

KIRKCALDY HIGH SCHOOL

Home Economics

S3 - Social, Moral and Ethical Considerations

Food Choice

Seasonal and Local Produce

Fairtrade

Name

Class

The aims of these S3 Home Economics' lessons are:

- To learn about food choice, seasonality of foods, local produce and the importance of the Fairtrade organisation and produce.
- To be able to respond to a design brief by planning the making of and creating two suitable products.
- To work safe and hygienically when carrying out practical lessons.
- To use a range of cookery techniques and processes to produce dishes.

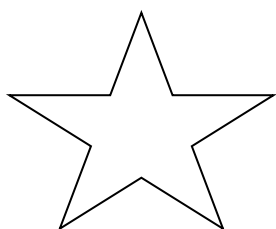
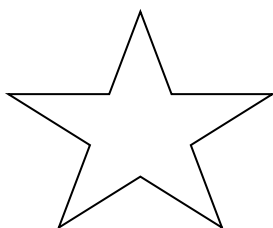
Keeping Track of your Progress

As we work our way through this booklet it is important that we keep track of our progress. The table below shows the topics we will be covering during this unit.

By using traffic light colours you will be able to see how well you and your teacher feel you have done.

Topic	Pupil	Teacher
Sources of Food		
Factors influencing Food Choice		
Influences of Advertising & Marketing		
Food Labelling Requirements		
Adapting Recipes to Conform to the Scottish Dietary Targets		
Writing a Detailed Evaluation		
Seasonal Food		
Exports and Local Food		
Design and Make Task		
Nutritional Analysis		
Knowledge of Fairtrade		

What went well (WWW) during this unit? What could have gone better (EBI)?



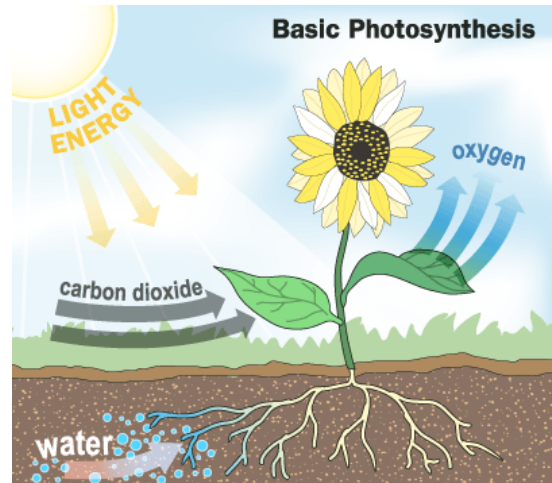
I wish I could improve.....

Food is any substance consumed to provide nutritional support for the body. It is usually of plant or animal origin, and contains essential nutrients, such as fats, proteins, vitamins, or minerals. The substance is ingested and digested by the body's cells to provide energy, maintain life, or stimulate growth.

Photosynthesis

The leaves of plants contain a green colouring substance called **chlorophyll**.

Chlorophyll collects energy from the sunlight. The chlorophyll uses the sunlight (energy) to change water from the soil and carbon dioxide from the air into **carbohydrates** (sugars and starches) and oxygen in the plant.



