The Castle School
ACHIEVE | BELONG | PARTICIPATE

Knowledge Organisers

Year 7

Summer Half Term 1

'Practice of what is taught'

Name: …………………………………………………

Tutor: ………………………………………………….

House: …………………………………………………..

Art
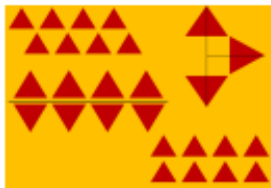
Year 7 - Cultural Arts project

Key knowledge & skills

Discuss different cultural arts and crafts.

Observational drawing of artefacts from different cultures, looking at how colour, texture and pattern are used.

Understanding pattern—you will be able to recognise patterns and develop your knowledge on how they are created in different ways. You will do this through wax resist techniques.

Symbolism—understanding how shapes and imagery can be used to create symbols which have a meaning, sometimes obvious sometimes hidden. Adinkra symbols/Symbolic alphabets are a key example to look at.

Printing—learning different ways to print onto fabric/paper. Stencil printing to create blocks of colour.

Tie dyeing – Using elastic bands, beads and dye to create patterns in fabrics. Understanding different techniques such as pleating, twisting and folding to create different patterns on fabric.

Hand embroidery—learning basic stitches such as *running stitch*, *back stitch* and more potentially complex stitches such as *cross stitch* and *chain stitch*.

Designing your own work—being able to understand textile techniques and how they can be combined together to create a fabric final outcome.
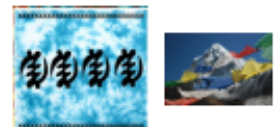
Key terms and techniques

pattern   colour   textured   print   bold   repeated   layered   historical   recycled   cultural

clothing   natural   man made   cloth   fabric   garment   mask   practical   expressive   personal   symbolic   tribal   embellishment   decorative   ceremonial   woven   embroidered   carved   sculpted   painted   sewn

Key descriptive words

tie dyeing   printing   dyeing   weaving   embroidery   sewing   beading   loom   stencil printing   block printing   embellishing   crayons   dyes   drawing inks   printing paints   needle   threads   recycling   masks   designing   development   recording   planning   wax resist   layering   composition   pattern   sculpting

Key artefacts and skills

Symbols have been used for centuries. They have been used for **ancient alphabets such as hieroglyphics** to symbols for human traits/ emotions such as **Adinkra symbols**. They can be applied to all sorts of arts and crafts such as pottery, fabrics, jewellery, furniture and art.

Ceramics is a term used to describe objects **made out of clay**. Different countries and cultures have used clay to create useable objects such as bowls, cups and vases as well as more decorative ones to **commemorate people** (sometimes called busts) or hold special items (**canopic jars in Ancient Egypt**). Clay is often **moulded into shapes by hand** and then heated to high temperatures to "cook" it so it sets, it can still be fragile though!

Masks are artefacts that can be used for **theatrical** purposes, such as **creating a character** on stage. They may be used in **ceremonies or rituals** to represent **animals or spirits**. They can be made from a variety of materials and will be decorated differently depending on the culture they come from.

Textiles is a term used to describe **materials/fabrics**. **Fibres** are spun and turned into **yarns**, and these are then **woven or fused** together to create fabric. They can be **decorated** using a wide variety of techniques from **dyeing** to **hand embroidery**.

Printing is a technique that can be used in lots of different ways. On fabric it can be used to **create repeat patterns**. You will be learning **stencil printing**, a technique where you create a hole in paper in a particular shape and then push paint through that to print onto fabric (it can also be done on paper). You can create **multi-layered stencils** to add more than one colour to a design.

Computing Knowledge Organiser

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Topic: Scratch Programming

Rationale: Programming is a form of digital literacy and develops problem-solving skills. Scratch is a programming environment that allows you to create games, animations and other simulations.

Sequence
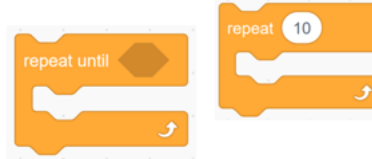
Sequence the instructions by arranging the blocks of code.

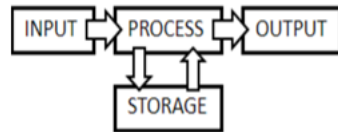## Selection

Alternative paths in the code. (If Statements)

Iteration

Count Controlled and Condition controlled instructions. (Looping)
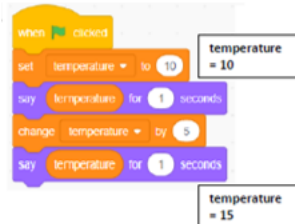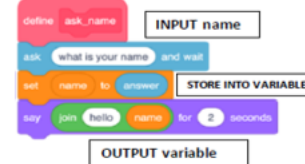

Input Process Output

Variable

A value that can change i.e temperature

Subroutines

A set of instructions that are grouped together

Key Words

|	
Sequence	One of the three basic programming constructs. Instructions that are carried one after the other in order.
Selection	Instructions that can evaluate a Boolean expression and branch off to one or more alternative paths.
Iteration (looping)	A selection of code that can be repeated either a set number of times (count-controlled) or a variable number of times based on the evaluation of a Boolean expression (condition-controlled).
Variable	A value that can change depending on conditions or information passed to the program.

DT

Week 2 - **The Line Bender**

A line bender is a tool used to bend plastic sheets into various shapes. Here's a simple guide on how to use it:

1. **Prepare the Plastic Sheet**: Choose the plastic sheet you want to bend. Make sure it's clean and free of any debris.

2. **Heat the Line Bender**: Turn on the line bender and let it heat up. The heating element will soften the plastic along the line where you want to bend it.

3. **Mark the Bend Line**: Use a marker to draw a line on the plastic sheet where you want the bend to occur. This will help you position the sheet correctly on the line bender.

4. **Position the Plastic Sheet**: Place the plastic sheet on the line bender, aligning the marked line with the heating element. Ensure the sheet is flat and secure.

5. **Heat the Plastic:** Allow the plastic to heat up along the marked line. This usually takes a few minutes, depending on the thickness of the sheet.

6. **Bend the Plastic:** Once the plastic is soft, gently lift and bend it along the heated line. Use a straight edge or a jig to ensure a clean, straight bend.

7. **Cool the Plastic:** Hold the plastic in the desired shape until it cools and hardens. This will set the bend.

Using a line bender is a straightforward process that allows you to create precise bends in plastic sheets for various projects

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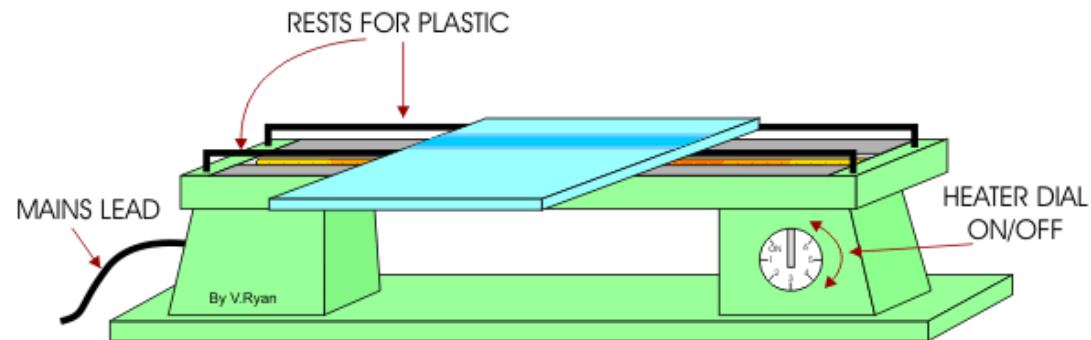
Week 4

High Impact Polystyrene

High Impact Polystyrene, or HIPS, is a special type of plastic that is strong and tough. Imagine a plastic that can be used to make toys, food containers, and even parts of cars – that's HIPS!

HIPS is made by mixing two materials: polystyrene and rubber. Polystyrene is a kind of plastic that is hard and easy to shape, while rubber is flexible and strong. When these two are combined, they create a material that has the best qualities of both: it's strong like polystyrene and tough like rubber.

One of the coolest things about HIPS is its impact resistance. This means it doesn't break easily when you drop it or hit it. That's why it's used to make things like toy parts, which need to be durable because kids play with them a lot.

It's also used for food packaging, like yogurt cups, because it's safe and can protect the food inside.

HIPS is easy to mould into different shapes, which makes it perfect for making all sorts of products. It can be coloured easily, so you can find HIPS items in many different colours. This makes it great for things like signs and displays in stores.

