Homework Schedule

📖 + 💻

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

Week beginning	Box Number
8th September	1
15th September	2
22nd September	3
29th September	4
6th October	5
13th October	6
20th October	7
Half Term	
3rd November	8
10th November	9
17th November	10
24th November	11
1st December	12
8th December	13
15th December	14

sparx

Log in to 'Sparx' and spend a minimum of 30 minutes per week completing the tasks assigned to you.

My **Sparx** Login Details:

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 questions can look like labelling a diagram

Self-quizzing questions can look like written Qs and Answers
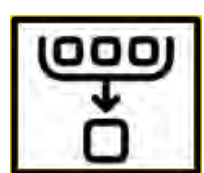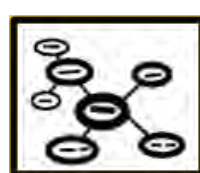
STUDY SKILLS

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.

Look, Cover, Write, Check the spelling

Remember to write a title for each subject

Write out a definition or use it in a sentence.
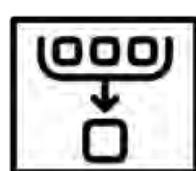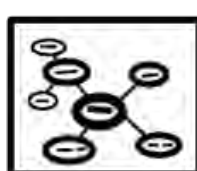
Drama - Telling of tales and fables

① Characterisation → Means moving around
   Characterisation and using your voice
   Characterisation like the character so
   that it is believeable

② Narration → telling the story
   Narration aloud to match
   Narration the action

Check you were accurate

Rule off your work to save space

STUDY SKILLS

How to 'Illustrate'

Step 1: Read and number the information you need to learn.

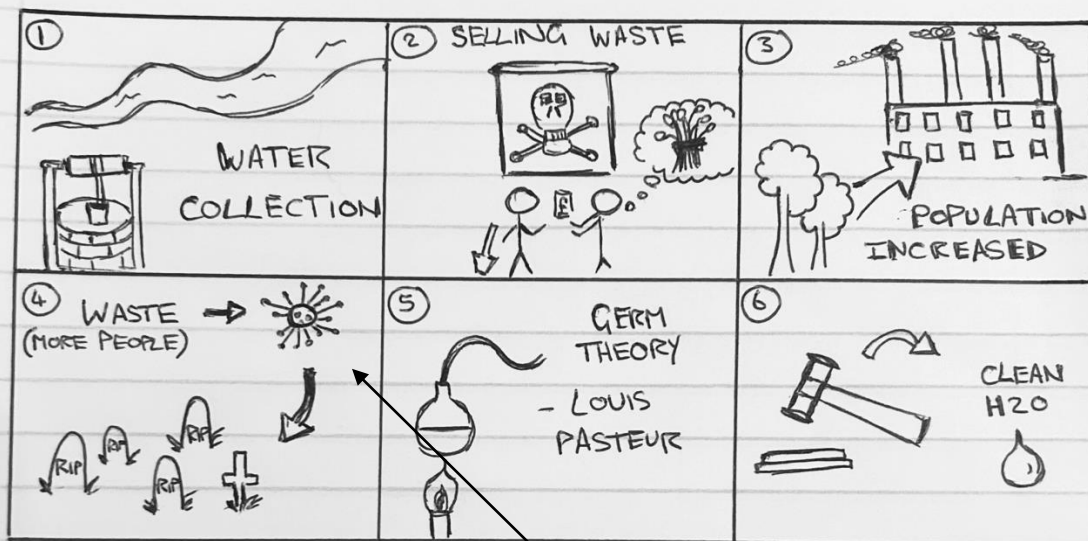**Step 2:** Draw out a grid with a box for each number.

Step 3: Turn the information into pictures or symbols that tell the story or sequence.

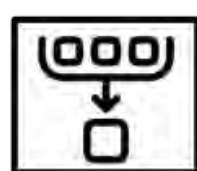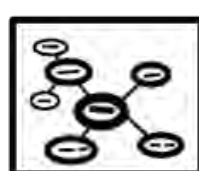**Step 4:** Use the images you've drawn to help you tell someone else the information.

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
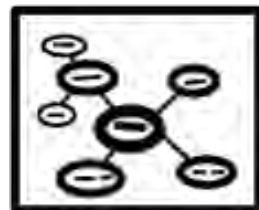
How to 'Mind Map'

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

leading to disease

not paid

forced to work

overcrowded

Last resort for the destitute

families were separated

For the Poor Children

'ragged' Schools

chimney sweeps

mining

child labour

Workhouses

Children

Vulnerable

no support Systems

The Victorian Poor

Slums

Industrial Revolution

overcrowded

urban/street district

multi-generational living

leading to disease

where the poor live in squalid conditions

More jobs in the cities

new Machines and inventions

fewer jobs in the Country leading to poverty

boosted production

£££ for the wealthy

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

RPE – What is AI (Artificial Intelligence)?