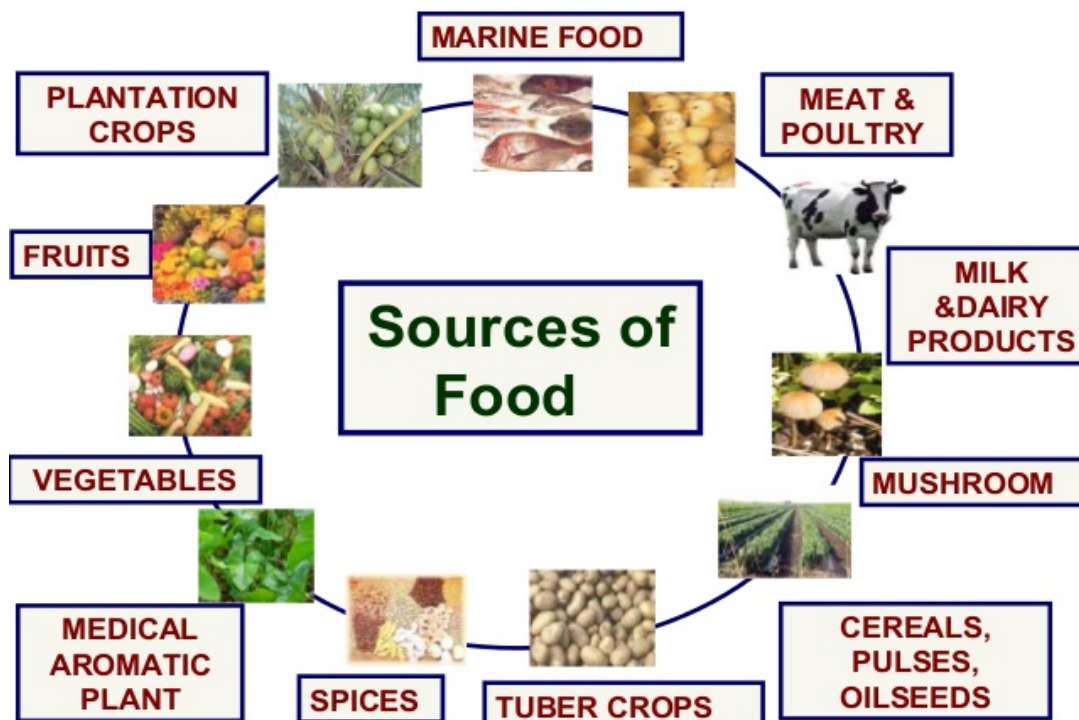
Photosynthesis and food sources

Plants make carbohydrate (sugars and starches) by **photosynthesis**.

What does this mean in terms of food sources for plants and animals? It is very simple really. Plants make their own food by the process described above.

However, animals cannot do this. They use plants and other animals as their food source.

What are the main sources of food?



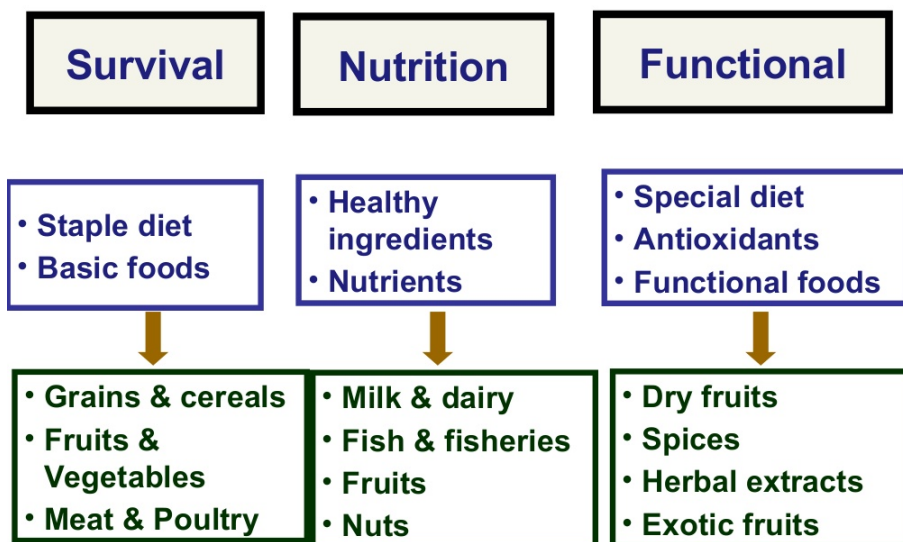
Historically, people secured food through two methods: hunting & gathering and agriculture. Today, the majority of the food energy required by the ever increasing population of the world is supplied by the food industry.

Activity

1. Use the space below to **mind-map** or **list** the places where you can **purchase** (buy) food.

2. **Where** does your household purchase (buy) most of its food from? **Why** do you think this is?

What is food needed for?



What factors influence our food choice?