Another great thing about HIPS is that it can be recycled. This means that after it's used, it can be melted down and made into new products. This helps reduce waste and is better for the environment.
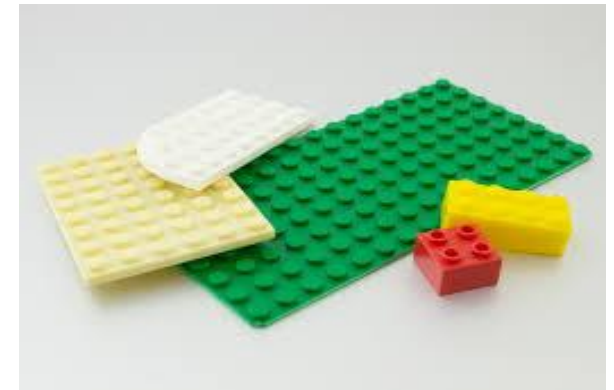
English – Sparx Reader

You should log on to Sparx reader and spend 30 minutes reading your current book.

Reading Articles

You will have a reading article each week linking to the whole school theme for that week:

Week 1: Democracy

Week 2: Values

Week 3: Leadership – part 1

**Week 4:** Leadership – part 2

Week 5: Community

Read the article and highlight three words of which you were not sure. Then write the definition and draw an image which will help you remember.

As you read the articles, you will identify that the articles are not in UK English. However, the articles offer some great messages.

Use this QR code to access the reading articles read by a teacher:
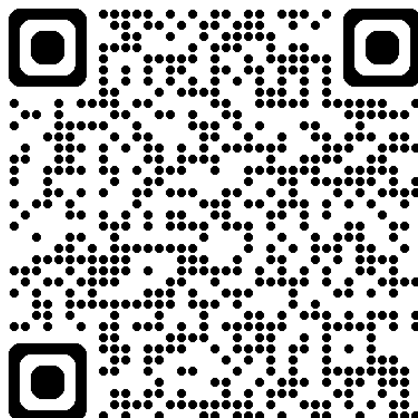
Food

Energy is provided by the food and drinks we consume. Food and drinks contain **macronutrients** – **carbohydrate**, protein and fat which are broken down in the body to provide energy. At least 50% of our energy should come from **starchy** carbohydrates, 15% from protein and NO MORE than 35% from fat.

Our body needs energy from food to stay alive, be active, grow and keep warm.

Energy is measured in kilojoules or **Kilocalories**
1g carbohydrate (sugar and starch) = **4 kcals of energy**
1g protein = **4 kcals of energy**
1g fat = **9 Kcals of energy (energy dense)**

Our **energy requirement** depends on the following:
- Physical activity level (PAL)
- Basal metabolic rate (BMR) the amount of energy (calories) needed to keep your body functioning at rest, also known as your metabolism
- Age
- Sex
- Body size

BUT the <u>average </u>energy intake in the UK for young adults aged 11-14 years of age per day is *2000* kilocalories for girls and *2220* kilocalories for boys.
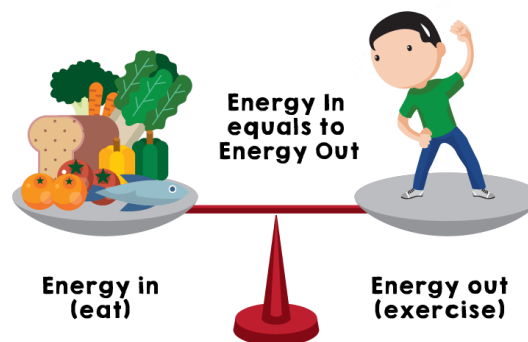
Energy input (food)   **Energy output** (activity)

When **too little energy** is consumed over a period of time, the body uses fat stores which leads to **weight loss**. When too much weight is lost, the body will become underweight. People who are very underweight often have health problems including hair loss and developing dry patchy skin.

When **too much energy** is consumed or **not enough energy** is **used** by the body, energy is stored in the body as **fat** over a period. Having too much fat in the body leads to weight gain and may lead to obesity. Being overweight or obese is dangerous for our health and may lead to diseases such as coronary heart diseases, some cancers and diabetes type 2.

Why is energy needed? The human body converts the food it consumes into energy to function and stay alive. This energy supply enables the body to do a number of things vital to its survival, including**;** Maintaining the body's essential functions, enabling physical activity and movement and allowing for growth and repair of tissues.

Geography - 'What challenges and opportunities does Africa face?'

Week 2 - To know how the people in the Horn of Africa deal with the challenges they face	Week 4 - To know how the people in the Horn of Africa deal with the challenges they face
Fair Trade ensures that producers in low-income countries (LICs) receive better prices for their goods, such as cocoa, coffee, and cotton. A **nomad** is a person who travels from place to place in search of fresh pasture for their animals and does not have a permanent home. There are at least 10 million nomads in the Horn of Africa. Approximately half the population of Somalia are nomads. **Piracy** is where ships are attacked or robbed at sea. Living on the coast of Somalia means people are at risk of piracy.	Ethiopia, known as the birthplace of coffee, primarily grows this crop on small family farms. However, the income from coffee farming is often uncertain due to competition from other coffee producers. Djibouti, despite being mostly desert with few natural resources, benefits greatly from its strategic location on the Red Sea. This advantageous position allows it to serve as a key port where 50% of the world's container ships pass through, unloading cargo and refuelling.

History – The Black Death – How did the Black Death impact rural areas like Somerset?

Component	Core knowledge (that you NEED to know)	Key vocab (that you NEED to know and use)
Week 1 What was life like in Medieval England?	**Peasant** homes in the country were small, often just made up of one room. A peasant's hut was called a **Cruck House** was made of wattle and daub (mud, animal dung and straw) with a thatch roof but no windows. Inside the hut, a third of the area was penned off for the animals, which lived in the hut with the family. A fire burned in a hearth in the centre of the hut, so the air was permanently eye-wateringly smoky. Furniture was maybe a couple of stools, a trunk for bedding, and a few cooking pots. **Medieval towns** were often unhygienic because of the larger populations and the lack of proper sanitation. Modern toilets and plumbing were a long way in the future and waste and **sewage** was thrown into the streets. Animals such as pigs and sheep roamed and butchers often threw waste meat into the street or river. These unsanitary conditions contributed to the spread of diseases, such as the **Black Death.**	**Black Death** – A serious and terrible disease which spread through Europe causing death **Cruck House** – house made from mud, animal dung and straw (known as wattle and daub) **Medieval Villages** – Most people who lived in the Middle ages lived in villages and worked on the land. **Medieval towns** – Towns were dirty and overcrowded. **Peasants** – Poor farm workers **Sewage** – Waste leaving our bodies and dirty water

| Week 3		
Week 3 **Who can tell us most about Medieval peasants?**	**Archaeologists** are people who study historical sites by digging up objects from the ground called **artefacts**. As well as objects, archaeologists have dug up thousands of skeletons, which belonged to medieval peasants. They discovered that many of the skeletons were those of children, and the bone-joints of adults were worn or deformed. This suggests that many children didn't live to adulthood and that medieval peasants did jobs, which required heavy manual labour. In addition, archaeologists have found other artefacts that tell us about the lives of medieval peasants, such as combs, sewing needles and scythes for cutting corn, as well as pieces of broken pottery.	**Archaeologist** – A person who studies the past by digging up objects from the ground. **Artefact** – Object made by people
Week 5 **What was the Black Death and how was it caused?**	**The Black Death** was a serious disease which was passed to humans from rats and fleas. The fleas lived on the rats and sucked their blood, which contained the plague's germs. When the rat died, the fleas jumped onto humans and passed on the deadly disease. The Black Death travelled along the trading routes. Merchants ships frequently had rats on board. The ones which got on in China and India, where it is thought the disease began, transferred the disease to the sailors on board who transferred it to people working at the docks where they landed. We know the Black Death reached Bristol in 1349 and quickly spread across Somerset, wiping out whole communities within weeks. The **symptoms** of the Black Death were painful **buboes** which appeared in the person's armpits, neck and groin. The affected person also suffered from vomiting, high temperature, bruising under the skin and muscle spasms. The symptoms normally lasted for five days and in most cases the victim died a painful death.	**Black Death** – A serious disease passed to humans from rats and fleas. **Bubonic Plague** – The most common form of the Black Death **Buboes** – A painful swelling filled with pus and blood. **Symptoms** – the conditions of the illness

Maths

On a Monday, your Maths task will be set by your teacher. You should log on to Sparx Maths to complete this task. Your practice book has an area for your workings which you need to use as during the homework, Sparx Maths undertakes a bookwork check.

On a Thursday you practice independently on an area where you have a gap in your knowledge.