- technology that can think in a 'human' way
- Machine learning
- problem solving
- rapid processing speeds
- used in phone apps, video games and chat-bots
- Cars that self-drive use AI to make decisions
- unknown potential
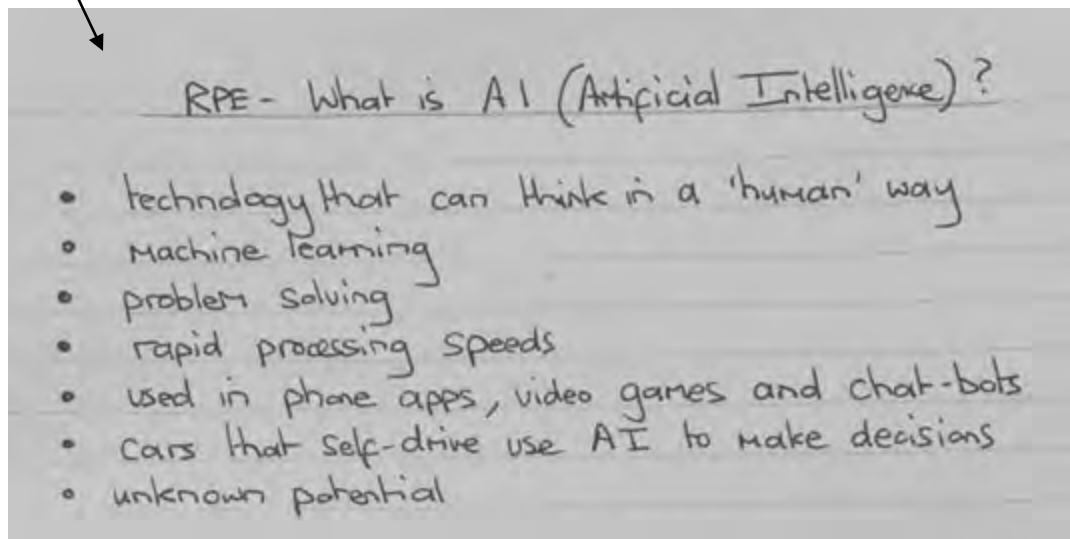
This should be a shorter version of the original, containing the most important information
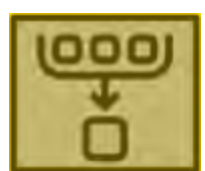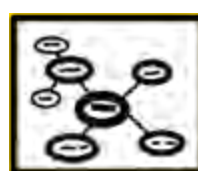
STUDY SKILLS

4 ways of transforming knowledge

3. The Globe Theatre
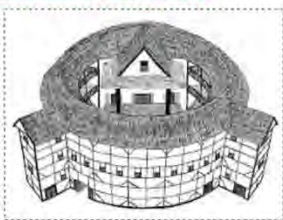
- Plays were performed during daylight hours as there was no electricity.

- 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

Plays took place in the daytime.

There was a balcony.

The stage jutted out into the audience.

A trapdoor was used for spooky characters.

♀ = not permitted to act on the stage

English
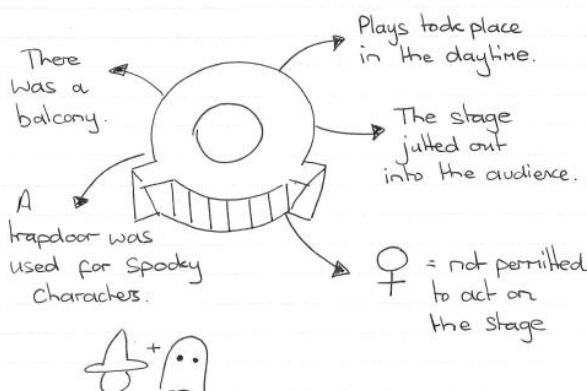
1. Gothic Conventions

Here are some images and settings that are typical of gothic stories.

2. Key vocabulary

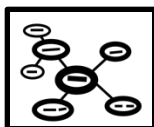| Word	Definition
Supernatural	Beyond the laws of nature or science e.g. Arthur experiences **supernatural** events.
Desolate	Empty, barren, and abandoned e.g. the area surrounding Eel Marsh House is **desolate**.
Pastiche	A type of art/ literature which imitates the style of another work, artist or time period. The Woman in Black is a **pastiche** of the Victorian ghost story.
Uncanny	Something that is strangely unsettling or mysterious, often in a way that is difficult to explain or understand.
Ominous	Giving the impression something bad will happen e.g. upon arriving in Crythin Gifford the mood is **ominous**.

3. Language techniques

Term	Use and effect
Pathetic fallacy	Hill uses the weather to create atmosphere and mirror the moods of the characters throughout.
Simile	Hill uses similes to create vivid imagery, particularly to describe the house and the weather.
Rhetorical questions	Arthur questions himself at times e.g. when he first rides over the causeway with Keckwick.
Semantic field of fear	Hill uses a range of words that suggest or are connected with fear to create a vivid and haunting atmosphere.
First person narrative	Hill uses the first-person narrator of Arthur Kipps to relate the story of his past. Fear is intensified by this personal point of view. When Arthur feels afraid the reader feels it too.

4. Key themes
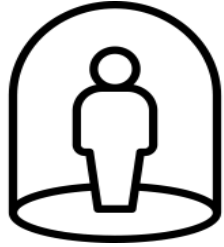
Isolation

The Supernatural

Grief/loss

Fear

Revenge

5. Context

Susan Hill's primary intention when writing "The Woman in Black" was to create a classic, atmospheric ghost story in the tradition of Victorian and Edwardian novels.

Despite being set in the early 20th century, the story is steeped in Victorian attitudes and values, especially regarding death, mourning, and superstition.

In the late 19th and early 20th centuries, there was a strong cultural interest in spiritualism and the supernatural. Many people believed in ghosts, séances, and communication with the dead.

The novel contrasts the modernising world of industrial London with the isolated and rural setting of Crythin Gifford. Britain was becoming increasingly urbanised, with many people moving to cities for work.

Hill reveals how the desire for revenge, and failing to let go of anger and resentment, can seriously affect us.

THE CLASSIC ENGLISH GHOST STORY

The Woman in Black

SUSAN HILL

'HEARTSTOPPINGLY CHILLING' Daily Express

NOW A MAJOR MOTION PICTURE

THE WOMAN IN BLACK

SUSAN HILL
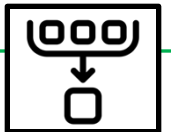
6. Key Quotations

"I did not believe in ghosts." (Arthur)

"She was not a woman you could easily forget."

"Mad with grief and mad with anger and a desire for revenge."