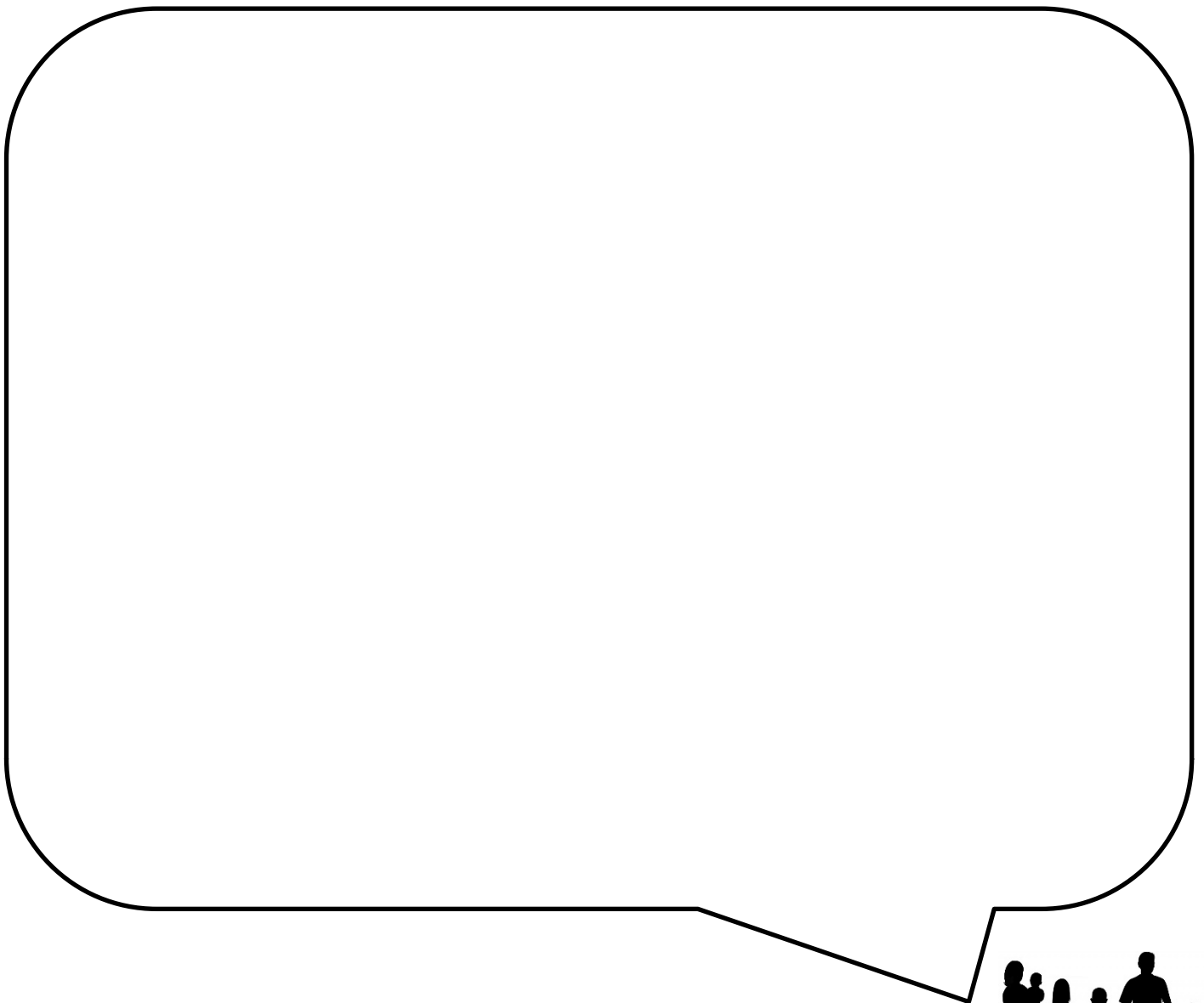
Eating the right balance of a wide range of foods provides most people with the energy and nutrients that they need to stay healthy.

A balanced diet, together with regular physical activity, can help people to maintain a healthy weight and may reduce their chance of developing diet related illness, such as obesity.

All around the world people choose to eat different foods for many different reasons.

Activity

Working with a partner, write down in the space below, factors which affect or can influence a person's food choice.



Food and drink advertising

Advertisements can inform, entertain and promote choice, as well as fund the media, sport and culture we all enjoy. But they can also, occasionally, be divisive. For instance, they can prompt concerns about their impact and whether they have the potential to be harmful or irresponsible. It's these concerns that have generated an ongoing debate around food advertising and children.



The debates about food advertising to children, or more specifically adverts for less healthy products, are linked with wider concerns about childhood obesity. As such, various campaign groups and health bodies are actively calling for tighter restrictions around this type of advertising, believing it to have a negative impact on children's health.

Some health campaigners believe advertising of food and drink to children is harmful and question why we don't introduce tougher rules or an outright ban. **What do you think?**

Marketing a food choices

The findings of an US study, **Food Marketing to Children and Youth, Threat or Opportunity**, found that marketing works. The report stated that there was a significant pattern of food and drink products marketed to children and teenagers. They were high in total calories, sugar, salt, fat, and low in nutrients.

