Year 7 Cycle 1

Knowledge Organisers

Contents

Drama Knowledge 1

Proscenium Stage

Type text here

The **audience** is positioned in front of the stage, and the stage can be looked upon like a picture frame. The 'frame' itself is called the **Proscenium Arch**. This is the style of most **traditional theatres.**

In some proscenium theatres, the stage extends forward in front of the proscenium arch. This is called an **apron stage.**

Suspension of Disbelief

The idea that when an audience is watching a play it is willing to accept that what is happening onstage is real.

Thought-Tracking — a **rehearsal technique** that allows the inner thoughts of a **character** or **role** to be heard out loud. It is often used in conjunction with **freeze-frame** or **still-image** where a participant is asked to say what they are thinking at that point in time.

Vocal Skills

Volume — How loud or quiet a voice sounds in **performance**. Sometimes your teacher may refer to **vocal projection or power.**

Physical Skills

Facial expression —These **communicate emotions** to the audience. They tell us about the character and the way they react to a situation.

Colour Symbolism

Colour can be used in **costumes, set, props and lighting** to communicate a deeper meaning to the audience.

Example:

LOVE RED **ANGER**

STRENGTH **DANGER**

Drama Techniques and Terminology

Narrator – A role that functions like a **storyteller**. They can describe the action, provide a **commentary** or give additional information. A narrator can be present onstage or be an offstage, or pre-recorded, voice.

Freeze-Frame – During an **improvisation** or the playing of a scene, the instruction, 'freeze' is called out and the performers hold their positions at that moment. It is sometimes wrongly used to mean **'still image'** or **'tableau'**. These are techniques used to consciously set up a 'stage picture' or a 'frozen image'.

KO Year 7 Cycle 1: 'Stories and Society' (Page 1)

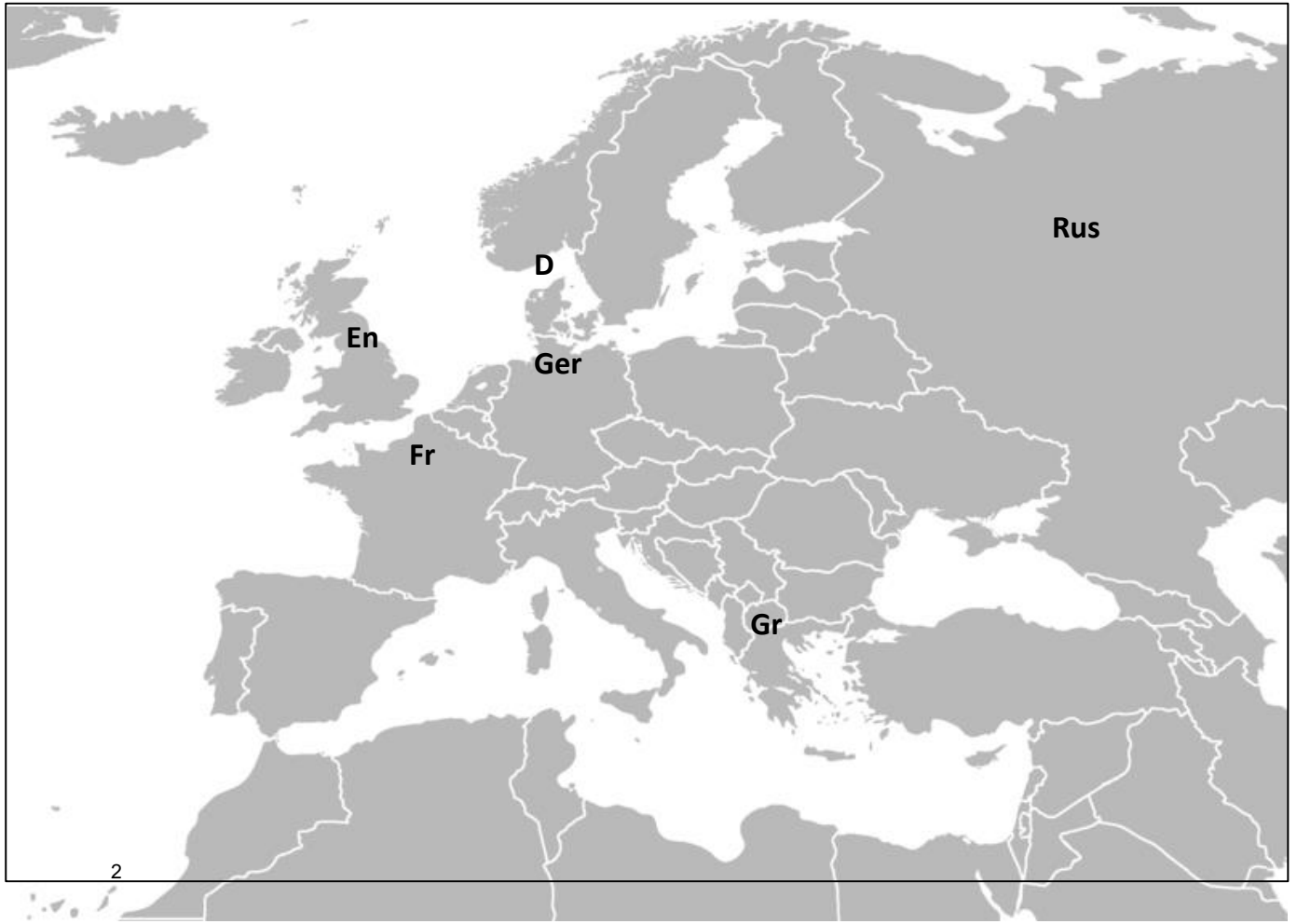
You will be expected to know the information in this Knowledge Organiser by the end of Cycle 1. You will learn a little at a time as part of your homework each week. Your teacher will tell you what to focus on each week.

In addition to the information in this Knowledge Organiser, you will also need to have a good knowledge of the **characters** and **plot** of 'Animal Farm'. However, giving you this information in advance in the Knowledge Organiser would give too much away – we want you to enjoy reading the story to find out what happens! If you miss lessons when we read the book, it is your responsibility to catch up with each chapter. If you don't have your written copy, or if you would like to listen to the story being read, there is a good audio version here: https://www.youtube.com/watch?v=1gwJCJ1TD50.
(Ch1 - 0:06; Ch2 - 17:58; Ch3 - 33:59; Ch4 - 47:58; Ch5 - 58:27; Ch6 - 1:18:17; Ch7 - 1:35:43; Ch8 - 1:58:50; Ch9 - 2:24:00; Ch10 - 2:45:58)

The key vocabulary on Page 2-3 of this Knowledge Organiser is presented in **alphabetical order**. Some of these words will be used very frequently in many of our English lessons; others specifically relate to our Cycle 1 topic. The definitions are simplified, so you may find the words being used in a slightly different way in other subjects or in different books – that's a good learning opportunity, so ask about them!

Key Authors and Dates Type text here	
Aesop (Greece)	6th century BC (2600 years ago)
Charles Perrault (France)	17th century (died 1703)
The Brothers Grimm (Germany)	19th century (died 1863)
Hans Christian Andersen (Denmark)	19th century (died 1875)
George Orwell (England). This was his pen name: his real name was Eric Arthur Blair.	20th century (died 1950)
The Russian Revolution took place in 1917–1923.	
'Animal Farm' was published in 1945	

In Cycle 1, the writers and ideas we discuss are from several countries. You need to be able to identify these countries on the map.
England – George Orwell
France – Charles Perrault
Germany – The Brothers Grimm
Denmark – Hans Christian Andersen
Greece – Aesop
Russia (previously the USSR) – the country Orwell used as inspiration for 'Animal Farm'



KO Year 7 Cycle 1: 'Stories and Society' (Page 2)

Key Vocabulary	Definition	In a sentence
allegory (n), allegorical (adj)	A story that has a partly hidden moral or political meaning. (It has a similar meaning to the word **fable**).	'Animal Farm' is an **allegory** about revolution and power in society. It is an **allegorical** story.
allusion (n)	A brief, indirect reference to something, making us think of it.	The film 'Shrek' makes **allusions** to many different fairy tales. Many books and films make **allusions** to other books and films: the more we know, the more we notice.
audible (adj)	Able to be clearly heard.	When we read aloud in lessons, we need to be **audible**.
author's (or authorial) **intent** (n)	What the writer wants readers to think about or feel when reading.	Orwell's **intent** is that we should think carefully about how countries are led.
character **function** (n)	The purpose of a character in a text; how they help to **convey** ideas.	In 'Animal Farm', Napoleon's **function** is to show the danger of tyrants.
context (n)	The wider situation in which something happens or exists.	To understand something fully, we have to think about its **context**.
convey (v)	Express a thought, feeling or idea so that it is understood by others.	The fables **convey** moral messages to readers.
corrupt (adj)	Dishonestly using a position of power for personal gain.	The pigs in 'Animal Farm' are **corrupt** because they always benefit the most from all their decisions.
eloquent (adj)	Using language to express ideas and opinions very clearly and well, so they have a strong effect on others.	Snowball is very **eloquent**, and is always able to convince the other animals to believe what he says.
exploit (v)	Use someone or something unfairly for your own gain.	In 'Animal Farm', the pigs **exploit** the other animals by making them work very hard. Boxer's loyalty and willingness to work is **exploited**.
fable (n)	A short story with a moral message, usually with animals as characters.	Aesop is famous for his **fables**, which have a clear moral at the end.
idiom (n)	A phrase that is commonly used and understood, but the meaning isn't always obvious from the words that are used (e.g. 'It's raining cats and dogs.')	Many **idioms** in the English language have their origins in Aesop's fables, because the stories are so well known. (e.g. 'Slow and steady wins the race' and 'the lion's share').
liberty (n)	The freedom to live as you wish and go where you want (so long is this doesn't harm someone else's liberty). The opposite of **oppression**.	In Britain, we have a great deal of **liberty** in our lives. However, in many other countries, people are still fighting for their **liberty** and their rights.
manipulate (v)	To influence or control someone for your own gain, often without that person knowing it (often using language and emotion, rather than force)	In 'Animal Farm', the pigs **manipulate** the other animals: they bend the truth, lie, cause confusion and impress the animals with their intelligence so that the animals believe what they say.
maxim (n)	A short and simple statement containing a rule or a principle.	One of Boxer's **maxims** is 'Napoleon is always right' – this rule guides how he behaves.
moral (n)	A message or lesson that we can learn from a story or event.	The **moral** of 'The North Wind and the Sun' is that gentle persuasion is often better than force.
narrative (n)	A story; a spoken or written account of events. (In English we often use the word 'narrative' instead of 'story').	Most people enjoy **narratives** that contain a few surprises and twists.
oppression (n), oppress (v)	A situation in which people are ruled in an unfair or cruel way, and prevented from having opportunities and freedom. The opposite of **liberty**.	In Britain, we try to run the country in a way that means people are free from **oppression**: we have **liberty** in our lives.