"Mr Jerome's hands continued to scrabble about like the paws of some struggling creature."

"They have asked for my story. I have told it."

"Eel Marsh House stood like a lighthouse, isolated and remote."

7. Freytag's Pyramid

Section	Event
Exposition	Kipps at home on Christmas Eve
Inciting incident	Kipps is sent to Crythin Gifford
Rising action	Mrs Drablow's funeral
Climax	Hauntings at Eel Marsh House
Falling action	Discovery about the ghost
Resolution	Kipps and Stella leave and marry
Denouement	Stella and son are killed

freytag's pyramid

climax

falling action

rising action

resolution

exposition   inciting incident
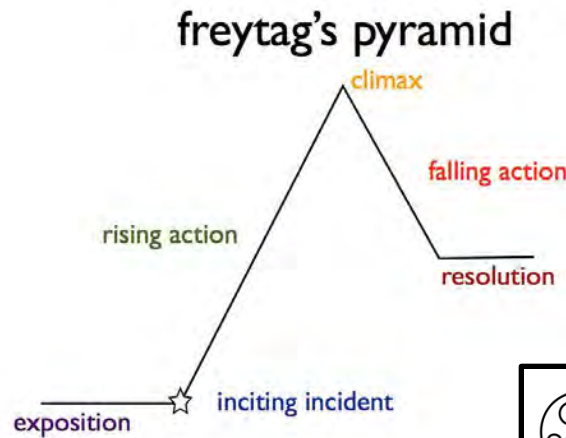
8. Key Terms

Word	Definition
Debate	A formal argument over key topics
To manipulate	To influence people into acting or thinking in a different way.
Rhetoric	The art of using language to persuade.
Sophists	The men who formed schools to teach rhetoric in Ancient Greece
To rant	To speak or shout at length in a really passionate or angry way.
Aristotle	A Greek philosopher who studied the way in which we persuade people

English

English (vertical text, left margin)
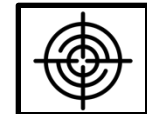
9. BLOCK

We can use BLOCK for planning pieces of persuasive writing.

Term	Use and effect
B BIG PICTURE	Give an outline of the issue and make your point of view really clear.
L LOOK CLOSER	Give one reason for your view
O Over there	Give another reason for your view.
C Counterargument	Explain an opposite argument people might have and why it is wrong.
K Konclusion	Wrap up your answer with a powerful argument.

10. PERSUADER

Here are some methods we can use when we are writing to persuade:

P: Personal Pronouns (You, We)
E: Emotive Language (Language that makes us feel an emotion.
R: Rhetorical Question
S: Statistics (number facts that have been researched.)
U: Using an Expert
A: Anecdote (a short personal story)
D: Description and Imagery (similes and metaphors)
E: Exaggeration (hyperbole)
R: Repetition or Rule of Three

11. The Aristotelian Triad

A famous man called Aristotle who came from ancient Greece identified three main techniques for persuasion.

Persuading using FACTS and STATISTICS

LOGOS
Logic/Reason

Persuading by being an expert and getting people to trust you.

Persuading using EMOTIONS – making somebody feel shocked or sad or guilty.

PATHOS
Emotions/Values

ETHOS
Credibility/Trust
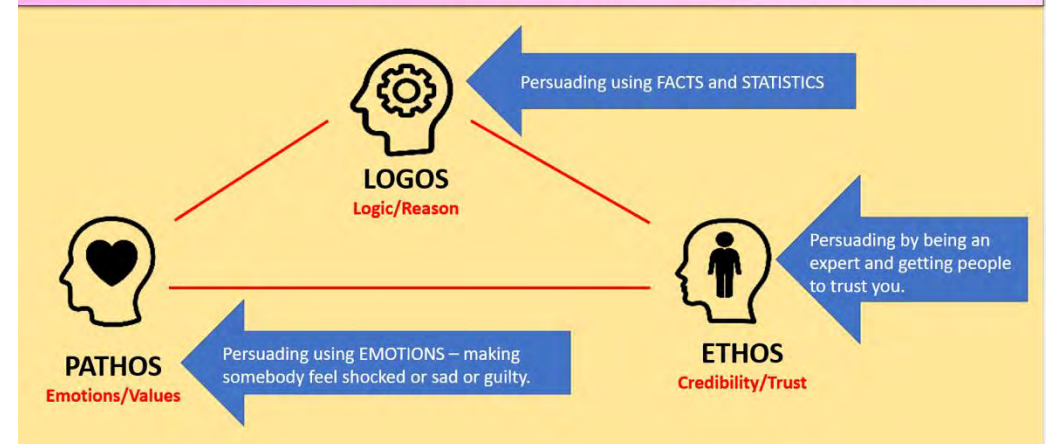
Spend some time looking at the diagram. Then close your homework booklet and draw it from memory.

12. Key vocabulary

A tricolon
is to use a list of three, or repetition of the same idea three times over, to emphasise and strengthen a point.

Dialysis
is using an alternative argument to strengthen your own: a 'don't do that, do this' approach.

Antithesis
is to use a direct opposite to achieve a stronger argument.

Anaphora
a word or phrase repeated at the start of sentences or clauses.

Epiphora
a word or phrase repeated at the end of sentences or clauses.

Orator
a formal speaker

Anecdote
A short personal story about something that has really happened.

Hyperbole
Exaggeration

13. Famous speeches

Winston Churchill
He was a British politician, military officer and writer who served as the Prime Minister of Great Britain from 1940 to 1945 and from 1951 to 1955.

After the allied defeat and ensuing rescue of more than 335,000 men from the beaches around Dunkirk on the north coast of France in late May and early June 1940, Winston Churchill made a radio broadcast on June 4, urging the British people to fight on.

