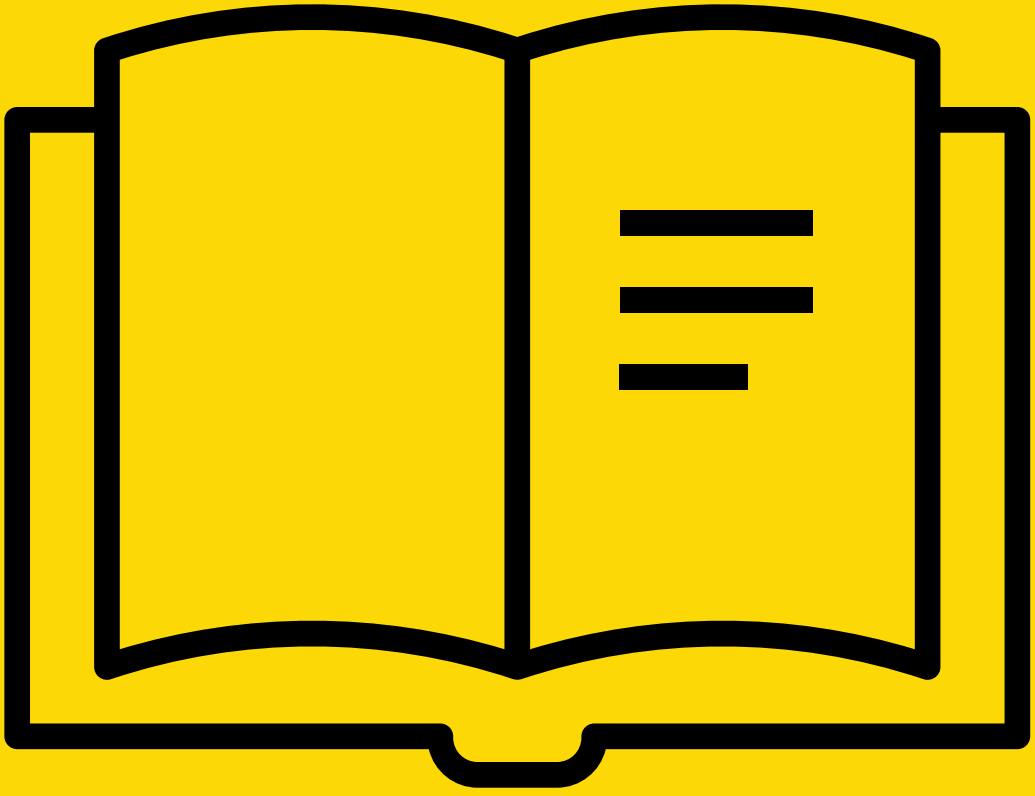
YEAR 7 BOOKLET 3

HOMEWORK



WHAT?WHEN?

KS3 Homework Timetable

Monday	Tuesday	Wednesday	Thursday	Friday
English	Maths	Science	DT	Art
Music	Drama	PE	History	Geography
	Computing	RPE	French	
Reading – see the list on the back of this booklet				

Week beginning	Box Number
5th January	1
12th January	2
19th January	3
26th January	4
2nd February	5
9th February	6
Half Term	
23rd February	7
2nd March	8
9th March	9
16th March	10
23rd March	11
30th March	12
Easter Break	

Sparx Maths Homework

dreambox READING PLUS

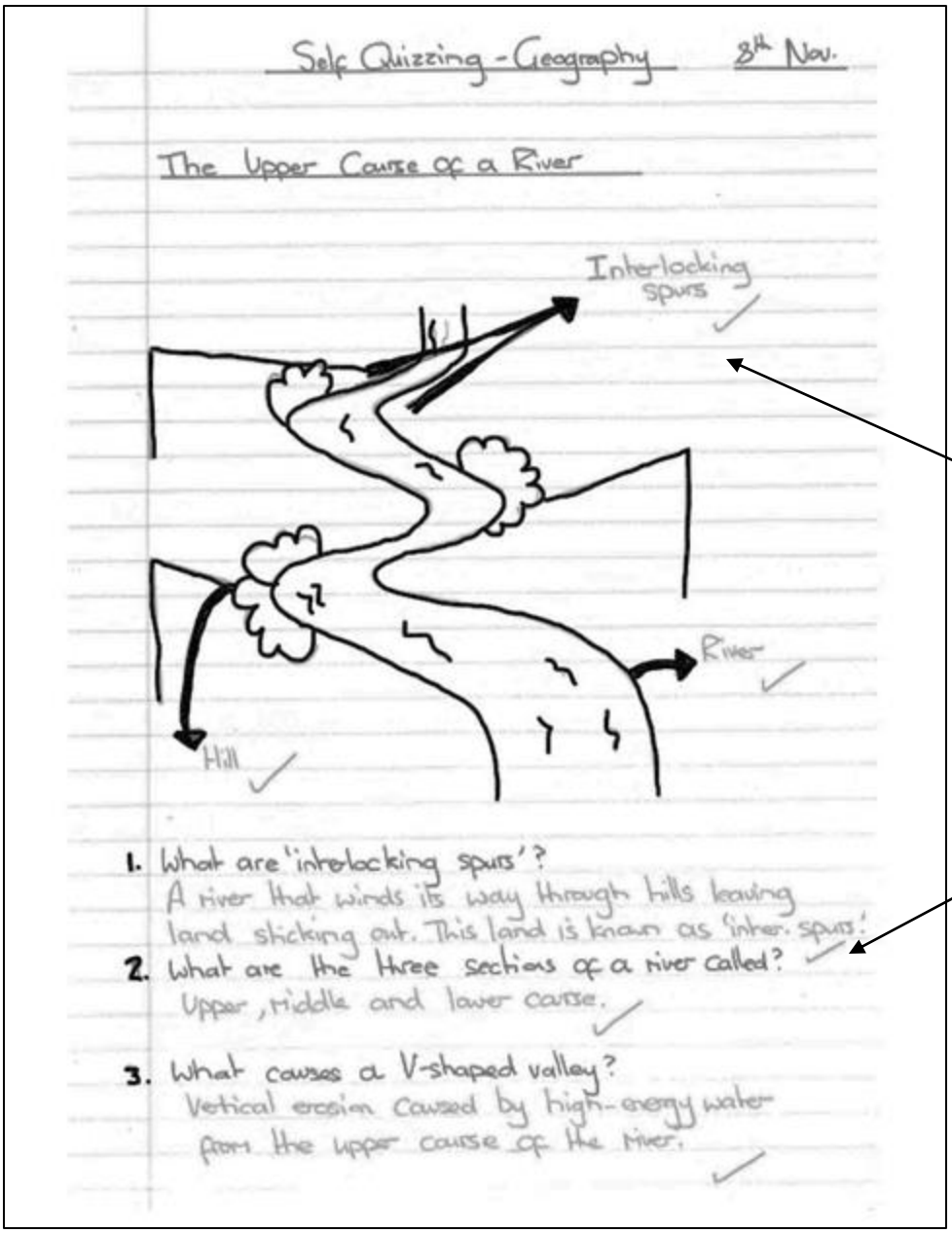
Aim to complete 30 minutes on each of the above platforms each week.

You could do these during the extra slots on Mondays and Fridays.

STUDY SKILLS

How to 'Self-Quiz'

Step 1: Read the information you need to learn.
Step 2: Generate questions for yourself from the information.
Step 3: Close your HW booklet and answer your quiz questions.
Step 4: Check that you have answered them correctly.



Self Quizzing - Geography 8th Nov.

The Upper Course of a River

1. What are 'interlocking spurs'?
   A river that winds its way through hills leaving land sticking out. This land is known as 'inter. spurs'.
2. What are the three sections of a river called?
   Upper, middle and lower course.
3. What causes a V-shaped valley?
   Vetical erosion caused by high-energy water from the upper course of the river.

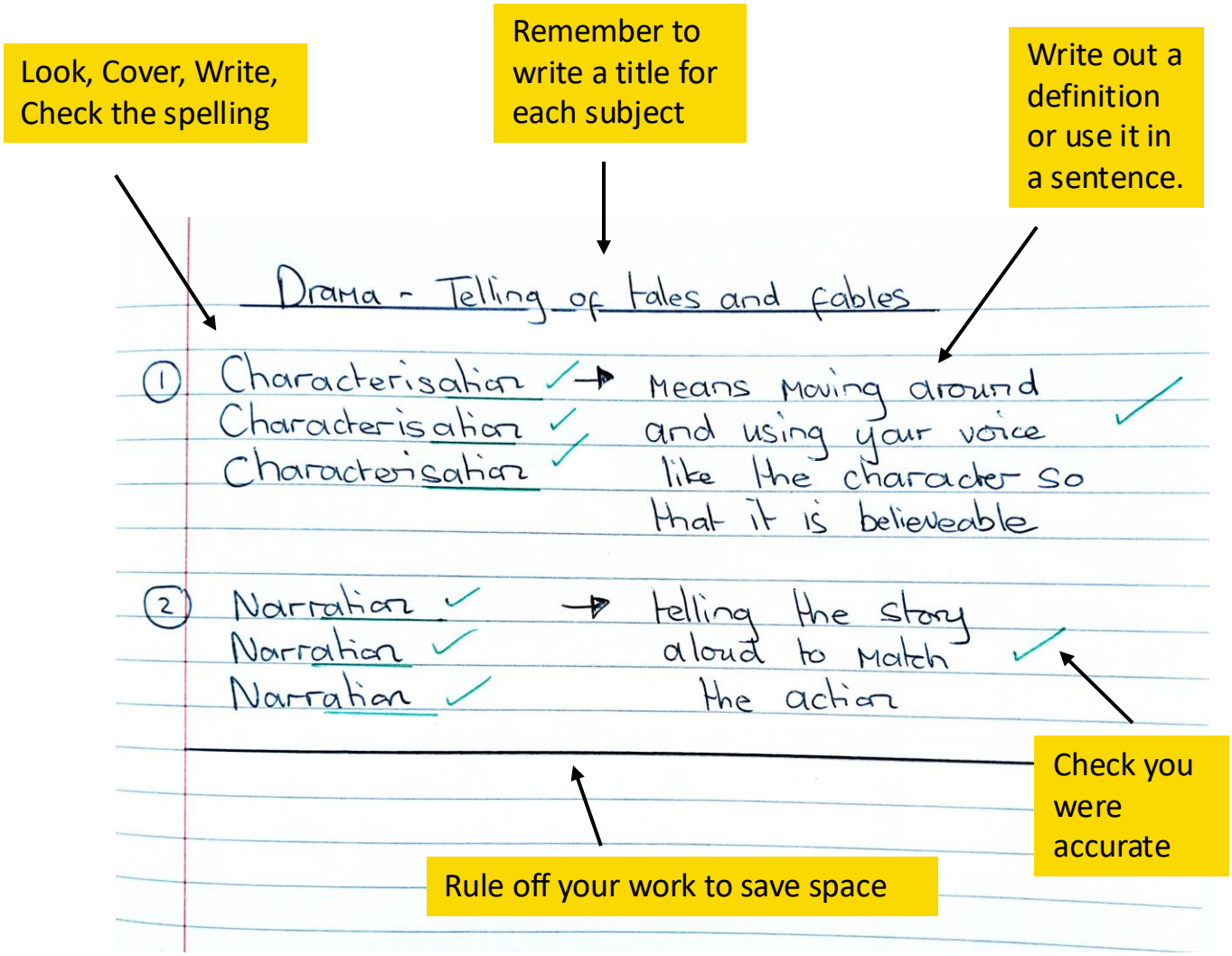
Self-quizzing questions can look like labelling a diagram

Self-quizzing questions can look like written Qs and Answers

STUDY SKILLS

How to ‘Define keywords’

Step 1: Read the information you need to learn.
Step 2: Look, Cover, Write, Check the spelling.
Step 3: Write out the definition of the word in your own words.
Step 4: Check you have been accurate.



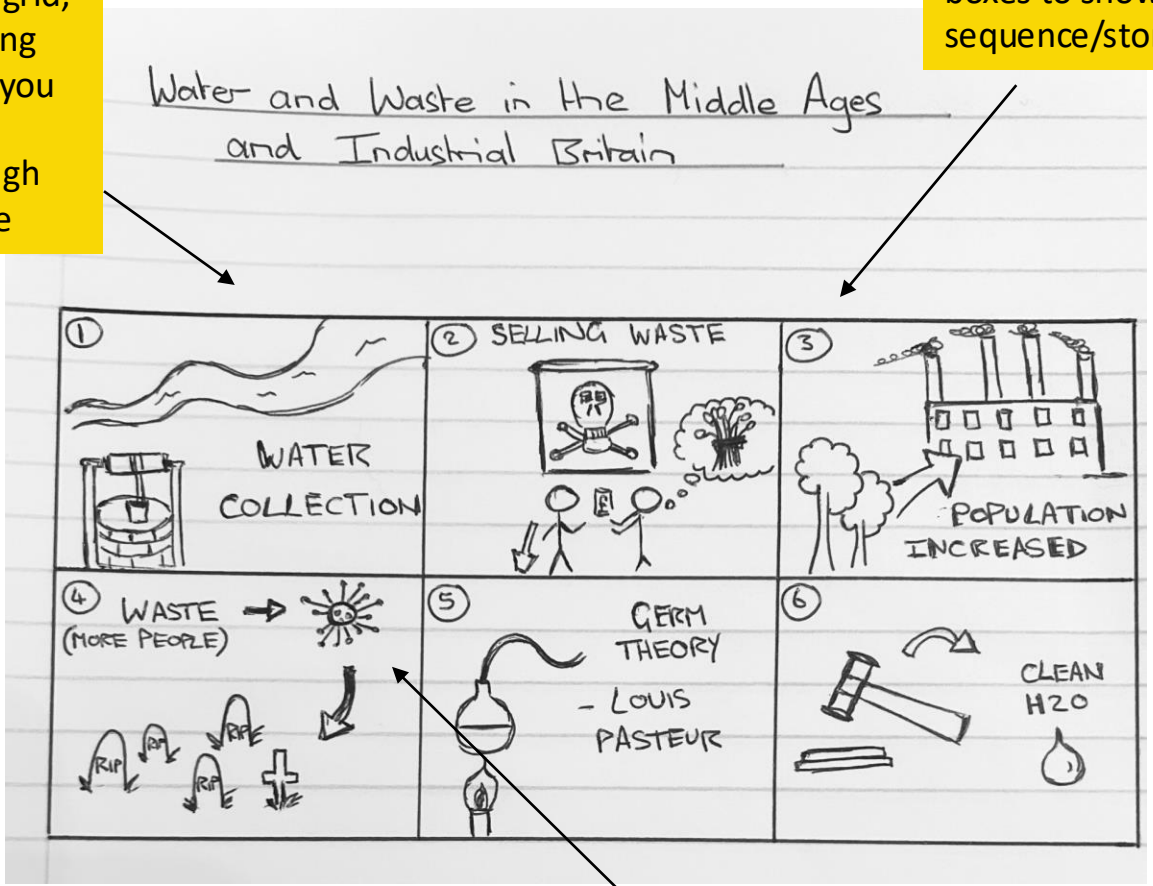
STUDY SKILLS

How to 'Illustrate'

Step 1: Read and number the information you need to learn.
Step 2: Draw out a grid with a box for each number.
Step 3: Turn the information into pictures or symbols that tell the story or sequence.
Step 4: Use the images you've drawn to help you tell someone else the information.