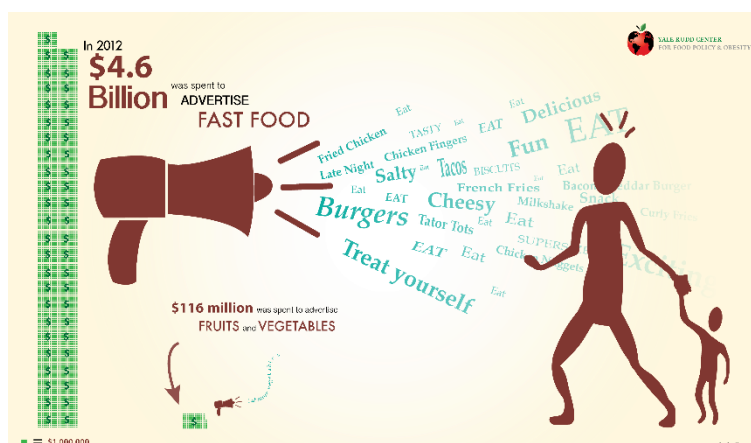
Each year, the world's food and drink companies spend billions on marketing and advertising their products to children and teenagers. The overwhelming majority of these products are high in calories, added sugar, saturated fat and sodium - fast food, fizzy drinks, sweets and chocolate to name just a few. **Can you remember seeing a food advert for apples or broccoli?**

US fast food chains alone spent \$4.6bn on advertising to children and teens in 2012.

According to Fast Food Facts 2013, children under six saw almost three adverts for fast foods every day, while 12-17 year-olds saw almost five adverts a day.

Between 2010-2013, the number of kids' meals at fast-food restaurants increased by 54%.

But the percentage of items that qualified as healthy remained at less than 1%.



Fast food

Fast food such as that sold by McDonalds is high in total calories, sugar, salt, fat, and low in nutrients. Do you know how much exercise you would be required to do to burn off the calories consumed by the following McDonalds meals?

 Big Mac	How many calories? Kcal	 Freestyle Swimming Laps	MINS
 Quarter Pounder with Cheese	How many calories? Kcal	 Cleaning	MINS
 French Fries	How many calories? Kcal* *Medium	 Elliptical Trainer	MINS

 Sausage McMuffin	How many calories? Kcal	 Yoga	MINS
 Sausage McMuffin with Egg	How many calories? Kcal	 Zumba	MINS
 Hash Brown	How many calories? Kcal	 Walking	MINS

 Cheeseburger	How many calories? Kcal	 Canoeing	MINS
 Chicken McNuggets	How many calories? Kcal* *6 pcs	 Belly Dancing	MINS
 Double Cheeseburger	How many calories? Kcal	 Badminton	MINS

 Apple Pie	How many calories? Kcal	 Rope Jumping	MINS
 Sundae Cone	How many calories? Kcal	 Hiking	MINS
 Oreo McFlurry	How many calories? Kcal	 Snorkeling	MINS

Activity

With a partner discuss whether you believe introducing "activity equivalent" calorie labelling would help to tackle obesity?

Write your comments here.



Figure 1: example of activity equivalent calorie labelling on packaging

Food Labelling

The law requires certain information to be given on all pre-packed foods to ensure that the consumer is protected and informed. The guidelines are laid down by the European Union.

Look at the can of peas below. These are the items on the label that are **required by law**:

- Manufacturer's name and contact details
- Name of the product
- Description of the product
- Weight (note - some foods are exempt, for example bread)
- Ingredients (listed in descending order of weight with the allergens in **BOLD**)
- Cooking/heating instructions
- Storage instructions
- Best-before date
- The process used for manufacture



What is on the Label?

What information must be on a label? Can you give a reason or why you need this information when you buy food?