KO Year 7 Cycle 1: 'Stories and Society' (Page 3)

Key Vocabulary	Definition	In a sentence
oral tradition (n)	The tradition of preserving and passing on of knowledge and culture by telling stories from one generation to the next. (Spoken, not written).	The Brothers Grimm collected together fairy tales from the **oral tradition** and wrote them down.
pen name (n)	A name used by an author and printed on their books instead of their full real name.	George Orwell is the **pen name** of Eric Arthur Blair.
persuade (v), persuasion (n)	Using language and explanation to make someone do or believe something.	In 'Animal Farm' the pigs **persuade** the other animals that they are making good decisions and looking after them.
power (n)	Control or influence over people and things. Someone's ability to do something.	The pigs in 'Animal Farm' eventually have all the **power**.
propaganda (n)	Information, ideas or pictures that only show one side of a situation, which are discussed and spread in order to influence people's opinions.	In 'Animal Farm', the pigs use **propaganda** to make the situation seem much better than it is for the other animals.
quotation (n)	In English, a word or phrase taken from a longer piece of writing, repeated by someone who wasn't the original author.	In English, we use **quotations** from texts as evidence to support our ideas.
rebellion, revolution (n)	Organised and often violent action against a government or ruler, by a group of people trying to change the way their country is run.	The **rebellion** on the farm leads to Mr Jones running away.
rights (n)	An entitlement to what we need to be able to live a full and healthy life.	Our school is a **Rights** Respecting School, which means teachers and students work together to promote and protect the **rights** of all young people in our community.
satire (n), satirical (adj)	A way of criticising people or ideas in a humorous way, which is often linked to politics and governments/rulers.	In 'Animal Farm', Orwell uses **satire** to criticise some of the governments and rulers of the early 20th century.
society (n)	A large group of people who live alongside each other in an agreed and organised way. This word can often be used to describe everyone who lives in a country.	We should always consider the needs of both older and younger members of **society**.
text (n)	In English, any piece of (usually printed) piece of writing.	If you can't remember something, go back to the **text** and re-read the relevant section.
totalitarianism (n)	A political system in which the people in power have complete control, and no-one is allowed to go against them.	In a **totalitarian** state, there is very little liberty and violence is often used to stop protests.
tyrant (n)	A ruler who has unlimited power over others, and uses it unfairly and cruelly.	In 'Animal Farm', Napoleon becomes a **tyrant**. The farm is ruled by **tyranny**.
universal (adj)	Existing everywhere or involving everyone.	Ideas such as power, relationships, grief and fairness are **universal**.
violence (n)	Extreme force, in words or actions, that is intended to cause harm.	Many tyrants use **violence** to control people.
reader's **reaction** or **response** (n)	The way a reader thinks or feels when they read a text.	Sometimes we have a strong personal **response** to books and films; other times, we might have to think about the possible **reactions** of other people.

HOMEWORK 1

Why we need food & the Eatwell guide

https://forms.office.com/r/MhyY7v2jd4

The body needs food for:

- Growth and repair of cells
- Energy
- Warmth
- Protection from illness
- Keeping the body working properly

Your diet should include:

- A variety of foods to make sure you get all of the nutrients to stay healthy.
- No single food can supply all of the nutrients that you need

Foods are vital for our survival and are made up of different things called nutrients. Each nutrient has its own function in the body

- Protein - growth and repair of cells, maintenance of the body and to provide energy.
- Fat - provide energy, to keep the body warm, to protect internal organs and provide fat soluble vitamins and essential fats
- Carbohydrates - needed for energy
- Vitamins & minerals - needed to protect the body and prevent illness and disease

<u>The Eatwell guide</u>:

<u>Questions:</u>

1. Why should you eat a variety of foods?
2. List the 5 main nutrients needed by the body and give a function of each
3. How much water should we drink a day?
4. List the sections of the Eatwell Guide including foods you would find in each section

HOMEWORK 2

Protein

https://forms.office.com/r/p3J2B43Veu

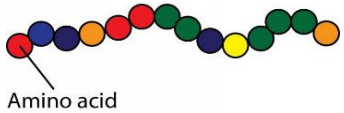
There are two main types of nutrients:

- Macronutrients - needed in large amounts by the body (protein, fats and carbohydrates)
- Micronutrients - needed in smaller amounts (vitamins and minerals)

Protein is needed for growth, repair, maintenance and a secondary source of energy

Some people will need more protein than others e.g. children, teenagers and pregnant women

Proteins are made from amino acids and there are 20 of them



Essential amino acids must be provided by food because the body cannot make them

10 are essential for children and 8 are essential for adults.

High biological value (HBV)

- Contain all of the essential amino acids
- Mainly come from animals e.g. meat fish and eggs

Low biological value (LBV)

- Missing 1 or more essential amino acid
- Mainly come from plant foods e.g. peas, beans

Complimentary proteins

- When 2 or more LBV proteins are combined they can make a HBV protein e.g. beans on toast

<u>Questions:</u>

1. What is the 4-letter word to remember the functions of protein
2. Which groups of people need more protein in their diet?
3. What are proteins made from and how many are there?
4. Can the body make all of the amino acids?

HOMEWORK 3
Fat
https://forms.office.com/r/cwmWqcQAKk

Many people eat too much fat which is not good for our health and can lead to several health problems

Fats like butter are solid at room temperature and are called saturated fats.
Oils are liquid at room temperature and are called unsaturated fats.

Saturated or unsaturated fat:

- Saturated fat - too much in the diet can be harmful to health.
- Unsaturated fat - this type of fat is better for our health and can have several benefits.

Eating this type of fat is better for our health and can have several benefits.

The functions of fat are:

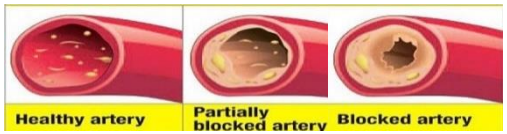
- It protects vital organs by covering them with a layer of fat
- It insulates us and keeps us warm
- Provides energy (2 x as much as a gram of carbohydrate)
- It provides fat soluble vitamins A, D, E & K

P
I
E

Cholesterol is a fatty substance needed to function properly and help with the digestion of fats. Eating foods high in fat can raise cholesterol levels in the blood

Eating too much fat can cause:

- Obesity
- Type 2 diabetes
- Heart disease



Questions:

1. What are 3 of the main functions of fat in the body?
2. Name 3 sources of animal fat & 3 sources of vegetable fat
3. Which type of fat should we be eating less of and which should we eat more of?

HOMEWORK 4
Carbohydrate
https://forms.office.com/r/xt9T70F6JH

The main function of carbohydrate is to provide energy! There are 3 different groups of carbohydrate.

Sugar:

- All sugars, treacle and syrups, honey, jam and marmalade
- Known as simple or double sugars

Starch:

- Potatoes, rice, pasta, bread
- Known as complex carbohydrates. Made up of lots of simple sugars joined together

Fibre:

- Found in cell walls of fruit, vegetables and cereals
- Also, a complex carbohydrate

There are 2 other types of sugar that we need to be aware of in our diets. These are:

- Free sugars = sugars that are added to foods e.g. sugar, honey and syrup. Can be more harmful to our health if we eat too much.
- Fruit sugars = natural sugars found in fruits and vegetables e.g. apples. Better for us.

We should be getting 50% of our energy from carbohydrate foods

- 45% of our energy should come from starchy foods
- 5% should come from sugars

If the diet contains too much carbohydrate than we need then it will be turned into fat and stored in the body. This could lead to obesity.

Fibre is needed to keep the digestive system healthy. If you don't eat enough fibre, you could become constipated.

The recommended amount of fibre for adults is 30g per day.

Questions:

1. What is the main function of carbohydrate in the body?
2. What are the 3 main groups of carbohydrate?
3. What percentage of our energy should come from carbohydrates?
4. What problems do you think eating too many free sugars could cause in the body?

Geography Knowledge Organiser

Year	7	Cycle	1	Topic	What is Geography?

(If you cannot access the QR code, ask your teacher to share the folder with your school email)

Ready to test your key term knowledge? Scan this QR code to access Quizlet

Subject vocabulary

Physical Geography	All geography that occurs naturally for instance rivers, coasts and earthquakes.
Human Geography	All geography that involves human activity for instance industry and population.
Geography	The study of Earth's landscapes, people, places and environments. It is about the world.
Environment	The air, water and land in or on which people, animals and plants live.
Subjective	Based on or influenced by personal feelings, tastes, or opinions.
Relief	The height and the shape of the land.
Site	The features and characteristics of the actual point at which the settlement is located.
Situation	The location of the settlement in relation to its surroundings – things like communications, other settlements, rivers, relief.
Sense of place	The meaning we give to a place.
Geology	The study of rocks and similar substances that make up the earth's surface..
Distribution	How people are spread across a specific area.
Density	The concentration of individuals within a specific geographic locale.
Dense	Lots of people.
Sparse	Very few people.
Hemisphere	A half of the earth, usually as divided into northern and southern halves by the equator, or into western and eastern halves by an imaginary line passing through the poles.
Geology	The study of rocks on the Earth's surface.
Globalisation	The lengthening and deepening of links between countries.
HIC	High income country.
NEE	Newly emerging economy.
LIC	Low income country.
Development	Any improvement in the standard of living of people in a specific country.
Exports	The value of all goods sold to other countries.
GNI per capita	The total earning of the country divided by its population.