When logged in to Sparx students will always be able to see the Independent Learning option on the main menu:

On desktop

On mobile
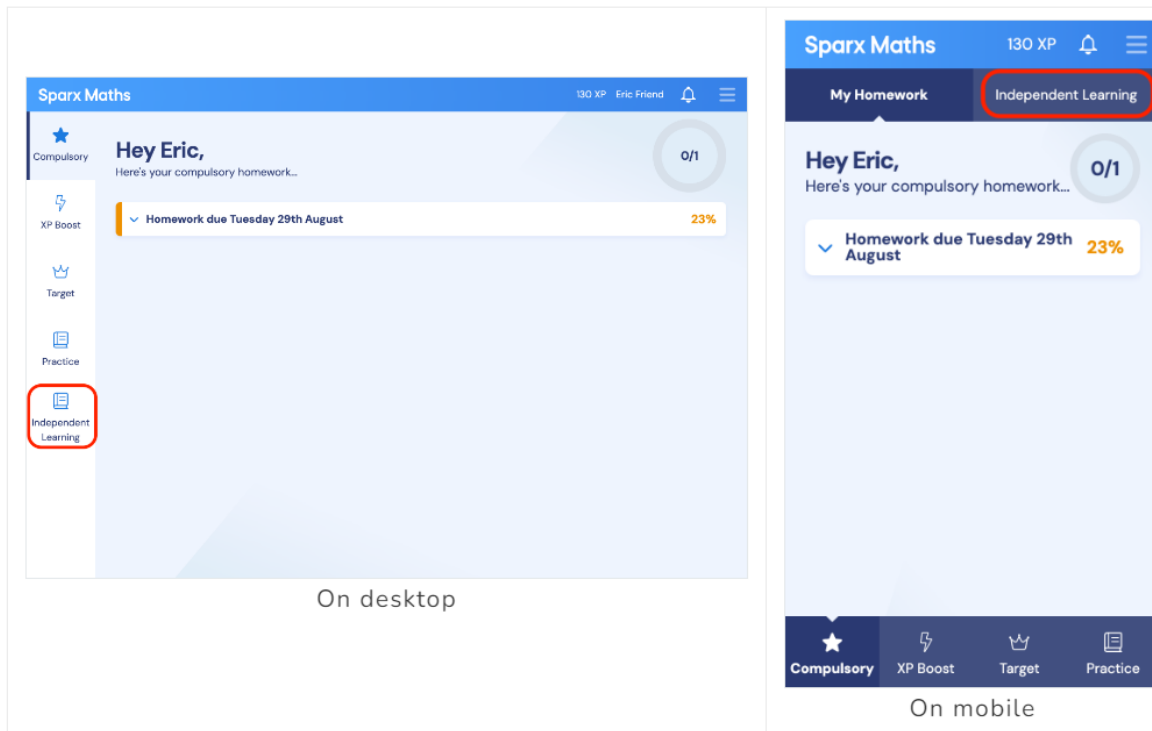
MFL – French

Tu es sportif/sportive? Are you sporty? (present tense –er verbs / extended sentences)				
Present tense –er verb	**ball sport**	**frequency phrase**	**where?**	**who with?**
Je joue I play Nous jouons We play	au golf *golf* au billard *snooker* au tennis *tennis* au ping-pong / tennis de table *table-tennis* au hockey sur glace *ice-hockey*	tous les jours all the days souvent often une fois par jour one time per day une fois par semaine one time per week	...au centre-ville (at the town-centre) ...au centre sportif (at the sports centre) ...dans le parc (in the park)	avec mon frère with my brother avec mon (beau-) père with my (step-) dad
	à la pétanque *boules*	parfois sometimes quelquefois sometimes	...à la campagne (at the countryside) ...à la montagne (at the mountains) ...à la maison (at home)	avec ma soeur with my sister avec ma (belle-) mère with my (step-) mum
	aux cartes *cards* aux échecs *chess*		...chez moi (at the house of me) ...chez mon ami (at the house of my friend)	avec mes amis/copains with my friends

le / la / les = the   au / à la / aux = to the / at the

Qu'est-ce que tu fais pendant ton temps libre? What do you do in your free-time?

Quand il fait beau ... (When it is nice) Quand il fait mauvais... (When it is bad) Quand il fait chaud... (when it is hot) Quand il fait froid... (when it is cold) Quand il pleut... (when it rains) En hiver... (in Winter) En été... (in Summer)	je fais *I do* nous faisons *We do*	... du skate... (some skating) ... du patin à glace ... (some ice-skating) ...du vélo... (some cycling) ...du trampoline ... (some trampolining)	...au centre-ville (at the town-centre) ...au parc (at the park) ...au centre sportif (at the sports centre)	...avec mon copain. (with my male friend) ...avec mon (beau-) père. (with my (step-)dad)
		...de la cuisine... (some cooking) de la natation... (some swimming)	...à la campagne (at the countryside) ...à la montagne (at the mountains) ...à la maison (at home)	...avec ma copine. (with my female friend) ...avec ma (belle-) mère. (with my (step-) mum)
		...de l'équitation ... (some horse-riding) ...de l'athlétisme... (some athletics) ...des randonnées... (some hiking)	...chez moi (at the house of me) ...chez mon ami (at the house of my friend)	...avec mes copains /copines. (with my friends) ...avec mes parents. (with my parents)

le / la / les = the   au / à la / aux = to the / at the

Comment tu trouves le rugby? How do you find rugby?

Opinion structure	qualifier	adjective / idiom
Je trouve que c'est… (I find that it's) Je pense que c'est… (I think that it's)	un peu (a bit) assez (quite) très (very) vraiment (really)	intéressant (interesting) relaxant (relaxing) rapide (fast) marrant (funny) amusant (fun) ennuyeux (boring)
		une perte de temps (a waste of time) ennuyeux à mourir (boring to death)

Qu'est-ce que tu aimes faire le week-end?
(What do you like doing at the week-end?)

Qu'est-ce que tu aimes faire en hiver?
(What do you like doing in winter?)

Du / de la / de l' / des = some

Time phrase	Verb 1	Verb 2 - Infinitive	Detail	Conjunction / verb	Adjective
Quand il pleut When it rains Quand il fait beau When it is nice Quand il fait froid When it is cold En hiver in winter En éte in summer Le week-end the weekend	**J'adore** **I love** **J'aime beaucoup** **I really like** **J'aime** **I like** **J'aime assez** **I quite like** **Je n'aime pas** **I don't like** **Je déteste** **I hate**	**bloguer** **(to blog)** faire (to do)	du judo (m) (jsome udo) de la natation (f) (some swimming) des randonnés (pl) (some hiking)	car c'est because it's	facile (easy) rapide (fast) marrant (funny) amusant (fun) intéressant (interesting) ennuyeux (boring)
Le week-end prochain Weekend next Demain tomorrow Un jour One day	**Je vais** **I am going to** **Je voudrais** **I would like to**	jouer (to play)	au volley (m) (volleyball) à la pétanque (f) (boules) aux échecs (pl) (chess)		

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Qu'est-ce que tu fais normalement le week-end? *What do you do normally at the weekend?*	Le week-end *At the weekend*	je joue *I play / I am playing*		...au centre-ville (at the town-centre)	...avec mon copain. (with my male friend)
	Le Samedi *On Saturday*	je fais *I do / I am doing*		...au parc (at the park)	...avec mon (beau-) père. (with my (step-)dad)
				...au centre sportif (at the sports centre)	
Qu'est-ce que tu vas faire le week-end prochain? *What are you going to do next week-end?*	Le week-end prochain Next weekend	je vais jouer *I am going to play*	au rugby au tennis à la pétanque aux échecs du ski de la natation des randonnées	...à la campagne (at the countryside)	...avec ma copine. (with my female friend)
				...à la montagne (at the mountains)	...avec ma (belle-) mère. (with my (step-) mum)
	Demain tomorrow	je vais faire *I am going to do*		...à la maison (at home)	
Il y a un sport que tu voudrais essayer un jour? *Is there a sport that you would like to try one day?*	Un jour One day	je voudrais jouer *I would like to play*		...chez moi (at my house)	...avec mes copains /copines. (with my friends)
		je voudrais faire *I would like to do*		...chez mon ami (at my friend's house)	...avec mes parents. (with my parents)

