Year 8 Food Technology Knowledge Organiser: Food Provenance / Function of ingredients.

Function of ingredients

Each ingredient has an important role in the making of each dish.

Cupcakes	
Self-raising flour	Makes the cake rise (increase in size.
Caster sugar	Makes the cake sweet.
Margarine	Makes the cake moist.
Egg	Binds the mixture together
Vanilla essence	Adds flavour





Bread	
Strong flour	To provide structure.
Yeast	Makes the bread rise.
Water	Provides moisture.

Aeration: Means to incorporate air or CO_2 during the making process with the aim to make the product lighter and to increase the volume.
When you incorporate gas into a mixture (through folding, whisking, creaming , rolling etc). Fat forms a bubble around the gas. This helps to trap air. into the mixture. Fats add moisture, colour and it helps the product to rise.

Seasonal Foods



What is seasonal food?

Food grows at different times of year in England. The time that food is ripe for eating is known as its season. Food grows in different countries at different times, so if food is not in season in England, it can be transported from another country.

Why is eating seasonal food whenever you can a good idea?

- Seasonal foods are fresher.
- Seasonal foods taste better, as they are full of flavour.
- Seasonal foods have less environmental impact because carbon footprints are reduced.
- Local foods supports the local community.

Kneading

to work dough, to develop the gluten that is found in flour, this gives baked goods their structure and texture. When making dough, the flour and other dry ingredients are combined with the wet ingredients, usually warm water, along with yeast.

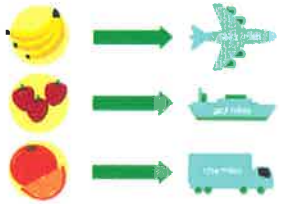


What is are Food Miles?

The distance food has travelled.
Less food miles are better for the environment.

How to reduce them:

Eat seasonal, local food where possible



What is a Carbon Footprint?

The amount of energy you use during your lifetime.

How to reduce it:

Don't fill he kettle (only boil what you need)
Reduce food waste
Eat seasonal, local food where possible
Reuse/Recycle food packaging

Food Waste

What is food waste?

Food waste is food that is discarded, lost or uneaten.

What is the difference between best before, use by and sell by date?

- Best Before date: It means the product will taste best up until that date. It is still edible and okay to eat a little past the listed date, though you may notice a slight change in texture, flavour, or colour.
- Use by date: The date that food should be used by. After this it may be unsafe.
- Sell by date: a date marked on a perishable product indicating the recommended time by which it should be sold.

Tips for reducing food waste

- Reduce
- Reuse
- Redistribute/recycle
- First in first out
- Store food correctly - use your freezer
- Don't cook too much
- Know the difference between best before and use by dates







Source: https://www.tes.com/teaching-resource/ks3-year-8-food-technology-knowledge-organiser-11802648#

Year 8 Food Technology Knowledge Organiser: Food Storage, The Digestive System and the 4 C's

What are bacteria?
A micro organism that multiply in certain conditions.

Where can bacteria be found?
Everywhere!

Are all bacteria bad?
No- some are good and essential for normal bodily function.

How can you reduce the risk of bacteria?
- Storing food separately
- Storing and cooking foods at the correct temperatures

Can we kill bacteria by putting them in the fridge?
No- but keeping food chilled at the correct temperatures will slow bacterial growth.

Why we cook food

Appearance – heat changes the colour and size of food

Taste – makes it taste nicer

Texture – heat changes the texture

Safety– heat kills bacteria so we don't get food poisoning

The 4 C's

Cleaning – wash your hands properly

Cooking – make sure you cook food properly or you could make someone very ill

Chilling – keep it chilly silly

Cross contamination – keep raw meat and cooked food apart

Cross Contamination

What is cross contamination?
Cross contamination is spreading bacteria from one place to another.

What are the four C's to help prevent spreading bacteria?
- Clean
- Cook
- Chilling
- Cross contamination

Why do we use different coloured chopping boards when preparing food?
To prevent the spreading of bacteria (to avoid cross contamination).



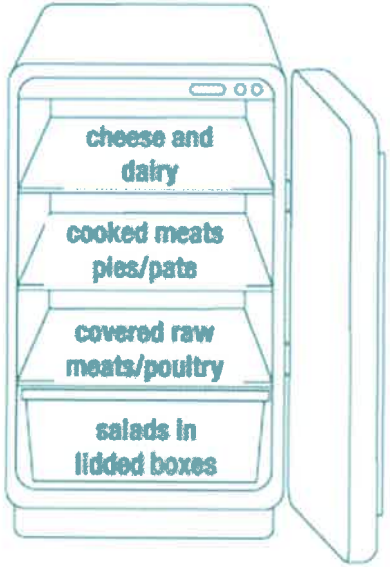


Storing Food

Temperature is really important to keep food safe. The following temperatures should be used:

Refrigeration	Fridges should run at 4°C or below.
Freezing	Freezing of food at -18°C or below will stop bacteria multiplying.
Cooking	Temperatures of 72 °C or above kills almost all types of bacteria.
Danger Zone	The temperature range where bacteria is most likely to reproduce: 8°C-63°C.