Lesson content

1. What is Geography?	Not all places are the same, we attach meaning to places depending on our *perception*. Geography can be split into three distinctive categories: Physical, Human & Environmental.
2. How can we locate places?	We can use compass points (4 or 8) to give direction. We can also refer to *hemispheres*. We can also pinpoint places using *scale*: individual, local, regional, national and global scales.
3. What is our School's environment like?	An Environmental Quality survey allows us to collect data about the local environment. However, it can be seen as being subjective. A radar diagram allows us to present our data.
4. How can we locate local features on an OS map?	***4-figure grid reference***: The first two numbers are called the easting, which is the number you would look for at the bottom of the map. The second two numbers are called the northing and represent the numbers you would look for on the side of the map. Where these two sets of numbers intersect is the bottom, left corner of the square where you would find what you are looking for. ***Map symbols*** can be identified using a key on a map: they can be icons, letters, lines or shading.
5. How can we use 6-figure grid references to navigate?	A 6-figure grid reference contains 6 numbers. Imagine that each grid is divided into 100 tiny squares. The distance between one grid line and the next is divided into tenths.
6. Why is our local place a good place for a settlement?	Settlements have been created and developed due to considerations of *relief*, *site* and *situation*. Resources and accessibility are also key factors.
7. Peoples perceptions of place	Factors that affect our sense of place: Personal experience, attachment to a place and identity of a place
8. How can we use the scale on a map?	A 1:25,000 scale means that each millimetre on your map represents 25,000 mm or 25 metres on the ground (therefore 4mm on your 1:25,000 map will represent 100 metres and 4 cm will represent 1 km).
9. Mid cycle assessment	
10. What shapes the UK's physical landscape?	Geology is a major factor for the landscape in the UK. In Northern areas geology is composed of harder rock, so landscape is a lot steeper in relief. Whereas the geology in the south, especially where we are is softer rock, hence why we are lower in relief. Rocks can be classified into Igneous, Metamorphic and Sedimentary categories. Rivers, glaciers, waves and climate also play a key role in shaping our landscape.
11. Does the UK's physical landscape influence it's human landscape?	This is where we consider the uneven *distribution* of population in the UK. We use terms such as *sparsely* and *densely* to describe patterns of population. Multiple factors are responsible for the uneven distribution; Geology: flat land is easier to build on. Climate: Warm areas with some rain are the easiest to live in and grow crops. Location: Coastal areas allow trade.
12. The longitude and latitude of our place	Lines of latitude (also known as parallels) circle the Earth from east to west. These invisible lines are all the same distance apart. One line to the next is known as 1 degree. These are the lines which run north and south and are known as lines of longitude or meridians of longitude. Lines of longitude are not equal distances.
13. How does our place connect to the rest of the world?	Actions and decisions in one place or country affect another place or country, this is known as *interdependence*. We are connected by the products we consume. Products are designed in HIC and manufactured in NEE or LIC.eg. iPhones are designed in California and made in China. Social Media allows ideas and information to be transferred around the world. Container ships allow goods top transferred around the world We affect other places by releasing carbon dioxide and causing global warming.
14. How do our actions effect the planet?	Plastics are man-made and produced from natural materials like coal, oil and gas. Plastic is in lots of things we use from clothing to crisp packets and bottles to cars. The problem with plastic is that most of them aren't biodegradable. They don't rot, like paper or food, so instead plastics can hang around in the environment for hundreds of years. This affects animals, fish and places in bad ways.
15. Places around the world	Places are at different levels of *development*. We can measure development using 'indicators'. These indicators can give us a snapshot of health, education and the wealth of a nation. We classify countries into HIC, NEE and LIC.
16. My place and Haiti	Haiti is a small island in the Caribbean. It has a tropical climate. Hot all year round and has a rainy season. It is very mountainous with most people living on the coastal plain. It was colonised by the French and only got independence in 1804. It struggles form high levels of corruption and civil unrest Many people are very poor and live in informal settlements (slums).

Key concepts

Place: A space or location with meaning. Different cultures and people have different perspectives on place.

Scale: The 'zoom lens' that enables us to view places from global to local levels.

Interdependence: When two ore more components rely on each other. Often referred to as a web of connections.

Year 7 History Cycle 1: Invaders – Why did the Normans win the Battle of Hastings? The conqueror and the conquered – What did the English think when William took control?

1	This enquiry will examine the famous 1066 Battle of Hastings and the events that led up to it. We will also evaluate the impact of the Norman Conquest on England after 1066.	

Timeline

2	5th January 1066	Edward the Confessor, the King of Anglo-Saxon England, dies.
3	25th September 1066	Battle of Stamford Bridge
4	14th October 1066	Battle of Hastings
5	25th December 1066	William is crowned King
6	1068	Motte and bailey castles built in Exeter and Totnes
7	1086	Domesday Book completed

8	Why did William win the Battle of Hastings?	• Luck - The wind changed and allowed William's troops to cross the channel at a time when Godwinson's troops were away in the north. Godwinson was killed during the battle. • Tactics / skill - The Normans' clever trick of pretending to retreat caused the Saxons to leave their strong position on the hill. • Weapons / forces – Normans had cavalry - knights on horseback and archers. • Leadership - William was skilful, ambitious and determined.
9	What impact did the Normans have on England?	• Power – The king ruled through the feudal system. Lords promised to be loyal and provide an army in return for land. Land was taken from the Saxons and given to Norman barons. • People – Many Saxons rebelled against **Norman** rule, particularly in the years 1066-71. However, they were unsuccessful. **Normans** built castles as one way of controlling people.

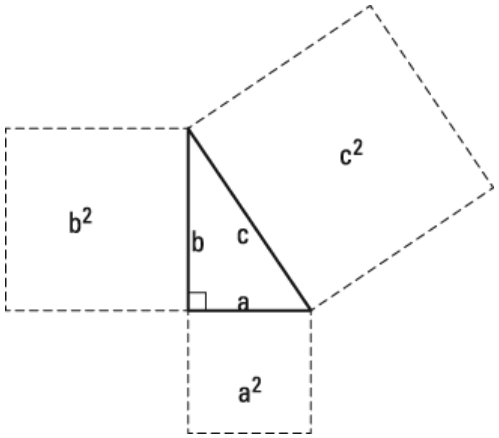
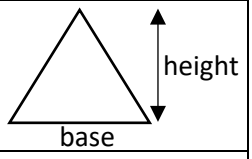
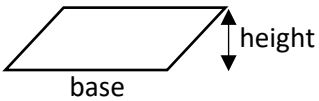
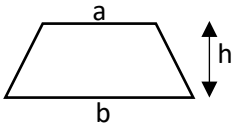
Key People

10	Edward the Confessor	Saxon King 1042-66. Died with no clear heir.
11	Harold Godwinson	Chosen by the witan to be King after Edward the Confessor died.
12	Harald Hardrada	King of Norway. His grandfather had been King of England. Attempted to conquer England in September 1066. Defeated by Harold Godwinson at the Battle of Stamford Bridge.
13	William Duke of Normandy	Duke of Normandy. Successfully invaded England in 1066, defeating Harold **Godwinson** at the **Battle of Hastings**.

Key Words

14	historical source	A piece of information created in the past by people who lived through it that helps to inform our understanding of that part of history. E.g. a painting or diary
15	historical interpretation	Where historians say what they believe the past means. They attempt to explain why and how things happened as they did and why particular elements in the past are important.
16	analyse	Examine evidence (e.g. an historical source) and explain it to help make sense of the past.
17	historically significant	An event, person, place or idea that is important, not just to the people of the past but also to people today. It leaves a lasting mark on our history in some way.
18	Anglo-Saxon	People who ruled and lived in England from around 500 AD.
19	Norman	The people from Normandy in Northern France especially those who invaded England in 1066 and became its rulers.
20	Viking	A person belonging to a race of Scandinavian people (modern day Denmark, Norway and Sweden), who traveled by sea and attacked parts of northern and southern Europe between the 8th - 11th centuries, often staying to live in places they travelled to.
21	succession	Things that follow one another, as well as the order in which they do so. E.g. the order in which people become king or queen is known as the order of **succession**.
22	heir	Someone who is named in a will or is legally entitled to inherit something. E.g. Prince Charles is the **heir** to the throne because he will be king when Queen Elizabeth II dies.
23	conquest	To overcome and take control of a place through military force.
24	fyrd	Working men who were called up to fight for **Anglo-Saxon** kings in times of danger.
25	cavalry	Soldiers who fought on horseback.
26	rebellion	Resisting authority and the people in control – can be violent.
27	the pope	Leader of the Roman Catholic Church. Lives in the Vatican City in Rome, Italy.
28	feudal system	A way of controlling England by giving land to people in return for services.
29	Domesday Book	A book recording the names of all the villages in England and who owned the land.
30	motte & bailey	The first type of castle the **Normans** built on Saxon land. It had a man made hill (motte) and area for living with a fence around it (bailey).

Y7C1 Key knowledge

Item	Description
Algebraic notation	$3a$ means $3 \times a$ a^2 means $a \times a$ $\frac{a}{3}$ means $a \div 3$
Sides of an equation	The equals sign separates the two sides of an equation or formula. They are referred to as the Left-Hand Side (LHS) and Right-Hand Side (RHS)
Balancing	Balancing an equation involves doing exactly the same thing to both sides of the equation. This keeps the sides equal.
Steps to use Pythagoras Theorem	1) Square all of the lengths 2) Add (for hypotenuse) or Subtract 3) Square root your answer
Pythagoras Theorem in words	The area of the smaller squares add to equal the area of the largest square. 
Pythagoras Theorem as an equation	$a^2 + b^2 = c^2$
Area of a rectangle	$Area\ of\ rectangle = base \times height$
Area of a triangle	$Area\ of\ triangle = \frac{1}{2} base \times height$ 
Area of a parallelogram	$Area\ of\ parallelogram = base \times height$ 
Area of a trapezium	$Area\ of\ trapezium = \frac{1}{2}(a + b) \times h$ 

Y7Fr LC1 Sentence Builder 1 – Greetings – Comment tu t'appelles? Ça va?