MFL – German

subject and verb	place	person + verb	location
Ich wohne in… *I live in….* Ich komme aus… *I come from…* Mein Vater/ Meine Mutter wohnt in… *My mum/dad lives in…*	**England** *England* **Ireland** *Ireland* **Schottland** *Scotland* **Deutschland** *Germany* **Griechenland** *Greece* **Spanien** *Spain* **Italien** *Italy* **Frankreich** *France* **Österreich** *Austria* **die Schweiz (in der Schweiz)** *Switzerland*		
	Berlin *Oestreich* **Köln** *Cologne*	**Es liegt** *It is situated*	**im Norden von [Deutschland]** *in the north of [Germany]* **im Süden von [Deutschland]** *in the south of [Germany]* **im Westen von [Deutschland]** *in the west of [Germany]* **im Osten von [Deutschland]** *in the east of [Germany]*

subject and verb	noun		connective	noun
Es gibt *There is*	**einen Bahnhof** *a station* **einen Marktplatz** *a market square* **einen Park** *a park* **einen Wasserpark** *a waterpark* **einen Radweg** *a cycle path*		**und** *and* **aber** *but*	**keinen Bahnhof** *no station* **keinen Marktplatz** *no market square* **keinen Park** *no park* **keinen Wasserpark** *no waterpark* **keinen Radweg** *no cycle path*
	eine Kirche *a church* **eine Imbissstube** *a snack bar* **eine Kegelbahn** *a bowling alley* **eine Eisbahn** *a skating rink* **eine Kunstgalerie** *an art gallery*			**keine Kirche** *no church* **keine Imbissstube** *no snack bar* **keine Kegelbahn** *no bowling alley* **keine Eisbahn** *no skating rink* **keine Kunstgalerie** *no art gallery*
	ein Kino *a cinema* **ein Schwimmbad** *a swimming pool* **ein Schloss** *a castle* **ein Stadtzentrum** *a town centre* **ein Theater** *a theatre*			**kein Kino** *no cinema* **kein Schwimmbad** *no swimming pool* **kein Schloss** *no castle* **kein Stadtzentrum** *no town centre* **kein Theater** *no theatre*

subject and verb	indefinite article	adjective	noun
Es gibt *There is*	einen = a keinen =no	*altmodischen* *interessanten* *großen* *kleinen* *praktischen* *historischen* *schönen* *sauberen*	Bahnhof *station* Marktplatz *market square* Park *sauterne* Wasserpark *waterpark* Radweg *cycle path*
	eine = a keine = no	*altmodische* *interessante* *große* *kleine* *praktische* *historische* *schöne* *saubere*	Kirche *church* Imbissstube *snack bar* Kegelbahn *bowling alley* Eisbahn *skating rink* Kunstgalerie *art gallery*
	ein = a kein = no	*altmodisches* *interessantes* *großes* *kleines* *praktisches* *historisches* *schönes* *sauberes*	Kino *cinema* Schwimmbad *swimming pool* Schloss *castle* Stadtzentrum *town centre* Theater *theatre*

Imperfect tense (past)	noun	Connective	Imperfect tense (past)	Adjective
Es gab *There was* **Es hatte** *It had* **Die Stadt hatte** *The town had*	**einen Bahnhof** *a station* **einen Marktplatz** *a market square* **einen Strand** *a beach* **einen Wasserpark** *a waterpark* **einen Radweg** *a cycle path* **einen Olympiapark** *an Olympic park* **einen Hafen** *a harbour* **eine Kirche** *a church* **eine Imbissstube** *a snack bar* **eine Kegelbahn** *a bowling alley* **eine Eisbahn** *a skating rink* **eine Kunstgalerie** *an art gallery* **ein Kino** *a cinema* **ein Schwimmbad** *a swimming pool* **ein Schloss** *a castle* **ein Stadtzentrum** *a town centre* **ein Theater** *a theatre* **ein Einkaufszentrum** *a shopping centre* **ein Stadion** *a stadium*	**und** *and* **aber** *but*	**Es war** *It was* **Die Stadt war** *The town was*	**alt** *old* **modern** *harbor* **historisch** *historic* **touristisch** *touristic* **klein** *small* **groß** *big* **schön** *beautiful* **laut** *noisy / loud* **ruhig** *quiet* **industriell** *industrial*

Conditional	noun	Connective	Conditional	Adjective
Es gäbe *There would be…* Es hätte *It would have* Die Stadt hätte *The town would have*	**einen Bahnhof** *a station* **einen Marktplatz** *a market square* **einen Strand** *a beach* **einen Wasserpark** *a waterpark* **einen Radweg** *a cycle path* **einen Olympiapark** *an Olympic park* **einen Hafen** *a harbour* **eine Kirche** *a church* **eine Imbissstube** *a snack bar* **eine Kegelbahn** *a bowling alley* **eine Eisbahn** *a skating rink* **eine Kunstgalerie** *an art gallery* **ein Kino** *a cinema* **ein Schwimmbad** *a swimming pool* **ein Schloss** *a castle* **ein Stadtzentrum** *a town centre* **ein Theater** *a theatre* **ein Einkaufszentrum** *a shopping centre* **ein Stadion** *a stadium*	**und** *and* **aber** *but*	**Es wäre** *It would be* **Die Stadt wäre** *The town would be*	**alt** *old* **modern** *modern* **historisch** *historic* **touristisch** *touristic* **klein** *small* **groß** *big* **schön** *beautiful* **laut** *noisy / loud* **ruhig** *quiet* **industriell** *industrial*

Imperfect tense	place
Ich war in… *I was in….* Ich wohnte in… *I lived in…* Mein Vater/ Meine Mutter war in… *My mum/dad was in…* Meine Eltern waren in… *My parents were in…*	***England*** *England* ***Ireland*** *Ireland* ***Schottland*** *Scotland* ***Deutschland*** *Germany* ***Griechenland*** *Greece* ***Spanien*** *Spain* ***Italien*** *Italy* ***Frankreich*** *France* ***Österreich*** *Austria* ***die Schweiz (in der Schweiz)*** *Switzerland*
	Berlin *Berlin* **Köln** Cologne

MFL – Mandarin

Was wirst du in den Sommerferien machen?		*What will you do in the summer holidays?*		
Ich werde *I will* **Du wirst** *you will* **Er wird** *He will* **Sie wird** *She will* **es wird** *it will* **wir werden** *we will* **ihr werdet** *you will (plural)* **Sie werden** *they will* **Man kann** *You can*	**segeln** *sail* **klettern** *climb* **an den Strand gehen** *go to the beach* **wandern** *hike* **im See baden** *bathe in the lake* **tauchen** *dive* **windsurfen** *windsurf* **rodeln** *toboggan* **im Meer schwimmen** *swim in the sea*		**und** *and*	**Souvenirs kaufen** *buy souvenirs* **nach Interlaken fahren** *travel to Interlaken* **zwei Wochen bleiben** *stay for two weeks* **ein Picknick machen** *have a picnic* **das Schloss besuchen** *visit the castle* **meine Oma besuchen** *visit my grandma* **Tennis spielen** *play tennis*

Was möchten Sie? *What would you like?*			
Ich möchte *I'd like* **Ich hätte gern** *I'd like*	**einmal** *a portion of* **zweimal** *two portions of* **dreimal** *three portions of*	**Bratwurst** *fried sausage* **Hamburger** *hamburgers* **Pizza** *pizza* **Salat** *salad* **Pommes** *chips*	**bitte** *please*
	ein *a/one*	**Eis** *ice-cream* **Mineralwasser** *mineral water*	
	eine *a/one*	**Cola** *coke* **Tasse Tee** *cup of tea*	

MFL – Mandarin

wǒ xīng qī yī shàng wǎng
我星期一上网。 I surf the internet <u>on Mondays</u>.

Who	Days of the week	Sports/hobbies
wǒ 我　I	xīng qī yī 星期一　Monday	tī zú qiú 踢足球 Play football
nǐ 你　you	xīng qī èr 星期二　Tuesday	dǎ lán qiú 打篮球 Play basketball
tā 她　she	xīng qī sān 星期三　Wednesday	dǎ pīng pāng qiú 打乒乓球 Play table tennis
tā 他　he	xīng qī sì 星期四　Thursday	dǎ wǎng qiú 打网球 Play tennis
bà bà 爸爸　Dad	xīng qī wǔ 星期五　Friday	pǎo bù 跑步 run
mā mā 妈妈　Mum	xīng qī liù 星期六　Saturday	yóu yǒng 游泳 Swim
gē gē 哥哥　Older brother	xīng qī rì 星期日　Sunday	wán ér huá bǎn 玩儿滑板 To skateboard
jiě jiě 姐姐　Older sister	xīng qī tiān 星期天　Sunday	
dì dì 弟弟　Younger brother		
mèi mèi 妹妹　Younger sister		

wǒ zuó tiān tī le zú qiú
我 昨天 踢 了 足球。 I play**ed** football <u>yesterday</u>.

Who	Past time	Sports/hobbies
wǒ 我 I	zuó tiān 昨天 yesterday	tī le zú qiú 踢 了 足球 Play**ed** football
nǐ 你 you	shàng gè xīng qī yī 上个星期一 last Monday	dǎ le lán qiú 打 了 篮球 Play**ed** basketball
tā 她 she		dǎ le pīng pāng qiú 打 了 乒乓球 Play**ed** table tennis
tā 他 he	shàng gè xīng qī èr 上个星期二 Last Tuesday	dǎ le wǎng qiú 打 了 网球 Play**ed** tennis
bà bà 爸爸 Dad		
mā mā 妈妈 Mum	shàng gè xīng qī 上个星期 Last week	pǎo le bù 跑 了 步 ran
gē gē 哥哥 Older brother		yóu le yǒng 游 了 泳 Swam
jiě jiě 姐姐 Older sister	shàng zhōu 上周 Last week	wán ér le huá bǎn 玩儿 了 滑板 skateboard**ed**
dì dì 弟弟 Younger brother		
mèi mèi 妹妹 Younger sister		

20

wǒ míng tiān **yào** tī zú qiú

我 明 天 **要** 踢 足 球 。   I **will** <u>play football</u> tomorrow.