<p>The label must give the name of the food, describing what's in the packet. <i>Why would someone need to know this?</i></p>	<p>The label must give advice on special storage conditions, for instance if a food has to be kept in the refrigerator. <i>Why would someone need to know this?</i></p>
<p>The label must show a "best before" or "use by" date. <i>Why would someone need to know this?</i></p>	<p>The label must give nutritional information, but only if the label has made a nutritional claim, for instance saying that the food is sugar free. <i>Why would someone need to know this?</i></p>
<p>The label on most foods must show the weight or volume of the food. <i>Why would someone want to know this?</i></p>	<p>The label must say how much of the food is made of any ingredient highlighted on the label, for example, the strawberries or bananas in a strawberry and banana smoothie. <i>Why would someone need to know this?</i></p>
<p>The label must highlight the allergens used to make the food. <i>Why would someone want to know this?</i></p>	<p>The label may contain a bar code. This is generally of no interest to the consumer. <i>Why may the retailer need to have this?</i></p>

The 14 Allergens

Labelling rules changed on 13 December 2014. Under the new rules, fourteen major allergens will be highlighted on the label within the ingredients list. Allergens must be emphasised on the label. Food manufacturers can choose what method they want to use to emphasise these, for example, by listing them in bold as shown in the example below:



Source: BBC Bitesize

INGREDIENTS: Water, Carrots, Onions, Red Lentils (4.5%) Potatoes, Cauliflower, Leeks, Peas, Cornflour, **Wheat**flour, Salt, **Cream**, Yeast Extract, Concentrated Tomato Paste, Garlic, Sugar, **Celery** Seed, Vegetable Oil (sunflower), Herb and Spice, White Pepper, Parsley.

Other types of emphasis may be used as well, such as *italics* and underlined or **highlighted** words. Some companies may also emphasise the whole word for example: wheat flour or use the words 'from milk' after listing the ingredient cream.

'Free from' foods

Most of the major supermarkets produce lists of the products they sell that are 'free from' particular foods or ingredients, such as gluten, egg or milk. The measures used to manufacture such foods ensure that the ingredients are handled and the final products are made in ways that prevent accidental contamination with other allergenic ingredients. People often assume wrongly that a 'free from' product is suitable for any type of food allergy. You need to read the label carefully because the product may still not be free from the allergen that affects you, a member of your family or a friend.

The following items are **not legal requirements**, but are nevertheless good practice and often included on packaging:

- Illustration of product
- Price
- Nutritional values of the product
- Customer guarantee
- The batch-code and bar-code numbers
- Opening instructions

Adapting a recipe: Traditional sweet and sour chicken

Ingredients for 4 servings

1 red pepper, deseeded and chopped into chunks
425g can pineapple chunks, drained & juice reserved
100g caster sugar
100ml rice wine vinegar
Sunflower or oil, for frying
100ml soda water, chilled
140g self-raising flour
25g cornflour
4 skinless, boneless chicken breast, cut into chunks
Spring onions, finely shredded, to serve

Look at the ingredients. How could they be adapted to meet the Scottish Dietary Goals?

Method

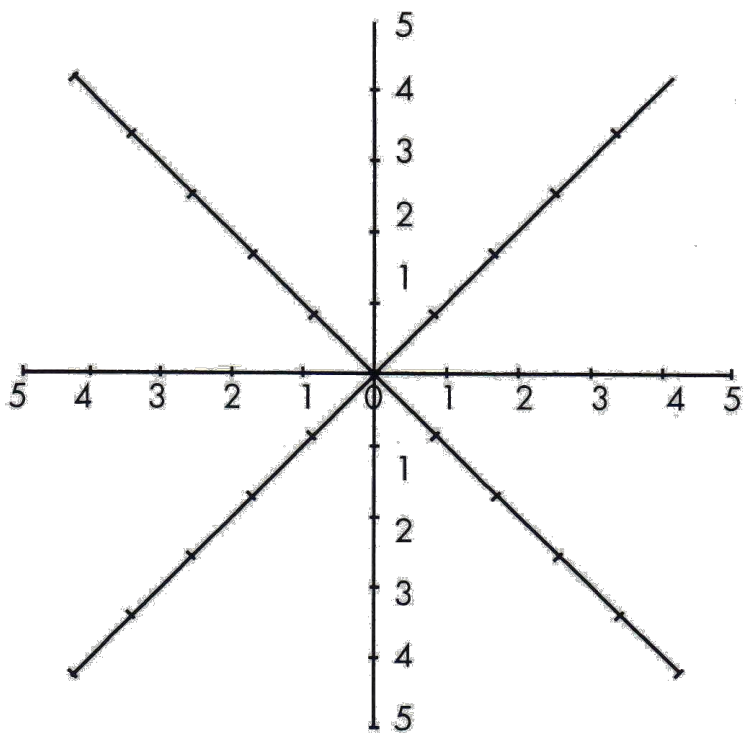
1. For the sauce, put the red pepper and pineapple juice in a pan and bring to the boil. Cover and cook for 10 mins, then purée in a food processor. Return to the pan with the pineapple chunks, sugar and vinegar. Gently simmer for 20-30 mins until reduced and sticky. Keep warm, or reheat to serve.
2. Fill a large pan 1cm deep with oil and heat until shimmering. Whisk the soda water and 100ml cold water into the self-raising flour with a little salt. Tip the cornflour onto a plate, line a tray with kitchen paper and turn on the oven to low.
3. Stir the batter well. Dust the chicken with cornflour, then dip into the batter. One at a time, lower into the hot oil (about 5-6 every batch). Turn up the heat to keep the chicken frying, if needed, and cook for 5-6 mins, turning once. When cooked, drain on the tray, and keep warm in the oven. Repeat with the remaining chicken. Stack onto a plate with the warm sauce on the side, and scatter with shredded spring onions.