FRENCH

Salutation	Verb	Name	Connective	verb	Adjective	Salutation
Bonjour (good day) Salut (hi) Bonsoir (good evening) Enchanté(e) (nice **to** meet you)	**je suis** **(I am)**	……..	**et** **(and)**	**je suis** **(I am)**	bien (well) super (great) malade (ill) pas mal (not bad) pas terrible (not great) fatigué(e) (tired) content(e) (happy) triste (sad)	au revoir (good bye) à bientôt (see you soon) à plus (see you later) salut (bye)

Y7Fr LC1 Sentence Builder 2 Quel âge as-tu ? FRENCH

Verb	Number	Noun	Connective	Phrase	Number	Month
J'ai **(I have)**	**un** (1) deux (2) trois (3) quatre (4) cinq (5) six (6) sept (7) huit (8) neuf (9) dix (10) onze (11) douze (12) treize (13) quatorze (14) quinze (15) seize (16) dix-sept (17) dix-huit (18) dix-neuf (19) vingt (20) vingt-et-**un** (21) vingt-deux (22) vingt-trois (23) vingt-quatre (24) vingt-cinq (25) vingt-six (26) vingt-sept (27) vingt-huit (28) vingt-neuf (29) trente (30) trente-et-**un** (31)	ans (years)	**et** **(and)**	**mon** anniversaire **c'est le** (**my** birthday **is the**) 	**un** (1) deux (2) trois (3) quatre (4) cinq (5) six (6) sept (7) huit (8) neuf (9) dix (10) onze (11) douze (12) treize (13) quatorze (14) quinze (15) seize (16) dix-sept (17) dix-huit (18) dix-neuf (19) vingt (20) vingt-et-**un** (21) vingt-deux (22) vingt-trois (23) vingt-quatre (24) vingt-cinq (25) vingt-six (26) vingt-sept (27) vingt-huit (28) vingt-neuf (29) trente (30) trente-et-**un** (31)	janvier (January) février (February) mars (March) avril (April) mai (May) juin (June) juillet (July) août (August) septembre (September) octobre (October) novembre (November) décembre (December)

Verb		Adjective	Connective	Verb	Noun	Adjective
 **Je suis** **(I am)**		grand/grande (tall) petit/petite (short) gros/grosse (fat) mince (thin) beau/belle (beautiful)		**j'ai** **(I have)**	**les** cheveux (**the** hair)	noirs (black) blonds (blond) bruns (brown) roux (red) longs (long) courts (short)
					les yeux (**the** eyes)	bleus (blue) gris (grey) marron (brown) verts (green)
mon père (**my** dad) **mon** beau-père (**my** step dad) **mon** frère (**my** brother) **mon** demi-frère (**my** half/step brother) **ma** mère (**my** mum) **ma** belle-mère (**my** step mum) **ma** sœur (**my** sister) **ma** demi-sœur (**my** step sister) **mon** chat (**my** cat) **mon** chien (**my** dog)	**est**		**et aussi** **(and also)**	**il/elle a** **(he/she has)**	**les** cheveux (**the** hair)	noirs (black) blonds (blond) bruns (brown) roux (red) longs (long) courts (short)
					les yeux (**the** eyes)	bleus (blue) gris (grey) marron (brown) verts (green)
mes parents (**my** parents) **mes** grands-parents (**my** grandparents)	**sont**	grands/grandes petits/petites gros/grosses minces beaux/belles		**ils/elles ont** **(They have)**	**les** cheveux (**the** hair)	noirs (black) blonds (blond) bruns (brown) roux (red) longs (long) courts (short) raides (straight)
					les yeux (**the** eyes)	bleus (blue) gris (grey) marron (brown) verts (green)

Y7Fr LC1 Sentence Builder 4 – Who I live with: Tu habites avec qui?

FRENCH

Phrase	Determiner	Noun	Verb	Adjective	connective	Determiner	Noun	Verb	Adjective
Je pense **que** (**I** think **that**)	**mon** (**my**)	père dad beau-père (step dad/father in law) frère demi/beau-frère (half/step brother) oncle (uncle) chien (dog) chat (cat)	**est** (**is**)	sympa (nice) gentil (kind) amusant (funny) timide (shy) sérieux (serious) idiot (silly)	**mais** **et** (**and**) **aussi** (**also**)	**mon** (**my**)	père dad beau-père (step dad/father in law) frère demi/beau-frère (half/step brother) oncle (uncle) cousin (cousin) chien (dog) chat (cat)	**est** (**is**)	sympa (nice) gentil (kind) amusant (funny) timide (shy) sérieux (serious) idiot (silly)
	ma (**my**)	mère (mum) belle-mère (step mum/mother in law) sœur (sister) demie/belle-sœur (half/step sister) tante (aunt)	**est** (**is**)	sympa (nice) gentille (kind) amusante (funny) timide (shy) sérieuse (serious) idiote (silly)		**ma** (**my**)	mère (mum) belle-mère (step mum/mother in law) sœur (sister) demie/belle-sœur (half/step sister) tante (aunt) cousine (cousin)	**est** (**is**)	sympa (nice) gentille (kind) amusante (funny) timide (shy) sérieuse (serious) idiote (silly)
	mes(**my**)	parents grands-parents	**sont** (**are**)	as above + **s**		**mes(my)**	parents(parents) grands-parents	**sont** (**are**)	as above + **s**

Y7Fr LC1 Sentence Builder 5 – Hobbies & opinions: Qu'est-ce que tu aimes faire ? Pourquoi ? FRENCH

Verb	**Verb**	**detail**	**Connective**	**Phrase**	**Verb**	**Adjective**
J'adore **(I love)** **J'aime bien** **(I really like)** **J'aime** **(I like)** **Je n'aime pas** **(I don't like)** **Je n'aime pas du tout** **(I don't like at all)** **Je déteste** **(I hate)**	surfer (**to** surf)	**sur** internet (**on the** Internet)	**parce que** **(because)**	**je** pense **que** (**I** think **that**)	**c'est** **(it's)**	cool (cool) passionnant (exciting) intéressant (interesting) amusant (fun) stupide (stupid) barbant (boring)
	tchatter (**to** chat)	**en** ligne (**on**line)				
	écouter (**to** listen)	**de la** musique (**to** music)				
	jouer (**to** play)	**au** foot/tennis/rugby (**at**) football/rugby/tennis)				
	envoyer (**to** send)	des textos (**some** text messages)				
	regarder (**to** watch)	**la** télévision (**the** TV)				
	chanter (**to** sing)	des chansons (**some** songs)				
	étudier (**to** study)	**pour le** collège (**for** school)				
	parler (**to** speak)	**avec** mes amis (**with my** friends)				

Year 7 Learning Cycle 1 Sentence Builder 1: SPANISH

¿Cómo estás? – How are you?

Salutation	Verb	Adjective	Connective	Adjective	Salutation
Buenos días = Good day **Buenas** tardes = **Good** afternoon **Buenas** noches = **Good** night Mucho gusto = Pleased to meet you	**estoy = I am (feeling)**	fenomenal = amazing **bien = well** regular = ok mal = bad fatal =terrible triste= sad alegre = happy cansad@ = tired motivad@ = motivated hart@ = fed up	**y = and** **pero = but**	fenomenal = amazing **bien = well** regular = ok mal = bad fatal =terrible triste= sad alegre = happy cansad@ = tired motivad@ = motivated hart@ = fed up	Adiós = goodbye **Hasta** luego = **until** later **Hasta** pronto = **until** soon Although the literal translation of hasta is until, we often say 'see you' in this situation

Year 7 Learning Cycle 1 Sentence Builder 2: ¿Cuántos años tienes? – How many years do you have?

Verb	Number	Noun	Connective	Phrase	Number	Preposition	Month
Tengo = I have	uno = 1 dos = 2 tres = 3 cuatro = 4 cinco = 5 seis = 6 siete = 7 ocho = 8 nueve = 9 diez = 10 once = 11 doce = 12 trece = 13 catorce = 14 quince = 15 dieciséis = 16 diecisiete = 17 dieciocho = 18 diecinueve = 19 veinte = 20 veintiuno =21 veintidós = 22 veintitrés = 23 veinticuatro = 24 veinticinco = 25 veintiséis = 26 veintisiete = 27 veintiocho = 28 veintinueve = 29 treinta = 30 treinta y uno = 31	años = years	**y = and**	**mi** cumpleaños **es el** = **my** birthday **is the**	uno = 1 dos = 2 tres = 3 cuatro = 4 cinco = 5 seis = 6 siete = 7 ocho = 8 nueve = 9 diez = 10 once = 11 doce = 12 trece = 13 catorce = 14 quince = 15 dieciséis = 16 diecisiete = 17 dieciocho = 18 diecinueve = 19 veinte = 20 veintiuno =21 veintidós = 22 veintitrés = 23 veinticuatro = 24 veinticinco = 25 veintiséis = 26 veintisiete = 27 veintiocho = 28 veintinueve = 29 treinta = 30 treinta y uno = 31	**de = of**	enero = January febrero = February marzo = March abril = April mayo = May junio = June julio = July agosto = August septiembre = September octubre = October noviembre = November diciembre = December

Year 7 Learning Cycle 1 Sentence Builder 3: SPANISH

¿Cómo es tu mejor amigo? – What is your best friend like?

Adjective	Noun	Verb	Modifier	Adjective
mi = my	**amigo = friend (male)** **amiga = friend (female)** **mejor amigo = best friend (male)** **mejor amiga = best friend (female)** novio = boyfriend novia = girlfriend media naranja = half orange	**es = (he/she/it) is**	**(muy) = very** (bastante) = quite 	sincer@ = sincere tímid@ = shy tranquil@ = calm divertid@ = fun gracios@ = funny seri@ = serious simpátic@ = kind tont@ = silly list@ = smart loc@ = crazy rar@ = weird
mis = my	**amigos = friends (all male or mixed)** amigas = friends (all female)	**son = (they) are**		sincer@s -sincere tímid@s = shy tranquil@s = calm divertid@s = fun gracios@s = funny seri@s = serious simpátic@s = kind tont@s = silly list@s = smart loc@s = crazy rar@s = weird

Year 7 Learning Cycle 1 Sentence builder 4:

¿Cómo es tu familia? – What is your family like?