"We shall go on to the end, we shall fight in France, we shall fight on the seas and oceans, we shall fight with growing confidence and growing strength in the air, we shall defend our Island, whatever the cost may be, we shall fight on the beaches, we shall fight on the landing grounds, we shall fight in the fields and in the streets, we shall fight in the hills"

Martin Luther King
He was a Baptist minister and social rights activist in the United States in the 1950s and '60s. He was a leader of the American civil rights movement. He organized a number of peaceful protests as head of the Southern Christian Leadership Conference, including the March on Washington in 1963.

"I have a dream that one day this nation will rise up and live out the true meaning of its creed. We hold these truths to be self-evident that all men are created equal.
I have a dream that one day out in the red hills of Georgia the sons of former slaves and the sons of former slave owners will be able to sit down together at the table of brotherhood."
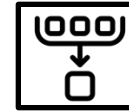
14. GCSE Spoken Language

You have to do a spoken language presentation for your GCSE. You will be given a Pass, Merit or Distinction. Here is what you need to do to get a distinction:

- express sophisticated ideas / information / feelings;
- use a sophisticated repertoire of vocabulary
- organise and structure your presentation using an effective range of strategies to engage the audience
- achieve the purpose of your presentation
- listen to questions/feedback
- respond perceptively and, if appropriate elaborate, with further ideas and information.

English
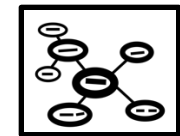
1. The Purpose of Film Music (1)

Film Music is a type of **DESCRIPTIVE MUSIC** that represents a **MOOD, STORY, SCENE** or **CHARACTER** through music.

It is designed to **SUPPORT THE ACTION AND EMOTIONS OF THE FILM ON SCREEN**.

The Music that accompanies a film is called the Soundtrack or Score.

2. The Purpose of Film Music (2)

Film Music can be used to:

- Create or enhance a mood (though the **ELEMENTS OF MUSIC**)
- Function as a **LEITMOTIF**
- To emphasise a gesture (**MICKEY-MOUSING** – when the music fits precisely with a specific part of the action in a film e.g. cartoons)
- Provide unexpected juxtaposition/irony (using music the listener wouldn't expect to hear giving a sense of uneasiness or humour!)

Challenge!
Make a list of films that use each element of music.

3. The Purpose of Film Music (3)

Film Music can also be used to:

- Link one scene to another providing continuity
- Influence the pacing of a scene making it appear faster/slower
- Give added commercial impetus (released as a **SOUNDTRACK**) – sometimes a song, usually a pop song is used as a **THEME SONG** for a film.
- Illustrate the geographic location (using instruments associated with a particular country) or historical period (using music 'of the time').

4. How the elements of Music are used in Film Music

PITCH AND MELODY – **RISING MELODIES** are often used for increasing tension.

FALLING MELODIES for defeat.

Westerns often feature a **BIG THEME**.

Q&A PHRASES can represent good versus evil.

The **INTERVAL OF A FIFTH** is often used to represent outer space with its sparse sound.

5. How the elements of Music are used in Film Music

DYNAMICS – FORTE (LOUD) dynamics to represent power; **PIANO (SOFT)** dynamics to represent weakness/calm/resolve. **CRESCENDOS** used for increasing threat, triumph or proximity and **DECRESCENDOS** or **DIMINUENDOS** used for things going away into the distance.

HARMONY – **MAJOR** – happy; **MINOR** – sad.
CONSONANT HARMONY OR CHORDS for "good" and **DISSONANT HARMONY OR CHORDS** for "evil".
SEVENTH CHORDS often used in Westerns soundtracks.

DURATION – LONG notes often used in Westerns to describe vast open spaces and in Sci-Fi soundtracks to depict outer space; **SHORT** notes often used to depict busy, chaotic or hectic scenes.
PEDAL NOTES – long held notes in the **BASS LINE** used to create tension and suspense.

6. How the elements of Music are used in Film Music

TEXTURE – THIN/SPARE textures used for bleak or lonely scenes;
THICK/FULL textures used for active scenes or battles.

ARTICULATION – **LEGATO** for flowing or happy scenes,
STACCATO for 'frozen' or 'icy' wintery scenes.
ACCENTS (>) for violence or shock.

RHYTHM & METRE – 2/4 or 4/4 for Marches (battles), 3/4 for Waltzes, 4/4 for "Big Themes" in Westerns.

IRREGULAR TIME SIGNATURES used for tension.

OSTINATO rhythms for repeated sounds e.g. horses.

Challenge!
Find a film where a Leitmotif has been used for a character. **Describe** the character.

7. Keywords (1)

SOUNDTRACK – The music and sound recorded on a motion-picture film. The word can also mean a commercial recording of a collection of music and songs from a film sold individually as a CD or collection for digital download.

MUSIC SPOTTING – A meeting/session where the composer meets with the director and decides when and where music and sound effects are to feature in the finished film.

8. Keywords (2)

STORYBOARD – A graphic organiser in the form of illustrations and images displayed in sequence to help the composer plan their soundtrack.

CUESHEET – A detailed listing of **MUSICAL CUES** matching the visual action of a film so that composers can time their music accurately.

Music

9. Keywords (3)

CLICK TRACKS – An electronic **METRONOME** which helps film composers accurately time their music to on-screen action through a series of 'clicks' (often heard through headphones) – used extensively in cartoons and animated films.

DIEGETIC FILM MUSIC – Music within the film for both the characters and audience to hear e.g. a car radio, a band in a nightclub or sound effects.

