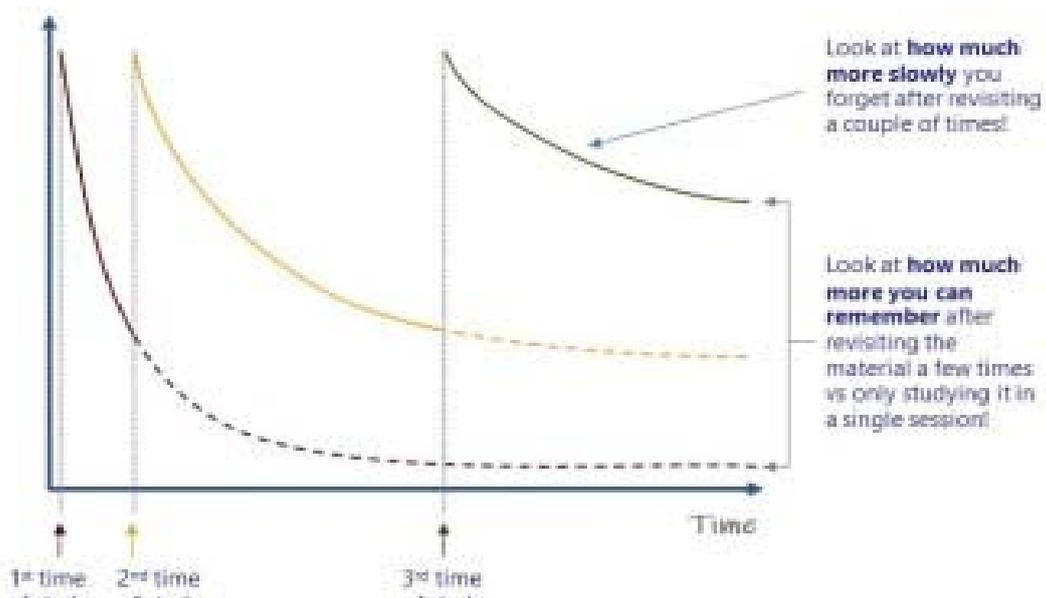




Year 10 & Year 11

14 weeks of revision



Week and Topic		Tick when complete	Comments from you or parent/carer
Week 1 – Modifying a recipe			
Week 2 - Macro and micro nutrients			
Week 3 – Energy balance			
Week 4 – Allergies and intolerances			
Week 5 – Diet through life			
Week 6 – Nutrients found in foods			
Week 7 – Seasonal and local foods			
Week 8 – Organic foods			
Week 9 – Raising agents and fortification			
Week 10 – Factors which influence food choice and scientific terms			
Week 11 - Milk			
Week 12 - Preservation			
Week 13 - Cheese			
Week 14 – Additives			

	Milk, fruit juice, soups		
<u>Pasteurisation</u>		<u>Cook chill</u>	<u>Canning</u>
Temperature should be 0-5 to slow down bacterial growth and extend shelf life.	Texture and colour will be destroyed for some products – such as strawberries	Loss of water soluble vitamins	Can be sold at room temperature with a very long shelf life
Uses very high temperatures 130oc for 5 seconds	<u>UHT</u>	Slight loss in taste and colour	Must be in the danger zone 5oc-630c for the shortest time possible to prevent bacterial growth
<u>Dehydration</u>	Very little change in flavour, texture and nutrients	Ready meals	Handy for emergencies
-18 bacteria lie dormant	72oc for 15 seconds	Packed into cans and then sterilised in a big steamer to kill all bacteria inside	<u>MAP</u>
Freeze as quickly as possible to avoid ice crystals becoming large	<u>Salt</u>	<u>Chilling</u>	Milks and soups
<u>Freezing</u>	Removal of moisture and products become lighter	High water content foods are not suitable for this method	Peas are picked and frozen within 2 hours to lock in colour, flavour and nutrients
Coffee, tomatoes, milk, fruits, herbs	Some foods are rehydrated when water is added (pot noodles)	Used for foods such as bacon the salt removes moisture and this is how it preserves.	The atmosphere inside the packaging is altered
Preserve seasonal produce – turning strawberries into jam	Oxygen, nitrogen and carbon dioxide are sealed in	Suits people who have little cooking skills	<u>Sugar</u>

Lasagne

Ingredients

Beef mince
Onion
Garlic
Stock cube
Tomato puree
Tin of tomatoes
Cheese
Whole milk
Butter
Flour
Lasagne sheets



1. Modifying a recipe

We should be aiming to eat

- More fibre (30g per day - wholegrains and fruits and vegetables)
- Less salt (less than 6g per day - using herbs and spices and avoiding processed foods)
- Less sugar (check labels and chose sugar free)
- Less saturated fat (eating less meat, choosing lower fat alternatives and considering cooking methods)

- 1) How could you modify the recipe for lasagne to meet the nutritional guidance above.
- 2) Complete the boxes below about diet related diseases. For each box, how do you develop the disease and how can you reduce your risk?