<table>
<tr><th>Verb</th><th>Connective</th><th>Possessive</th><th>Noun</th><th>Verb</th><th>Adjective</th><th>Connective</th></tr>
<tr><td rowspan="3">Creo=
I believe
Pienso =
I think
  </td><td rowspan="3">que = that</td><td colspan="2">(yo) = I</td><td>soy = I am

no soy =
I am not</td><td>alt@ = tall
baj@ = short
gord@ = fat
delgad@ = thin
guap@ = good looking
fe@ = ugly</td><td rowspan="3">y = and
pero = but
también = also</td></tr>
<tr><td>mi =my</td><td>padre = dad
madre = mum
padrastro = stepdad
madrastra = stepmother
hermano = brother
hermana = sister
hermanastro = stepbrother
hermanastra = stepsister
abuelo = grandpa
abuela = grandma
perro = dog
gato = cat
conejo = rabbit
cobayo = guinea pig
ratón (m) = mouse
serpiente (f) = snake</td><td>es =
(he/she/it) is

no es =
(he/she/it) is not</td><td>alt@ = tall
baj@ = short
gord@ = fat
delgad@ = thin
guap@ = good looking
fe@ = ugly</td></tr>
<tr><td>mis =my</td><td>padres = parents
hermanos = siblings
abuelos = grandparents
mascotas = pets</td><td>son =
(they) are

no son =
(they) are not</td><td>alt@s = tall
baj@s = short
gord@s = fat
delgad@s = thin
guap@s = good looking
fe@s = ugly</td></tr>
</table>

Year 7 Learning Cycle 1 Sentence builder 5: ¿De qué color son tus ojos y tu pelo? – Of what colour are your eyes and hair?

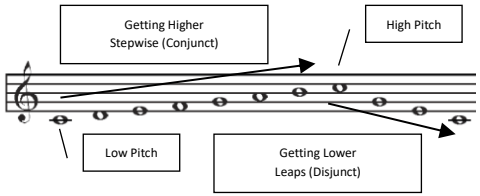
<table>
<tr><th>Subject</th><th>Verb</th><th>Noun</th><th>Adjective</th></tr>
<tr><td rowspan="2">(yo) = I</td><td rowspan="2">tengo = I have</td><td>el pelo = the hair</td><td>negro = black
rubio = blond
castaño = brown
pelirrojo = red
largo = long
corto = short</td></tr>
<tr><td>los ojos = the eyes</td><td>azules = blue
grises = grey
marrones = brown
verdes = green</td></tr>
<tr><td rowspan="2">(él) = he
(ella) = she
mi madre = my mum
mi padre = my dad
mi hermano = my brother
mi hermana = my sister
mi mejor amigo = my best friend
mi familia = my family</td><td rowspan="2">tiene = he/she/it has</td><td>el pelo = the hair
  </td><td>negro = black
rubio = blond
castaño = brown
pelirrojo = red
largo = long
corto = short</td></tr>
<tr><td>los ojos = the eyes
  </td><td>azules = blue
grises = grey
marrones = brown
verdes = green</td></tr>
<tr><td rowspan="2">mis hermanos = my siblings
mis padres = my parents
mis amigos = my friends</td><td rowspan="2">tienen = they have</td><td>el pelo = the hair</td><td>negro = black
rubio = blond
castaño = brown
pelirrojo = red
largo = long
corto = short</td></tr>
<tr><td>los ojos = the eyes</td><td>azules = blue
grises = grey
marrones = brown
verdes = green</td></tr>
</table>

TEIGN SCHOOL MUSIC
Step Up to Music Knowledge Organiser

here **Building Bricks** — *Exploring the Elements of Music*

Pitch

The highness **or** lowness **of a sound.**



Tempo

The **speed** of a piece of music.

FAST: *Allegro, Vivace, Presto*
SLOW: *Andante, Adagio, Lento*
GETTING FASTER – *Accelerando (accel.)*
GETTING SLOWER – *Ritardando (rit.) or Rallentando (rall.)*

Dynamics

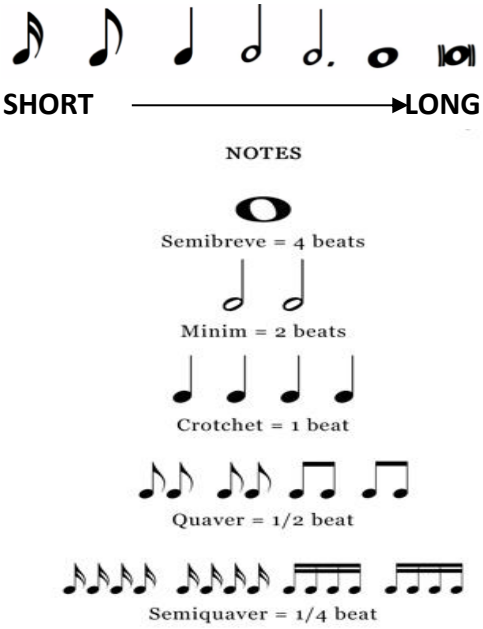
The **volume** of a sound or piece of music.

VERY LOUD: *Fortissimo (ff)*
LOUD: *Forte (f)*
QUITE LOUD: *Mezzo Forte (mf)*
QUITE SOFT: *Mezzo Piano (mp)*
SOFT: *Piano (p)*
VERY SOFT: *Pianissimo (pp)*

Duration

Note Lengths

The **length** of a sound.



E. Texture

How many **LAYERS** of sound **we hear.**

THIN TEXTURE: ***(sparse/solo)* – small amount of instruments or melodies.**

THICK TEXTURE: ***(dense/layered)* – lots of instruments or melodies.**

F. Sonority

Describes the **unique sound or tone quality** of different instruments voices or sounds.

Velvety, Screechy, Throaty, Rattling, Mellow, Chirpy, Brassy, Sharp, Heavy, Buzzing, Crisp, Metallic, Wooden etc.

G. Articulation

How individual notes or sounds are **played/techniques**.

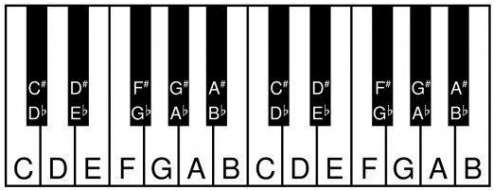
LEGATO – playing notes in a long, smooth way shown by a **SLUR**.

STACCATO – playing notes in a short, detached, spiky way shown by a **DOT**.

The Keyboard

The Piano Keyboard – you need to know with where the notes are.

Black note to the LEFT

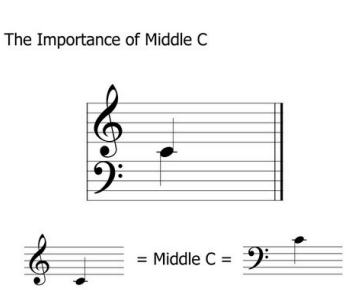


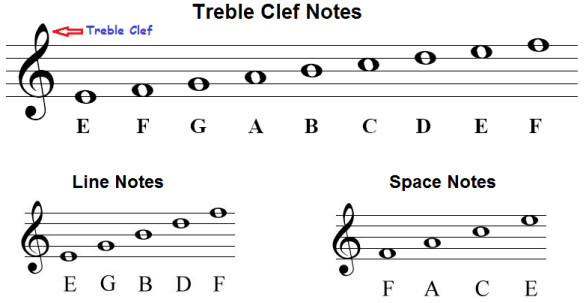
Black key to the RIGHT

TONE – Whole step eg C to D
SEMITONE – Half a step eg C-C#

Notation

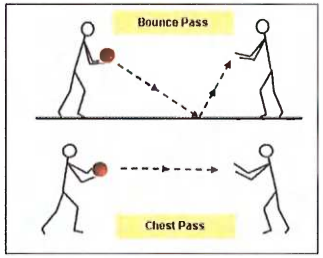
STAFF NOTATION – music written on a **STAVE** (5 lines and spaces





Year 7 Cycle 1 Sport and PE Knowledge Organiser https://www.youtube.com/watch?v=pnAfaKNMTvs (voice over video)

BIO

Week 1 and 2	Week 3 and 4	Week 5 and 6	Week 7 and 8	Week 9 and 10	Week 11 and 12
Warming Up	**Benefits of Warming Up**	**Sporting examples:**	**Design your own:**	**Cooling Down**	**Benefits of Cooling Down**
Stage 1: Pulse raiser Gradually raising heart rate to increase blood flow around the body and speed up oxygen delivery to the working muscles by performing exercise that make the performer breathe faster. **Stage 2: Stretching** Stretching the muscles that will be used during the main activity. Stretches can be static or dynamic and aim to increase the range of movement. **Stage 3: Skills practice** Familiarising the performers body with the movements they are about to perform e.g. passing drill before football or netball fixture **Stage 4: Mental preparation** Ensuring the performers attention are entirely focussed on the performance e.g. mental reh earsal, deep breathing, visualisation, imagery and positive self-talk	-Effect on body temperature -Range of movement increased -Gradual increase of effort to full pace -Psychological preparation -Practice of movement skills through the whole range of movement -Injury prevention.  	**Netball:** **Pulse raiser:** 2 x laps of the netball court at a medium pace together as a team **Stretching:** In 1/3 of the netball court dynamic stretches: Lunges Squats Side lunges heel flicks High knees Skill related:  **Mental preparation:** Positive self-talk to team mates Visualising playing well and making successful passes into the 'D'.	Time to design your own warm up for a sport of your choice: Use the template below: **Sport:** **Pulse raiser:**  **Stretching:**  **Skill related drill:**  **Mental preparation:** 	**Stage 1: Elevated Breathing** Maintain elevated breathing and heart rate allows oxygenated blood to travel through our vessel, helping speed up recovery and removing waste products. **Stage 2: Gradual reduction of Heart Rate** A gradual reduction in the intensity of exercise, such as talking a jog down to a walk, keeps blood flowing through our vessels. **Stage 3: Stretching** We must stretch our muscles after exercise. Stretches can be static or dynamic and aim to reduce DOMS (delayed onset of muscle soreness	• Allows to body to recover quicker from exercise • Helps remove lactic acid, carbon dioxide and waste products • Helps to prevent DOMS  