NON-DIEGETIC FILM MUSIC – Music which is put "over the top" of the action of a film for the audience's benefit and which the characters within a film can't hear – also known as **UNDERSCORE** or **INCIDENTAL MUSIC**.
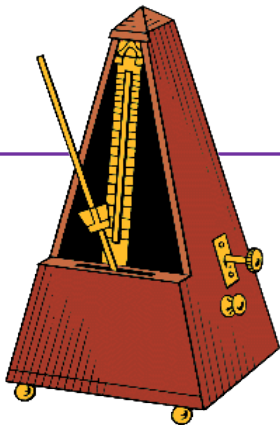
10. Leitmotif

LEITMOTIF – A frequently recurring short melodic or harmonic idea which is associated with a character, event, concept, idea, object or situation which can be used directly or indirectly to remind us of one not actually present on screen.

Leitmotifs can be changed through **SEQUENCING, REPETITION** or **MODULATION** giving a hint as to what may happen later in the film or may be heard in the background giving a "subtle hint" to the listener e.g. the "Jaws" Leitmotif

Leitmotif comes from German opera in the 1800's.
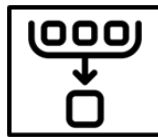
11. History of Film Music

Early films had no soundtrack ("**SILENT CINEMA**") and music was provided live, usually **IMPROVISED** by a pianist or organist.

The first **SOUNDTRACKS** appeared in the 1920's and used existing music (**BORROWED MUSIC** – music composed for other (non-film) purposes) from composers such as Wagner and Verdi's operas and ballets.

Film Music Trivia: Did you know that the first commercially released soundtrack was for the Disney Movie 'Snow White and the Seven Dwarfs' in 1937

Challenge!
Research and write a timeline of the history of music. Include examples and images of key musical influences.

Music

12. History of Film (2)

In the 1930's and 1940's Hollywood hired composers to write huge Romantic-style soundtracks.

JAZZ and **EXPERIEMENTAL MUSIC** was sometimes used in the 1960's and 1970's.

Today, film music often blends **POPULAR, ELECTRONIC** and **CLASSICAL** music together in a flexible way that suits the needs of a particular film.

13. Film Composers (1)

Jerry Goldsmith
Planet of the Apes
Star Trek: The Motion Picture
The Omen
Alien

Ennio Morricone
The Good, The Bad and The Ugly
For a Few Dollars More
The Mission

Bernard Hermann
Psycho
Vertigo
Taxi Driver

John Williams
Star Wars
Jaws
Harry Potter
Indiana Jones
Superman, E.T.

14. Film Composers (2)

James Horner
Titanic
Apollo 13
Braveheart
Star Trek II
Aliens

Danny Elfman
Mission Impossible
Batman Returns
Men in Black
Spider Man

Hans Zimmer
The Lion King
Gladiator
Dunkirk
Blade Runner 2049
No Time to Die

Challenge!

Choose a film composer and create an information poster on their work in the Film Industry. You should include details about their life (where and when they were born, etc…)
You should also include information about the Films or TV Shows they have composed music for.
Your poster should be colourful and informative!

1. Fractions, Decimals, Percentages

38n Converting between *decimals* and *percentages* (and to *fractions*)

$\div 100\%$
Percent → Decimal
$\times 100\%$

Write these as decimals

a. $51\% \div 100\% = 0.51$
b. $20\% \div 100\% = 0.2$
c. $90\% \div 100\% = 0.9$
d. $3\% \div 100\% = 0.03$

% means per 100

Write these as percentages

e. $0.91 \times 100\% = 91\% = \frac{91}{100}$
f. $0.07 \times 100\% = 7\%$
g. $0.4 \times 100\% = 40\% = \frac{40}{100} = \frac{2}{5}$
h. $1.23 \times 100\% = 123\%$

51n	*Increase* or *decrease* an amount by a *percentage* and calculate *simple interest*	
65n	Calculate *compound interest* using repeated percentage change	
66n	Writing a *change* as a *percentage*	
67n	Using *percentage multipliers* for change and understand the effect of multiplying by numbers above or below 1	
38n	Converting between *decimals* and *percentages* (and to *fractions*)	

2. Fractions, Decimals, Percentages

45n Converting *fractions* to *percentages* or *decimals* using equivalent fractions, or division on a calculator

(a) Convert $\frac{3}{5}$ in to a decimal.

(b) Convert $\frac{7}{10}$ in to a percentage.

(a) $\frac{3}{5} = \frac{6}{10} = 0.6$

Fraction to decimal: make the denominator 10, 100 or 1000 then use your knowledge of dividing by 10, 100 and 1000

(b) $\frac{7}{10} = \frac{70}{100} = 70\%$

Find an equivalent fraction with a denominator of 100

The numerator is your %.

45n	Converting *fractions* to *percentages* or *decimals* using equivalent fractions, or division on a calculator	
52n	Putting *fractions*, *decimals* and *percentages* in *order*	
56n	Converting *fractions* to terminating *decimals* or percentages by *short division*	
49n	*Add* or *subtract fractions*	
48n	Find a fraction of a fraction and *multiply fractions*	
50n	*Divide fractions*	

3. Indices

33n Evaluating *powers* and *roots* and identifying *square* or *cube numbers*

Evaluate the following

(a) 9^2
$= 9 \times 9$
$= 81$

To square a number multiply it by itself.

$1^2 = 1 \times 1 = 1$
$2^2 = 4$
$3^2 = 9$
$4^2 = 16$
$5^2 = 25$
$6^2 = 36$

These are the first 6 square numbers

(b) 7^3
$= 7 \times 7 \times 7$
$= 343$

To cube a number multiply it by itself 3 times.

(c) $\sqrt{100}$
$= 10$

(d) $\sqrt[3]{64}$
$= 4$

To square-root or cube-root is the opposite of squaring and cubing.

$1^3 = 1 \times 1 \times 1 = 1$
$2^3 = 8$
$3^3 = 27$
$4^3 = 64$
$5^3 = 125$
$6^3 = 216$

These are the first 6 cube numbers

44n Using a *calculator* correctly with *powers*, *roots* and *division*

To select any of the operations listed in yellow, press the shift button first.