Who	future time	Future tense indicator	Sports/hobbies
wǒ 我　I	míng tiān 明天 tomorrow	yào 要　will	tī zú qiú 踢足球 Play football
nǐ 你　you			dǎ lán qiú 打篮球 Play basketball
tā 她　she	xià gè xīng qī yī 下个星期一 next Monday		dǎ pīng pāng qiú 打乒乓球 Play table tennis
tā 他　he			dǎ wǎng qiú 打网球 Play tennis
bà bà 爸爸 Dad	xià gè xīng qī èr 下个星期二 next Tuesday		pǎo bù 跑步 run
mā mā 妈妈　Mum			yóu yǒng 游泳 Swim
gē gē 哥哥 Older brother	xià gè xīng qī 下个星期 next week		wán ér huá bǎn 玩儿滑板 skateboard
jiě jiě 姐姐 Older sister	xià zhōu 下周 next week		
dì dì 弟弟 Younger brother			
mèi mèi 妹妹 Younger sister			

wǒ hé bà bà yī qǐ tī zú qiú
我 和 爸爸 一起 踢足球。 I with dad together play football.

WHO	with	WHO	together	Activities
wǒ 我 péng yǒu 朋友 lì lì 丽丽 tā 他 tā 她 bà bà 爸爸 gē gē 哥哥 dì dì 弟弟 mā mā 妈妈 jiě jiě 姐姐 mèi mèi 妹妹	hé 和 gēn 跟	péng yǒu 朋友 lì lì 丽丽 tā 他 tā 她 bà bà 爸爸 gē gē 哥哥 dì dì 弟弟 mā mā 妈妈 jiě jiě 姐姐 mèi mèi 妹妹	yī qǐ 一起	shàng wǎng 上网。 dǎ pīng pāng qiú 打乒乓球。 dǎ wǎng qiú 打网球。 kàn diàn shì 看电视。 tīng yīn yuè 听音乐。 kàn diàn yǐng 看电影。 tī zú qiú 踢足球。

nǐ hé shéi yī qǐ tī zú qiú
Q:你和 谁 一起踢足球?

wǒ hé péng yǒu yī qǐ tī zú qiú
A:我和朋友一起踢足球。

MFL - Spanish

¿Tienes mascotas? *Do you have any pets?*   ¿Cómo se llama? *What is his/her name?*   ¿Cuántos años tiene? *How old is he?*

VERB	NOUN	VERB	NOUN	VERB		NOUN	NOUN
						un - 1	año = year
	un **caballo** = *a horse*						
	un **conejo** = *a rabbit*					dos = 2	
yo tengo = *I have*	un **gato** = *a cat*		Cervantes			tres = 3	
	un **hamster** = *a hamster*		Darwin			cuatro = 4	
En casa yo tengo = *At home I have*	un **loro** = *a parrot*		Rocky			cinco = 5	
	un **pájaro** = *a bird*		Aslam			seis = 6	
	un **perro** - *a dog*		Currito			siete = 7	
						ocho = 8	
	un **pez** = *a fish*	que se llama = *that's called*		**él tiene** = *he has*	y = *and*	nueve = 9	
Mi amigo tiene… = *My friend has*	un **ratón** = *a mouse*					diez = 10	
						once = 11	años = years
Mi primo tiene… = *My cousin has*			Luz	**ella tiene** = *she has*		doce = 12	
			Chispita			trece = 13	
Mi madrastra tiene… = *My step-mum has*	una **araña** = *a spider*		Afortunada			catorce = 14	
	una **cobaya** = *a guinea pig*					quince = 15	
Mi abuelo tiene… = *My grandfather has*	una **rata** = *a rat*					dieciséis = 16	
	una **serpiente** = *a snake*					diecisiete = 17	
			No tengo mascotas = *I don't have pets*			dieciocho = 18	
	una **tortuga** = *a tortoise*					diecinueve = 19	
						veinte = 20	

¿Cómo es tu mascota? *What is you pet look like?*

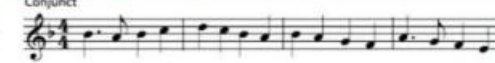| POSSESSIVE	NOUN	VERB	ADJECTIVE	CONN'	INTENSIFIER	ADJECTIVE (Build)	CONN'	ADJECTIVE (Character)
	caballo = *horse*		**amarillo** = *yellow*			**bonito** = *handsome*		**divertido** = *fun*
	conejo = *rabbit*		**blanco** = *white*		**un poco** = *a bit*			**gracioso** = *funny*
	gato = *cat*		**morado** = *purple*			**delgado** = *slim*		**generoso** = *generous*
Mi = *my*	**hamster** = *hamster*		**negro** = *black*		**bastante** = *quite*	**feo** = *ugly*		**simpático** = *nice*
	loro = *parrot*		**rojo** = *red*			**gordo** = *fat*		**trabajador** = *hard-working*
	pájaro = *bird*	**es** = *is*	**azul** = *blue*	y = *and*	**muy** = *very*		**también** = *also*	**fuerte** = *strong*
	perro - *dog*		**rosa** = *pink*			**grande** = *big*		**inteligente** = *intelligent*
	pez = *fish*		**marrón** = *brown*		**extremadamente** = *extremely*			**paciente** = *patient*
	ratón = *mouse*		**naranja** = *orange*			**guapa** = *pretty* **musculosa** = *muscular* **pequeña** = *small*		**aburrida** = *boring*
			verde = *green*		**demasiado** = *too*			**antipática** = *mean*
	araña = *spider*							**perezosa** = *lazy*
Su = *His / Her*	**cobaya** = *guinea pig*		**amarilla** = *yellow*					**terca** = *stubborn*
	rata = *rat*		**blanca** = *white*					**tonta** = *silly*
	serpiente = *snake*		**morada** = *purple*		**tiene** = *it has*	**el pelo** = *the hair*		**corto** = *short* **largo** = *long* **rapado** = *very short*
	tortuga = *tortoise*		**negra** = *black* **roja** = *red*					**liso** = *straight* **ondulado** = *wavy* **rizado** = *curly*

Y7 HT5 SB3	¿Qué mascota te gustaría tener en el futuro? *What pet would you like to have in the future?*					
TIME PHRASE	VERB	NOUN	CONN'	OPINION VERB	VERB	ADJECTIVE
Cuando sea mayor = *When I'm older* **En el futuro** = *In the future*	**me gustaría tener** = *I would like to have* <u>**no**</u> **me gustaría tener** = *I would **not** like to have* **me encantaría tener** = *I would love to have* **preferiría tener** = *I would prefer to have* **odiaría tener** = *I would hate to have*	**un burro** = *a donkey* **un cerdo** = *a pig* **un pato** = *a duck* **un pollo** = *a chick* **un delfín** = *a dolphin* **un elefante** = *an elephant* **un león** = *a lion* **un mono** = *a monkey* **un pingüino** = *a penguin* **un tigre** = *a tiger* **una abeja** = *a bee* **una gallina** = *a chicken* **una nutria** = *an otter* **una oveja** = *a sheep* **una vaca** = *a cow*	**porque** = *because*	**creo que** = *I believe that* **diría que** = *I would say that* **en mi opinión** = *in my opinión* **pienso que** = *I think that*	**sería** = *it would be*	**aburrido** = *boring* **divertido** = *fun* **egoísta** = *selfish* **emocionante** = *exciting* **entretenido** = *entertaining* **estresante** = *stressful* **gracioso** = *funny* **guay** = *cool* **loco** = *crazy* **peligroso** = *dangerous* **tonto** = *silly*

Y7 HT5 SB4	¿Qué te gusta hacer con tu mascota? What do you like doing with your pet?						
OPINION PHRASE	VERB- ACTIVITY			CONN'	VERB- OPINION	VERB	INTENS'	ADJECTIVE
Me encanta = *I love* **Me flipa** = *I'm crazy about* **Me gusta** = *I like* **Me gusta mucho** = *I really like* **Prefiero** = *I prefer* <u>**No**</u> **me gusta** = *I don't like* **Odio** = *I hate*	**bailar** = *to dance* **cantar** = *to sing* **correr** = *to run* **escuchar música** = *to listen to music* **ir a la piscina** = *to go swimming* **ir al parque** = *to go to the park* **ir a la playa** = *to go to the beach* **jugar a la pelota** = *to play with the ball* **sacar fotos** = *to take photos* **ver la televisión** = *to watch TV*	**con mi** = *with* <u>*my*</u>		**porque** = *because*	**pienso que** = *I think that* **creo que** = *I believe that* **en mi opinión** = *in my opinión* **diría que** = *I would say that*	**es** = *it is* **no es** = *it is **not***	**un poco** = *a bit* **bastante** = *quite* **muy** = *very* **extremadamente** = *extremely* **demasiado** = *too*	**activo** = *active* **emocionante** = *exciting* **entretenido** = *entertaining* **guay** = *cool* **importante** = *important* **interesante** = *interesting* **práctico** = *practical* **relajante** = *relaxing* **sano** = *healthy* **útil** = *useful* **aburrido** = *boring* **complicado** = *complicated* **difícil** = *difficult* **estresante** = *stressful* **estúpido** = *stupid* **inútil** = *useless* **malsano** = *unhealthy* **peligroso** = *dangerous*

Music

What Makes a Good Song?
Exploring Popular Songs and Musical Arrangements

A. Popular Song Structure

SONG STRUCTURE – How a song is made up of or divided into different sections (see below) and the order in which these sections occur. To work out the structure of a song, it's helpful to analyse the **LYRICS** and listen to a recording for the song (for instrumental sections).