RPE

Week 1	Weeks 2 & 3	Week 4	Week 5
Lesson 1 – What Is Religion?	**Lessons 2 - 3 – Applying The 7 Dimensions**	**Lesson 4 – Why Do We Have Religion?**	**Lesson 5 – Using Different Lenses**
Key Terms: **Religion:** A particular system of faith and worship. **Social:** A group of individuals involved in social interaction. **Material:** Physical objects, for example, clothes, food, buildings. **Rituals:** A religious ceremony consisting of a series of actions.	**Key Terms:** **Tribe:** A social group in society consisting of people with the same language, culture, religion etc. 	**Key Terms:** **Social Science:** The study of human society and social relationships. 	**Key Terms:** **Lens:** A way of looking at a particular belief or worldview. **Theology:** Questions about belief: what it is, where it has come from, how it has changed over time, how it is applied in different contexts **Philosophy:** Questions about the nature of reality, existence and knowledge.
Content: Ninian Smart looked at the features that religions have in common and came up with 7 dimensions: 1. Beliefs and teachings 2. Rules 3. Feelings 4. Social 5. Material 6. Rituals 7. Stories	**Content:** In order for a tribe to live together harmoniously, different aspects would need to be considered. Smart's 7 dimensions from last lesson can be applied to these tribes. When suffering occurs and tribes are forced to work together, the beliefs of these tribes may conflict.	**Content:** Many people need religion for the following reasons: - It can explain the origins of life. - Religion can give hope that there is a life after death. - Most religions contain stories that can offer hope/calm - Religion can bond communities together - Religion offers guidance/help	**Content:** The 3 core disciplines used in RPE lessons are Theology, Philosophy and the Social Sciences. We all have our own lenses which will have developed from our life experiences and learning! Your personal lens may change as you learn and experience more.
Questions: 1. What is religion? 2. What features do religions have in common? 3. What are Ninian Smart's 7 dimensions?	**Questions:** 1. What is a tribe? 2. How can Smart's dimensions be applied to a tribe? 3. What different beliefs might a tribe have?	**Questions:** 1. Why do people need religion? 2. What functions does religion contribute to society?	**Questions:** 1. What is a lens? 2. What are the 3 core disciplines used in RPE? 3. What might influence or change our lens?

RPE

Week 6	Week 7	Week 8	Week 9
Lesson 6 – What Is A Worldview?	**Lesson 7 – What Is Truth?**	**Lesson 8 – What Is An Ultimate Question?**	**Lesson 9 – Science and Religion**
Key Terms: **Worldview:** A particular philosophy of life or conception of the world. **Influences:** To cause someone to change a belief, behaviour or opinion. 	**Key Terms:** **Truth:** In accordance with fact or reality. **Belief:** An acceptance that something exists or is true, especially one without proof. **Knowledge:** Facts, information, and skills acquired through experience or education.	**Key Terms:** **'Ultimate' Questions:** Questions which we may never know the answer to. 	**Key Terms:** **Empirical:** Based on or verifiable by observation or experience rather than theory. **Evidence:** Facts or information indicating whether a belief is true. **Scientific:** based on the methods and principles of science. **Afterlife:** The idea of life continuing in some form after death.
Content: Our own worldview journey is personal and will be shaped by our own individual background, family, and cultural influences. Worldviews differ from person to person.	**Content:** - There are different types of truths. Some examples are scientific, moral, spiritual and historical. - Many people would say for something to be true, there needs to be empirical evidence. - Some people would argue that beliefs can't be truths as they don't always have evidence	**Content:** Religious truths try to answer some ultimate questions. Science and religion often respond in different ways to different situations. For example, when thinking about how the world was created, a scientific approach may be to look at the Big Bang theory or Evolution.	**Content:** Most religions believe in the concept of an afterlife. Scientists would approach this idea by looking at evidence – some would come to the conclusion that there is no afterlife due to the material body dying, but others may look to other evidence, e.g. Near death experiences.
Questions: 1. What is a worldview? 2. How do worldviews differ from person to person? 3. What is your worldview?	**Questions:** 1. What is truth? 2. What is the difference between knowledge, belief and truth? 3. What different types of truths are there?	**Questions:** 1. What is an ultimate question? 2. What is the difference between a religious truth and a scientific truth?	**Questions:** 1. Is life after death a possibility? 2. What is the difference between the way a scientist and a religious believer would approach this topic?

Type text here

Lesson 1 Microscopes

Magnification is when we make something appear larger than it actually is.

Resolution is the actual detail an image shows.
A higher resolution means more detail in the image.

Using a Microscope.

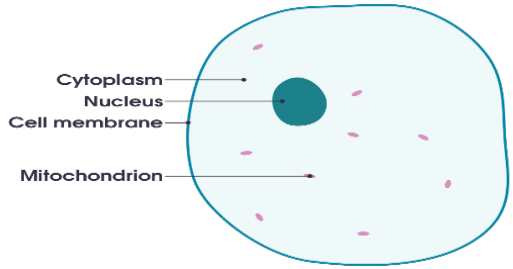
- Adjust the lowest objective lens so that it is over the hole in the stage.
- Turn the large focusing wheel to make the gap between the stage and the objective lens as small as possible.
- Adjust the light source so that the light is reflected up into the hole in the stage.
- Place the slide on the stage
- Look into the eyepiece lens
- Slowly turn the focusing wheel so that the gap between the stage and the objective lens gets bigger.
- Keep turning to focus the image.
- To magnify the image, switch the objective lens to the next magnification and use the small focusing wheel to focus the image if needed.

Lessons 2 and 3 Plant and Animal Cells

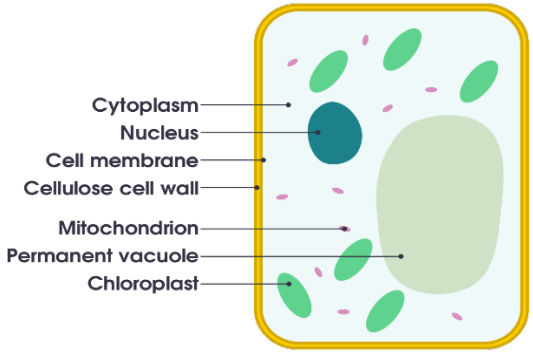
"Cells" were first discovered by **Robert Hooke** when he looked at a piece of cork under a microscope.

Cells are made up of different parts called **organelles.**

Animal Cell



Plant Cell



Nucleus – Contains the DNA and controls the cell

Cell Membrane – Controls what goes in and out of the cell

Cytoplasm - Jelly like, all chemical reactions occur in here.

Mitochondria – Respiration occurs inside to release energy for the cell to use.

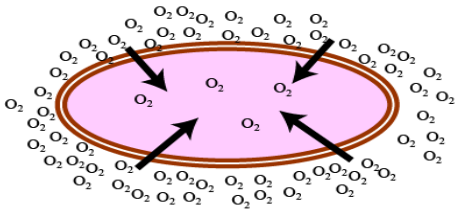
Cell Wall – Protects the cell and gives it structure

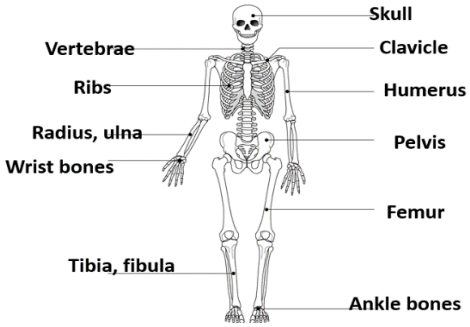
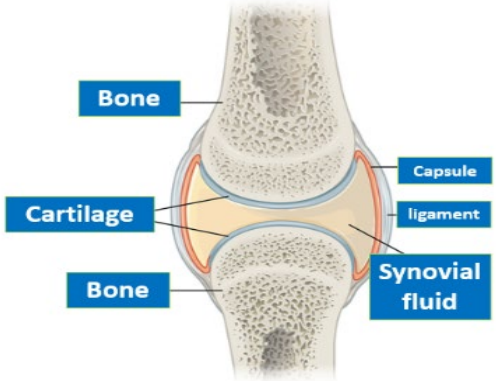
Chloroplasts – Carry out photosynthesis to make food for the plant.

Vacuole – Filled with cell sap and gives the cell shape.

Animal Cells contain a nucleus, cell membrane, cytoplasm and mitochondria.

Plant cells contain a nucleus, cell membrane, cytoplasm and mitochondria **PLUS** a cell wall, chloroplasts and a vacuole.

Lesson 4 Specialised Cells	Lesson 5 Movement of Substances	Lesson 6 Unicellular Organisms
Cells are designed to carry out the job they perform. **Egg cell (ovum)** Job: Reproduction to be fertilised by sperm Features: Nucleus contains half the genetic info to create a baby and contains lots of energy to allow egg to develop if it is fertilised. **Sperm cell** Job: Reproduction to fertilise the egg cell Features: Contains half the genetic info to create a baby and has a tail to swim to meet the egg **Neurone (nerve cell)** Job: Help nerve impulses move around the body Features: Long and thin, can send electrical impulses large distances around the body **Plant Palisade cell** Job: Help the plant photosynthesis and make food Features: Lots of chloroplasts to trap light energy for photosynthesis **Plant Root cell** Job: Help the plant take in water through the roots Features: large surface area so they can absorb more water from the soil.	**Diffusion** is the **movement** of **particles** from an area of **high concentration** to an area of **low concentration.** This happens in liquids and gases but not solids because the particles can only vibrate in a solid, but can't move from place to place Substances that move in and out of cells by diffusion include • **Oxygen** into cells for respiration • **Glucose** into cells for respiration • **Carbon dioxide** out of cells from respiration and into leaf cells for photosynthesis • **Water** into root hair cells  Particles diffuse faster at higher temperatures because the particles have more kinetic energy so move faster.	**Unicellular** organisms are made up of only one cell e.g. Amoeba and Euglena **Multicellular** organisms are made up of more than one cell. All species of animals, land plants and most fungi and algae. **Amoeba** • Have no fixed shape • Found in fresh water, salt water, wet soil and inside animals • Moves by changing shape • An amoeba **reproduces** by splitting into two cells • This is called **binary fission** **Euglena** • Euglena are found in freshwater • The eyespot detects light and move using their **flagellum** to 'swim' towards the light. • Euglena have **chloroplasts** and make their own food by **photosynthesis** • Euglena also reproduce asexually by **binary fission**