Press shift and then close bracket to get a percentage symbol. Multiplying by a percentage will find a percentage of an amount.

This button will change your answer into a decimal.

Press shift first and then this button to get a π symbol.

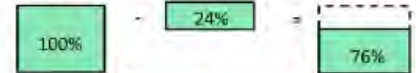Use the Ans button when you wish to operate with your previous answer.

4. Indices

47n Using the **three index laws** with whole numbers

Work out:

$3^2 \times 3^4$

$= 3^6$

Add the indices when **multiplying** powers

Index Laws

$n^a \times n^b = n^{a+b}$

$n^a \div n^b = n^{a-b}$

$(n^a)^b = n^{a \times b}$

Work out:

$5^9 \div 5^3$

$= 5^6$

Subtract the indices when **dividing** powers

Work out:

$(3^2)^4$

$= 3^8$

Multiply the indices when **using brackets**

57n Converting **large numbers** to and from **standard from**

Converting **small numbers** to and from **standard form** **63n**

64n Calculate with numbers in **standard form** using a calculator

5. Numeracy

37n **Multiplying** and **dividing integers**

Calculate the following

(a) $5 \times (-2)$

$= -10$

One is positive and one is negative so the answer is NEGATIVE

Same signs POSITIVE
++ → +
-- → +

Different signs NEGATIVE
+- → -
-+ → -

(b) $-15 \div (-3)$

$= 5$

$15 \div 3 = 5$ and they are both negative so the answer is POSITIVE

(c) $-2 \times (-5)$

$= 10$

Both are negative so the answer is POSITIVE

(d) $-24 \div (+8)$

$= -3$

$24 \div 8 = 3$ and one is positive and one is negative so the answer is NEGATIVE

Use a written method to **multiply decimals** **32n**

31n **Adding integers**

Subtracting integers **34n**

37n **Multiplying** and **dividing integers**

6. HCF and LCM

53n Write a number as **a product of primes** using a **factor tree** and know that this product is unique

Write 72 as a product of its prime factors

Circle each prime number

These 2 multiply to make 72

These 2 multiply to make 36

72

2   36

2   18

2   9

3   3

$72 = 2 \times 2 \times 2 \times 3 \times 3$

$= 2^3 \times 3^2$

Write as powers

All of the prime factors multiplied together

Find the **HCF** by listing **factors** or **LCM** by listing **multiples** **35n**

39n Use **HCF** or **LCM** in context

Identify **prime numbers** and checking if a number is prime **36n**

53n Write a number as a **product of primes** using a **factor tree** and know that this product is unique

Using a **Venn diagram** with **prime factors** to evaluate **HCF** of bigger numbers. **54n**

55n Using a **Venn diagram** with **prime factors** to evaluate **LCM** of bigger numbers.

Rounding to **significant figures** **58n**

7. Percentages – With a Calculator

67n Using *percentage multipliers* for change and understand the effect of multiplying by numbers above or below 1

a) A discount of 24% is deducted from a bill for £96. Find the final charge.

$Final = 0.76 \times £96$

$Final = £72.96$

> Express percentage change as a decimal

100% − 24% = 76%

b) Holly bought a table for £80, when she sold it, it's value increased by 17%. How much did she sell it for?

$Final = 1.17 \times £80$

$Final = £93.60$

100% + 17% = 117%

45n Converting *fractions* to *percentages* or *decimals* using equivalent fractions, or division on a calculator

67n Using *percentage multipliers* for change and understand the effect of multiplying by numbers above or below 1

8. Area and Perimeter

42s Calculate the area of a *trapezium* or a *compound shape* involving trapeziums.

Calculate the **area** of the trapezium.

a and *b* are the **parallel** sides. → $a = 6$

→ $b = 8$

h is the **perpendicular** height. → $h = 4$

6 cm
4 cm
5 cm
8 cm

Trapezium

$Area = \frac{1}{2}(a+b)h$

$Area = \frac{1}{2}(6+8)4$

> Substitute for *a*, *b* and *h*.

$= \frac{1}{2}(14)4$

> Half of 14 is 7.

$= 7 \times 4$

$= 28\ cm^2$

Remember if there is **no operation** (+, −, × or ÷) given in the formula it means you need to multiply!

	Calculate the *area* of a *parallelogram* or a *triangle*	**35s**
42s	Calculate the area of a *trapezium* or a *compound shape* involving trapeziums.	
	Calculating the *area* or *circumference* of a *circle* giving answers approximately or *in terms of* π	**50s**
55s	Calculating the *area* or *perimeter* of a *semi-circle* or *quadrant* or work with *circular measure* in context	
	Calculate the *volume* of shapes made from *1 cm cubes* and *cuboids*	**36s**
49s	Calculate the *volume* of a *prism* or the *surface area* of a *cuboid*	
	Calculate the *volume* of a *cylinder* giving answers approximately or *in terms of* π	**57s**
34s	Converting between *metric units* (and to *imperial* given the conversion factor)	

9. Area and Perimeter

39s Calculate the *area* of a *compound shape*

Work out the area of this shape.

8 cm
13 cm
3 cm
A
18 cm
5 cm
B
11 cm

> First work out the missing sides

> Then split the shape into rectangles (or other shapes you know how to find the area of)

> Work out the area of each piece…

$A = 8 \times 13 = 104\ cm^2$

$B = 5 \times 11 = 55\ cm^2$

$159\ cm^2$

> …then add them up

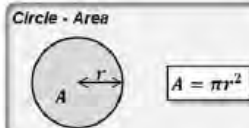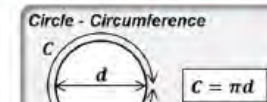|		
	Calculate the *perimeter* of *compound shapes*	**33s**
39s	Calculate the *area* of a *compound shape*	
	Calculate the *area* of a *parallelogram* or a *triangle*	**35s**
42s	Calculate the area of a *trapezium* or a *compound shape* involving trapeziums.	