INTRO – often shortened to 'intro', the first section of a song which sets the mood of the song and is sometimes, but not always, an instrumental section using the song's chord pattern.

VERSES – songs normally have several verses. Verses introduce the song's theme and have the same melody but different lyrics for each verse which helps develop the song's narrative and story. Songs made up entirely of verses are called **STROPHIC**.

LINK – a optional short section often used to join different parts of a song together, often instrumental, and sometimes joins verses together or appears at other points within a song.

PRE-CHORUS – an optional section of music that occurs before the **CHORUS** which helps the music move forward and "prepare" for what is to come.

CHORUS – occurs several times within a song and contains the most memorable **HOOK/RIFF**. The chorus relays the message of the song and is repeated with the same melody and lyrics each time it is heard. In popular songs, the chorus is often repeated several times towards the end of the song.

MIDDLE 8/BRIDGE – a section (often 8 bars in length) that provides contrasting musical material often featuring an instrumental or vocal solo using new musical material allowing the performer to display their technical skill on their instrument or voice.

CODA/OUTRO – The final section of a popular song which brings it to an end (Coda is Italian for "tail"!)

B. Key Words

LYRICS – The words of a song, usually consisting of **VERSES** and a **CHORUS**.

HOOK – A 'musical hook' is usually the 'catchy bit' of the song that you will remember. It is often short and used and repeated in different places throughout the piece. Hooks can be either **MELODIC, RHYTHMIC** or **VERBAL/LYRICAL**.

RIFF – A repeated musical pattern often used in the introduction and instrumental breaks in a song or piece of music. Riffs can be rhythmic, melodic or lyrical, short and repeated.

MELODY – The main tune of the song often sung by the **LEAD SINGER**.

COUNTER-MELODY – An 'extra' melody often performed 'on top of' the main melody that 'fits' with it a **DESCANT** or **INSTRUMENTAL SOLO**.

TEXTURE – The layers that make up a song e.g., Melody, Counter-Melody, Hooks/Riffs, Chords, Accompaniment, Bass Line.

C. Lead Sheet Notation and Arrangements

A **LEAD SHEET** is a form of musical **NOTATION** that contains only the essential elements of a popular song such as the **MELODY, LYRICS, RIFFS, CHORDS** (often as guitar chord symbols) and **BASS LINE**; it is not as developed as a **FULL SCORE ARRANGEMENT** and is open to interpretation by performers who need to use and adapt the given elements to create their own musical **ARRANGEMENT**: their "version" of an existing song.

COVER (VERSION) – A new performance, remake or recording by someone other than the original artist or composer of the song.

D. Conjunct and Disjunct Melodic Motion

CONJUNCT MELODIC MOTION – Melodies which move mainly by step or use notes which are next to or close to one another.

DISJUNCT MELODIC MOTION – Melodies which move mainly by leap or use notes which are not next to or close to one another.

MELODIC RANGE – The distance between the lowest and highest pitched notes in a melody.

E. Song Timbre and Sonority (Instruments that are used to Accompany Songs)

Pop Bands often feature a **DRUM KIT** and **PERCUSSION** to provide the rhythm along with **ELECTRIC GUITARS (LEAD GUITAR, RHYTHM GUITAR** and **BASS GUITAR)** and **KEYBOARDS**. Sometimes **ACOUSTIC INSTRUMENTS** are used such as the **PIANO** or **ACOUSTIC GUITAR**. **ORCHESTRAL INSTRUMENTS** are often found in pop songs such as the **STRINGS, SAXOPHONE, TROMBONE** and **TRUMPET**. Singers are essential to a pop song - **LEAD SINGER** – Often the "frontline" member of the band (most famous) who sings most of the melody line to the song. **BACKING SINGERS** support the lead singer providing **HARMONY** or a **COUNTER-MELODY** (a melody that is often higher in pitch and different, but still 'fits with' the main melody) and do not sing all the time but just at certain points within a pop song e.g. in the chorus.

DR SMITH: BUILDING ON WHAT YOU ALREADY KNOW

Dynamics - volume

Rhythm - how long notes last and how they are grouped together in a pattern

Structure - the different sections in a piece of music (AB, ABA, verse/chorus)

Melody - the tune or most important layer in a piece of music. In pop songs the singer has the melody.

Metre is the time signature, always put at the beginning of a piece of music. It tells us how many beats are in a bar.

Instrumentation - what instruments are used

Articulation - the way you play your instrument - staccato - detached and spikey, legato - playing smoothly.

Texture - the different layers happening within a piece.

-Monophonic - a single unaccompanied line of music, one layer. -Homophonic - multiple layers of music but everything moves in chunks, the same rhythm. -Polyphonic - multiple layers of music doing different things. **T**empo – speed. **T**onality - what key is the piece in -Major gives a happy feel -Minor makes the music seem sadder.

Harmony – more than one note at the same time

Pop Song

Harmony - Chords

Challenge: Use fingers 1, 3, and 5 when playing chords on piano
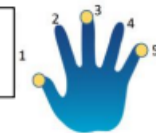
C Major Scale

C Major triads (3 note chords)

Guitar

Ukulele

Piano

The Castle School
ACHIEVE | BELONG | PARTICIPATE

Child on child abuse

Use this QR code to help you understand

disability awareness

Leadership & Democracy (Add key terms)

Which of the following are part of child on child abuse? Two are not correct

Physical abuse
Sexual abuse
Parental abuse
Emotional abuse
Financial abuse
Online abuse
Coercive control

British Values

- **Democracy**
- **Rule of law**
- **Celebration of other faiths and beliefs**
- **Individual Liberty**

Protection of your rights and the right of others you work with.

Examples
- Equality and Human Rights
- Personal Development
- Respect and Dignity
- Rights, choice, consent and individuality
- Values and principles

Achieve . Belong . Participate

Religion and Worldviews - What did the Buddha teach about suffering?

Week 1 - Who was the Buddha? The Story of Siddhartha

Once upon a time, in a beautiful kingdom called Kapilavastu, there was a prince named Siddhartha. He lived in a grand palace with his father, King Suddhodana, and his mother, Queen Maya. Siddhartha had everything he could ever want – delicious food, fine clothes, and lots of toys. He was surrounded by music, dancing, and laughter. But even with all this luxury, Siddhartha felt that something was missing.

One day, when Siddhartha was a young man, he decided to leave the palace and see the world outside. He went on a journey and saw four things that changed his life forever. These are known as the **Four Sights**. First, he saw an old man, bent with age. Then, he saw a sick person, suffering from illness. Next, he saw a dead body, reminding him that life is not forever. Finally, he saw a monk who had given up everything to find peace.

These sights made Siddhartha think deeply about life. He realised that no matter how rich or powerful someone is, everyone experiences aging, sickness, and death. He wanted to find a way to end this suffering, not just for himself, but for everyone. Siddhartha decided to leave his life of luxury and become an **ascetic**. This means he gave up all his possessions and lived a very simple life. He wandered through forests, meditated, and ate very little. He hoped that by doing this, he would find the answers he was looking for. But after many years, he still hadn't found the peace he sought.

One day, Siddhartha remembered a time when he was a child, sitting under a tree and feeling calm and happy. He realised that neither extreme luxury nor extreme hardship had brought him peace. He decided to follow a new path, which he called the **Middle Way**. This path was about finding balance – not too much, not too little. Siddhartha sat under a Bodhi tree and meditated deeply. He vowed not to get up until he found the truth. After many days and nights, he finally understood the nature of suffering and how to overcome it. He reached **enlightenment** and became the Buddha, which means "the Awakened One."

The Buddha spent the rest of his life teaching others about the Middle Way and how to find peace and happiness. His teachings are still followed by millions of people around the world today.