Draw out your grid, making sure you have enough space

Number your boxes to show the sequence/story



When you illustrate, you can use symbols, arrows and/or keywords

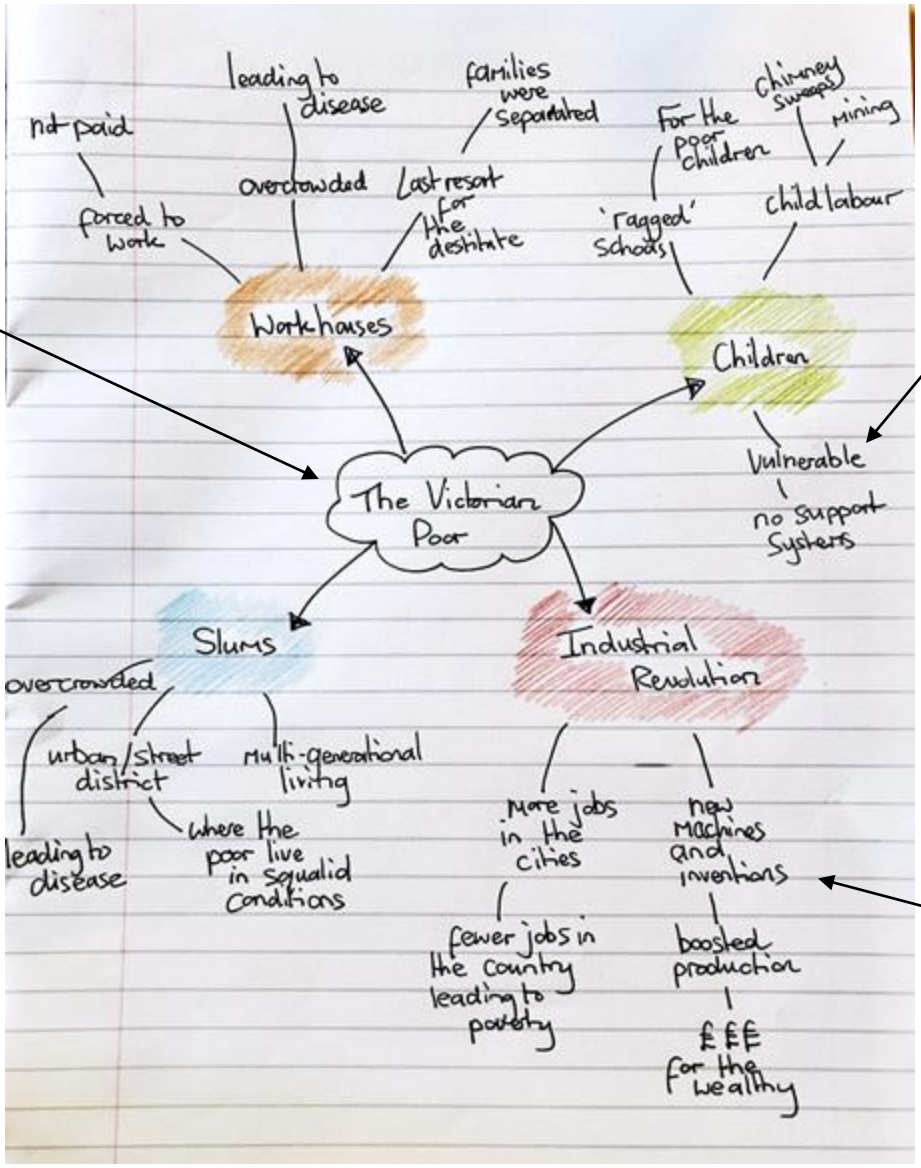
STUDY SKILLS

How to ‘Mind Map’

Step 1: Read the knowledge in the box carefully.
Step 2: Write the main topic in the centre.
Step 3: Write 3-4 sub-topics around the main topic.
Step 4: Expand each subject developing each branch (at least twice).

Main topic in the middle

3-4 sub-topics o the first branches



Each branch might be developed by examples, more detail, the impact or effect

Develop each branch as far as you can

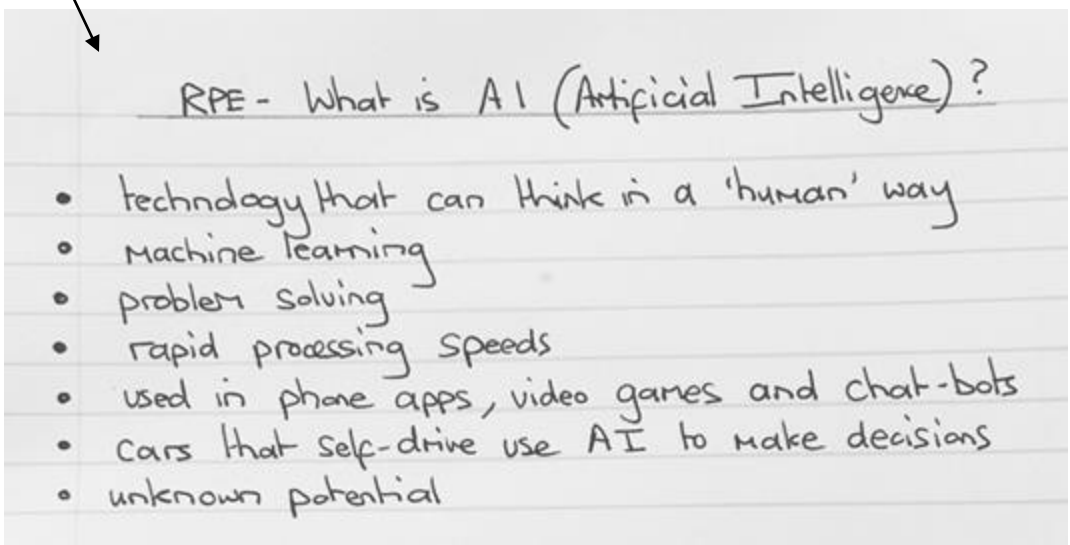
STUDY SKILLS

How to ‘Summarise’

Step 1: Read the knowledge carefully.
Step 2: Underline the key ideas and keywords.
Step 3: Using a mix of your own words and keywords in the text, reduce the text into a summary (a short paragraph or bullet points)

Summarising might look like turning a longer piece of text into bullet points of key information

Title for your subject



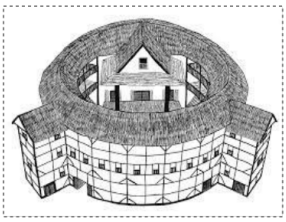
This should be a shorter version of the original, containing the most important information

STUDY SKILLS

4 ways of transforming knowledge

Example knowledge box from English

3. The Globe Theatre



- Plays were performed during daylight hours as there was no electricity.
- The Globe could hold up to 2500 people.
- The stage at The Globe was open on three sides.
- There was a trapdoor in the stage where ghosts or witches could appear.
- The stage was called an apron stage because it stuck out into the audience.
- The balcony above the stage was used for musicians or as a balcony in plays such as *Romeo and Juliet*.
- Women and girls were not allowed to act. Female characters were played by male actors.

1

Keywords Quizzing — The Globe

The Globe → a theatre that was round in shape

Trapdoor → a wooden hole in the stage where spooky characters would appear

Apron stage → the name of the part of the stage that juts out

Balcony → a high up balcony used for romantic scenes e.g. Romeo and Juliet

Actors → women were not permitted to perform on the stage

2

Self-Quiz — The Globe

1. Why were plays performed during daylight hours?
   There was no electricity.
2. What supernatural characters would use the trap door?
   Ghosts and witches
3. Why was the stage called an 'apron stage'?
   It stuck out.
4. What famous Shakespearean play featured a balcony?
   Romeo and Juliet
5. Who was not permitted to act on the stages?
   Girls or women

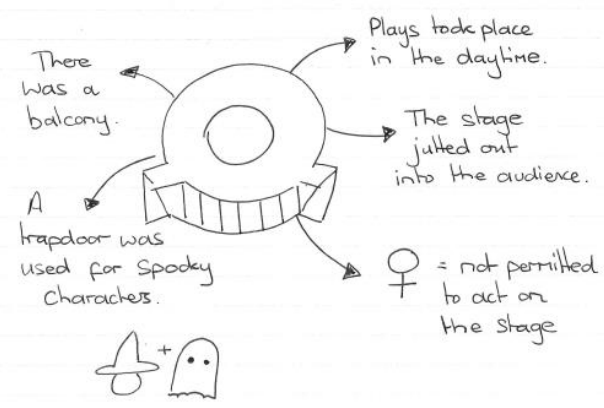
4

Summarising — The Globe

The Globe theatre was given its name due to its round shape. The stage inside the theatre was an unusual shape and jutted out into the audience. This would have made the performances of Shakespeare's plays very intimate. Within the stage floor, there was a trapdoor. This was used for scary characters such as ghosts and witches to emerge. Perhaps this represented a version of Hell. A balcony was used, usually by musicians but also for key scenes. Most famously, it was used in 'Romeo and Juliet'.

3

Illustrate it — The Globe



English

1. Recapping our vocabulary from the Myths and Legends Unit.

Myth	A story designed to explain things about the world, often using gods or supernatural creatures.
Legend	A story which seems like it could be history but isn't true.
Moral	A lesson that a story tries to teach about right and wrong.
Arche-type	A typical example of a person or thing. "The original from which copies are made."
Hubris	Being very proud and arrogant – thinking you are above the gods.

Challenge: Write your creation myth explaining the beginning of the world!

2. Let's recall the characters from our Myths and Legends Unit.

Zeus: the King of the Gods, ruling Mount Olympus.

Prometheus: created mankind and stole fire from Zeus for the good of humanity.

Pandora: created by the Gods and known as the first human woman. She was created to punish humanity.

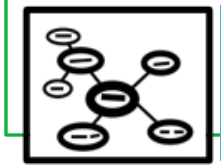
Persephone: the Greek goddess of spring and vegetation. Also known as the Queen of The Underworld.

Hades: the god of The Underworld and the dead.

Helios: the Greek god of the sun who drove a horse-drawn chariot across the sky each day.

3. The United Nations Convention on the Rights of the Child.

Who it's for: Every child, everywhere, no matter their background, religion, or abilities.
Basic needs: The right to a safe home, enough food, clean water, and healthcare.
Education and play: The right to go to school and the right to rest and play.
Protection: The right to be safe from violence, abuse, and harm.
Family and identity: The right to have their family life respected and the right to have their own beliefs.
No discrimination: All children have the same rights, no matter what.
Best interests: What is best for the child must be the main thing to consider.
Survival and development: Every child has the right to survive and grow up healthy and strong.



4. Key Vocabulary for *Once*

Antisemitism: prejudice against Jewish people

Ghetto: An area of a city where a minority group might live.

Curfew: A time by which you have to be in at night.

Tolerance: open-mindedness and acceptance of other people.

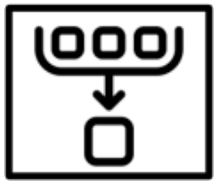
Resistance: the refusal to accept something.

New words:

Dramatic irony: when the reader knows something that a character does not.

Refugee: a person who has been forced to leave their country in order to escape war, persecution, or natural disaster.

Persecution: hostility and ill-treatment, especially on the basis of ethnicity, religion, or political beliefs.



English

5. What techniques will I encounter in my study of *Once*?

Foreshadow-ing	When a writer hints at or warns about a future event in a story.
Narrative Hooks	When a writer leaves out information to create a mystery or a cliffhanger.
Dramatic Irony	When the reader knows more than a character does.
Simile 	A word or phrase that compares something to something else, using 'like' or 'as'
Juxtaposition	Creating a deliberate contrast by placing two things side by side
Symbolism	Where an object or character represents a larger, more abstract idea.
Emotive Language	Language that makes the reader feel and emotion.

6. Writing a Book Review

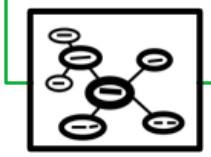
(1) Start by writing a couple of sentences describing what the book is about. (Don't give the ending away!)

(2) Discuss what you really liked about the book. The characters? The tension? The description? The setting?

(3) Mention anything you disliked about the book. The ending? Did you struggle to care about the main character? Was it convincing?

(4) Summarise your thoughts on the book and whether you would recommend the book.

(5) You could give the book a rating out of 10?



Challenge!
Write a review for Once to share with your teacher.

7. Poetry of Nature Key Vocabulary

Humanity	All the people in the world as a whole.
Romanticism	A literary and artistic movement connected by themes such as the imagination, criticism of oppression and nature.
Revolution	An overthrow of those in power to forcibly change who is in charge
Oppression	When people are treated in a cruel and unfair way by those in power
Crisis	A time of intense difficulty or danger.
Captivity	When a person or animal is kept somewhere and not allowed to leave.
Freedom	Being able to say, think or do what you want without being controlled.
Predator	An animal that lives by killing and eating other animals.

English

8. Key Techniques

Rhyme	A repetition of similar sounds in two or more words, often at the end of lines of poetry.
Rhythm	The beat of a poem, most obvious when read aloud.
Iambic pentameter	A type of rhythm that contains 10 syllables and five beats per line.
Caesura	A 'cut' or pause in the middle of a line of poetry, often created with a full stop.
Enjambment	When a sentence runs over more than one line of poetry.
Free verse	poetry that does not contain any rhythm or a regular pattern of rhyme.
The Sonnet Form	A form of poetry: fourteen lines of ten syllables with a strict rhyme scheme and a typical focus on love.
Sibilance	Repeated 's' sounds within a poem.
Symbolism	Where an object or character represents a larger, more abstract idea.

Challenge!
Design an information leaflet about climate change.

9. What is a Sonnet?

Rule 1: A sonnet has 15 lines.

Rule 2: It has a regular rhyme scheme.

Rule 3: It follows a regular rhythm/ iambic pentameter.

Rule 4: It is traditionally about love.

Shakespeare wrote 154 sonnets.

Sonnet 18 is Shakespeare's most famous sonnet and begins with "Shall I compare thee to a Summer's day."

Romeo and Juliet create a sonnet together when they first meet.

10. Can you learn this poem?

The Eagle By Alfred, Lord Tennyson
He clasps the crag with crooked hands;
Close to the sun in lonely lands,
Ring'd with the azure world, he stands.

The wrinkled sea beneath him crawls;
He watches from his mountain walls,
And like a thunderbolt he falls.

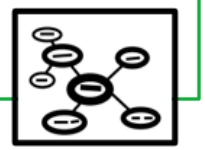
11 and 12. Climate Change

Climate change is the defining issue of our time. It is driven mostly by the **emission** of **greenhouse gases** like carbon dioxide and methane, which trap heat in the atmosphere.

Overall, the planet is getting warmer, but some regions can be temporarily cooler, or may experience longer or shorter periods of wetness or dryness. **Extreme weather events** like floods and wildfires are increasing, and sea levels are rising.

Life on Earth exists in an **ecosystem**, which means that no species – including humans – exists independently of others. Each living thing relies on the survival of the rest of the ecosystem.

When the climate changes and **habitats** become at risk, so too do the species that live within that habitat. For example, if hot weather happens earlier in the year, this will have a knock-on effect on when plants flower, when insects are able to **pollinate** plants and when birds **migrate**. There's a risk that as the climate changes, the lives of different species are no longer **synchronised**.



Music

1. Keywords

ORCHESTRA – A large ENSEMBLE (group of musicians) of performers on various musical instruments who play music together.

CONDUCTOR
-Leads the orchestra with a BATON (white 'stick') and hand signals.
-Stands at the front so they can be seen by all performers.
-Sets the TEMPO and BEATS TIME.
-Brings different instruments 'in and out' when it is their turn to play.
-Keeps the performers together.
-Takes charge in rehearsals.

Families
Strings
Woodwind
Brass
Percussion

2. STRINGS

This is the largest section of the orchestra who sit at the front, directly in front of the conductor.

Stings are usually played with a BOW (ARCO), (not the HARP) but can be PLUCKED (PIZZICATO).

The VIOLINS are split into two groups: 1st VIOLINS (often have the main MELODY of the piece of music) and 2nd VIOLINS.

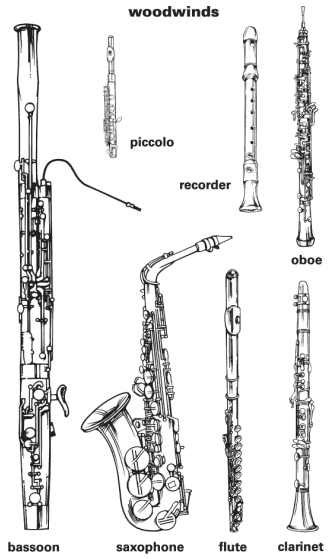
3. WOODWIND

Originally made from wood (some now metal and plastic).