Now look at the method. How could this be adapted to meet the SDG?

Practical evaluation of sweet and sour chicken

At the end both practical session you must complete a practical evaluation. At the end of the practical you need to take a clear photograph of your finished dish.

What new skills have you learnt during this practical?



Key

- | | | | |
|-----------------------------------|--------------|-----------------------------------|--------------|
| <input type="checkbox"/> Taster 1 | (Name) | <input type="checkbox"/> Taster 2 | (Name) |
| <input type="checkbox"/> Taster 3 | (Name) | <input type="checkbox"/> Taster 4 | (Name) |

Describe the **aesthetic** (what does it look like) and **sensory** (taste, aroma/smell, mouthfeel/touch) qualities of your product.

Describe what other people think of your product without using the word **NICE**. Ask your tasters to justify their responses

What changes are needed to improve your product and why?

How well does your product meet the Scottish Dietary Goals? Justify your responses.

Could the dish or serving accompaniments be improved further? Explain your answer.

What environmental, ethical, social, moral and cultural considerations could be employed when choosing ingredients for making this dish?

For example, could you use local/seasonal produce? Could you use Fairtrade or organic produce? If using fish could it be line-caught fish? Could you make the dish suitable for vegetarians or specific religious groups? Fully explain your answers.

How organised were you when you completed your practical? Justify your answer.

Being totally honest, how much help did you have with making your product?

Seasonal food

Activities

Name the four seasons and underline the season we are currently in.

- 1.
- 2.
- 3.
- 4.



What do you think the term 'seasonal produce' means?

Name some of the foods that are available fresh in each season.

SPRING

SUMMER

AUTUMN

WINTER

What are the benefits of choosing seasonal produce?

Fact

The majority of the UK population grow up with little or no awareness of when various foods are in season as imports from around the world ensure that supermarket shelves look the same week in week out.

Activity

Here is a list of fruit and vegetables that we can grow in Scotland. Draw a **line with a ruler** to match up each food to the season it grows in.

Apples	Spring
Raspberries	
Blackberries	
Turnips	
Carrots	Summer
Cucumber	
Tomatoes	
Leeks	
Peas	Autumn
Green or runner beans	
Lettuce	
Strawberries	
Cabbage	Winter
Brussels sprouts	
Mushroom	
Onions	
Spinach	All Year Round

Evaluation of Scotch broth

Answer the questions in full sentences with detailed explanations and examples why.

1. What <u>new skills</u> have you learnt during this practical?
2. What was the <u>most difficult problem</u> that you had? How did you overcome it?
3. What do <u>you like</u> about the product you have made? Explain your answer.
4. What do <u>you dislike</u> about your product? Explain your answer.
5. If you were to <u>remake</u> your product, what would you <u>change about the recipe</u> to improve its taste and appearance? <u>Why</u> would you make these changes
6. What other <u>seasonal produce</u> could you use to adapt this soup recipe?
7. Being totally honest, <u>how much help</u> did you have with making your product?

Homework - carry out some research of Scottish foods, produce and recipes.