Lesson 7 Levels of Organisation	Lesson 8 The Skeleton	Lesson 9 Movement – Joints
Tissues are a group of cells with similar structures, working together to perform a shared function. eg **muscle tissue** is made up of lots of muscle cells. **Organs** are made up of a group of tissues, working together to perform specific functions. eg the **Heart** is made up of muscle, connective, nervous and fat tissues **Organ Systems** are made up of a group of organs with related functions, working together to perform body functions. eg the **Digestive system** which is made up of many organs including the mouth, stomach, small and large intestines. **Circulatory System**- transports blood around the body **Nervous System-** allows us to sense and react to our surroundings **Reproductive System**- used to produce young **Respiratory System**- for gas exchange in and out of the body	**Bones** are living tissue supplied by blood. They are growing all of the time. They can repair themselves when damaged. Calcium and other materials make bones strong.  **Functions of the skeleton:** • **Protection** – skull protects the brain, rib cage protects the heart and lungs, vertebrae protect the spinal cord. • **Support** – the skeleton provides a framework for muscles and organs to connect to. • **Movement** – the skeleton has joints with muscles, ligaments and tendons allowing movement. • **Blood production** – long bones contain bone marrow which makes blood cells	**Joint** Where two or more bones join together.  **A Synovial joint**  • **Cartilage** – soft tissue at the end of a bone • **Synovial fluid** –fluid found in the joint which stops bone rubbing against bone • **Ligament** – joins bone to bone • **Tendon** – joins muscle to bone

Lesson 9
Movement – Joints (continued)

Type text here

Types of joint

- **Pivot** – the ends of the bones are covered in cartilage, allows 360° movement
- **Hinge** – works like a lever and allows 180° movement
- **Fixed** – forms between two bits of bone that don't move
- **Ball and socket** – an example is the hip joint, allows 360° movement

Lesson 10
Movement – Muscles

Muscles

- Are a type of tissue which contains specialised cells which contract.
- Have lots of mitochondria for respiration to produce energy.
- Have a good blood supply.

Three main types of muscle

- **Cardiac** – found in the heart
- **Skeletal**– attached to bone, the main type of muscle
- **Smooth** – used for involuntary movements like in your gut.

Major muscle groups

Bicep: Flex the arm (bend towards the body)

Triceps: Extends the arm (straightens away from body)

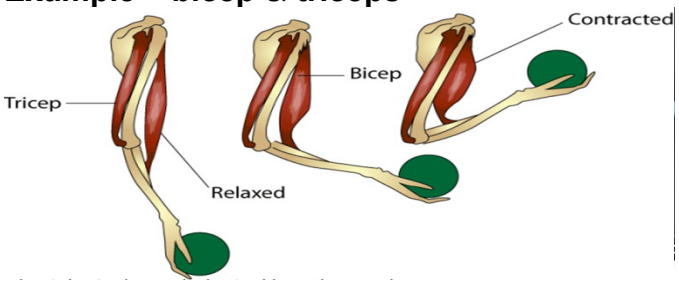
Quadriceps: Extends the lower leg

Abdominals: Move the torso and helps with breathing

Antagonistic pairs

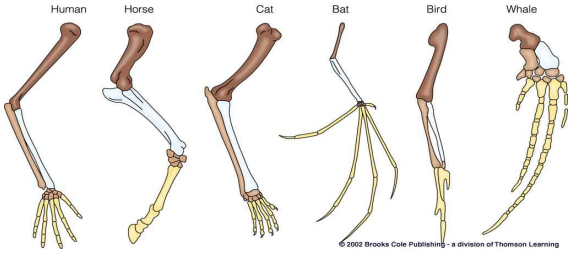
Muscles only pull. Two muscles that work at a joint to move are called antagonistic pairs.

Example – bicep & triceps



Homologous Structures:

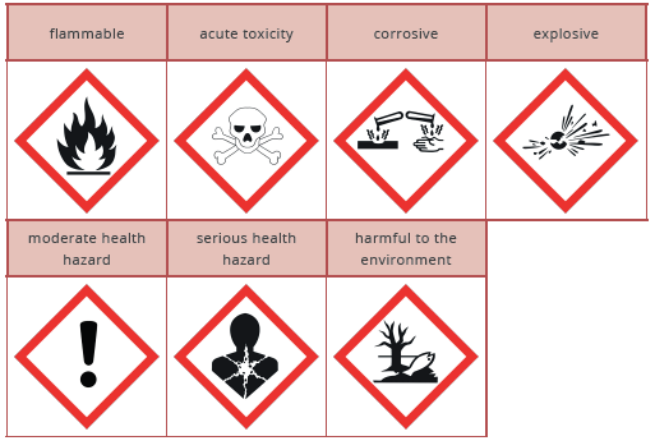
- The chicken wing and the human arm are examples of homologous structures.
- This means they have a similar underlying structure but have different functions.



Lesson 1
Safety

Your teacher will have made the safety rules for the laboratory very clear. Below are some important safety rules, which should always be followed, but there may be others which you need to consider in addition to these.

- Always wear eye protection during a practical.
- Carry out a practical while standing up.
- Do not eat or drink in the laboratory.
- Tie long hair back and tuck loose clothing in during practicals.
- If something is spilled or broken, tell the teacher.
- Ensure that the floor and work space is clear of obstacles.



Lesson 2
Measuring Skills

When taking measurements in science there are various different pieces of equipment you can use and different units as well
Below are examples of measurements the equipment you can use and some units.

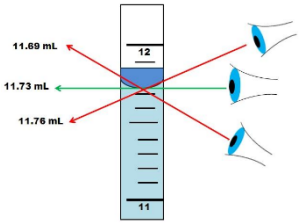
Measurement Length
Equipment Ruler, trundle wheel
Units cm, m, Km

Measurement Mass
Equipment Top Pan Balance, scales
Units g, Kg

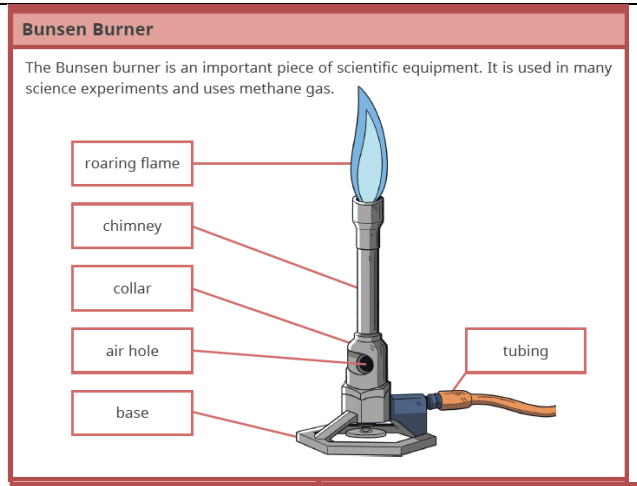
Measurement Temperature
Equipment Thermometer
Units ^{o}C

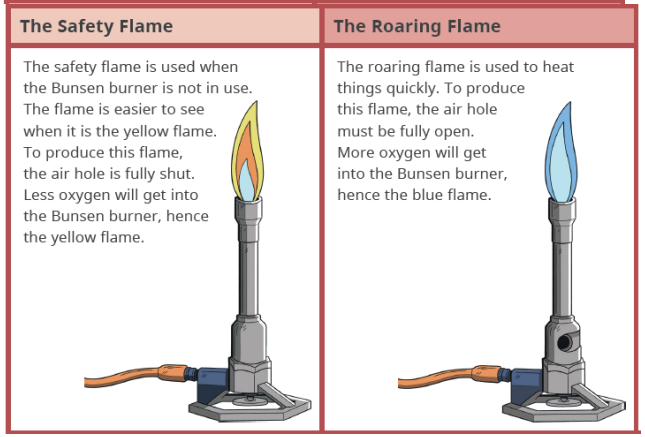
Measurement Time
Equipment Stopwatch
Units seconds (s)

When making measurements always get down to eye level.



Lesson 3
Bunsen Burners





Lesson 4
States of Matter & Particle Model

Matter: any substance that has mass and volume.

Mass: how much of something there is

Volume: how much 3D space something takes up

Matter can exist in three physical states:

- Solid
- Liquid
- Gas

	Solid	Liquid	Gas
Can it be compressed?	✗	✗	✓
Can it flow?	✗	✓	✓
Does it have a fixed shape?	✓	✗	✗

All substances are made up of particles.

Particles are attracted to each other.

The particles move around.

The higher the temperature of the matter the more the particles move around

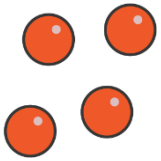
Solid

- Particles in a fixed arrangement
- Particles vibrate around a fixed point
- Particles are close together
- Very strong attraction between particles

Liquid

- Particles in an irregular arrangement
- Particles move around each other
- Particles are close together
- Strong attraction between particles

Gas



- Particles in a random arrangement
- Particles move randomly in different directions and at different speeds
- Particles are far apart
- Weak attraction between the particles

Lesson 5
Changes of State

Changes of state - Substances can change state, usually when they are heated or cooled.

The closeness, arrangement and motion of the particles in a substance change when it changes state.

Melting – The process that occurs when a solid turns into a liquid when heated.

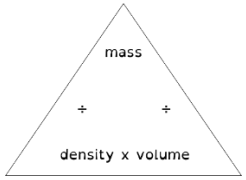
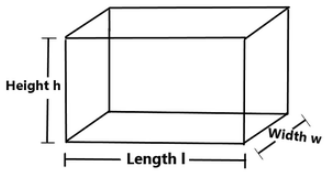
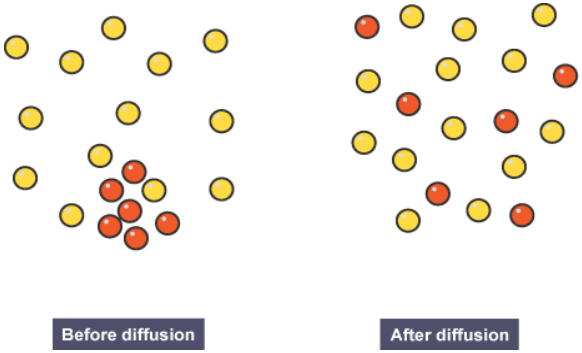
Evaporating – The process by which a liquid changes state and turns into gas.