FLUTES: Flute and Piccolo – air blown over hole.

SINGLE REED (small piece of bamboo in the mouthpiece): Clarinet, Bass Clarinet & Saxophone (not traditionally in the orchestra, but some modern composers have used it)

DOUBLE REED (two reeds in the mouthpiece): Oboe, Cor Anglais, Bassoon, Double Bassoon.



4. BRASS

There are four types of brass instruments in an orchestra, all made from metal – usually brass and BLOWN by the player 'buzzing their lips' into a MOUTHPIECE. The Trumpet, French Horn and Tuba all have three VALVES which, along with altering the players mouth positions, adjust the length of the tubing allowing for different notes to be played. The Trombone has a SLIDE which adjusts the length of the tubing.

Brass instruments (along with Percussion) have often been used to play FANFARES: a short, lively, loud piece of music usually warlike or victorious in character used to mark the arrival of someone important, give a signal e.g., in battles, of the opening of something e.g., a sporting event or ceremony.

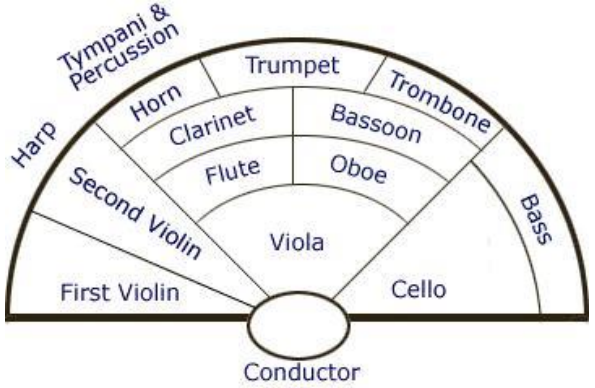
Music

5. Percussion

Always located at the very back of the orchestra (due to their very loud sounds!). Large number of instruments which produce their sound when hit, struck, scraped, or shaken.

TUNED PERCUSSION (able to play different pitches/notes) Piano Xylophone Glockenspiel Timpani Celesta Tubular Bells.
UNTUNED PERCUSSION (only able to produce one 'sound').

6. The layout of the orchestra



7. Program Music

Program music is **descriptive**, suggesting **visual images or 'telling a story'**. The descriptive idea or story-line is known as the program.

Instrumental music that is free of a program and exists purely for its own sake is known as **absolute music**.

Although descriptive music had always existed, orchestral program music became very popular during the **Romantic period** (roughly the 19th century) when music developed close links with literature and painting.

8. Musical Devices used in Program Music

Musical motifs - short melodic or rhythmic ideas used to represent characters or images
Transformation of themes where a basic theme undergoes changes to mirror a situation
Orchestral colour - use of instruments to represent characters or images
Imitation of sounds e.g. birdsong or thunder
Use of musical elements – dynamics, harmony, tempo, key

Music

9. Instruments and common associations (Musical Clichés)

In Program Music composers use a variety of different instrument sounds to create a specific image in the listener's mind. **See the table below**.

Instrument	Purpose
Woodwind	Nature sounds such as bird songs, animals, rivers, wind, etc.
Brass	Soldiers, war, royalty, ceremonial occasions
Tuba	Large and slow-moving things
Harp	Tenderness, love and dreams
Glockenspiel	Magic and Fairytales
Timpani/Drums	War, fighting, thunder
Strings	Used to portray emotions such as grief, sadness, etc.

10. Key Composers and works

Hector Berlioz – Symphonie Fantastique (1830)

Modest Mussorgsky – Pictures at an Exhibition (1874)

Camille Saint-Saëns – The Carnival of the Animals (1886)

Paul Dukas – The Sorcerer's Apprentice (1897)

11. Major and Minor chords

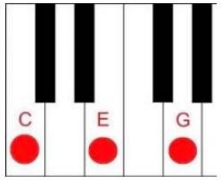
A **chord** is when we play three or more notes together. There are two main type of chords we use in music.

Major Chords
These tend to sound bright and cheerful and can be used to represent happiness.

Made up of Root note

+ 4 Semitones

+ 3 Semitones



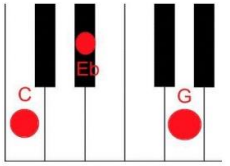
C, E (4 semitones up from C) and G (3 semitones up from E)

12. Major and Minor chords

Minor Chords
These tend to sound dark and mysterious and can be used to represent anger or sadness.

Made up of Root note

+ 3 Semitones
+ 4 Semitones



C, E flat (3 semitones up from C) and G (4 semitones up from E flat)

Mathematics

1. Factors and Multiples

What is an integer ?
An integer is a whole number.

What is a Factor ?
Is an integer that will divide exactly into another integer, with no remainder.
3 is a factor of 12, it divides exactly into 12, 4 times.

What is a factor pair ?
Every Number can be split into 2 factors with multiply together to give the original number
Example 12 = 1 x 12, 2 x 6, 3 x 4

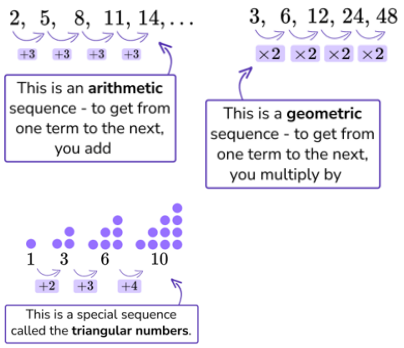
What is a multiple ?
Multiples of a number are the values in that number's timetable.
Multiples of 7 are 7,14,21,28

What is a Prime number ?
It is a number that has 2 different factors only.

Prime numbers under 30
2, 3, 5, 7, 11, 13, 17, 19, 23, 29.

2. Sequences and nth term

A sequence is a set of numbers, letters or shapes that follow a particular pattern or rule.



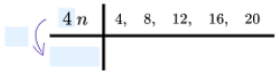
The **nth term** of a sequence is a formula that enables us to find any term in a sequence.

Finding the nth term rule

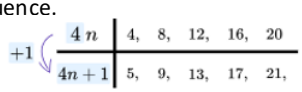
1. Find the difference.

The common difference is 4.

2.Multiply the values for n=1, 2, 3... by the common difference.



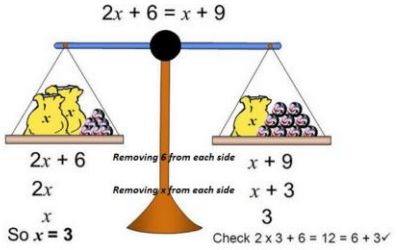
3. Add or subtract to obtain the sequence.



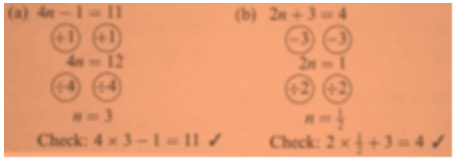
The nth term rule is **4n+1**.

3. Balance Equations

An equation means that two things are equal. A pair of scales is sometimes used to show equations because when both sides balance, they are equal.



Solve the following equations.



Multiply Out Brackets First

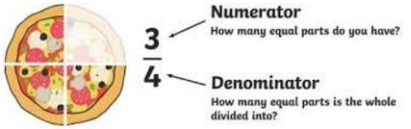
If your equation has brackets in it...
1) Multiply them out before rearranging.
2) Solve it in the same way as above.

Solve $3(3x - 2) = 5x + 10$

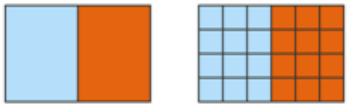
$9x - 6 = 5x + 10$
$(-5x)\quad 9x - 6 - 5x = 5x + 10 - 5x$
$4x - 6 = 10$
$(+6)\quad 4x - 6 + 6 = 10 + 6$
$4x = 16$
$(\div 4)\quad 4x \div 4 = 16 \div 4$
$x = 4$

4. Fractions

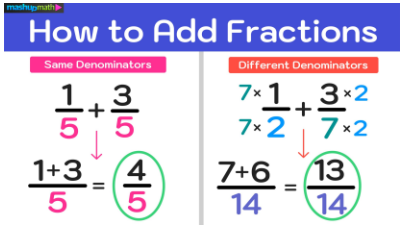
A fraction is a way of describing how much of something you have.



Equivalent Fractions are fractions that mean the same amount but with different numerators and denominators.



$$\frac{1}{2} \times \frac{12}{12} = \frac{12}{24}$$



$\frac{3}{4}$ of 36

Divide by the denominator then multiply by the numerator

36 ÷ 4 = 9 x 3 = 27

Mathematics

5. Probability

Probability is a measure of chance.
It can always be written as a fraction.

Example 1:
P(multiple of 3 on a dice)

Question: Using a normal dice, find the probability of rolling a multiple of three.

Answer: $^{2}/_{6}$
*There are **2** multiples of three **out of the 6** different outcomes possible from rolling a dice (1,2,3,4,5 and 6 – 3 and 6 are the 2 multiples of three).*

Example 2:
P(not winning a game)
Question: Given the probability of winning is 80%, find the probability of not winning.

Answer: 20%
This is because all probabilities of an event add up to 1 or 100%.
100% subtract 20% = 70% (or $^{7}/_{10}$)

6. Averages From a Table

What is Frequency ?
This is a count of how many times something occurs.

What is a Frequency table ?
This where the information (Data) is presented in a table instead of a long list of numbers.

Number of sweets	Frequency
23	1
24	4
25	9
26	3
27	3
	20

23 x 1 =23
24 x 4 = 96
25 x 9 = 225
26 x 3 = 78
27 x 3 = 81
503

How to find the mode ?
It is the piece of data with the highest frequency. **25 sweets**

How to find the range ?
Look at the data value column and subtract the lowest value from the highest (only for frequencies greater than 0) **27 – 23 = 4**

How to find the mean ?
1) Multiply the rows
2) Add 3) Divide by total
503 ÷ 20 = 25.15

7. Fractions

$$\frac{\text{Part}}{\text{Whole}} = \frac{\%}{100}$$

1% (*divide by* 100)
5% (*divide by* 20)
10% (*divide by* 10)
20% (*divide by* 5)
25% (*divide by* 4)
50% (*divide by* 2)

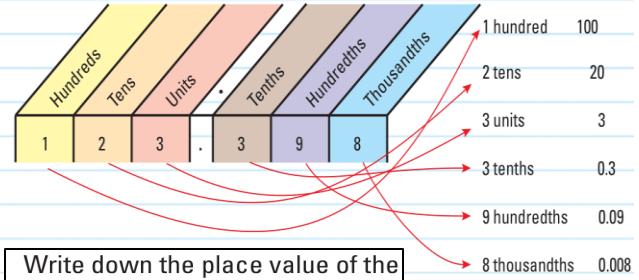
Find 20% of 30
30 ÷ 5 = 6

1) Find 25% of 400
2) Find 1% of 400
3) Find 26% of 400

8. Decimals

- In a decimal number, the decimal point separates the whole number from the part that is smaller than 1.

Example A Formula One Grand Prix driver has his lap time recorded as 123.398 seconds.
Put 123.398 in a place value diagram.



Write down the place value of the underlined digit in each number.

a 32.8 c 10.03
b 0.385 d 4.290

- To put decimal numbers in order of size, first compare the whole number parts, then the digits in the tenths place, then the digits in the hundredths place, and so on.

Example Write these numbers in order of size, starting with the largest: 3.069, 5.2, 3.4, 3.08, 3.0901.

Step 1: Look at the whole-number parts.
5 is bigger than 3, so 5.2 is the biggest number.
3.069, 3.4, 3.08, 3.0901 remain unordered.

Step 2: Look at the tenths place.
4 is bigger than 0 so 3.4 comes next.
3.069, 3.08, 3.0901 remain unordered.

Step 3: Look at the hundredths place.
Here the digits are 6, 8 and 9.
The order is 5.2, 3.4, 3.0901, 3.08, 3.069.

Mathematics

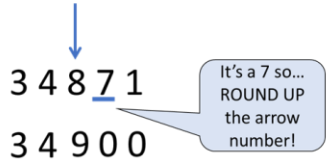
9. Rounding

Can you round to a given degree of accuracy?

1. FIND the column that you are rounding to
2. Put an ARROW over this column
3. Write down everything BEFORE the arrow number
4. CHECK the digit after the arrow. This tells you what to do with the arrow number
5. If it's 0, 1, 2, 3, 4: LEAVE IT
6. If it's 5, 6, 7, 8, 9: ROUND IT UP
7. Fill in any gaps with zero placeholders to keep your digits in the correct columns

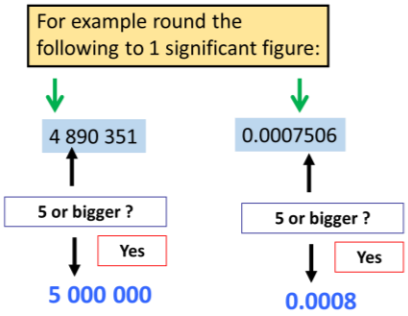
Example

Round 34 871 to the nearest 100.



10. Estimation

Recap: Round to 1 significant figure



Can you estimate calculations?

1. First ROUND ALL NUMBERS involved in the calculation to 1 SIGNIFICANT FIGURE
2. Then complete the calculation
3. Check to see whether your answer sounds sensible!

Example

Estimate 329 x 41

Round to 1SF → 300 x 40

Work out → 300 x 40 = 12000

Estimation → 12000

11. Simplifying Expressions

Expressions: In algebra, you use letters to represent unknown numbers.

In 5 boxes there are 5n pens,
n + n + n + n + n = 5n pens.

In 3 boxes there are 3s pens,
s + s+ s = 3s pens.

There are 5n+3s pens in total.
5n+3s is an expression.

Simplify an algebraic expression by collecting like terms. Like terms have exactly the same letters.

4x - 2x + 8 + 3x -1
4x + 3x -2x + 8 -1 = 5x + 7

To collect like terms:

- Identify like terms, (same letters)
- Add or subtract the like terms using the symbols in the expressions.

Example

7a-2b-a-5b+3a+10c+11

Answer

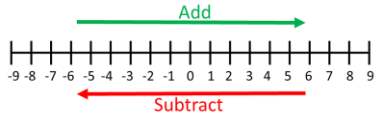
7a+3a-a-2b-5b+10c+11
= 9a-7b+10c+11

12 Negative Numbers

Can you add and subtract negative numbers?

If there is 1 sign between the numbers:

1) Find your starting point on the number line
2) Then count the required amount in the correct direction



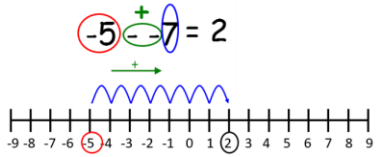
If there are 2 signs between the numbers:

1) Circle the 2 signs and change to a plus or a minus using this table:
2) Then count the required amount in the correct direction

+ -	-
- -	+

Example

Work out -5--7



Drama

1. WITHOUT WORDS

The aim of this scheme of learning is to master **acting skills that are not to do with using the voice**. You will develop your skills in **mime, gesture and facial expression** leading to creating a 'silent play' inspired by a scene from a Charlie Chaplin movie.

A performer's use of physical skills can help to convey lots of important information to the audience and helps to show a **character's emotions**. Performers use a range of physical skills to help **transform themselves into the character** they are playing.

2. Physical skills

Body language
eye contact
facial expressions
gait
gesture
pace
position
quality of movement
space
levels
specialist skills
physical tension

3. Gesture

A gesture is **using your hands to communicate**.

We use gestures all the time. Putting your hand up in class, giving a thump-up and waving goodbye are all gestures.

Other examples include:

Nodding
Pointing
Shrug
High five
Wave
Handshake
Saluting

What gesture would you use to communicate….?

"Over there!"
"Give that to me!"
"Yes, please"
"That food looks yummy"

4. Mime

A mime is **acting with an object that is missing**.