Exports and local food

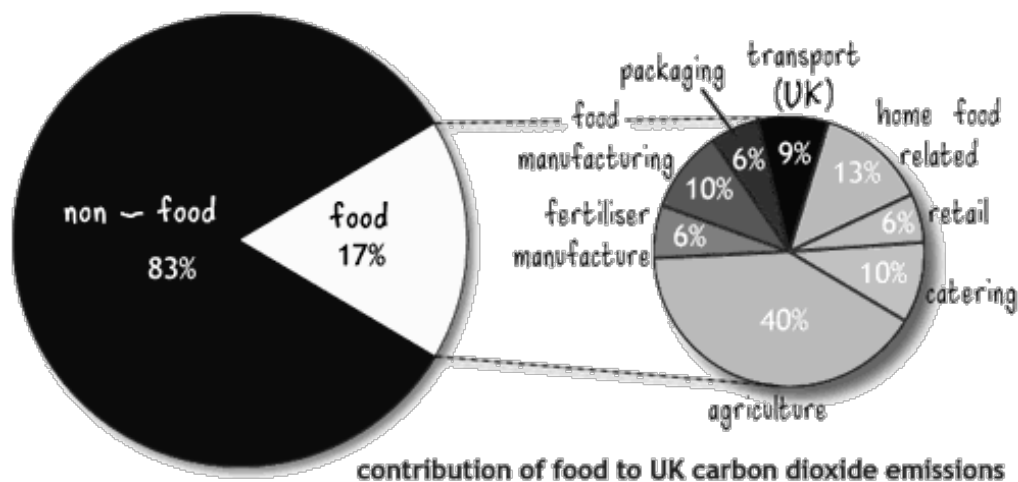
In the last 50 years, there has been a 400% increase in worldwide **food exports**. Some countries are now economically dependent on food exports, which in some cases account for over 80% of all exports.

Food miles (or food kilometres) describe the distance that food is transported as it travels from producer to consumer (also known as field to plate).

In the UK, our food travels an amazing 30 billion kilometres each year. This includes imports by boat and air and transport by lorries and cars

Food transport is responsible for the UK adding nearly 19 million tonnes of carbon dioxide to the atmosphere each year. Over 2 million tonnes of this is produced simply by cars travelling to and from shops.

Choosing food that is local and in season means it does not have to travel so far. Reducing food miles can have a dramatic effect on reducing carbon dioxide emissions.



Source: www.climatechoice.org.uk

Imports, Food Miles and Carbon Dioxide (CO₂)

The European Union was the top **food importer** in 2012, followed by the USA and China (excluding Hong Kong). Food is now traded and marketed on a global basis. The variety and availability of food is no longer restricted by the diversity of locally grown food or the limitations of the local growing season.

Activity

Think about a meal you have had recently or you are going to eat soon and work out the total miles travelled by your food from place of growing/manufacturer to your table.

Local Scottish produce

What do you understand by the term local produce?

Working with a partner and referring back to your homework, write down the names of some foods which are available locally.

What are the **benefits** of buying and eating local produce?



Design and make project



The Scottish Dietary Goals are still not being met. Plan, prepare, cook, evaluate and market the prototypes for TWO traditional Scottish meals/products (one savoury and one sweet) that can be served at a school Burns Night Supper.

The dishes must be suitable for teenagers and adapted to meet the current dietary advice.

RECAP on the Scottish Dietary Goals

Eat more
Eat more
Eat more
Eat more
Eat more
Eat less
Eat less
Eat less

Activity - Underline the key or important words in the design brief and then describe why each word is important in the design process.

Key or important word	Description

What is a design specification? Note: think about your Technology lessons

Activity - write a design specification for your products.

My finished product must be...

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Developing Ideas

Now think of all the possible solutions to the design brief and write them around the soup bowl.



Create a questionnaire to establish the most popular _____ produce and food choices within your class. Ask at least 5 people.

Q1.

Q2.

Q3.

Q4.

Q5.

Based on your results pick your final solutions. Remember the recipes and method may need to be adapted to meet the *Scottish Dietary Goals*.

Product 1 is:

Product 2 is:

Practical Assessment

You will be assessed in the following areas:

- Hygiene and safety
- Use of tools and equipment
- Accuracy and precision
- Practical skill level displayed
- Knowledge and understanding of the ingredients/equipment you are working with
- Ability to work from your time-plan
- Ability to manage the time
- Ability to solve technical problems if and when they happen
- Final Product
- Presentation
- Level of independence

Requisitions

Now that you have chosen your solutions, you need to complete the following plans before you make your products.

Name of Product 1:
Ingredients:
Equipment list:

Timeplan 1

Now complete a time plan for your practical lesson.