Week 3 - What are the three refuges and how do they help Buddhists?

In Buddhism, people take refuge in three things to help them find peace and happiness. These are called the **Three Refuges** or the **Three Jewels**. They are:

1. **The Buddha**: This means taking refuge in the Buddha, who showed the way to enlightenment.
2. **The Dharma**: This means taking refuge in the Buddha's teachings, which guide people on how to live a good life.
3. **The Sangha**: This means taking refuge in the community of people who follow the Buddha's teachings and support each other.

The Three Refuges are like a raft that helps people cross a river. Imagine you are on one side of a river, and you want to get to the other side where it's peaceful and safe. The river is full of strong currents and dangers, representing the difficulties and suffering in life. The raft, made of the Buddha, the Dharma, and the Sangha, helps you cross the river safely. Once you reach the other side, you don't need the raft anymore, but it was essential to help you get there.

One day, after Siddhartha had become the Buddha, he was walking through a village. He saw a farmer working hard in the fields. The farmer looked tired and unhappy. The Buddha approached the farmer and asked, "Why do you look so sad?" The farmer replied, "I work all day in the hot sun, but no matter how hard I work, I still struggle to feed my family. I worry about the future and feel like I can never find peace."

The Buddha listened carefully and then told the farmer a story. "Once, there was a man who was shot by an arrow. He was in great pain and suffering. Instead of pulling out the arrow, he started asking questions like, 'Who shot this arrow? What kind of wood is it made from? What kind of feathers are these?' But these questions didn't help him. What he needed to do was remove the arrow to stop the pain."

The Buddha explained, "In the same way, we often focus on things that don't help us. We worry about the past and the future, but what we need to do is understand our suffering and find a way to overcome it. By following the Three Refuges – the Buddha, the Dharma, and the Sangha – we can find the path to peace and happiness."

The farmer thanked the Buddha and decided to follow his teachings. Over time, he found that his worries lessened, and he felt more at peace.

Week 5 - How can gaining enlightenment help us understand suffering?

Imagine feeling completely peaceful and happy all the time. If you are a Buddhist and become enlightened, it might feel like you have no more worries or fears. You understand the world in a special way, and you feel connected to everything around you. It's like having a calm and clear mind, no matter what happens. When the Buddha became enlightened, he understood the truth about life and suffering. He realized that all living beings experience suffering, but there is a way to end it. He discovered the **Four Noble Truths**:

1. **The Truth of Suffering**: Everyone experiences suffering in life.
2. **The Truth of the Cause of Suffering**: Suffering is caused by our desires and attachments.
3. **The Truth of the End of Suffering**: It's possible to end suffering.
4. **The Truth of the Path to End Suffering**: By following the **Eightfold Path**, we can end suffering and find peace.
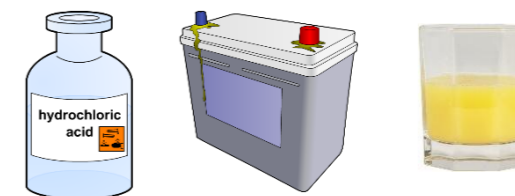
The lotus flower is a beautiful symbol in Buddhism. It grows in muddy water, but it rises above the mud to bloom in the sunlight. This is like enlightenment. Even though we might experience difficulties and suffering (the mud), we can rise above them and find peace and happiness (the blooming flower). The lotus flower reminds us that we can overcome challenges and become enlightened.

Experiencing suffering is important because it helps us understand what causes it and how to overcome it. Just like the Buddha saw the Four Sights and realised that everyone suffers, we also need to recognize our own suffering. By understanding our struggles, we can learn to let go of our desires and attachments and follow the path to enlightenment. Suffering teaches us valuable lessons and helps us grow stronger and wiser.

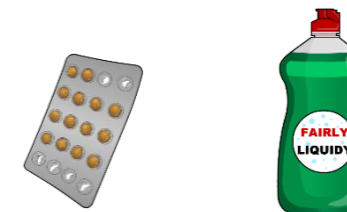|	
Chemistry **Week 1 What is an acid?**	Weak acids: Some acids are found in everyday items such as food and drink, and skincare products. It is safe to handle these acids, and in some cases even to taste them e.g. orange juice, vinegar, lemon. Strong acids: Some acids, like those found in the laboratory or a car battery, are too dangerous to taste or touch. These acids are said to be corrosive as they can damage other materials by wearing them away. e.g. hydrochloric acid, sulfuric acid, battery acid. Neutral substances: are neither acidic nor alkaline e.g. pure water Weak bases/alkalis: Alkalis are substances that are chemically the opposite of acids. Weak alkalis are found in soaps and other cleaning materials. They are also used in antacids to treat indigestion. Strong bases/alkalis: Some alkalis, like those used in laboratories, or in cleaning materials such as bleach, are too dangerous to touch. These alkalis are said to be caustic because they can burn skin, and damage other materials. Indicators are used to identify whether a substance is acid, alkali/basic or neutral. Universal indicator and the pH scale used to identify acids and bases. Universal indicator changes colour when added to a substance, this colour is then compared to the pH scale Alkalis are soluble bases pH 0-6 = acidic pH 7 = neutral pH 8-14 = basic/alkaline Acidic Neutral Alkaline 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 **pH scale**
Week 2 - What is an indicator?	pH indicators identify if a substance is acidic or basic. Litmus paper as an example of a pH indicator. Colour changes of red, blue and yellow litmus paper in acids and bases. | Type of Litmus	Colour in acid	Colour in alkali
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Red	No change	Blue
Blue	Red	No change
Yellow	Red	Blue	
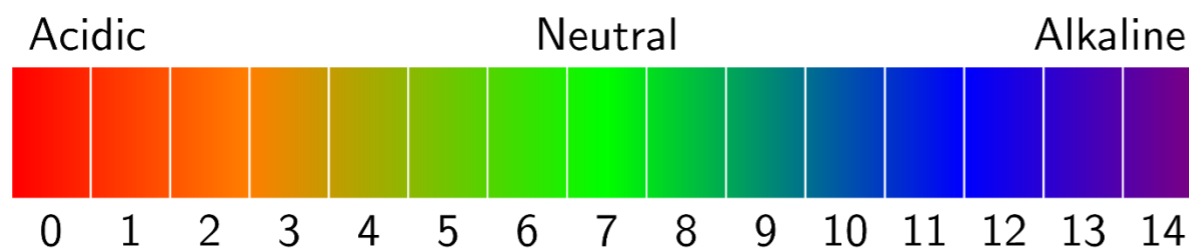
Making and using red cabbage indicator!

Part 1: Making the indicator

Apparatus
- mortar and pestle
- boiling tube or conical flask
- filter paper and a filter funnel
- hot water
- red cabbage leaves
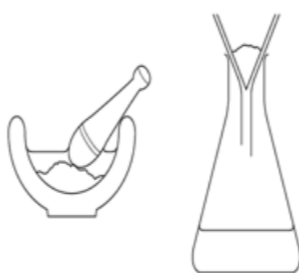
Method

A Put some red cabbage leaves into the mortar.

B Add a little hot water.

C Grind up the leaves so that you get as much of the colour out as possible.

D Filter the mixture and collect the liquid in a tube or flask.

Part 2: Using your indicator

Apparatus
- red cabbage juice
- spotting tile
- dropping pipette
- substances to test

Wear eye protection. Nothing should be tasted, not even food and drink.
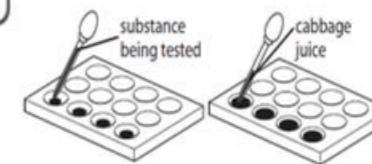
Method

A Put one of the substances into a circle on the spotting tile. Write the name of the substance in a table.

B Add a few drops of your cabbage juice.

C Write the colour in your table.

D Do this again with another substance.

substance being tested   cabbage juice

| Week 3 - Types of reaction | Identification of different reactions including:

Reaction 1: Metals and acids
General equation: Metal + acid --> Salt + hydrogen

Reaction of **metal** (calcium) and **acid** (hydrochloric acid)

General equation

metal + **acid** → **salt** + **Hydrogen**

Example:

Calcium + **Hydrochloric acid** → **Calcium Chloride** + **Hydrogen**
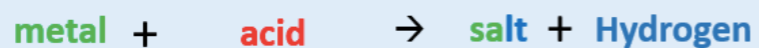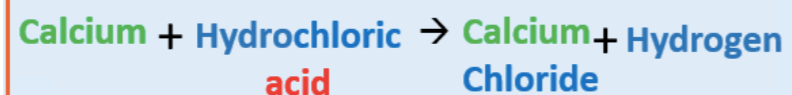
Test for hydrogen: Squeaky pop test! Place a lit splint over the gas. If there's a squeaky pop sound it is hydrogen

Reaction 2: Metal carbonates and acid

General equation: Metal carbonate + acid --> salt + carbon dioxide + water

Naming salts

The first part of the name comes from the metal.
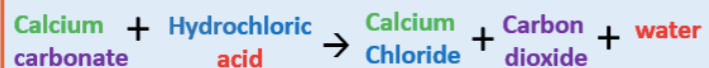
The second part comes from the acid:

Hydrochloric acid makes **chlorides**

Nitric acid makes **nitrates**

Sulphuric acids make **sulphates**

squeaky pop test

POP

metal carbonate + acid → salt + Carbon dioxide + water

For example the reaction between hydrochloric acid and calcium carbonate (marble).