A mime is when an actor acts out **using objects which aren't there** e.g. *Drinking from a cup*. The actor would pretend that they are holding a cup, but the are not.

A **mime artist**, is a performer who acts out a story through movements without the use of speech. They perform to music and wear make up to exaggerate their facial expressions.

Kasper Jensen (above) is a professional mime artist that you will look at in your lesson. He is also an expert juggler and fire-breather.

Drama

5. Charlie Chaplin

Charlie Chaplin (1889-1977) was a very influential British actor. He was known for starring in **silent films** such as 'The Kid (1921)'. Silent movies were popular from 1900-1930 - during this time, films were not technically able to record the voices of actors.

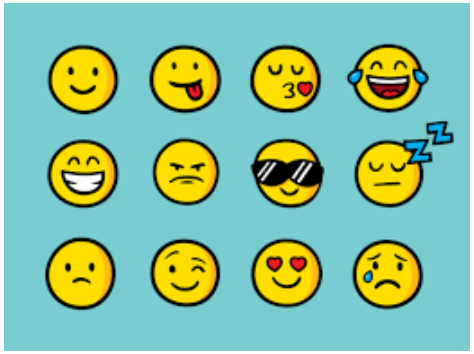
You can watch 'The Kid' for free on Youtube.

A film critic described him as "*arguably the single most important artist produced by the cinema, certainly its most extraordinary performer and probably still its most universal icon".* He won many **awards** including three Oscars and a knighthood from the Queen.

6. Facial expression

It is important to use **facial expressions** in drama because it communicates your character's emotion.

Think about how we use emojis to communicate our emotions electronically. **We can interpret faces and understand their meaning**.



As an actor, your facial expression should match your dialogue. **What facial expression would you use when saying these lines….?**

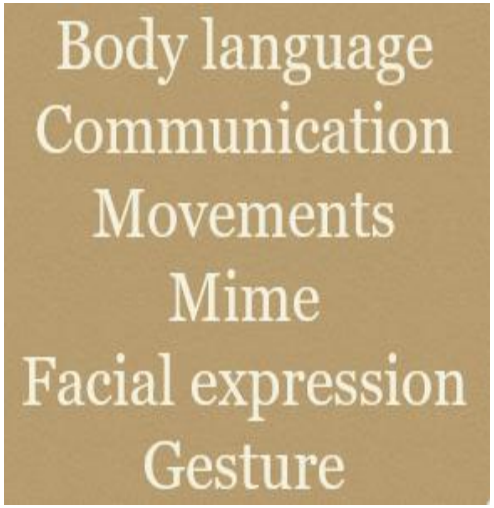
"I wasn't expecting that!"
"I've always liked you."
"Stop it!"
"I don't think I can do this."

7. A Silent Play

In your lessons, you will create **a silent play**. This is like a silent movie but performed on stage. It tells a story to the audience, but the actors don't speak. The correct name for a silent play is **dumbshow**.

To create this, your group must be very clear about what the **action** is and who the **characters** are. The audience cannot rely on **narration** or **dialogue**.

You will need to include all the non-verbal skills you have learned:



Drama

8. SCRIPTED DRAMA

Plays have been written down by people since the time of the Ancient Egyptians 4000 years ago.

A play is **laid out** to show:

- The characters
- The lines (dialogue)
- The action (stage directions)
- Technical information (descriptions of the set, lighting, costumes and sound).

In this scheme of learning, you will work on a play as a group and take it "**from page to stage**".

9. Reading

A play '**reading**' is when the actors read the play out loud. Usually, one person reads each character. Someone reads the stage directions.

Stage directions – information in the script that describes the action e.g. "*BERYL hides the burger under the table.*"

10. Casting

Casting the play means choosing which actor should play which part. Casting can be done 'to type', meaning that the actor that most closely matches the description of the character is chosen. Or, you can cast 'against type' which is the opposite.

Gwyneth Paltrow was cast in a male role for the film *Shakespeare in Love*

11. Blocking

Blocking is when you first start to plan where the actors should stand and move.

Normally, there isn't much focus on character detail or voices. The aim is to get a **rough** idea of where everyone needs to be.

You should consider:

- Entrances and exits
- The size and shape of your space
- Any set or furniture
- The position of the audience

12. Line learning tips

1. Highlight or underline your lines
2. Read your lines aloud
3. Write your lines out by hand
4. Practice with a partner
5. Make an audio recording you can listen back to
6. Learn your cues (the line before you speak)

ACT I SCENE 1

Set in 1950's style diner, "McDenny's", in the present day England. BERYL is sitting at the back of a "u" shaped booth. She is tucking into a large burger and reading a gas bill

Enter LYNDA, SUSAN and RODERICK

LYNDA: *(speaking to SUSAN and ROD as they make their way over to BERYL)* ...put your back into it man, I said, use some elbow grease, don't just tickle it, I want to see my face in it... Hi Beryl...

BERYL hides the burger under the table

BERYL: Oh hi

SUSAN: *(sits at the table at the left side of BERYL)* He was doing his best.

Computing

Please complete the following tasks each week using your ePortfolio booklet.

Task 1 – Complete your keyword definitions for the words listed in lesson 1 of the ePortfolio. (Use the class presentations to support you)

Task 2 – Look at yur keywords ready for a spelling test next lesson.

Task 3 – Ensure any worksheets you started in class this week are complete (use the class presentation to support you).

Task 4 – Complete any purple pen improvements you have been advised to do using the purple font. (Use the Google classroom to support you).

1. Copyright

Keywords

Copyright
Creative work
Copyright infringement
Plagiarism

2. Health and Safety

Keywords

Poor posture
Repetitive strain injury (RSI)
Blue light syndrome

3. End of topic test

Task 1 – Ensure any worksheets you started in class this week are complete (use the class presentation to support you).
Task 2 – Complete any purple pen improvements you have been advised to do using the purple font.
Task 3 – Revise the material from this term ready for an end of topic test

4 Flowcharts

Keywords

Computer control
Flowol
Run
Stop
Algorithm

5. Flowcharts

Keywords

Input
Process
Output
Loop
Flowchart

6. Sequencing

Keywords

Control system
Delay
Instruction
Multiple instructions
Sequence
Mimic
Connecting line

7. Purple pen

Task 1 – Ensure any worksheets you started in class this week are complete (use the class presentation to support you).
Task 2 – Complete any purple pen improvements you have been advised to do using the purple font.

8. Sensors

Keywords

Symbol
Interface
Text tool
Sensor
Line tool
Automation
Decision

9. Subroutines

Keywords

Subroutine
Signal
Sub-program
Efficient

10. Actuators

Keywords

Actuator
Variable
Temporary
Rev
Motor

11 +12. Task completion

Task 1 – Ensure any worksheets you started in class this week are complete (use the class presentation to support you).
Task 2 – Complete any purple pen improvements you have been advised to do using the purple font. (Use the Google classroom to support you).
Task 3 – Revise the material from this term ready for an end of topic test

Science - Chemistry

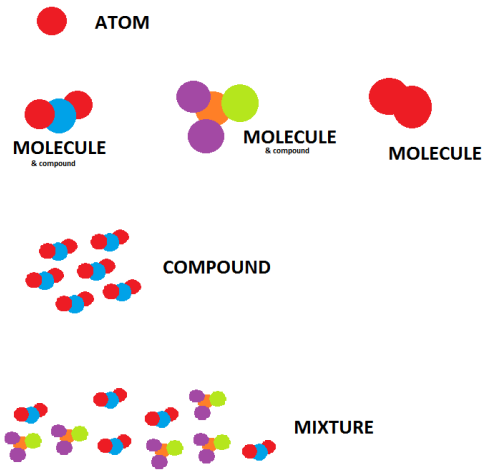
1. Solubility

Solute: A substance that dissolves
Solvent: The liquid something dissolves in to
Solution: A mixture of a liquid and a dissolved solid
Soluble: Something that can dissolve in a given liquid

What happens to solute while dissolving?	The move between the solvent particles
How can you speed up dissolving?	Stir, increase the temperature
What factor affect how much solute can dissolve?	Temperature
What is a saturated solution?	One where no more solute can dissolve
How can you increase the amount of solute that can dissolve in a saturated solution?	Increase the temperature

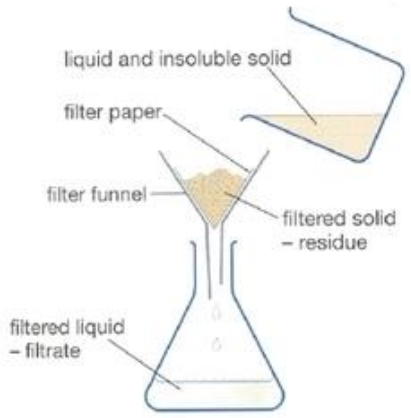
2. Atoms, Elements and Compounds

Atom: An individual piece of matter
Element: A substance made of just one type of atom
Molecule: Two or more atoms bonded together
Compound: Two or more atoms of different types bonded together
Mixture: Two or more substances mixed together

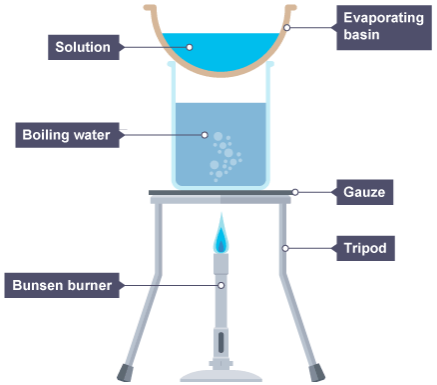


Challenge!
Make 3D models of atoms, elements and compounds

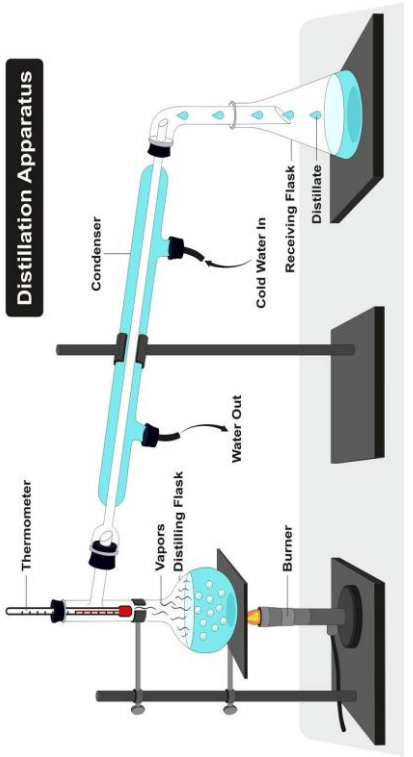
3. Filtration and crystallisation



Learn the names of the equipment and components of each diagram



4. Distillation



Learn the names of the equipment and components

Science - Physics

5. Properties of sound

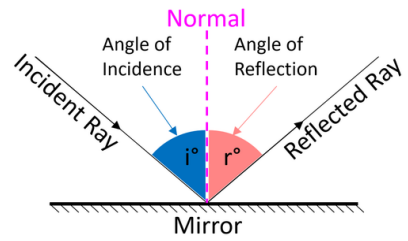
Vibration: A very fast movement back and forth
Oscillation: A repeated back and forth motion

When sound occurs, what is vibrating?	Particles in the substance
What is the effect of a large vibration on sound?	It is louder 
What is the effect of a faster vibration on sound?	It is higher pitched
How are vibrations passed from the object causing them to our ears?	They cause particles in the air to vibrate in the same way
What do vibrations transfer?	Energy
Why can't we hear spacecraft in space?	There are no particles to carry the vibration

6. Properties of light

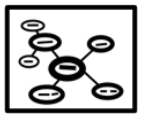
Transmitted: Light goes through a substance
Reflected: Light bounces off a surface
Absorbed: Light goes into a substance but does not come out

When light is absorbed, where does the energy go?	It heats up the material 
How does light travel?	Without particles, in straight lines
What does opaque mean?	Light is absorbed by this object
What does translucent mean?	Some light is absorbed, some light is transmitted
What does transparent mean?	Most light is transmitted



7. Reflection and light on the move

Specular reflection: A reflection that produces a clear image
Diffuse reflection: A reflection that does not produce a clear image
Normal line: A line drawn at 90 degrees to a surface that is reflecting light
Angle of incidence: The angle between the incident ray and the normal line
Angle of reflection: The angle between the reflected ray and the normal line

What is true about the angle of incidence and angle of reflection for a specular reflection?	They are the same 
Why do shadows form?	Light travels in straight lines and can be absorbed by opaque objects
What is a luminous object?	One that gives off its own light

8. How we see and coloured light

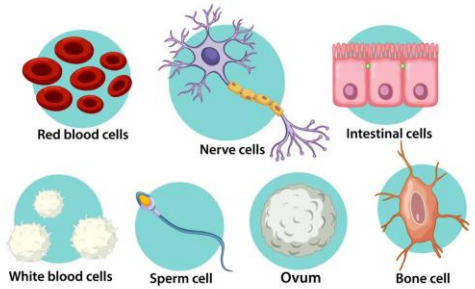
Pupil: A hole in the iris of the eye, that lets light travel into the eye
White light: A mixture of all seven wavelengths (colours) of light
Primary colours of light: These are the red, blue and green colours of light
Secondary colours of light: These are magenta, cyan and yellow colours of light

When red and green light mix, what colour forms?	Yellow
When red and blue light mix, what colour forms?	Magenta
When green and blue light mix, what colour forms?	Cyan
What colour would a magenta t-shirt appear in red light?	Red
What colour would a magenta t-shirt appear in green light?	Black 

Science - Biology

9. Organisation

Multicellular Organism: An organism consisting of more than one cell
Animal Specialised Cells: Red blood cell, nerve cell, sperm cell, ovum cell, muscle cell
Plant Specialised Cells: Palisade cell, root hair cell
Tissue: A group of similar cells working together to carry out a specific function
Organ: A group of tissues working together to carry out a particular function
Examples of tissues: Muscle, bone, skin, fat
Examples of organs: Heart, lung, kidney, brain, liver, stomach
Organ Systems: Circulatory, nervous, muscular, respiratory, digestive, skeletal



10. Circulatory system

What are the three types of blood vessel?	Veins, arteries, capillaries
What direction do veins carry blood in?	Toward the heart
What direction do arteries carry blood in?	Away from the heart
What do capillaries do?	Deliver essential gases and nutrients to cells and carry waste away from cells
Why do cells need oxygen?	To release energy during respiration
Which gas is a waste product of respiration?	Carbon dioxide
What is the function of the lungs?	To move air in and out of the body and exchange gases.

11. Digestive System

Name the 7 food groups	Carbohydrates, proteins, fats, fibre, vitamins, minerals, water
Which enzyme helps us to digest carbohydrates?	Amylase
Which enzyme helps us to digest proteins?	Protease
State the 7 main organs in the digestive system	Mouth, oesophagus, stomach, pancreas, liver, small intestine, large intestine
Which enzyme helps us to digest fats?	Lipase
What is absorbed from the small intestine?	Nutrients
What is absorbed from the large intestine?	Water
What is the role of the teeth in digestion?	Break down food into smaller pieces

12. Skeletal and Muscular System

Which part of the skeleton protects the lungs	The rib cage
Approx. how many bones is the human skeleton made of	200
Which mineral makes bones strong?	Calcium
Name the 4 main functions of the skeleton	1. Support 2. protect vital organs 3. movement 4. make blood cells
How do muscles work?	By getting shorter - contraction
Give an example of a pair of antagonistic muscles found in the legs	Quadriceps and hamstrings
Name the two muscles in the upper arm.	Biceps and triceps

PE

1. Stages of a warm-up

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.

2. Stages of a warm-up

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 rehearsal, deep breathing, visualisation, imagery and positive self-talk

3. Benefits of warming up:

- Increases 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.

4. Stages of a cool-down

Stage 1 : Activity to keep an elevated breathing rate (walk, jog)

Stage 2: Gradual decrease (jog, light jog, walk)

Stage 3: Stretching (longer than warm-up)

Benefits of cooling down

- Allows recovery
- Removal of lactic acid, CO_2, waste products
- Help prevent DOMS

PE

5. Safety Principles

Safe/suitable intensity:

Exercise should be at intensity which an individual can maintain without risk of injury.