Diverticular disease

CHD

High blood pressure

Tooth decay

Sometimes you may need to modify a recipe for other reasons. For example, to lower the cost, to make it suitable for someone who has an allergy or intolerance or change how it is cooked, due to lack of skill or equipment available to the cook.

2. Macro & Micro Nutrients

Macro nutrients are needed in big amounts by the body and micro nutrients are needed in small amounts.

Estimated Average Requirement's (EARs) – the average amount of a nutrient needed by a person

Reference Nutrient Intakes (RNIs) – the amount of a nutrient that is enough for most people in a group

Circle the macro and micronutrients in two different colours

Protein Calcium Vitamin A Iron Fat Potassium
Carbohydrates Vitamin D Vitamin C

Your task this week – use the information on page 3 and ask a family member to test you. Ask them to test you on three separate occasions. Please ask the person who has tested you to comment below on your performance

Comment you're your parent/carer

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3. Energy balance

We need energy to stay alive, move around and keep warm. The relationship between the energy we consume from food and the energy we expel is called **Energy Balance**. We obtain energy from fat, proteins and carbohydrates. Energy is measured in Kcal (calories). Men need 2500 and women need 2000, teens will often need more. Elderly people need less as their metabolism is slowing down.

The amount of energy we need varies with age, gender and the amount of activity we carry out. 70% of all of the energy we use is for bodily functions (breathing, digestion etc) and is called our **Basal Metabolic Rate**. Everyone has a different BMR. Also, everyone has a different **PAL** (physical activity level)

Key Terms	Definition
Calories	
BMR	
PAL	
Energy Balance	

Gender – Males need more energy than females

Age – Babies and young children need more as they are growing

Activity levels – an office worker would normally need less than say a brick layer

Health – if you are unwell you may need more to fight off the illness

Pregnancy and Breastfeeding – in the last three months of pregnancy and also whilst breastfeeding

Task - Look at the pictures below. Who would need the most energy and why?



Who requires the most energy and why?

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4. Allergies and intolerances

NHS WEBSITE - Food intolerance

A food intolerance is difficulty digesting certain foods and having an unpleasant physical reaction to them.

It causes symptoms, such as bloating and stomach pain, which usually come on a few hours after consuming the food.

The number of people who believe they have a food intolerance has risen dramatically over recent years, but it's hard to know how many people are truly affected.

What are the symptoms of food intolerance?

In general, people who have a food intolerance tend to experience:

- [tummy pain](#), bloating, wind and/or [diarrhoea](#)
- skin rashes and itching



These symptoms usually come on a few hours after eating the food.

A food allergy is when the body's immune system reacts unusually to specific foods. Although allergic reactions are often mild, they can be very serious.

Symptoms of a food allergy can affect different areas of the body at the same time. Some common symptoms include:

- an itchy sensation inside the mouth, throat or ears
- swelling of the face, around the eyes, lips and tongue
- vomiting
- In serious cases an anaphylactic shock.

Coeliac disease is an autoimmune disease triggered by gluten (the protein found in wheat, rye and barley). Lactose is a sugar found in milk. Task: Visit a supermarket website, what alternatives and replacements can you find for someone suffering from coeliac disease and lactose intolerance.

Available alternatives



5. Diet through life

Most people make a choice about what type of food to eat at least two or three times a day. The availability of a wide range of foods makes it easy to choose something that is right for us. We are influenced by lots of factors, such as cost, the environmental impact, religion, personal preference and time available.