Calcium carbonate + Hydrochloric acid → Calcium Chloride + Carbon dioxide + water
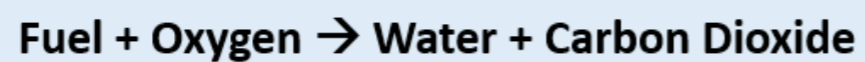
Test for carbon dioxide:

Bubble gas through limewater. If the limewater turns from colourless to a cloudy/milky colour. The gas is carbon dioxide.
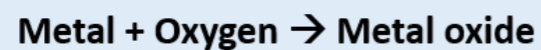
limewater test
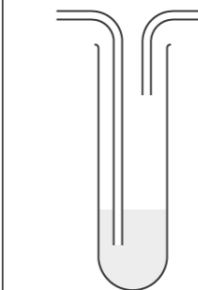
Reaction 3: Combustion
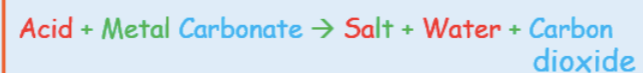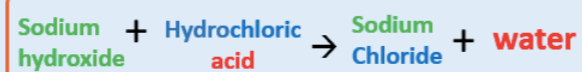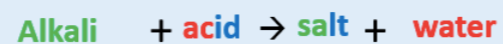General equation: Fuel + oxygen --> Water + carbon dioxide

Fuel + Oxygen → Water + Carbon Dioxide

OXYGEN   HEAT   FUEL

Fireworks are really big combustion reactions. In a combustion reaction a fuel reacts with oxygen from the air.

Reaction 4: Metals and oxygen
Metal + Oxygen --> Metal oxide

Metal + Oxygen → Metal oxide

Metals react with oxygen to form metal oxides.

Reaction 5: Neutralisation reactions
Acid + Base --> Salt + water

Alkali + acid → salt + water

Sodium hydroxide + Hydrochloric acid → Sodium Chloride + water

Acid + Metal Carbonate → Salt + Water + Carbon dioxide
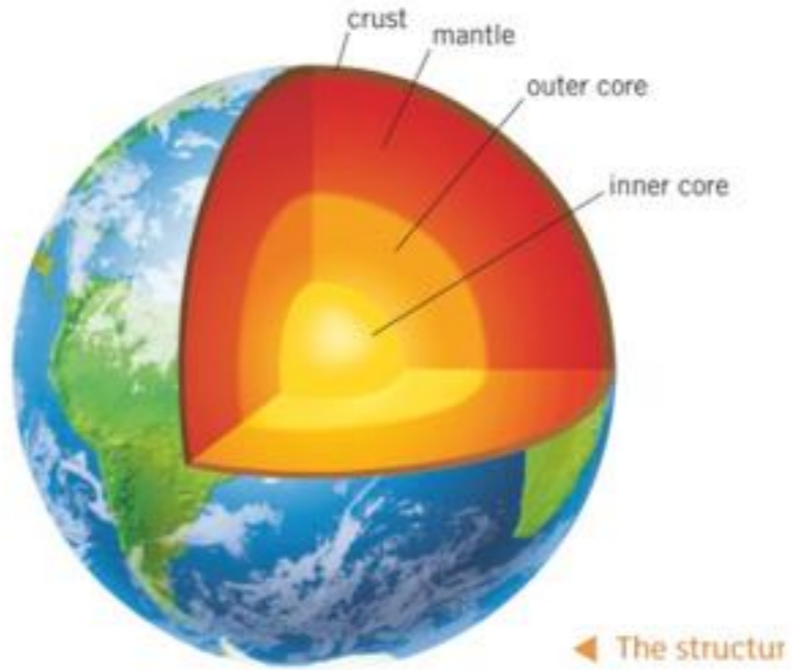
Alkalis are soluble bases. When they react with acid they form water and a salt.

	Structure of the Earth to includes the: Inner core, outer core, crust, mantle.
Week 4 - Structure of the earth	

crust — mantle — outer core — inner core

◀ The structur

Crust	This is the outer layer, it is between 8km and 40km thick.
Mantle	This is made mostly of solid rock, but it can flow. Hotter rock rises and cooler rock sinks.
Outer core	This consists of mainly iron and nickel. It is liquid
Inner core	This consists of mainly iron and nickel. It is solid

EARTH'S MAJOR TECTONIC PLATES

Plate tectonics

The Earth's surface is made up of large plates (like pieces of a jigsaw).
These plates are constantly travelling at a few centimetres per year.
The ocean floors are spreading from the centre and sinking at the edges.

Plate movements can be:

Destructive - A destructive plate boundary is where two plates push against each other causing violent earthquakes, volcanoes and mountain ranges to be formed.

**Constructive** - Two plates move away from each other.

Molten rock (magma) rises from the mantle to fill the gap between the two plates.
Causes volcanoes and earthquakes but also forms mid-ocean ridges that develop into islands.

Conservative - two move along side each other
Causes earthquakes, which can be fairly violent and frequent.
Two plates slide past each other, without creating or destroying any land.
As they move past each other they often get stuck, building up great pressure until finally they jolt past each other. This sudden movement is what causes earthquakes.
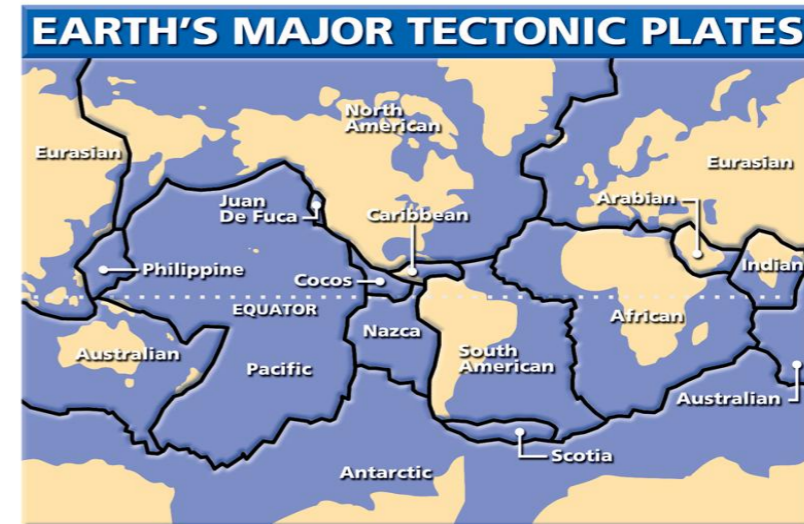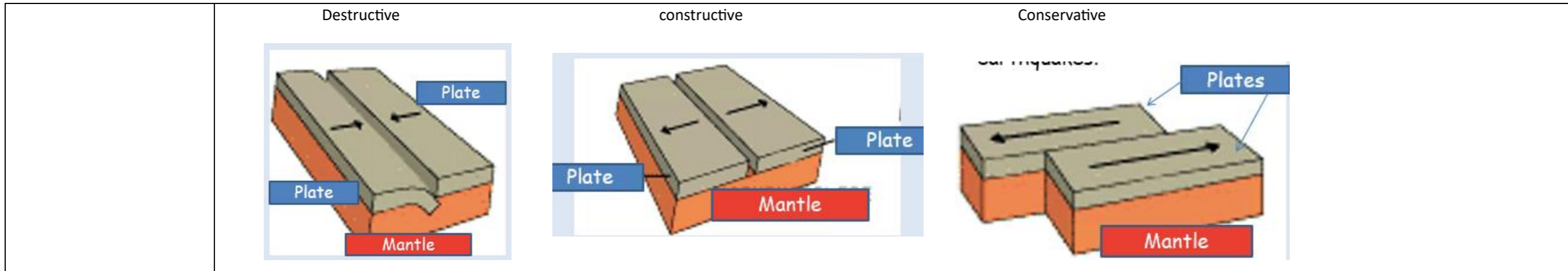
		Destructive	constructive	Conservative
Week 5 - Rocks	Rocks can be identified by their grains, size, shape, crystals, texture, minerals, permeability, whether they are porous or not. Types of rocks include: **Igneous** – formed from hot lava or magma cooling **Sedimentary** – formed from layers of sediment **Metamorphic** – formed from igneous or sedimentary rocks under high temperature and pressure.			