Effective warm up and cool down:

Including a pulse raiser and stretches.

Avoid over-training:

This happens when an individual trains too hard or too often.

Clothing and footwear:

Appropriate and safe for the activity.

6. Safety Principals

Hydration:

Ensuring you drink enough water for your body to function properly.

Correct technique:

Completed on all exercises using the correct technique to avoid injuries

Rest and recovery:

Allowing your body to recover.

The SAFER acronym

- **S –** Stretches
- **A –** Appropriate intensity
- **F –** Footwear & clothing
- **ER –** Exercise & Rest

7. Short term effects of exercise

- Increased breathing rate, heart rate, stroke volume, cardiac output

- Increased blood pressure
- Increased body temperature (sweating)
- Decreased hydration levels
- Muscle fatigue

8. Long term effects of exercise

- Increased cardiovascular endurance
- Efficiency to use oxygen
- Lower blood pressure
- Decreased resting heart Rate
- Increased muscular endurance

9. Long term effects of exercise

- Improved cardiovascular endurance
- Efficiency to use oxygen
- Lower blood pressure
- Decreased resting heart Rate
- Increased muscular endurance

PE

10. Nutrition

There are two main categories nutrients that we consume as part of our diet within our meals and liquid intake.

They can be split into;

Macronutrients or

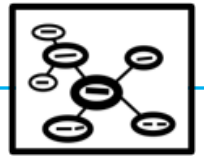
Micronutrients

Macronutrients

- Carbohydrates
- Protein
- Fats

Micronutrients

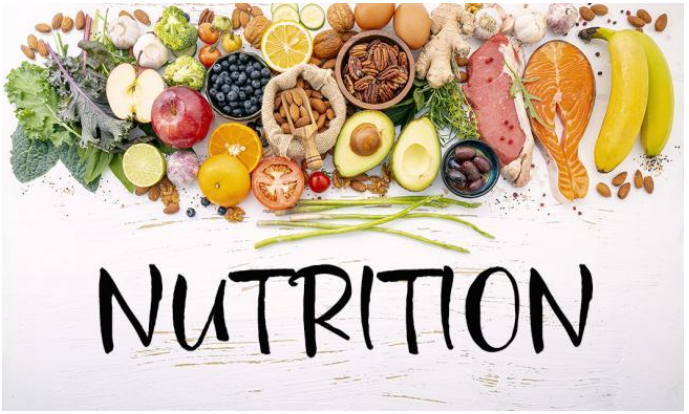
- Vitamins
- Minerals

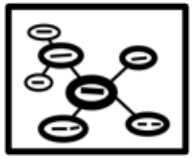


11. Nutrition

Carbohydrates

Carbohydrates are the main source of energy for the body's cells, organs and tissues.





Protein

Protein helps being and repair body tissue (muscles)

Fats

Fats are used to store energy, provide insulation and protection for the body.

12. Goals

S – specific

M – measurable

A – accepted

R – realistic

T – time bound

Performance Goal – personal standards to be achieved

(i.e. beat your PBs)

Outcome Goal – focus on end result

(i.e. winning)

RPE

1. Buddhism key points

- Buddhists believe that the **human life is one of suffering**, and that meditation,
- Spiritual and physical labour, and good behaviour are the ways to achieve enlightenment, or nirvana.
- Buddhists follow **The Eightfold Pathway**, in order to gain good Karma and reach Moksha.
- Within the Buddhist belief, they are meant to develop mind and character to make progress on the path to **enlightenment**.

•The *Four Noble Truths* are one of the most important teachings of the Buddha. They consist of the following ideas:
•All life is imperfect and involves suffering (*dukkha*).
•The cause of suffering is desire (samudaya).
•Suffering can end (nirodha).
•The way to end suffering is by following the Noble Eightfold Path

2. Key people

Siddhartha Gautama	An Indian prince born in 563 BCE who would become the Buddha. He died in 486 BCE
Maya	Siddhartha's mother
Rahula	Siddhartha's son
Yashodhara	Siddhartha Gautama's cousin and wife
Channa	Siddhartha's servant
Devadatta	The Buddha's cousin
Maha Ghosananda	A senior monk in Cambodia who helped rebuild the country after war
Ashoka	An Indian emperor who ruled from 272–31 BCE and converted to Buddhism
Dalai Lama	The spiritual leader of Tibetan Buddhism

3. Key Terms:

Vocabulary	
Buddhism 	A religion which began in India over 2500 years ago. It is now the fourth largest religion in the world with approximately 500 million followers. 99% of Buddhists live in Asia. 50% live in China. Approximately 200,000 live in the UK
enlightenment	The state of being awakened to the truth about life. Siddhartha achieved enlightenment under a Bodhi tree when he was 29 years old
karma	The forces that influence peoples' fortune and future rebirth
meditation	The practice of being still and focusing the mind
parinirvana	A state of complete bliss, entered into by souls that are not reborn
samsara	The continual process of life, death and rebirth
ascetic	Someone who lives a life of simplicity and self-denial

RPE

4. What was the Five Precepts

The *Five Precepts* are the Buddhist version of a code of conduct or rules to help people behave in a moral and ethical way. Buddhists should follow the Five Precepts to ensure they are living a morally good life. This helps them to get rid of suffering and achieve *enlightenment.* It is important to practise the precepts over time as they are not always easy to carry out. The main aim of a Buddhist is get rid of suffering, and therefore following the Five Precepts is important as they help Buddhists to avoid causing others to suffer. Following the Five Precepts is linked to *kamma*, as these count as skilful actions, which produce good consequences.

5. Key Texts

Texts	
Dhammapada	A Buddhist scripture that contains the teachings and sayings of the Buddha
Pali Canon	The main sacred text for many Buddhists which contains the teachings of the Buddha, rules for monks and nuns and the philosophy of Buddhism; also known as the Tiptaka.

6. Four Noble Truths

1) Dukkah – suffering exists
2) Samudaya – there is a cause for suffering
3) Nirodha – there is an end to suffering
4) Magga – in order to end suffering you must follow the eightfold path

7. Key Terms

The Four Noble Truths	The basis of the Buddha's teachings: all creatures suffer; suffering is caused by selfish desires; suffering can be ended; the way to end suffering is to follow the Eightfold Path.
dukkha	The suffering or dissatisfaction of all living beings.
Eightfold Path	Eight instructions taught by the Buddha to help people overcome suffering and reach the contented state of enlightenment.
Three Poisons	Greed, hatred and delusion
Bhikkhu	A Buddhist monk; nuns are called bhikkhunis
laity	Buddhists who are not monks or nuns.
Sangha	In Theravada Buddhism this refers to the community of Buddhist monks and nuns. Mahayana Buddhism it refers to all Buddhists

Challenge!
Explain: why are the five precepts important for Buddhists?

RPE

8. Key Vocabulary 1

Karma – the sum of a person's actions in this and previous existence decides their future fate.

Wesak – Buddhist festival to commemorate the birth, enlightenment and death of Buddha.

Three jewels – include the Buddha, the Dharma and the Sangha-(community who follow the teaching).

Enlightenment – the action or state of attaining spiritual knowledge or insight.

Tripitaka – sacred text.

9. Wesak

Wesak is a very happy occasion celebrating the birth of Buddha and for some, his enlightenment and death. Buddhists visit their local temples for services and teaching and give offerings to the monks or food, candles and flowers.

10. Buddhism

It began in North-Eastern India and is based on the teachings of Siddhartha Gautama. It is a religion about suffering and the need to get rid of it, when you are enlightened you are in a state without suffering. At 29 Siddhartha Gautama realised that wealth and luxury did not guarantee happiness. After he was enlightened he spent the rest of his life teaching the principles of Buddhism (the Dharma).

11. The Eightfold path

Buddhists follow these 8 divisions of the path to achieve spiritual enlightenment and cease suffering.

RIGHT UNDERSTANDING – seeing things as they really are and not how you think they are.

RIGHT THOUGHT – kind thoughts and Not cruel ones.

RIGHT SPEECH – not lying, being rude or chattering.

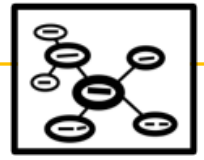
RIGHT ACTION – saving life not destroying it.

RIGHT LIVELIHOOD – earning a living without hurting others.

RIGHT EFFORT – understand truth and do what is right.

RIGHT MINDFULNESS – being aware of your actions, words and thoughts.

RIGHT CONCENTRATION – learning to meditate without losing concentration.



12. Buddhist temple

A Buddhist temple above. Buddhists can worship at shrines in their home or in temples.

Facts about Buddhist temples;

- All Buddhist temples contain an image or a statue of Buddha.
- All Buddhist temples contain an image or statue of Buddha.
- A temple may have a silent area for meditation.

Challenge!
Research how the Buddha reached the Enlightenment.

D&T: Papers and Boards (Graphics)

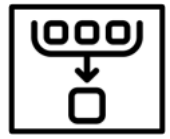
1. Keywords spelling/definition test.

Theme	The topic/fil/book or series that you will use for your chosen board game.
Die cutter	A piece of machinery that can cut multiple copies of a piece of packaging. Like a cookie cutter.
Mood board	A page that shows colour/ images/ fonts/ logos etc of your chosen theme
Race and chase game	a style of bard game where the winner is the first to the finish line.
Assemble	To put something together such as counters or packaging.
Net	A flattened piece of packaging that shows the cut lines, fold line and tabs.
Instructions	The step-by-step details on how to play the game.
manufacture	How the product is made or put together to create the finished product.

2. Facts about Logos

A logo is a graphic mark, emblem, or symbol used to aid and promote public identification and recognition. It may be of an abstract or figurative design or include the text of the name it represents as in a wordmark.

These logos are examples of successful logos, they are clear, feature no more than 3 colours and stand out. You can recognise the brand without seeing the name of the brand. This makes them universal and can be understood across the world without needing to change the names into different languages.



3. Facts about Fonts

The word font refers to a set of printable or displayable typography or text characters in a specific style and size. Font styles are used in both print and digital text. It is the style of writing that you use either by hand or using a computer.

Font Types

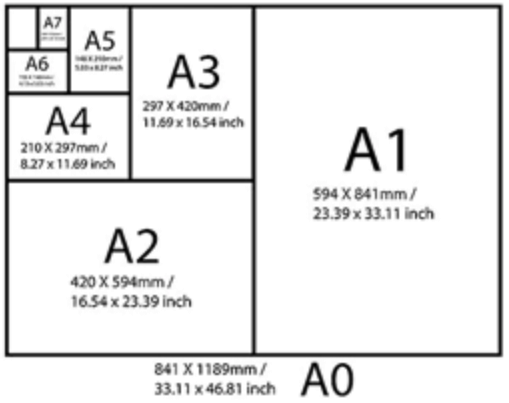
The most recognizable fonts used today on computers are:

Arial
Tahoma
Times New Roman
Helvetica
ONYX
Stylus
Ravie
Gothic
Nyala
Courier
broadway
Script
CASTELLAR

D&T: Papers and Boards (Graphics)

4. Paper and Board Stock sizes and weights

Paper and board is available in sizes from A0 (biggest) to A7 (smallest). The most common size is A4. Each size is half the one before, e.g. A4 is half the size of A3.



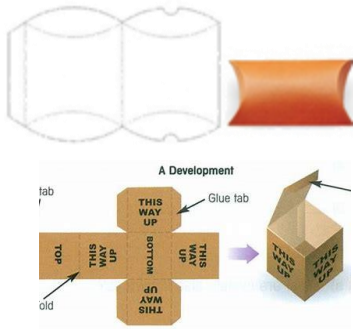
They are also sold by weight: GSM – grams per square metre. Card thickness or calliper is traditionally measured in Microns. 1000 Microns = 1mm, so the higher the value, the thicker the card or paper

5. What is a Net

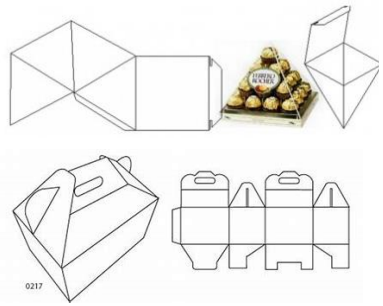
A NET is a two-dimensional (2-D) shape, which when scored, folded and glued together, makes a three-dimensional (3-D) package, box or carton.
NETs must be made ACURATELY so that all the sides fit together perfectly.
The design must be printed the correct way up so that when the box is constructed, everything is the right way up.

A standard set of line types are used to draw NETS, these help the nets be cut and scored and folded in the correct places.. Nets are sometimes also called **DEVELOPMENT** nets

PILLOW PACK



PYRAMID BOX

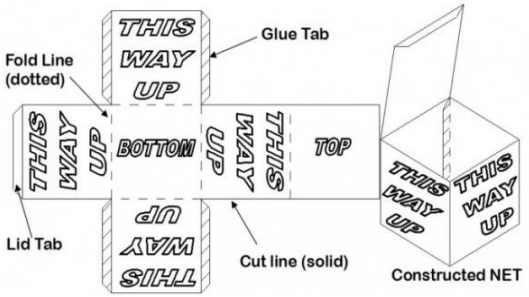


6. Net construction lines

A NET needs different types of lines to turn the 2D shape into a 3D shape.

_____ Cut lines are seen as solid lines

- - - - - - - - - Fold lines are seen as dashed lines



7. Techniques used to make board games in industry

Offset Printing: This is a common technique used to print game boards, cards, and other components in large quantities. It creates high-quality images and text.

Die Cutting: To create unique shapes for game pieces or cards, a process called die cutting is used. It's like using a big cookie cutter to cut out specific shapes from materials like paper or cardstock.

Injection Moulding: When making plastic game pieces, injection moulding is used. It involves melting plastic and injecting it into moulds to create the desired shapes.

Screen Printing: This technique is often used for printing designs on wooden or plastic pieces. It involves pushing ink through a mesh screen onto the material.

Laminating: To protect game components from wear and tear, they are sometimes covered with a thin layer of plastic or laminate. This keeps them looking nice and lasting longer.

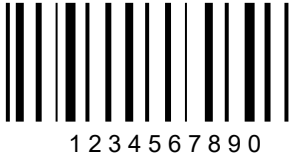
Assembly: Once all the components are printed and prepared, they are assembled. This includes putting cards into decks, adding stickers or labels to game pieces, and placing everything in the game box.

Quality Control: Before the games are packaged and sent out to stores, they go through quality control checks to make sure everything looks right and works properly.

8. Packaging symbols

There are many packaging symbols that are used on board game packaging , these 3 are the most helpful for anyone wanting to play the game

Barcodes are like unique fingerprints for products that allow stores to quickly scan and identify items at checkout, keeping track of prices and inventory without having to type everything manually. They make shopping faster for customers and help stores know when they need to order more products, which is why you'll find them on almost everything you buy today.



QR codes are like advanced barcodes that can instantly connect you to websites, videos, or extra product information just by scanning them with your phone's camera, making it easy for companies to share more details about their products than could ever fit on the packaging. They're especially useful for things like viewing instruction manuals, learning about ingredients, or entering competitions without having to type in long web addresses.

D&T : Papers and Boards (CAD/CAM)

1. Keywords spelling/definition test.

C.A.D	C.A.D stands for **Computer Aided Design**, this means that a design is drawn in either 2D or 3D using a computer program such as 2D design, AutoCAD, Onshape or any other software that allows you to create a drawing using a computer.
C.A.M	C.A.M stands for **Computer Aided Manufacture**. Computer aided manufacture (CAM) involves using computers to control machines to produce 3D parts or products. By using CAM, designs can be created using CAM machines such as laser cutters, 3D printers and milling machines.
C.N.C	**Computer Numerical Control** (CNC) machining is a manufacturing process in which pre-programmed computer software tells computer operated machinery what to do and what to cut or engrave. This means that the computer does all the work rather than a person. This can save time and money but takes skilled users to write the computer program. The process can be used to control a range of complex machinery, from grinders and lathes to mills and CNC routers.