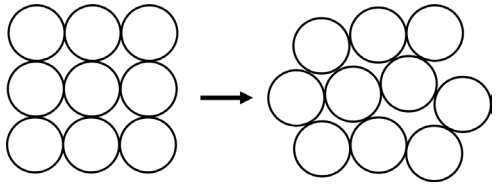
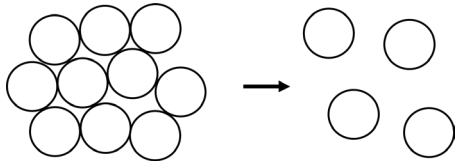
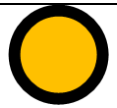
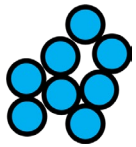
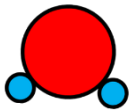
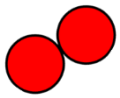
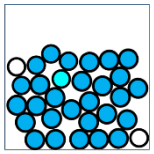
Condensation – A change in state in which gas becomes liquid by cooling.

Freezing – A change of state in which liquid becomes solid by cooling.

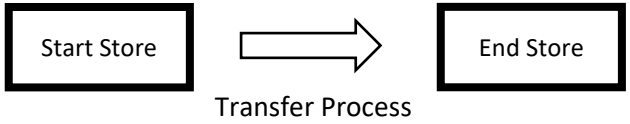
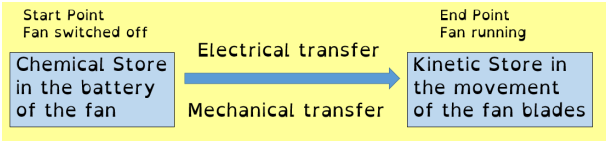
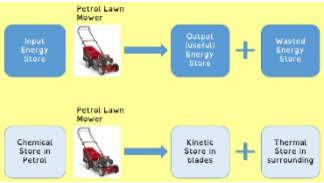
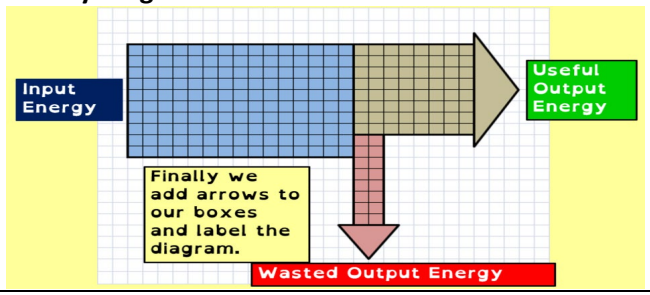
Some chemicals do not exist as a liquid.

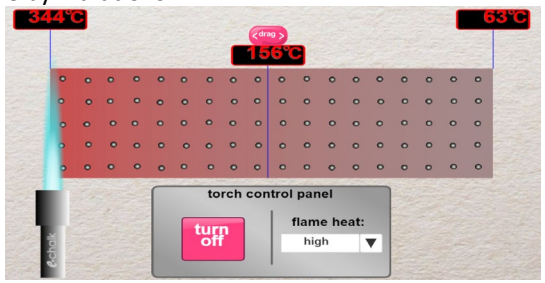
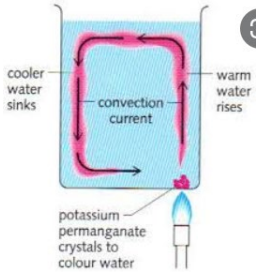
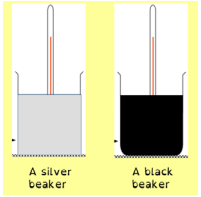
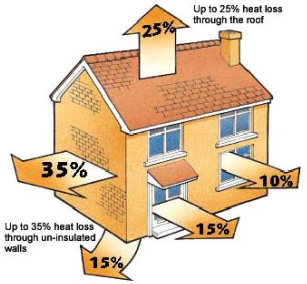
- Going from a solid to a gas is called **sublimation**.
- Going from a gas to a solid is called **deposition**.

Lesson 6 Density	Lesson 7 Density calculations	Lesson 8 Diffusion
Density is the amount of mass in a given volume. Denser objects sink in less dense fluids. General rule for density: • Solids > Liquids > Gases • We know that this is not always the case. When objects are heated their particles move further apart, this causes their density to decrease. Limitations to the particle model: • Only 2D • Don't show movement of particles • Don't show particle interactions Some substances have a higher density as liquid then as a solid	Density is a measure of how heavy an object is for its size. Density = mass ÷ volume Mass in kg or g Volume in m^3 or cm^3 Density in kg/m^3 or g/cm^3  The density of regular solids can be found by determining the mass and volume of the solid, and then calculating the density. Mass is measured with a balance. For **regular solids**, you can calculate the volume if you measure the length of the sides using a ruler.  The volume of a cuboid is equal to: length × width × height	**Diffusion** is the movement of particles from a high concentration to a low concentration  **Diffusion can also happen in liquids -** particles in liquids can move around each other, which means that eventually they are evenly mixed. Diffusion in liquids is slower than diffusion in gases because the particles in a liquid move more slowly. It happens faster if the temperature is increased. **Diffusion does not take place in solids** as the particles are fixed in solids and cannot move round each other.

Lesson 9 & 10 Particle Circus	Lesson 11 Elements, Mixtures and Compounds
Making Observations: • Notice things using your senses • Writing down what you have seen change, in as much detail as possible • A valid observation is that there has been no change If an object changes state (by heating) • Particles in a solid will vibrate so much they move further apart and begin to move  • Particles in a liquid will move so fast they get further apart and will begin to move freely 	**Atoms** are the smallest particle of an element that can exist.  An **element** is a pure substance made from one type of atom.  **Compounds** are substances that are made up of two or more atoms chemically bonded together in a fixed ratio.  Molecules are substances that contain two or more (non-metal) atoms, chemically bonded together. • Molecules can be elements, two or more of the same atom. • Molecules can be compounds, two or more different atoms.  **Mixtures** can be defined as impure, as they are made from two or more different substances that are not chemically joined together. 

PHYSICS

Lessons 1 & 2 Conservation and Energy Stores	Lesson 3 Energy Transfers and Energy Diagrams	Lesson 4 Energy Dissipation and Efficiency
Energy is defined as having the ability to do work. It has a numerical value and is usually measured in **Joules (J)** **Conservation** to look after something and keep it the same as it has always been. **Conservation of Energy** Energy cannot be created or destroyed, it can only be transferred from one store to another **Energy isn't something that you can see or pick up – we only notice it when it transferred between different objects and stored in different ways. We use these words to describe energy stores.** **Chemical**- found in chemical reactions. **Kinetic**- found in moving objects. **Gravitational potential**- found in objects raised above the ground. **Elastic potential**- Energy found in stretched objects. **Magnetic**- attraction and repulsion between magnets. **Electrostatic**- Attraction and repulsion between charges. **Thermal/ internal** - Energy stored as heat e.g. fire. **Nuclear** – Energy from the splitting or fusing of atoms.	**Energy can be transferred from one store to another but it cannot be created or destroyed. There are 4 energy transfer processes:** • **Mechanical -** when a force acts and something moves. • **Electrical -** when a current flows. • **heating -** because of a temperature difference. • **radiation -** a wave such as light, IR or sound. **We can show the idea of energy transferring using flow diagrams (energy transfer diagrams)**  e.g a battery-operated fan 	**Dissipation of Energy**- When energy spreads out it gets less useful. **Input Store** - the total amount of energy going into a device or machine. **Output Store** - the amount of energy that is transferred into a useful store by the device or machine. **Wasted Store**- the amount of energy that is transferred into a wasted store (non-useful store) by the device or machine.  **Efficiency** - is a measure of how much of the Input energy from a device ends up in a Useful (Output) energy store. The **more efficient** a machine the **less** energy is **dissipated.** **Sankey Diagrams** 

Lessons 5 & 6 Temperature, Heat and Conduction	Lessons 7 & 8 Convection and IR Radiation	Lessons 9 & 10 Reducing Heat Loss
Temperature is a measure of how hot or cold something is The most commonly used unit for temperature is degrees Celsius °C. Temperature can also be measured in degrees Fahrenheit °F or Kelvin K. The coldest temperature possible is called Absolute Zero. This is 0K or -273.16 °C. **Using a Thermometer –** Always read from the middle of the meniscus at the top or bottom. **Heat (Thermal Energy) -** The heat an object contains is the amount of energy in its thermal energy store, measured in joules (J). Heat Energy depends on two things. 1) The mass of the material – the bigger the mass the more heat energy stored 2) The temperature of the material – the higher the temperature the more heat energy stored. **Conduction** - The transfer of heat energy from particle to particle by vibrations.  	**Convection -** the transfer of energy by particles vibrating and carrying their energy with them and is driven by different densities in the gas or liquid. Convection **cannot** happen in **solids** because the particles cannot move past each other, they can only vibrate.  **Infra-Red Radiation (IR)** • All warm objects give off Infrared Radiation. • Infrared Radiation travels in straight lines as waves (like light). • Infrared will travel out from warm objects in ALL directions. • Infrared Radiation does NOT need particles to travel through and so can pass through space (vacuum) • Infrared Radiation travels at the speed of light.  	**Dissipation of Energy**- When energy spreads out it gets less useful. In our homes we want the thermal energy to be conserved within the walls of our home and not spread out. **A house that dissipates energy easily is a house that will cost more money to keep warm** **Heat energy** can escape from houses by the processes of **Conduction**, **Convection** and **IR Radiation** **Insulation** reduces the energy dissipating.  1) Loft Insulation 2) Cavity Wall Insulation 3) Double Glazed Windows 4) Draught Proofing 5) Curtains and Carpets 6) Reflective surfaces behind radiators