuits may contain the same amount of calories as a standard pack because the fat has been reduced but sugar increased.

Low fat – a food can only be labelled 'low fat' when it contains no more than 3g of fat per 100g for solids or 1.5g of fat per 100ml for liquids, (1.8g of fat per 100ml for semi-skimmed milk).

No added sugar or unsweetened - this refers to sugar or sweeteners added as ingredients. A food that has 'no added sugar' might still taste sweet and can still contain sugar. Sugars occur naturally in food such as fruit or milk. But we don't need to cut down on these types of sugars: it is food that contains added sugars that we should be cutting down on (more about sugar later). 'Unsweetened' means that no sugar or sweetener has been added to the food to make it taste sweet.

Allergens

Allergens are substances which are normally harmless but, in some people, can cause a serious reaction. Allergens can include aeroallergens such as dust mite, mould and pollen (hay fever) as well as food allergens such as milk, egg, soy, wheat, nut or fish proteins. Aeroallergens cause symptoms such as itching in the nose and eyes, sneezing, stuffy nose, watery eyes whereas food allergies tend to be more serious and present with vomiting and/or diarrhoea, breathing difficulties and swelling of the nose and throat, which can be fatal. It is really important that, if an allergy is suspected, it is fully investigated by a medical specialist and, once confirmed, care is taken with all food eaten. The Food Information Regulation, which came into force in December 2014, introduced a requirement that food businesses must provide information about the allergenic ingredients used in any food they sell or provide. Food labels must show in bold or highlighted any allergens contained in food. The table on the next page shows the 14 commonest allergens found in food. More information can be found on the Food Standards Agency website www.food.gov.uk. An allergen labelling exercise from Food; a fact of life is included in the Appendix.



Celery

This includes celery stalks, leaves, seeds and the root called celeriac. You can find celery in celery salt, salads, some meat products, soups and stock cubes.



Crustaceans

Crabs, lobster, prawns and scampi are crustaceans. Shrimp paste, often used in Thai and south-east Asian curries or salads, is an ingredient to look out for.



Fish

You will find this in some fish sauces, pizzas, relishes, salad dressings, stock cubes and Worcestershire sauce.



Milk

Milk is a common ingredient in butter, cheese, cream, milk powders and yoghurt. It can also be found in foods brushed or glazed with milk, and in powdered soups and sauces.



Mustard

Liquid mustard, mustard powder and mustard seeds fall into this category. This ingredient can also be found in breads, curries, marinades, meat products, salad dressings, sauces and soups.



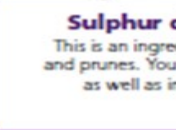
Peanuts

Peanuts are actually a legume and grow underground, which is why it's sometimes called a groundnut. Peanuts are often used as an ingredient in biscuits, cakes, curries, desserts, sauces (such as satay sauce), as well as in groundnut oil and peanut flour.



Soya

Often found in bean curd, edamame beans, miso paste, textured soya protein, soya flour or tofu, soya is a staple ingredient in oriental food. It can also be found in desserts, ice cream, meat products, sauces and vegetarian products.



Sulphur dioxide (sometimes known as sulphites)

This is an ingredient often used in dried fruit such as raisins, dried apricots and prunes. You might also find it in meat products, soft drinks, vegetables as well as in wine and beer. If you have asthma, you have a higher risk of developing a reaction to sulphur dioxide.



Cereals containing gluten

Wheat (such as spelt and Khorasan wheat/Kamut), rye, barley and oats is often found in foods containing flour, such as some types of baking powder, batter, breadcrumbs, bread, cakes, couscous, meat products, pasta, pastry, sauces, soups and fried foods which are dusted with flour.



Eggs

Eggs are often found in cakes, some meat products, mayonnaise, mousses, pasta, quiche, sauces and pastries or foods brushed or glazed with egg.



Lupin

Yes, lupin is a flower, but it's also found in flour! Lupin flour and seeds can be used in some types of bread, pastries and even in pasta.



Molluscs

These include mussels, land snails, squid and whelks, but can also be commonly found in oyster sauce or as an ingredient in fish stews



Nuts

Not to be mistaken with peanuts (which are actually a legume and grow underground), this ingredient refers to nuts which grow on trees, like cashew nuts, almonds and hazelnuts. You can find nuts in breads, biscuits, crackers, desserts, nut powders (often used in Asian curries), stir-fried dishes, ice cream, marzipan (almond paste), nut oils and sauces.