2.Advantages and disadvantages of C.A.D

2D DESIGN TECHSOFT
AutoCAD
SolidWorks
CATIA
SOLID EDGE
AUTOCAD
INVENTOR
Creo Elements

Advantages of CAD	Disadvantages of CAD
Ideas can be drawn and developed quickly	Expensive to set up
Designs can be viewed from all angles and with a range of materials	Needs a skilled workforce
Some testing and consumer feedback can be done before costly production takes place	Difficult to keep up with constantly changing technology
It becomes easier to design and test a range of ideas	Computers can fail

3.Advantages and disadvantages of C.A.M



Advantages of CAM	Disadvantages of CAM
Fast and accurate production	Expensive to set up
Machines can run constantly on repetitive tasks	Needs a skilled workforce of engineers
Good for producing on a mass/flow production line	Downtime required for maintenance
Less material wastage	Computers and machines can fail
Machines can run 24/7	Errors can happen if they are not monitored.

D&T : Papers and Boards (CAD/CAM)

4. The laser Cutter

Laser Cutter

A laser cutter is a high-precision CAM machine that cuts a wide variety of materials using an extremely powerful laser beam directed onto the material using angled mirrors. The power setting can be varied - if the power is reduced or the speed is too high, then the laser beam will not cut completely through the material and will engrave it instead.

5. The 3D Printer

3D Printer

3D printing, also known as additive manufacturing, is a method of creating a three-dimensional object which is made by adding layer-up on-layer of a specific material such as plastic. (PLA) using a computer created design. (CAD)

6. The CNC router

CNC Router

A CNC router is a type of computer-controlled machine created for milling, drilling and cutting materials.
The main functions of a CNC router are to cut, engrave and carve objects out of a work piece, such as Wood, plastic or metal.

7. The CNC Plasma Cutter

Plasma Cutter

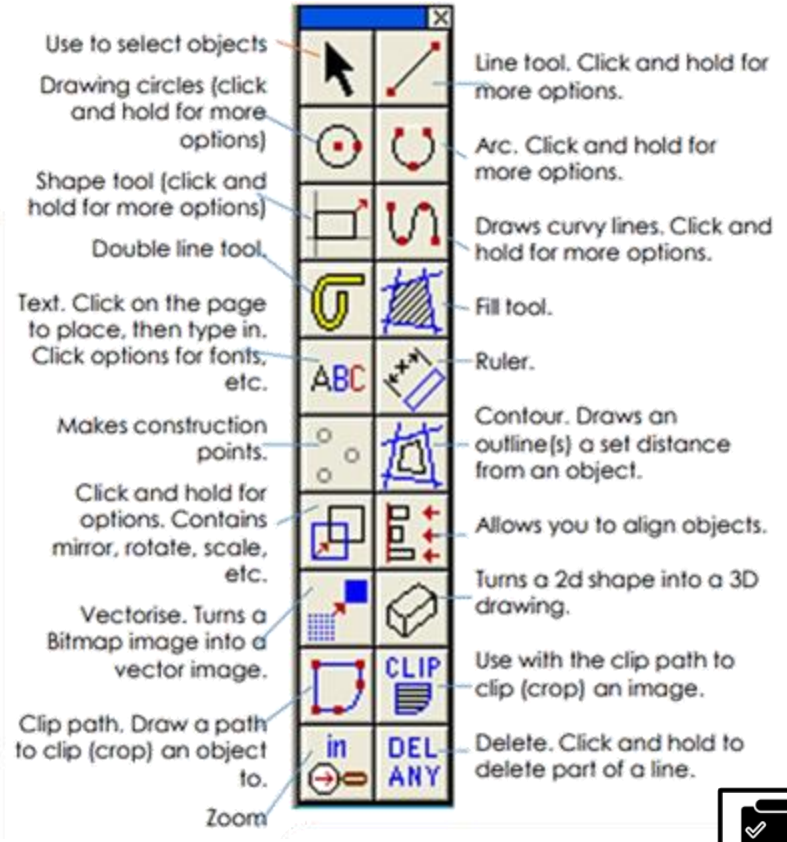
A CNC Plasma Cutting Machine uses electrical current to turn air into plasma, which is the fourth state of matter coming in after solid, liquid and gas.
This cutting format uses a plasma stream to transfer energy to conductive work material. This stream is usually formed by forcing gas such as nitrogen, oxygen, argon or air, through a nozzle on the cutting head.

8. 2D Design – Computer Aided Design Software.

The software that you will use to design and make your work in your Computer Aided Design and Manufacture lessons will be 2D Design (made by Techsoft).

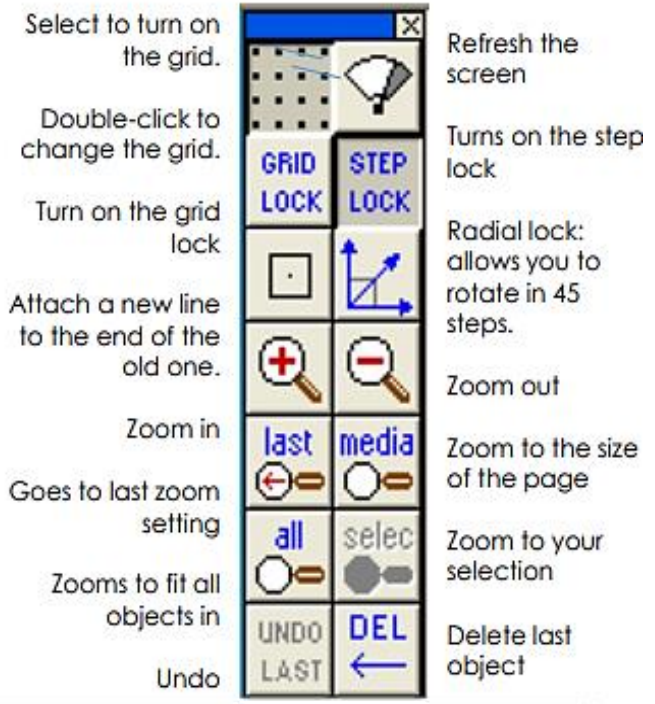
This is an easy-to-use software that can produce drawings that can be cut using CAM equipment.

These are the drawing tools that will help you draw your product.



9. 2D Design – Computer Aided Design Software.

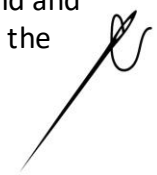
These tools help support you when you design something in 2D design, you can zoom in, put a grid lock on and even delete using these helpful controls.



Textiles

1. Equipment you will use

Needle:
A tool used for hand-sewing, it is a long slender tool with a pointed tip at one end and a hole (or eye) to hold the sewing thread.



Needle threader:
Used to help you to thread the needle. There are different types, but they all work the same way. The threader is pushed through the eye of the needle first then the thread is attached to a hook or wire loop. These are then pulled back through the eye of the needle pulling the thread with it.

2. Materials and techniques

Thread:
A fine length of twisted fibres used to join fabric together. It comes in different colours. Needle threaders can be used to pass the thread through the eye of the needle.

Embroidery:
Embroidery is the craft of decorating fabric or other materials using a needle to apply thread or yarn.

Applique:
Appliqué is a decorative technique in which pieces of fabric in different shapes and patterns are sewn onto a larger piece to form a picture or pattern.

3. Fun Felt Facts!

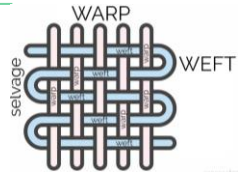
Felt is the oldest known fabric and is known as **non-woven**. **Non-woven** fabrics are materials made from fibres that are bonded together without weaving or knitting, instead they are stuck together using heat, chemicals or mechanical methods. The fibres in non-woven materials run in all directions.

Most types of fleece, such as those taken from the alpaca or the Merino sheep, can be put through the wet felting process. You may also use mohair (goat), angora (rabbit), or hair from rodents such as beavers and muskrats.

Felt comes in a wide range of colours. It is easy to cut with scissors and does not fray. Modern felts are often synthetic made using petroleum-based acrylic or acrylonitrile or wood pulp–based rayon.

Textiles

4. Woven fabrics



Woven fabrics are made up of Warp and weft threads.

Warp threads, also known as surface threads or ends, are stretched vertically on the loom and are therefore made of stronger, coarser fibres than the weft threads.

The term comes from the Old Norse word “varp”, meaning “the cast of a net”.

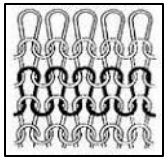
Weft, are the threads woven horizontally. The threads go over and under the warp. They usually run from selvage to selvedge.

Selvedge, is a "self-finished" edge of a piece of fabric which keeps it from unravelling and fraying.

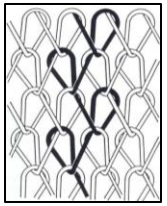
5. Knitted Fabrics

Knitted fabrics are made by looping yarn together, either by hand or on a machine, to create a stretchy, flexible material. There are two main types:

Weft knitting is where yarn is looped horizontally across the fabric. It's stretchy and can unravel easily (used in jumpers, T-shirts).



Warp knitting is where yarn is looped vertically, making the fabric stronger and less stretchy (used in netting, swimwear).



Knitted fabrics are popular for clothing because they are comfortable, soft and allow for movement.

6. The running stitch

The Running Stitch, also referred to as Straight Stitch, is one of the basic hand sewing and embroidery techniques on which most other forms of stitching and embroidery are based.

The length of each stitch may vary depending on the purpose it is used for, but generally the thread is more visible on the right side (Front) of the fabric compared to the wrong side (Back).

It is one of the most popular stitches used for a wide range of purposes starting from garment making to embroidering various articles.

It is also used for appliqué making.

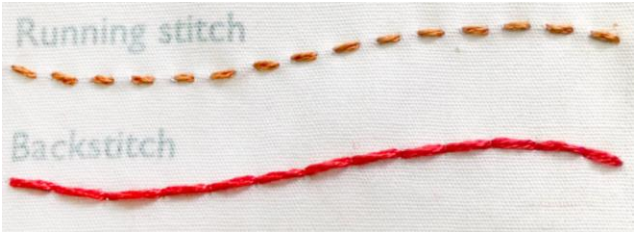
Textiles

7. The back stitch

Back Stitch is made by taking the thread backward, rather than the conventional forward motion, and thus the name.

It can take curves well.

There are no spaces between each stitch, giving it a continuous appearance.



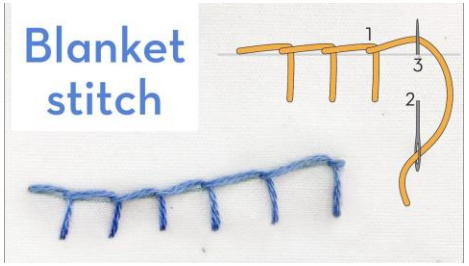
Like the **Running Stitch**, the Back Stitch also lays a foundation for many variations over it.

It is much stronger than the regular Running Stitch, though it uses more thread.

The Back Stitch looks beautiful when it uses small stitches and maintains consistency in the lengths.

8. The blanket stitch

It is called Blanket Stitch, as traditionally, it is used to stitch the edges of blankets. It not only gives the blanket edges a nice look but also secures them.



Blanket Stitch can be sewn from left to right or right to left.

Tips for working the Blanket Stitch on corners. Sharp corners can be tricky work the Blanket Stitch till you approach the corner. For a sharp corner, make one of the stitches to pass through the corner points.

Then, turn and work the rest of the way normally. If your corner seems to slip off (which can happen in big Blanket Stitches), just anchor down the corner with a small stitch.

D&T – Product Design

1: Workshop safety rules

1. Always listen carefully to the teacher and follow instructions.
2. Do not run / rush in the workshop
3. Bags should be stored away, during practical sessions in the workshop.
4. Do not use a machine, if you have not been shown how to operate it safely, by your teacher.
5. Always be patient, never rush practical work.
6. Report any damage / faults to machines/equipment. Damage or a faulty part, could cause an accident.
7. Keep your workbench tidy. When you have finished with a tool / piece of equipment, return it to its storage cupboard / rack.

2: Key terms

Felt	A non-woven fabric made from either natural or manufactured fibres.
Applique	The process of sewing small pieces of fabric onto a larger piece to create a pattern.
Needle threader	Used to help pass the thread through the eye of the needle.
Running stitch	Simplest of the stitches created by passing the needle up and down through the felt.
Back stitch	Creates a solid line of stitch useful for adding detail to the Flaminal.
Blanket stitch	Decorative stitch used to sew two edges of material together.

3: Design Problem V's Design brief

As a designer the design problem is what your client wants. For example: a local retailer who would like you to design a soft toy for their new range of 'Flanimal' inspired products.' The toy must be no larger than A5 in size.

Your design brief is a statement that you will write that sets out what you are going to do to solve the design problem.

Always start the Design Brief by writing, 'I am going to design and make…….'
Your statement should also include at least the following; who you are making the product for, size and materials.

4: Design specification

The 'specification' is probably the easiest part of the design process although it is one that pupils tend to neglect or write incorrectly. It is usually a list of points, with each point referring to the research work. In the specification you need to show what you have learnt from the research that you collected and presented in the research section.

For example:

To create my applique work I will use a running stitch because from my research I found that …..

D&T – Product Design

5: Creating a Mind Map

Creating a mind map helps you to record your ideas and thoughts. At this stage there are no wrong or right answers. This comes later. To help you in Year 7 we ask you to write complete questions using the 5W's&H (Who, What, Why, Where, When and How)

If you do not write a complete question, you will forget what you were thinking. For example; writing just

"Who – Mum" This could mean, who would want a Flaminal or, who would not want a Flaminal or even, who could I make a Flaminal for. Confusing eh? However, writing:

Who will I make a Flaminal for? = is much clearer.

6: Annotating initial ideas.

Annotation is different from labelling your ideas. Labels are often single word responses that give basic information. We call labels "Talking" as they often tell the reader what they can see for themselves. For example;

← "Large yellow eyes" = Talking

In Year 7 we expect this to be followed by an explanation. For example;
Large yellow eyes to see in the dark.

7: Evaluating work

When you evaluate your work, we will use the following abbreviations.
WWW = what went well.
EBI = even better if.

Just like with annotating we are not looking for Year 7 students to tell us what we can see for ourselves. We are looking for an explanation.
For example:
www = my running stitch (Talking). X
www = my running stitch because the stitches are all the same size. (Talking with an explanation) √

8: Felt

Felt is believed to be the world's oldest fabric. The earliest archaeological evidence of felt dates back to 6500 BC, making this fabric older than any knitted or woven textile.

Felt is a type of matted fabric that consists of textile fibres condensed and pressed together. Traditionally made with wool or another type of animal fur, it's now possible to make felt with acrylic and other forms of synthetic fibres. Wool felt is highly flame retardant, and it extinguishes itself.
Felt holds the distinction of being one of the only fabrics made without weaving or knitting.

Using heat, water, and pressure, felt manufacturers permanently interlock natural or synthetic fibres to create matted felt fabric. It's then possible to cut or shape felt to produce apparel items as varied as hats and boot liners.

D&T: Cooking & Nutrition

1. Key Words

Eatwell Guide – the guide which helps us eat the right sort of foods in the correct quantities.

Consistency – how thick or runny a sauce is in cooking (add liquid to make it runnier, boil longer or add something like corn-flour to thicken)

2. Knife grips

Make sure you use the correct coloured chopping board. Hold the ingredient flat against the board so it does not wobble. Cut with either the claw or bridge grip carefully. Push slightly forward and down with the knife.

3. Parts of a cooker

Hob

Grill & Top Oven

Main Oven

4. 4 C's for Food Hygiene

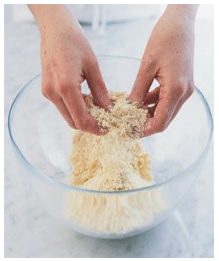
Avoiding food Poisoning - it is important to follow the 4C's of food hygiene.