10. Area and Circumference of a Circle

50s Calculating the **area** or **circumference** of a **circle** giving answers approximately or **in terms of π**

Calculate the area and circumference of this circle in terms of π.

Circle - Circumference

$C = \pi d$

8cm

Circle - Area

$A = \pi r^2$
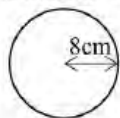
Radius – 8 cm
Diameter – 16 cm ← Double the radius
Circumference – π × 16 = 16π
Area – π × 8^2 = π × 64 = 64π

The number is written before π.

Calculating the **area** or **circumference** of a **circle** giving answers approximately or **in terms of π** — **50s**

55s — Calculating the **area** or **perimeter** of a **semi-circle** or **quadrant** or work with **circular measure** in context

11. Volume and Surface Area

49s Calculate the **volume** of a **prism** or the **surface area** of a **cuboid**

Prism — First work out the cross-section area A

Calculate the volume.

Volume = Al

3 cm
5 cm
4 cm
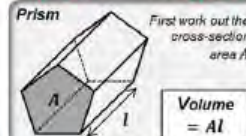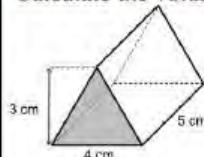
Area of cross-section
$= \frac{1}{2} \times 3 \times 4 = 6 \; cm^2$

Volume $= 6 \times 5 = \underline{30 \; cm^3}$

Calculate the surface area.

Surface Area
Add the area of every face — front, back, left, bottom + top

2 cm
3 cm
7 cm

Total S.A.
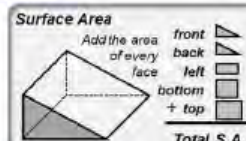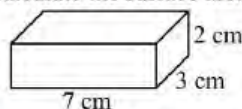
Front – 7 × 2 = 14 (28)
Left – 3 × 2 = 6 (12)
Top – 7 × 3 = 21 (42)

2 of each side = 28 + 12 + 42 = $\underline{82 \; cm^2}$

Calculate the **volume** of shapes made from **1 cm cubes** and **cuboids** — **36s**

49s — Calculate the **volume** of a **prism** or the **surface area** of a **cuboid**

Calculate the **volume** of a **cylinder** giving answers approximately or **in terms of π** — **57s**

12. Compound Measures

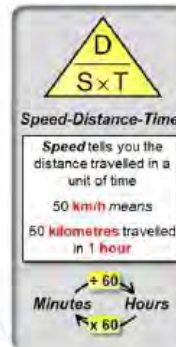**44s** Solve **speed-distance-time** problems (including converting minutes to hours when necessary)

Jayne travels 15miles in 90minutes. Calculate her speed in miles per hour.

Speed-Distance-Time
D / S×T

Speed tells you the distance travelled in a unit of time

50 **km/h** means
50 **kilometres** travelled in 1 **hour**

÷ 60
Minutes — **Hours**
× 60

Distance: 15miles

Units in miles per hour, so convert minutes in to hours.

Time: 90 ÷ 60 = 1.5 hours

$Speed = \dfrac{distance}{time}$ $\dfrac{15}{1.5} = 10mph$

67s Solve **density-mass-volume** or **pressure-force-area** problems

The **density** of a cube of cement is 3.2 g/cm³
The volume of the cube is $216cm^3$
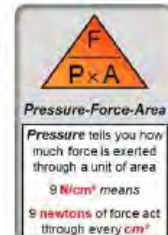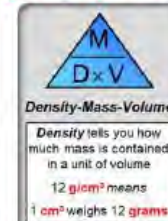Calculate the **mass** of the cube of cement.

6 cm

Density-Mass-Volume
M / D×V

Density tells you how much mass is contained in a unit of volume

12 g/cm³ means
1 cm³ weighs 12 grams

Mass = Density × Volume
Mass = 3.2 g/cm³ × 216cm³
Mass = 691.2 g

You use the formula triangle for pressure-force-area in a similar way

Pressure-Force-Area
F / P×A

Pressure tells you how much force is exerted through a unit of area

9 **N/cm²** means
9 **newtons** of force act through every cm²

44s — Solve **speed-distance-time** problems (including converting minutes to hours when necessary)
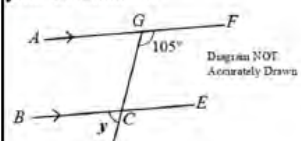
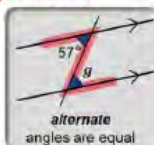Solve **density-mass-volume** or **pressure-force-area** problems — **67s**

13. Angles and Pythagoras

53s Calculate angles using **parallel** lines (including reversing **bearings**) and provide full **geometric arguments**
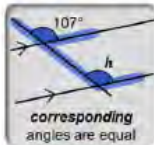
Find the value of angle y.
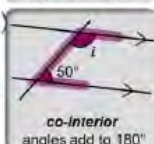Give a reason for each stage of your calculation

G F
$A \rightarrow$ $105°$
Diagram NOT Accurately Drawn
$B \rightarrow$ E
y C
D

Angle GCE = 75
(co-interior angles add to 180)
$y = 75$
(vertically opposite angles are equal)

alternate angles are equal
$57°$ g

corresponding angles are equal
$107°$ h

co-interior angles add to 180°
i
$50°$

|		
	Calculate angles using angle facts (including *isosceles triangles*) and provide full *geometric arguments*	41s
53s	Calculate angles using *parallel* lines (including reversing *bearings*) and provide full *geometric arguments*	
	Reading and using *bearings*	45s
38s	Using *map scales* and making a *scale drawing*	
	Use *Pythagoras' theorem* to find *hypotenuse* or *short side* or check if a triangle is right-angled.	51s
66s	Solve problems requiring either multiple steps of *Pythagoras* or amending a diagram to locate a *right-angled triangle*	