Sesame seeds

These seeds can often be found in bread (sprinkled on hamburger buns for example), breadsticks, houmous, sesame oil and tahini. They are sometimes toasted and used in salads.



Sugar

There are three different types of carbohydrate contained in food; sugar, starch and fibre. Nutritional information panels include the total amount of carbohydrates (all three types) and the proportion of the total which are sugars. This includes naturally occurring sugars and added sugars. Eating too much sugar can lead to weight gain which, in turn, increases your risk of health conditions such as heart disease and type 2 diabetes. Most children are eating over 13 cubes of sugar a day (average can of cola is 9 cubes)

Reference Intakes (RIs) on food labels are guidelines based on the approximate amount of nutrients and energy you need for a healthy, balanced diet each day. Unless the label says otherwise, an adult's RI values are actually based on an average-sized woman doing an average amount of physical activity. Children's nutritional needs vary a great deal depending on their age and size, but generally they should be eating smaller portions than adults. The daily recommended maximum amount of salt and added sugar children can eat depends on age:

Added sugar per day (1 sugar cube=4g)	
4 to 6 years	19g (5 cubes)
7 to 10 years	24g (6 cubes)
11 years and over	30g (7 cubes)

Salt per day (1 sachet=0.5g)	
4 to 6 years	3g (6 sachets)
7 to 10 years	5g (10 sachets)
11 years and over	6g (12 sachets)

To allow the children to visualise how much sugar is contained in everyday food, collect together 10 or more items such as chocolate bars, biscuits, soft drinks, breakfast cereal, yoghurt. Prepare sealed bags containing the same amount of sugar (cubes or loose sugar) as in each item and label them A to X. Ask the children to match the sugar bags to the food and compare this to a bag containing their recommended daily allowance. Discuss healthier options with lower sugar content.

The NHS has developed an online awareness programme called Change4Life encouraging adults and children to Be Food Smart (www.nhs.uk/change4life). They have developed an app called Be Food Smart which can be downloaded from the Apple Store or Google Play which enables barcodes to be scanned to find out how much sugar, saturated fat and salt is in food and drink. This app could be used as an additional tool for the above exercise or, if appropriate, downloaded by the children to use at home with their parents whilst shopping. Teaching resources can be found on www.nhs.uk/Change4Life/schools including teacher's guides, presentations, and a series of downloadable exercises suitable for assemblies, classroom, whole school and small group activities.



Portion Distortion

As well as making swaps for healthier food options it's also important to make sure that we are not eating too much i.e. eat the right portion for your size. The link between crockery size and portion size can be demonstrated to the children using water, a sample breakfast cereal and several sizes of bowl and glass. Measure out 150ml of water and show what it looks like in different glasses. Based on 150ml of fruit juice calculate the extra sugar they might consume if they filled their glass with drink each time. (pupils can refer back to their food diaries). What does 30g of cereal look like in a bowl? That's the portion size recommended for an adult on the boxes of many cereals. Ask the children what portion size they would normally eat. Weigh it and calculate the difference in terms of sugar.

Food and Religion

Food is an important part of many religions. People eat different things depending on their religion e.g. Muslims do not eat pork. The chart below shows the different type of meat eaten by different religious groups;

	Pork	Beef	Lamb	Chicken	Fish
Hindu	X	X			
Muslim	X	Halal	Halal	Halal	
Sikh	X	X			
Jewish	X	Kosher	Kosher	Kosher	No shell-fish
Buddhist	X	X	X	X	X
Rastafari-an	X	X	X	X	X

Judaism (Jewish)

Kosher means that the food is permitted
 Cannot mix or consume dairy products with meat
 Jewish Feast Days include Rosh Hashanah and Passover

Muslims

Halal means the food has been blessed
 Some Muslims chose to fast on Mondays, Thursdays or both
 The month of Ramadan requires fasting during daylight hours

Hindus

Vegetarianism is encouraged but not compulsory.



Feel Good Food Choices

Healthy eating is not just about considering the food that we eat it is also about considering the impact on the planet of the food choices that we make. We could buy apples that have been transported from South Africa or we could buy them from the local farm shop (planetary health). We could buy food wrapped in plastic or loose food (environmental health). We could buy own brand products or branded products (economic health). These are decisions that we need to make whenever we go shopping.