During the different stages of life, people require different foods and quantities of nutrients to keep fit and well. **Why not have a go at making a dish this week for a particular target group!?**



6. Nutrients found in foods

Using the nutrients below, which nutrients are found in these foods

	1	2	3
Eggs			
Cereals			
Fish			
Meat			
Milk			
Fruits & Veg			



Calcium, Vitamin C, Iron, Vitamin A, Vitamin D,
Carbohydrates, Protein, Fat, Fibre, Vitamin B

When the proteins in eggs are heated they coagulate (they turn from a liquid to a solid) make a dish this week which shows this process (cakes, scrambled eggs, quiche etc)

7. Seasonal and local foods

Make a seasonal dish this week and take a photo!



Adapted from materials available at www.nature.com/food

Give three advantages of eating seasonal foods

- 1.
- 2.
- 3.

Key Word	Definition
Food Miles	
Carbon Footprint	
Sustainable	
Landfill site	

Why might a consumer choose to eat local food which is grown close to their home?

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8. Organic foods

Look out for organic foods at the supermarket



Below are the pictures of an organic farm, a free range farm and an intensive farm. Describe the farming method below each picture. Consider both plants and animals in the different systems.



Organic - describe
Advantages
Disadvantages

Free Range - describe
Advantages
Disadvantages

Intensive - describe
Advantages
Disadvantages

Key words to help you with the activity above

- Large quantity
- Low cost
- High cost
- Fertilisers and pesticides
- Antibiotics
- Large fields
- Lots of hedgerows
- Big biodiversity
- Small amount of land
- Indoors
- 28 days
- Increased flavour (according to some!)
- GM free
- Respects soil structure and wildlife
- No chemical run off into streams
- Grown in greenhouses
- Also known as 'factory farming'
- Spread of disease and illness
- Can roam freely outside
- Can peck, perch and play
- Blisters and sores on their feet

9. Raising agents and Fortifying foods

1) Discuss the different ways in which products can rise?

A raising agent is something that is usually added to _____ or _____ in order to make them light and give them height. One raising agent which is very specific to bread making is _____, when yeast is given the correct conditions of moisture, _____, time and food it produces the CO_2 which in turn allows the bread to rise.

Another raising agent is _____, this is a chemical raising agent and is added to _____ flour but can also be added separately, it is added into cakes for a light texture. Lastly, air is raising agent, for example when you beat together _____ and sugar for a Victoria sponge air is added at this stage, or when an _____ is used for meringues and the albumin in the egg whites creates a _____, or when flour is _____ into a cake like a swiss roll and is then folded in.

- Cakes
- Sieved
- Baking powder
- Electric whisk
- Self raising
- Foam
- Butter
- CO_2
- Breads
- Warmth



2) Why are foods fortified?

Some foods must be fortified by law, for example, _____ is fortified with fat soluble vitamins _____ to make the margarine more nutritionally similar to _____, vitamin D helps the _____ in the margarine to be absorbed into the body. Some products are voluntarily fortified like breakfast cereals and this is done to prevent deficiencies of certain vitamins and minerals and also as a good selling point. Another reason that foods might be fortified is to replace nutrients lost during _____, for example when wheat is milled and the bran is removed a lot of iron is lost, so flour is fortified.

- Margarine
- Processing
- Butter
- Calcium
- A & D

10. Factors which influence food choice

Firstly, religion can influence the types of foods that people wish to buy and eat. For example in _____ many people may give up certain foods for _____ and then eat hot cross buns on Good Friday. In Islamic religion _____ do not eat _____ or any pork products.

Secondly, cost is a major factor in influencing what people buy. Different people have different amounts of money to spend, saving money on your food bill might mean choosing local or _____ food or even _____ your own. It may also mean, avoiding foods which are organic or _____ and instead opting for a supermarket own brand and planning your meals carefully, and then cooking in economical ways (one pot meals, or just using the oven for the entire meal)

Lastly, allergies and intolerances play a big part, for instance someone who is a _____ will have to avoid gluten which is found in _____, it can make you feel bloated and uncomfortable, areas of the supermarket are dedicated to gluten free foods and checking _____ will help the consumer to choose carefully. Furthermore, lactose is the _____ found in milk, many people cannot digest this, and so turn to oat, nut and _____ milks as alternatives.

- Muslims
- Sugar
- Labels
- Wheat
- Coeliac
- Free range
- Lent
- Seasonal
- Pork
- Growing
- Christianity
- Soya

Go onto Youtube and search for the 4.23 clip “Jamie Olivers top fish buying tips”. Label the fish below, how would you tell if the fish you were buying were fresh and safe to eat?