Raw meat is a **high-risk food –** this means it is more likely to give you food poisoning. This is because all living things contain bacteria that can be harmful in large numbers

Clean: Wash your hands before cooking, make sure worktops and equipment are clean. **Cook**: Cook food properly to kill germs. **Chill**: Some foods (like meat, fish and dairy) need to be kept in the fridge to slow the growth of bacteria. **Cross-contamination**: Keep raw foods away from cooked foods otherwise bacteria will spread. Use separate chopping boards (**RED** for raw meat, **WHITE** for everything else) and equipment and wash them well after use.

5. The Rubbing-In Method

We used this method for the topping on our Fruit Crumble AND for making Scones. We will also use it in Y8 to make pastry.



Cover butter / margarine in flour - rub it between fingers and thumbs until it's 'breadcrumb' sized pieces.

6. The Eatwell Guide

The Eatwell Guide was produced by scientists for the UK government to help explain to the public what a healthy diet should be.

Fruit & Vegetables: should make up just over a third of the food we eat each day. Aim for 5 portions & a wide variety. Choose from fresh, frozen, tinned, dried or juiced. Fruit juice and smoothies should be limited to 150ml a day. Good source of vitamins, minerals and fibre.

Starchy Carbohydrates: should make up a third of the food we eat. Choose higher fibre or wholegrain varieties, such as wholewheat pasta & bread, brown rice, or simply leave the skins on potatoes. Good source of energy and the main source of a range of nutrients in our diet.

Protein: Pulses, such as beans, peas and lentils, are good alternatives to meat because they're low in fat and they're a good source of fibre and protein, too. Choose lean cuts of meat and eat less red and processed meat (bacon, ham and sausages). Aim for at least 2 portions of fish every week, 1 of which should be oily (salmon, sardines or mackerel).

Dairy & alternatives: Good sources of protein, vitamins & calcium, for bones. Choose lower-fat and lower-sugar where possible. **Fats**: High in energy and should be eaten in small amounts, unsaturated are healthier.

D&T: Cooking & Nutrition

7. The Nutrition Program

The instructions below explain how to find out how healthy your recipes are.

Y7 NUTRITIONAL ANALYSIS

Task 1: You will need access to the internet. I would like you to do a Nutritional Analysis of a recipe using The Nutrition Program (link below). Nutrition Program : Login : by Jenny Ridgwell

The Login and Password are both 'TTAYear7'

Below are ingredients to make Bolognese: (or use another recipe that you have ingredient quantities for)

- 1 onion
- 1 clove of garlic
- 1 carrot
- 1 celery stick (optional)
- 250g minced beef (or turkey, pork, lamb - or vegetarian alternative)
- 1 tin chopped tomatoes (400g)
- 1 tablespoon tomato purée (or ketchup)
- 1 teaspoon mixed dried herbs

Choose 'Create A New Recipe'. Enter the recipe name with your initials and the number of portions (how many people it serves).

Then search for the ingredients and enter the quantity used in the recipe – it will give help on how many grams a normal portion is.

Once done click on the **NUTRITION** tab at the top of the page to show the traffic light label. Change the selection (at the top) to '**SHOW 8**'. Screen print & copy into a Word document or print this page. This shows the same information that you see on food labels on food packaging to help you decide if a food is healthy.

8. Utensils and Equipment

sieve

saucepan

weighing scales

palette knife

baking tray

History

1) Key Concept: Interpretations

Convincing: Whether something is believable.

Interpretations: How somebody chooses to present the past after an event.

Examples of Historical interpretations…

- **Books** written by historians.
- **Museums** that present historical artefacts.
- **Films** that are made about history.
- **Documentaries/television** shows about History.
- **Oral History:** Where stories about History is passed through generations of people through song or spoken word.

2) Who had power in the Middle Ages?

England was ruled **by the King**.
His role was to run the country.
He had the right to..

- To punish criminals.
- To make laws.
- To tax people.

- The **Roman Catholic Church** was ruled by **the Pope**.

His role was to **run the Church**.
He had **the right** to…

- To punish Church criminals.
- Enforce Church rules such as marriage.
- Make money from Church lands.

3) Why was Henry angry with the Church?

In 1161 Henry II, the King of England, appointed his close friend, **Thomas Becket** as the **Archbishop of Canterbury**.

Henry wanted to *control* the Church. He was particularly unhappy that **Church courts** could hold trials for **Criminous Clerks**.

Henry wanted to **take control** of **all** courts in England so that all people in England obeyed his law.

Thomas Becket *refused* to close the Church courts!

4) Key Terms:

Canon law: Laws that only apply to members of the Church.

Chancellor: The most important servant to the King.

Clergy: Priests, bishops and others who worked for the Church.

Criminous Clerk: A priest that has committed a crime. They would be tried in a church court.

Excommunication: When a person is banned from the Roman Catholic Church. People *genuinely* believed that this would mean they would go to hell!

Pope: The person in charge of the Roman Catholic church.

Monarch: A King or Queen.

The State: The government in England ruled by the King.

Trial: A process to decide whether someone is guilty of a crime.

The Middle Ages

1066: William of Normandy wins the Battle of Hastings and becomes King of England.

1154: Thomas Becket is appointed **chancellor.**

1162: Thomas Becket is appointe **Archbishop of Canterbury.**

1170: Thomas Becket encounters four knights at Canterbury Cathedral…

History

5) Key Concept: Interpretations

Convincing: Whether something is believable.

Interpretations: How somebody chooses to present the past after an event.

Examples of Historical interpretations…

- **Books** written by historians.
- **Museums** that present historical artefacts.
- **Films** that are made about history.
- **Documentaries/television** shows about History.
- **Oral History:** Where stories about History is passed through generations of people through song or spoken word.

6a) What problems did King John?

Henry's brother, Richard, had left England many problems for John to solve.

- Richard was away fighting **crusades** for many years. It was not clear who oversaw the country.
- Richard's crusades were expensive. John had to pay back his brother's **debts**.

7) Why did King John upset so many people?

John made **barons** pay high taxes to pay for his wars with France.
John went to war with France *twice*. He lost *both* times!
People called him 'soft sword' because of his defeats.
He argued with the **Pope**.

6b) How did the Barons fight back against John?

- In 1215, the **Barons** had had enough. 40 Barons met and **Robert Fitzwalter** led the Barons and their armies into London.
- The barons presented the King with a list of demands. He agreed to all of that they wanted.
- This agreement was called **Magna Carta** (**the Great Charter**).

8) What did the Magna Carta say?

The King must ask a group of barons before raising taxes.
Nobody can be put in prison without a **fair trial**.
Everyone must obey the law – even the King of England!

9) Key Terms:

Angevin Empire: Land that England had in France.

Archbishop of Canterbury: The leader of the Roman Catholic Church in England.

Barons: Rich landowners in England.

Crusade: A holy war. European countries were trying to take land in the Middle East. This is where Jesus was born.

Debts: Money that is owed to somebody else.

Excommunication: When a person is banned from the Roman Catholic Church. People *genuinely* believed that this would mean they would go to hell!

Pope: The person in charge of the Roman Catholic church.

Magna Carta: An agreement signed between the King and the **Barons**. It restricted the power of the King for the first time.

Monarch: A King or Queen.

Trial: A process to decide whether someone is guilty of a crime.

The Middle Ages (1000-1450)

1066: William of Normandy wins the Battle of Hastings and becomes King of England.

1170: Thomas Becket encounters four knights at Canterbury Cathedral.

1199: Thomas Becket encounters four knights Canterbury Cathedral.

1215: King John signs the **Magna Carta**.

History

10) Key Concept: Similarity and Difference

Similarity and difference: The experience of different communities in the past.

Consequence: A result of something else happening.

Impact: How somebody chooses to present the past after an event.

Examples of communities in the **Middle Ages**:

- **Barons:** Rich powerful landowners
- **Clergy:** Members of the Church.
- **Hierarchy:** A way of ordering people in order of importance.
- **Monks/Nuns:** Male/female people who devote their entire life to God.
- **Priests:** A leader of local church services.
- **Peasants:** Poor peasant farmers.

11) Key Terms:

Afterlife: The belief that there is life after death.

Bible: The scared (connected with God) Christian book.

Cathedral: A large Church where a bishop works.

Doom Painting: A painting of the afterlife (usually hell) that were on the walls in Churches.

Monastery: A place where monks live.

Mass: A Catholic religious service led by a **priest**.

Parish: A village or small area overseen by a Church.

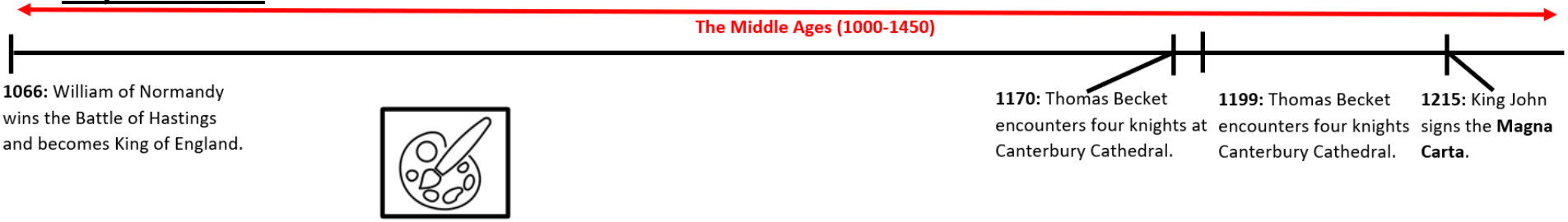
Pilgrimage: A holy journey.

Purgatory: A place where people in the Middle Ages believed would be tortured until they had made up for bad deeds before going to heaven.

Soul: Christians believe that this is part of a person that can exist after death.

Ten Commandments: A list of rules given by Moses by God which Christian people are expected to Obey.

12) Timeline



French

Module 3 – Mon temps libre (my free time)

1. Quel temps fait-il?

Weather

- Il pleut = it's raining
- Il neige = it's snowing
- Il y a du soleil = it's sunny
- Il y a du vent = it's windy
- Il fait beau = it's nice
- Il fait mauvais = it's bad
- Il fait chaud = it's hot
- Il fait froid = it's cold

Seasons:

- au printemps = in spring
- en été = in summer
- en automne = in autumn
- en hiver = in winter

- Aujourd'hui = today

2. Les sports (1)

Sports that I play

- je joue…. = I play
- tu joues … = you play
- il joue… = he plays
- elle joue…. = she plays

- au basket / au foot / au tennis (basketball/football/tennis)
- au rugby /au hockey / au volleyball (rugby/hockey/volleyball)
- au ping-pong (table tennis)
- à la pétanque/aux boules = bowls
- aux cartes = cards
- aux échecs = chess

- Je suis sportif / sportive = I am sporty (M/F)
- Je ne suis pas sportif/sportive = I am not sporty (M/F)

3. Les sports (2)

Sports that I do

Je fais ….. = I do
Often used to mean I 'go'

- du ski / du judo = skiing / judo
- du vélo / du skate = cycling /skateboarding
- du théâtre = drama

- de la natation = swimming
- de la cuisine = cookery
- de la danse = dance
- de la gymnastique = gymnastics

- de l'athlétisme = athletics
- de l'équitation = horseriding

- des randonnées = hiking

- ne…. pas = 'not' (negative)

- Je ne fais pas de sport = I don't do sport
- Je ne fais rien = I don't do anything / I do nothing
- Je ne fais pas de danse = I don't do dance

French

4. Other sports:

On fait = 'We' do/go

- de la voile = sailing
- de la luge = tobogganing
- de la planche à voile = windsurfing
- de l'alpinisme = mountaineering

Frequency expressions:

parfois = sometimes
souvent = often
de temps en temps = from time to time
tous les jours = every day
tous les mardis = every Tuesday

5. Things I like doing

☺☺ j'adore
☺ j'aime
☹ je n'aime pas
☹☹ je déteste

- bloguer = blogging
- envoyer *des SMS* = sending texts
- tchatter = chatting *(online)*
- écouter *(de la musique)* = listening
- partager *(des photos)* = sharing *(photos)*
- regarder *(la télé)* = watching *(TV)*
- télécharger *(des chansons)* = downloading

6. Giving reasons for opinions

Parce que c'est …
= because it's …..

… ennuyeux = boring
… nul = rubbish
… intéressant = interesting
… facile = easy
… amusant = fun
… rapide = fast
… démodé = old-fashioned

7. Animals

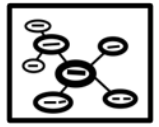
un chien = a dog
un cochon d'Inde = a guinea pig
un chat = a cat
un poisson rouge = a goldfish
un lapin = a rabbit
un serpent = a snake
un hamster = a hamster
un lézard = a lizard
un oiseau = a bird

je n'ai pas d'animal = I don't have any pets

8. Family members

J'habite avec…. = I live with …
Dans ma famille il y a … = In my family there is…

- mon frère = my brother
- ma sœur = my sister
- mon père = my father
- ma mère = my mother
- ma grand-mère = my grandma
- mon grand-père = my grandpa



French

9. Larger numbers

20	vingt
30	trente
31	trente et un
32	trente-deux
33	trente-trois
40	quarante
50	cinquante
60	soixante
70	soixante-dix
71	soixante-et-onze
72	soixante-douze
80	quatre-vingts
81	quatre-vingt-un
82	quatre-vingt-deux
90	quatre-vingt-dix
92	quatre-vingt-douze
100	cent

10. Physical appearance

J'ai I have

les cheveux	(hair)
- blonds	blonde
- bruns	brown
- noirs	black
- roux	red
- gris	grey
- courts	short
- longs	long
- mi-longs	mid-length
- bouclés	curly
- raides	straight

les yeux	(eyes)
- bleus	blue
- verts	green
- bruns	brown

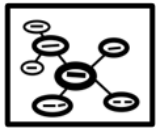
- des taches de rousseur (freckles)
- des tatouages (tattoos)
- une barbe (beard)

11. Where I live

J'habite … = I live
- dans une maison = in a house
- dans un appartement = in a flat

Il y a …. = There is/are…
- le salon = living room
- le jardin = garden
- la cuisine = kitchen
- la chambre = bedroom
- la salle à manger = dining room
- la salle de bains = bathroom

12. Breakfast



Je mange = I eat
- un croissant = croissant
- du pain = bread
- du pain grillé = toast
- du beurre = butter
- du yaourt = yogurt
- de la confiture = jam
- des céréales = cereal
- des œufs = eggs

- Je bois = I drink
  - du jus de fruits = fruit juice
  - du chocolat chaud = hot choc.
  - de l'eau = water

Art

1. What does Illustration mean?

Illustration: a visual explanation of a text. Illustrations can be made with anything, such as pencil, paint, animation, even 3D modelling.

They help tell a story and develop imagination, such as what a character or place looks like in a story.

For centuries stories have been told through art, including stories from religion, myth and legend, about many different topics.

Mind Map it

2. Key Words

Story: an account of imaginary or real people and events told for entertainment.
Imagination: the ability of the mind to be creative or resourceful.
Character: a person in a novel, play, or film.
Line: mark left by a moving pencil, pen, brush dipped in paint (or any other art medium).
Shape: an area enclosed by a line.
Tone: the darkness or lightness of something. This could be a shade or how light or dark a colour appears.
Colour: The way light reflects and is interpreted by the eye.
Watercolour Paint: a type of paint that can be mixed with water to create translucent layers of colour.
Mythology: a collection of myths, especially one belonging to a particular religious or cultural tradition.

Self Quiz it

3. Watercolour Painting

Watercolour painting dates back to the cave paintings of palaeolithic Europe and has been used for manuscript illustration since at least Egyptian times.

Watercolour Painting Top Tips:

1. They need water added to activate them – always keep a pot of water near by.

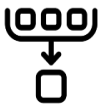
2. You may need to mix more than one paint together to achieve the colour you need (always test/check the paint colour first).