Start time:

End time:

Time	Tasks or Recipe steps	Notes

Self Assessment 1

Planning	My Grade & comment(5)	Teacher Comment
<ul style="list-style-type: none"> • Makes suitable choices in response to the task. • Produces an accurate requisition • Produces a detailed timed plan 		Your mark is out of ___/ 25
Hygiene & Safety	My Grade & comment (5)	
<ul style="list-style-type: none"> • Hair tied up • Jumper off & apron • Hands washed • Uses equipment safely • CAYG 		
Preparation & Cooking	My Grade & comment (5)	
<ul style="list-style-type: none"> • Weighing & measuring • Use of tools & equip. • Accuracy & precision • Follows plan effectively • Organises resources • Independent 		
Skill Level	My Grade & comment (5)	
<ul style="list-style-type: none"> • low • medium • high 		
Final Product	My Grade & comment (5)	
<ul style="list-style-type: none"> • Produces a quality outcome • Well-presented 		

Evaluation

Now that you have made your product, evaluate how you got on during the task.
Suggest two strengths in your work.



Suggest one improvement you could make.



Nutritional analysis

By using the Explore Food computer programme you will be able to work out the nutritional value of each product.

This will enable you to determine whether they meet the current dietary guidelines and the Scottish Dietary Targets.

<http://explorefood.foodafactoflife.org.uk/>



Requisitions

Now that you have chosen your solutions, you need to complete the following plans before you make your products.

Name of Product 2:
Ingredients:
Equipment list:

Timeplan 2

Now complete a time plan for your practical lesson.

Start time:

End time:

Time	Tasks or Recipe steps	Notes

Self Assessment 2

Planning	My Grade & comment(5)	Teacher Comment
<ul style="list-style-type: none"> • Makes suitable choices in response to the task. • Produces an accurate requisition • Produces a detailed timed plan 		
Hygiene & Safety	My Grade & comment (5)	
<ul style="list-style-type: none"> • Hair tied up • Jumper off & apron • Hands washed • Uses equipment safely • CAYG 		
Preparation & Cooking	My Grade & comment (5)	
<ul style="list-style-type: none"> • Weighing & measuring • Use of tools & equip. • Accuracy & precision • Follows plan effectively • Organises resources • Independent 		
Skill Level	My Grade & comment (5)	
<ul style="list-style-type: none"> • low • medium • high 		
Final Product	My Grade & comment (5)	
<ul style="list-style-type: none"> • Produces a quality outcome • Well-presented 		Your mark is out of ___/ 25

Evaluation

Now that you have made your product, evaluate how you got on during the task.
Suggest two strengths in your work.



Suggest one improvement you could make.



Fairtrade

Use the website <http://www.fairtrade.org.uk/> to research the answers to the following questions.



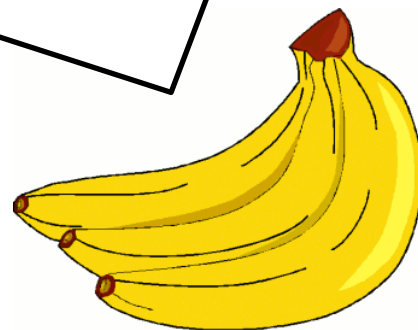
1. Explain what is meant by Fairtrade

2. Why sales of Fairtrade products have increased.

3. Give examples of food products and ingredients which are available as Fairtrade.

Crumbly Banana Squares




90g Fairtrade caster sugar
90g soft margarine
115g wholemeal self-raising flour
50g porridge oats
1 medium Fairtrade bananas, mashed
Extra Fairtrade caster sugar for sprinkling on top








Extension Activity

Using the website <http://www.yourclimateyourlife.org.uk/> calculate how far (food miles) each of the ingredients have travelled from field to fork.

Evaluation and Review: Banana Crumble Cake

Assessor	What went well?	How to improve?
Self-assessment comment		
Peer assessment comment		
Progress indicator (RAG)		 

Tick the appropriate box on the hedonic scale for your product.

Hedonic scale	Like a lot	Like a little	Neutral	Dislike a little	Dislike a lot
					
Banana Crumble Cake					

1. What did you like about your product? (Be specific about each aesthetic quality)

- Aroma:
- Appearance:
- Taste:
- Texture:

2. What did you dislike about your product?

- Aroma:
- Appearance:
- Taste:
- Texture:

3. Suggest at least two improvements that you would make to your product. Be specific about the ingredients that you would use or how you would change the method and what impact you would expect this to have.