To prevent cross contamination (the spreading of bacteria), foods must be stored separately. Follow the rules of food storage within a fridge:



What do bacteria need to multiply?



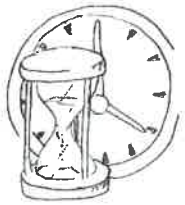
Water: bacteria need moisture to grow



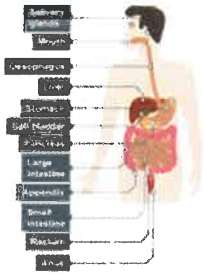
Temperature: bacteria grows when warm



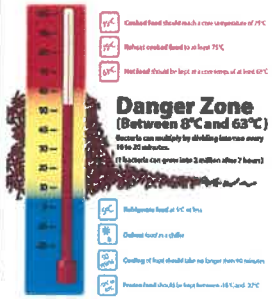
Food: provides the energy for bacteria to grow, multiply and produce toxins



Time: if food is exposed to these things for a long time they will quickly multiply



Keep food out of the Danger Zone



The Digestive System is where nutrients are broken down into small enough molecules to be absorbed into the blood. Digestion is the process of progressively breaking food down and waste food is passed out as faeces. Most nutrients are absorbed in the small intestine. Water is absorbed in the large intestine. Glucose that is absorbed into the blood is taken to cells where it is used for respiration and if not enough glucose is absorbed less energy will be available for the body.

Physical digestion is the mechanical breakdown of food that is caused by teeth in the mouth and muscle contractions throughout the digestive system. The **mouth** also adds **saliva** which softens food so it can be swallowed and adds **enzymes** which help break down food further.

Digestion by enzymes is called **chemical digestion.**

Oesophagus- Pushes food to the stomach through peristalsis.

Stomach- Contains acid to digest food, kill bacteria and adds enzymes to digest food.

Pancreas- Releases enzymes to digest fat, carbohydrates and fats.

Small intestine- Has thin walls and lots of blood vessels to absorb food into the blood stream quickly.

The **large intestine**, also known as the large bowel, is the last part of the gastrointestinal tract and of the digestive system in vertebrates.

Jejunum is the lining is specialized for the absorption by enterocytes of small nutrient molecules which have been previously digested by enzymes in the duodenum.

The **Duodenum**, as the chamber connecting the stomach to the rest of the intestinal tract, functions as a **processing plant** for the mostly digested food and stomach acids coming from the stomach.

The **Anus** is an opening at the opposite end of an animal's digestive tract from the mouth and it's function is to control the expulsion of faeces, unwanted semi-solid matter produced during digestion.

The **Ileum's** main function is to absorb vitamin B_{12}, bile salts, and whatever products of digestion that were not absorbed by the jejunum.

The **Rectum's** main function is to act as **a temporary storage site for faecal matter** before it is eliminated from the body through the anal canal.

Year 8 Food Technology Knowledge Organiser: Nutrition

What is the Eatwell Guide?
The Eatwell Guide is a guide that shows you the different types of food and nutrients we need in our diets to stay healthy.

Why is the Eatwell Guide important?
The Eatwell Guide shows you how much (proportions) of food you need for a healthy balanced diet.

What are the consequences of a poor diet?
A poor diet can lead to diseases and can't stop us from fighting off infections.

What are the sections on the Eatwell Guide?
1. Fruit and vegetables
2. Potatoes, bread, rice, pasta and other starchy food
3. Dairy and alternatives
4. Beans, pulses, fish, egg, meat and other proteins
5. Oils and spreads

Macronutrients
Needed in large amounts to help the body to function properly



Fat



Function
Energy
Warmth
Protection of organs

Sources:

Saturated Fat (Bad Fats)	Unsaturated Fat (Good Fats)
Meat	Avocado
Processed Foods	Nuts
Lard	Olive oil

Too much
• Obesity • Type 2 diabetes • Heart Disease

Protein





Function
Growth and Repair
Energy

Sources;

Plant (LBV)	Animal (HBV)
Nuts	Eggs
Quorn	Fish
Beans	Meat
Lentils	

Too much	Too little
Turns to fat if not turned into energy	• Anaemia • Slow growth in children

Carbohydrates



Function.
Energy



Sources:
Bread
Pasta
Rice
Wheat
Potatoes
Cereals

Sugars:
Cakes
Sweets

We should consume no more than 30g of sugar per day

Too Much
• Weight Gain -Tooth decay • Type two diabetes -Heart disease

Water
Keeps us hydrated.