Activities: Food Miles

- Cut out the food and country labels from the sheets in the Appendix.
- Using a large world map, ask the children to attach the labels to the countries of origin.
- Using the internet, ask the children to find out the distance travelled by some of the food listed.
- Discuss the impact on the planet of transporting food all over the world.
- Find out what food can be obtained from local farm shops and local producers to reduce food miles.

Packaging

8 million tonnes of waste plastic ends up in the sea each year which poses a threat to everything from the smallest plankton to the biggest whale. It breaks down into microplastics, which, like a billion tiny sponges, collect any toxic chemicals they encounter, and pass up through the food chain to big, predator species, including most of the fish we eat. Microplastics, which range in size from 5mm to 10 nanometres, come from a number of sources. One culprit is 'nurdles' which are the raw plastic pellets shipped around the world for manufacturing and are easily lost during transportation (in 2012 a typhoon spilled millions from a ship in Hong Kong). Recently, the spotlight has been on microbeads, tiny plastic balls found in some cosmetics and toothpastes. Like microfibers, the threads from synthetic clothes lost during washing, and rubber debris from vehicle tyres, these tiny pieces of plastic are too small to be filtered out of our wastewater systems, and huge quantities end up in the sea. More than a third of all the plastic we produce is single-use plastic for packaging. While many plastics don't biodegrade, they do photodegrade. UV exposure eventually breaks all those plastic bottles and bags down into tiny pieces, which, in common with microbeads and fibres, potentially leach toxic chemical additives into the sea. These tiny particles look like food to some species and recent research showed that common plastics attract a thin layer of marine algae, making them smell like nutritious food. We can all do our bit to help with this problem by buying fruit and vegetables not packed in plastic, by re-using bags rather than buying plastic bags, using refillable cups rather than plastic bottles and by recycling packaging material so it can be used again.



ACTIVITY: Discuss with the class other ways that we can reduce plastics and ask them to look out for these in the local supermarket or at home. Why do we use plastic packaging and what are the challenges manufacturers and shops will face in removing it?

Ask them to look at packets, jars, tins and other containers to identify what can and what can't be recycled. Check out the local council website, which should contain a clear list of items that can be recycled in the collection bins.

Branded versus own brand foods

The cost of food is a large part of any family budget. Most large supermarkets now produce much cheaper, own brand versions of popular foods which are just as tasty as the popular brands.

ACTIVITY: Give the children a list of popular foods such as baked beans, tomato sauce, spaghetti, fruit juice, white bread and ask them to find out the prices of branded foods and own brand food. Work out the percentage saving in buying the own brand food. With a small group you could do some blind tasting comparing two foods.

Come and visit Tatton Park

A lot of the food that you will have handled as part of the exercises and experiments in this guide is processed food which will have been grown or manufactured, processed and transported all over the world. The 'purest' and most environmentally friendly food production is where it goes from 'field to fork' and only travels a short distance to get to the customer, which requires no packaging. Traditional markets and Farmers Markets are enabling more people to choose local produce and supermarkets are also trying to source more fresh supplies from within the UK.

A visit to Tatton Farm will show you the operation of a traditional farm dating from the 1930s, which was established to service the food requirements of the guests and staff in the Mansion and other outlying properties. Our 'Field to Fork' project will enable the children to explore traditional food production and healthy eating. The Feed Mill, Granary and Slaughter House will be open to visiting school parties for the first time. The journey of food will be explored and a new schoolroom with cooking facilities will enable children to prepare and taste fresh food. They will also get to meet our pigs, goats, horses, sheep, reindeer and chickens. If you would like more information please visit our website <http://www.tattonpark.org.uk/learn/learn.aspx>



Useful Websites

The following websites have been used to provide information contained in this booklet. However, some of them have a lot more information which can be used to target lessons for different age groups/ key stages and also enable you to expand on the topics included in this summary::

The Eatwell Guide – www.gov.uk/eatwell

British Nutrition Foundation – <https://foodfactoflife.org.uk>

National Health Service – www.nhs.uk/change4life and www.nhs.uk/livewell/goodfood

Soil Association – www.food4families.org.uk

Farming and Countryside Education – www.face-online.org.uk and
www.visitmyfarm.org.uk

Tesco – www.eathappyproject.com