ACTIVITY - Turn over for part two of this week's revision! Join the key words in red to the black definitions.

11. Primary processing of milk

Primary processing = This means changing a basic food to preserve it or prepare it for sale or cooking. For example, pasteurising milk, milling wheat into flour or peeling and slicing fruit for canning.

There is a wide variety of milk available. Cow's milk is the most popular but alternative milks are rising in popularity especially as veganism increases. Milk is mainly **water**, it is an **emulsion** and has tiny **globules** of fat suspended in it. As oil and water do not mix the fat will rise to the top and form a **cream layer**. To stop this happening the milk is **homogenised**, which is where they force the milk through **tiny holes** to make the fat globules much smaller, so they are too little to rise to the top. Most milk is **pasteurised** which kills harmful bacteria. Milk can also be **ultra heat treated** and **sterilised** to extend the shelf life even longer.

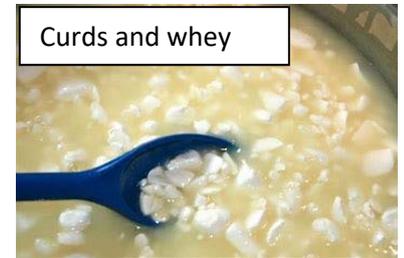
ACTIVITY - What can you find out about the milks below? Annotate the pictures below.

Types of milk



13. Making Cheese

There are many different varieties of cheese, some have a strong flavour and others have a mild flavour. Cheese can be made from a variety of milks, from cows, goats and even buffalo. Look at the process below of how to make cheese. Make a very simple cartoon strip to show the main processes of how to make cheese. You may also want to go onto Youtube as there are a wide range of clips which show the process brilliantly. Remember, we have done all of this in class!!!!



Recap – this is a test that you did in March!

1. Give an example of a hard cheese
2. Give an example of a blue cheese
3. Which is higher in fat, single or clotted cream?
4. Give an example of a secondary process of milk?
5. What is the term given to making milk safe to drink?
6. Give two details of the above method
7. What is added to milk to start the process of cheese making
8. What is the milk split into?
9. What is added to the cheese for flavour and preservation?
10. Which cheese is higher in fat, parmesan or cheddar?
11. Why is cheese left to ripen/mature?
12. Which Vitamins would be found in butter and cheese?
13. Give an advantage of UHT milk

My cartoon strip of how to make cheese

<u>1</u>	<u>2</u>	<u>3</u>
<u>4</u>	<u>5</u>	<u>6</u>

12. Preservation

Colour code the boxes below, do you think it is an advantage or **disadvantage** of preserving food?

Can buy and use products that are not in season	Increases the shelf life of a product	The texture of food is lost	Increases the range of foods available and adds variety into the diet
Can be more expensive	Loss of colour	Lasts longer and therefore fewer trips to the supermarket	Loss of nutrients and often contains added fat, salt or sugar.

Use the info below – make a mind-map, create flashcards or a poster. Revise these all week and then at the end of the week ask a parent / carer to test you on the facts.

High Temp Methods	
Pasteurisation	Milk & Fruit juice. 72°C for 15 seconds. Extends by days not months.
Sterilisation	Milk. 104°C for 40 minutes. Milk has a 'cooked' flavour
Ultra Heat Treatment	Milk and soups. 130°C for 5 seconds. Slight change in taste.
Canning	Fruits and vegetables. Destroys colour and texture
Low Temp Methods	
Chilling	Fridge is 0°C-5°C. slows down bacterial growth
Blast chilling	Foods are cooled very quickly to below 5°C, to avoid them being in the danger zone (where bacteria multiplies quickly 5°C-63°C)
Cook chill	Ready meals (remember the curry dvd!) have a shelf life of 7 days, due to them being cooked to 75°C and cooled through the danger zone VERY QUICKLY. This means little bacteria is present when it leaves the factory.
Freezing	-18°C. Do not freeze products with a high water content and the ice crystals destroys the cell wall and structure. Popular as we have busy lifestyles, saves time, gives choice, handy in emergencies!
Cook freeze	Meals are made and then frozen at -20°C. distributed in frozen lorries.
Dehydration	Preserves by removing moisture – makes products light and cheaper to transport. Colour and nutrients are lost. Dried foods must be stored in a cool dry place. Sunlight = tomatoes, freeze dried = coffee, oven drying = herbs.

Comment from parent/carer – How did your son/daughter get on this week?

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