Source
Drinks, fruit and vegetables, soup.

Function	Too little
• Controls body temperature. • Gets rid of waste in the body.	• Dehydration leads to headaches, irritability and loss of concentration.

Fibre
Function:
It helps us poo
It helps to get rid of waste
Source:
Wholegrain, whole wheat, wholemeal cereals, Peas and beans

Too Little
• Constipation • Bowel Cancer

The Eatwell Guide



Micronutrients
Needed in small amounts to help the body to function properly



Vitamin	Sources	Function
Vitamin A	Fish, eggs, oranges	Helps us to see well
Vitamin C	Oranges, tomatoes, vegetables	Helps to heal cuts, helps the immune system.
Vitamin D	Eggs, the sun	Helps our bones to grow
12 B Vitamins	Cereals, meat, fish	Helps to keep us healthy

Mineral	Sources	Function
Iron	Red meat, spinach, beans and lentils	Helps our red blood cells carry oxygen so that we are not anaemic.
Calcium	Milk, cheese and some cereals	Help us to have strong bones and teeth.

Year 8 Food Technology Knowledge Organiser : Special Dietary Needs.

Dietary Needs

People have different dietary needs; this affects what they can and cannot eat.

Key Words:

- **Allergy:** an adverse reaction by the body to certain substances.
- **Intolerance:** a condition that makes people avoid certain food because of the effects on their body
- **Allergic reaction:** the way someone responds to certain food. For example: a rash/swelling/anaphylactic shock



Do not eat the meat of any animal (meat, poultry or fish) or eggs, milk, cheese and honey



Do not eat the meat of any animal (meat, poultry or fish), but they do eat eggs, milk, cheese and honey



Do not eat red meat or poultry but they do eat fish, eggs, milk, cheese and honey

If you were a vegetarian, how could you get your portion of protein?

Sources of protein don't have to be in the form of meat.

- Beans (kidney beans, chickpeas, lentils, etc.)
- Nuts
- Soy and low-fat dairy products
- Micro-protein (Quorn, etc.)

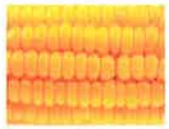
Some people make a choice not to eat certain foods. Reasons include:



➢ Religious beliefs



➢ Medical reasons



➢ Taste/texture of food



➢ Ethical beliefs

Religious/cultural reasons

Muslims

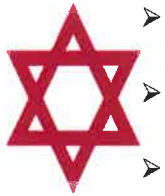


➢ Do not eat pork

➢ Meat must be halal

➢ No alcohol or shellfish

Jews



➢ No pork or shellfish

➢ No milk and meat together

➢ Meat must be kosher

Special Diets

Coeliac disease (gluten intolerance). People must avoid wheat, wheat products, pasta, noodles, semolina, bread, pastry, sauces, rye, barley and oats (including breakfast cereals. They can eat rice, potatoes, corn and corn products.

Nut allergy. People must avoid nuts, blended

Vegans do not eat the flesh of any animal or any animal product e.g. cheese.

Lacto-vegetarians do not eat the flesh of any animal but they will eat eggs, milk, cheese, honey etc.

Muslims do not eat pork and they eat only Halal meat.

Hindus do not eat beef.

Sikhs – Most Sikhs follow a vegetarian diet but non vegetarian Sikh's are allowed to most meats with the exception of beef, pork, halal, kosher products. As long as the meat is slaughtered in the Sikh traditional way.

Medical reasons

Name of medical condition	Food/drinks to avoid	Reason to avoid
Diabetes	Starchy food/ high in sugar	High in saturated fat. Can lead to heart disease, while excess sugars can cause unwanted weight gain and blood sugar spikes
Nut allergy	Nuts, blended cooking oil, margarine with nuts oils and often seeds	the immune system overreacts to proteins in these foods
Lactose intolerance	Milk, cheese, yogurt, processed food	cannot metabolize lactose properly; they lack lactase, an enzyme required in the digestive system to break down lactose. Patients typically experience bloating, flatulence, and diarrhoea
Gluten intolerance (coeliac)	Wheat, wholemeal, bran, pasta, rye, beer	Celiac disease is caused by a reaction to a gluten protein found in wheat, barley, rye, and sometimes oats. Symptoms include chronic diarrhoea, weight loss and fatigue