3. You don't need to add white to lighten the paint, just add water (see below).

1. Don't add too much water to the paper or go over it too many times – the paper will buckle and lift up.

2. Work from light to dark – light down light colours first and work towards darker colours (see below).

Summarise it



4. Ancient Eqyptian Mythology (3100 B.C.E - 332 B.C.E.)

Ancient Art: the many types of art produced by the advanced cultures of ancient societies with different forms of writing.

Facts about Ancient Egyptian Mythology:

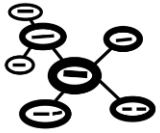
1. The Ancient Egyptians had man mythologies that were mainly about the Egyptian gods.

2. These mythologies were important to telling the beliefs of their society and way of life and were often shown in Egyptian artworks.

3. These illustrations can be found carved into stones, the walls of the pyramids and temples, tombs and sheets of papyrus (script).

4. Egyptian hieroglyphs were the formal writing system used in Ancient Egypt, featuring pictures of animals, objects and symbols.

Mind Map it



Art

5. Beatrix Potter (1866-1943)

Modern Art: artistic work produced roughly from the 1860s to the 1970s.

Facts about Beatrix Potter:

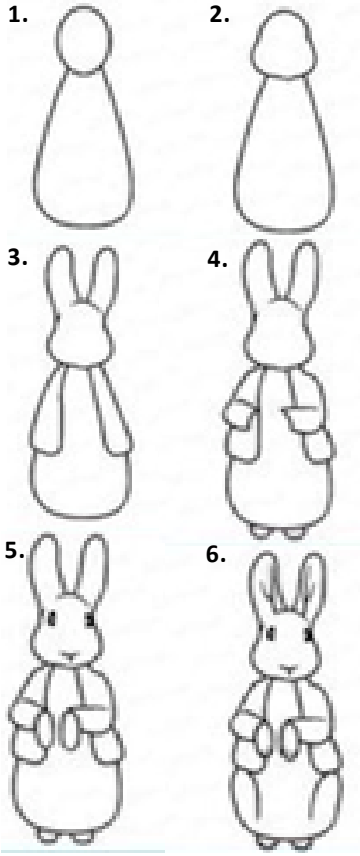
1. An English writer, artist, natural-scientist and conservationist.
2. She grew up loving to draw nature as well as drawing from her imagination.
3. Potter's most famous story Peter Rabbit was originally a character from a letter she wrote to a friend.
4. No company was willing to publish Peter Rabbit, so Potter eventually published it herself. It remains as one of the biggest selling children's book to this day.
5. Potter would sketch the outline of her drawings with pencil, then applied multiple thin layers of watercolour.

6. After the watercolour paint was dry, Potter would add outlines and details using pen and ink.

Summarise it

6. Sketch Peter Rabbit

Try following this step-by-step to create a Peter Rabbit. Sketch lightly, beginning with simple shapes and lines.



Illustrate it

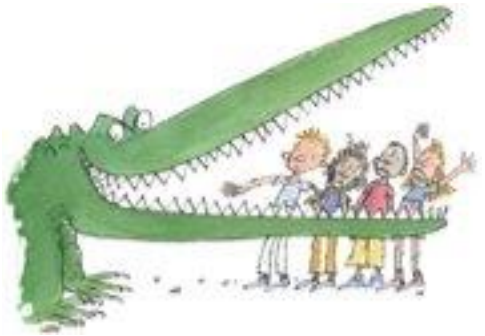
7. Quentin Blake (1932-present)

Mind Map it

Contemporary Art: refer to art of the present day and of the relatively recent past

Facts about Quentin Blake:

1. Blake has illustrated over 300 books, including over 30 he has written himself. He is mostly known for illustrating the works of Roald Dahl.
2. Blake first published a drawing when he was still at school. It was printed in Punch magazine when he was just 16.
3. His work has a messy 'childlike' quality, with gestural marks that add character and movement.



"As an illustrator, you need to understand the human body - but having looked at and understood nature, you must develop an ability to look away and capture the balance between what you've seen and what you imagine. " - Quentin Blake

Art

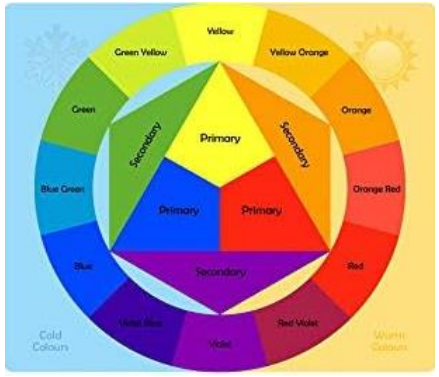
8. Colour Theory

Choices of colour and the relationships between colours have a huge influence on how a piece or art or design looks and feels and the emotions it provokes.

Why is colour in art so important?

1. Grab the viewer's attention.
2. Affects the way we feel about objects/places.
3. Helps to define a mood.
4. Communicates meanings & associations.

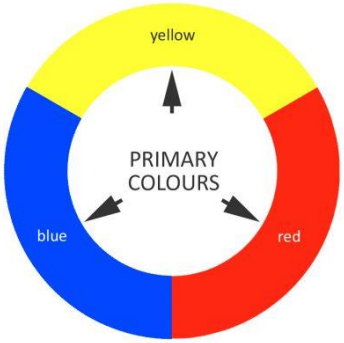
The Colour Wheel:
The colour wheel helps us understand the relationships between colours.



Illustrate it

9. Primary Colours

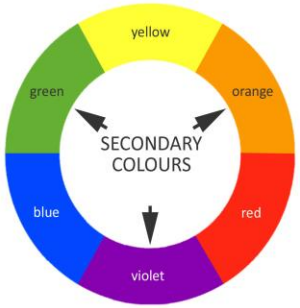
- The primary colours are red, yellow and blue.
- They cannot be made by mixing other colours together
- All other colours can be mixed from red, yellow and blue.



Self Quiz it

10. Secondary Colours

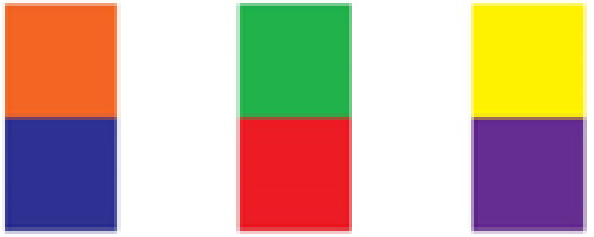
- The secondary colours are purple, orange and green.
- They are made by mixing equal amounts of two primary colours together.
- They sit halfway between the two primary colours it is mixed from.



Self Quiz it

11. Complimentary Colours

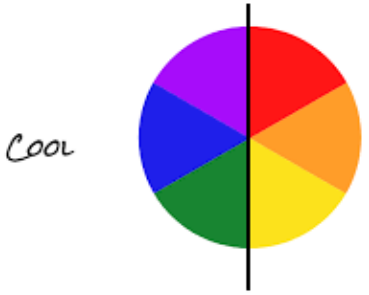
- These colours sit across from each other on the colour wheel. (See first image)
- When these colours are placed next to each other, a very strong contrast is created, appearing more vivid and bright.



Self Quiz it

12. Temperature

- The colour wheel can be split in half into warm and cool colours.
- **Warm colours** are associated with the concept of heat such as summer, beaches, the sun, fire etc.
- **Cool colours** are associated with the absence of heat – such as winter, ice, water, etc.



Define it

Geography

1. Rivers

A river is water flowing downhill in a channel. Much of the landscape has been shaped by rivers.

A **drainage basin** is an area of land which feeds a river. All of the precipitation that falls in this area will go into the drainage basin.

Watershed: the outer edge of the drainage basin.

Channel: A landform that contains a river at the bottom of a valley.

Source: The start of the river.

Tributary: A small river that joins a larger river.

Confluence: The point where two rivers join.

Mouth: The point where the river enters the sea or a lake.

2. River Erosion

River erosion is the wearing away of the banks and bed of a river by the power of the water in the channel.

There are a number of ways that rivers erode;
Abrasion: Material carried by the river hits the sides and bed breaking bits off.
Attrition: Rocks and stones bang against each other chipping bits off.
Hydraulic action: The force of water pushing into cracks in the rock, breaking bits off.
Solution: Rocks dissolving in the water.

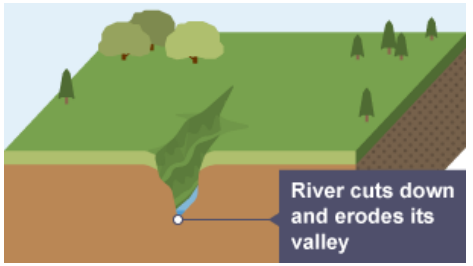
Challenge!
Scan this QR code, read the information on rivers and take the quiz!

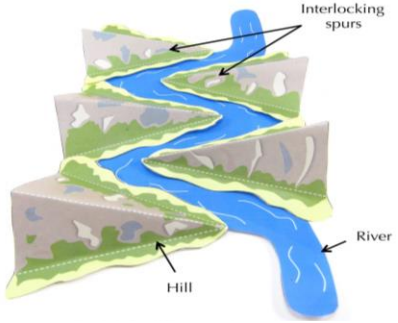
Rivers then transport this material through;
Suspension: water carrying fine particles.
Solution: Dissolved material being carried in water.
Traction: Boulders and rocks rolling along the bed.
Saltation: Small pebbles and stones bouncing along the bed.

3. Upper Course of the River

Most rivers share similar characteristics in gradient (steepness) and shape and are split into three sections; Upper, middle and lower course.

The upper course is usually steep with the water having a lot of energy. This causes vertical erosion resulting in steep valley sides and a narrow valley floor. This is called a **V-shaped valley**.

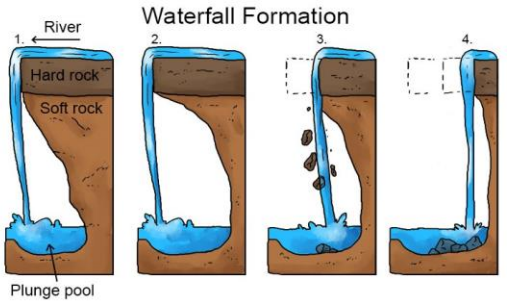




The river winds its way through the hills but does not have the power to cut through them so leaves bit of land sticking from the valley sides. These are called **interlocking spurs**.

4. Upper Course of the River - Waterfalls

Another feature of the upper course are **waterfalls** which form where there is hard and soft rock. Soft rock is eroded more easily, leaving an overhang of hard rock. As the soft rock erodes further a **plunge pool** is created.

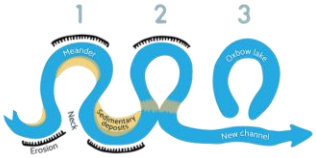


Geography

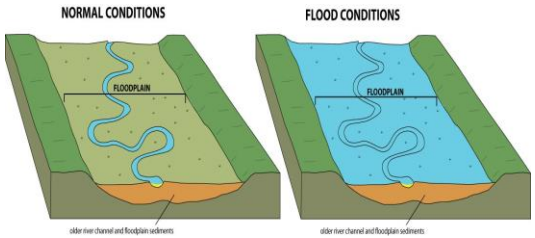
5. Middle & Lower Course of the River

In the middle course the river has more energy and a high volume of water. The gradient here is gentle and lateral erosion has widened the river channel. The river channel has also deepened.

Meanders form and slowly move across the landscape due to lateral erosion. Eventually the channel cuts through leaving an **ox-bow lake**.



In the lower course, the river channel is now deep and wide and the landscape around it is flat. The energy of the water is low so lots of deposition takes place and **floodplains**, areas that regularly flood and estuaries form. In the lower course, the velocity of the water is the fastest due to less friction and sediment will be carried in suspension.



6. River Flooding

A river floods when the water normally flowing in the channel overflows its banks and spreads out onto the surrounding land. This causes major problems for people living close to the river.

Physical causes of flooding: heavy rainfall, long periods of rain, snowmelt, steep slopes, impermeable rock (doesn't allow water through), very wet, saturated soils, compacted or dry soil.

Human factors increasing flood risk:
Urbanisation - because towns and cities have more impermeable surfaces.

Deforestation - because removing trees reduces the amount of water intercepted and increases runoff.

7. Bangladesh Flooding

Bangladesh (LIC) in Asia and it is frequently affected by flooding. In 2007, flooding made 9 million people homeless & approximately 1,000 people died from drowning and diseases.

Causes: Cyclones cause coastal flooding, low-lying land, melt water from the Himalayas, deforestation, monsoon rains and increasing urbanisation.

Immediate responses: Food aid from the Government and other countries, water purification tablets, repairing embankments, rescuing people, seeds given to farmer whose crops were destroyed.

Long-term responses: Building embankments, building raised flood shelters, flood warning systems, emergency planning, dams planned, and deforestation reduced.

Challenge!
Scan this QR code, read the information and play the game!

8. Population

Population: the number of people living in a particular place.

Population distribution: the pattern of where people live and how populations are spread out.

Megacity: a city with a population of over 10 million people.

Sparsely populated: areas with few people living in them.

Densely populated: areas with many people living in them.

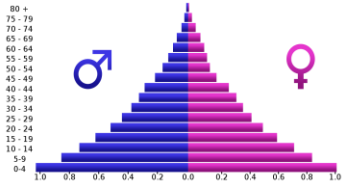
Current global population: 8.1 billion people.

Exponential growth: change in population that is proportional to the size of the population.

Geography

9. Population Pyramids

Population pyramids: a bar graph that shows the structure of a population by sex and age category.



Birth rate: the number of people born in a year, measured for every 1000 of the population.

Death rate: the number of people who dies in a year for every 1000 of the population.

Life expectancy: the average number of years a person is expected to live.

Aging population: occurs when the average age of a population is getting older.

Infant mortality: the number of babies out of every thousand that dies before the age of one.

Challenge!
Scan this QR code, read the information and make notes on how to construct this graph.

10. Migration

Migrant: someone who moves from one place to another.

Forced migrants: people who have no choice to move from one place to another due to war or natural disasters.

Refugee: A person living outside their own homeland as a result of war, famine or persecution.

Asylum Seeker: Someone who leaves their own country for fears over their safety. They hope that the government in another country will protect them.

Push factors: things that make people want to leave an area e.g. lack of jobs.

Pull factors: good things that attract people to a new place e.g. better housing.

- few services
- lack of job opportunities
- unhappy life
- poor transport links
- natural disasters
- wars
- shortage of food

- access to services
- better job opportunities
- more entertainment facilities
- better transport links
- improved living conditions
- hope for a better way of life
- family links

11. Mexico to USA Migration

The number of Mexican-born immigrants living in the USA soared from 760,000 in 1970 to a peak of 12.6 million in 2007, including many entering the country illegally.

In 2018 a wall was built between Mexico and USA.

The USA is a rich and attractive nation Mexico is a much poorer country with a rapidly growing population.

It has problems of high crime rates, corruption and poor education.

Mexicans have filled jobs in the USA as farm laborers, factory workers and cleaners.

12. Population Growth in India

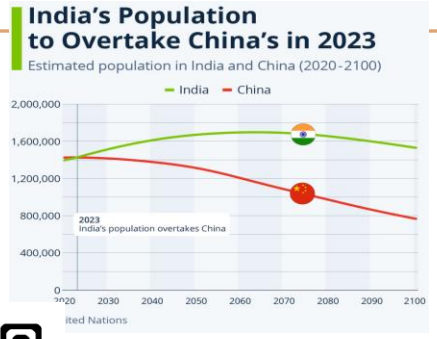
India's cities are growing exponentially due to a number of factors:

Rural-urban migration: the movement of people from the countryside to towns and cities within a country.

Urbanisation: an increasing percentage of a country's population moving from the countryside to towns and cities.

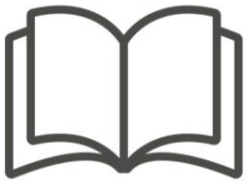
Natural increase: the difference between the number of live births and deaths, generally calculated over a year.

Slums: a densely populated urban area with poor quality housing.



Challenge!
Scan this QR code and play the game!

READING

Log 

Book and Author	Next page	Comments and signature