14. Transformations – Revision

52s **Reflect** a shape on a coordinate grid and describe a **reflection** stating the equation of the mirror

Reflect B in the line $y=1$ and label it D.
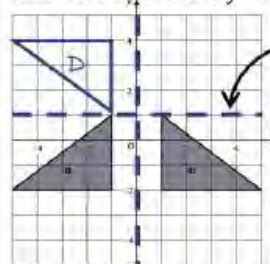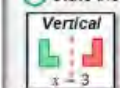
Draw the line $y=1$
... then flip it in the line

Describe the single transformation that maps B to C.
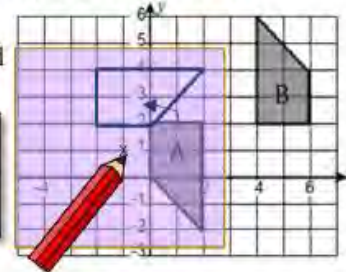
Reflect shape B in the y axis.

To **describe** a reflection you must
- ✓ Use the keyword **reflection**
- ✓ State the **equation** of the mirror line

Vertical	Horizontal	Diagonal
$x = 3$	$y = 2$	$y = x$

54s **Rotate** a shape from a given centre on a coordinate grid and fully describe a **rotation**.

Rotate shape A 90° anti-clockwise around $(-1,1)$

Use tracing paper. Put the point of your pencil on the centre and turn 90° anti-clockwise

Describe fully the transformation that maps shape A to shape B

Rotation
180°
Centre (3,2)

- ✓ Use the keyword **rotation**
- ✓ State the **angle** and **direction** of rotation
- ✓ State the coordinates of the **centre**

HINT   Use *tracing paper*, put your pencil in the *centre*.

For 180°, no direction is required

	Work out the **midpoint** between two **coordinates**	46s
48s	**Translate** a shape by a **vector** on a coordinate grid and describe a **translation**	
	Reflect a shape on a coordinate grid and describe a **reflection** stating the equation of the mirror	52s
54s	**Rotate** a shape from a given centre on a coordinate grid and fully describe a **rotation**.	

Drama

1. A Midsummer Night's Dream

A Midsummer Night's Dream is a **comedy** by William Shakespeare. It intertwines three main **plotlines**:
1. the romantic entanglements of four **lovers**,
2. the conflict between the **fairy** king and queen,
3. and a group of amateur **actors** rehearsing a play.

The story unfolds in a magical **forest**, where love, mischief, and enchantment collide.

2. History of the Play

The play was written in **1596**, around the same time Shakespeare was working on *Romeo and Juliet*.

Elizabeth I was the monarch and it was his tenth play. The first performances would have shortly followed its composition, and it quickly became one of his most frequently performed plays.

3. Famous lines

Can you discover which **characters** say these very famous lines?
1. The course of true love never did run smooth.
2. Love looks not with the eyes, but with the mind
3. What angel wakes me from my flow'ry bed?
4. Reason and love keep little company together nowadays
5. Though she be but little, she is fierce

Bottom? Lysander? Titania? Oberon? Helena?

4. Acting Shakespeare
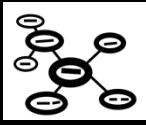
Acting Shakespeare is both challenging and rewarding. You need to consider:
1. Complex **language** and vocabulary
2. The **rhythm** – e.g. iambic pentameter
3. **Emotions** – e.g. love, hate, jealousy
4. **Physical** acting – e.g. moving like fairies or fighting
5. **Historical** context – references to 16th Century life or jokes

Mind map these five elements. Can you add more?

5. Act 1-3
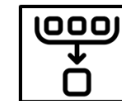
Act 1: Theseus, Duke of Athens, prepares for his wedding to Hippolyta, Queen of the Amazons. Hermia loves Lysander, but her father wants her to marry Demetrius. Hermia and Lysander plan to elope, while Helena, still in love with Demetrius, informs him of their intentions. Fairies and amateur actors ("Mechanicals") also enter the magical forest.

Act 2: The fairy king, Oberon, and queen, Titania, quarrel over a young Indian prince. Oberon sends his servant, Puck, to acquire a magical flower that causes love at first sight. Puck mistakenly uses the flower on Lysander, who falls for Helena instead of Hermia.

Act 3: Chaos ensues as both Lysander and Demetrius fall in love with Helena. Hermia becomes jealous and challenges Helena. Puck tries to undo the confusion caused by the love potion.

6. Act 4-5

Act 4: The lovers' confusion continues. Oberon reverses the magic, and the couples reconcile. The amateur actors rehearse their play for the Duke and his bride.

Act 5: The Duke and Hippolyta watch the play, performed by the Mechanicals. The fairies bless the newlyweds. All conflicts are resolved, and love triumphs!

Drama

7. The Lovers

1. **Hermia** is in love with **Lysander** but her father insists that she marry **Demetrius**.
2. **Lysander** is devoted to **Hermia.** He is willing to defy societal norms to be with her.
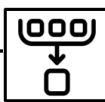
8. The Lovers

3. **Demetrius** is also in love with Hermia, but later enchanted by **Puck's** potion to fall for **Helena**.
4. **Helena** loves **Demetrius**, but he rejects her. However, when he falls under the potion's spell, she becomes the object of his affection.
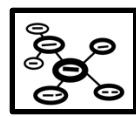
9. The Mechanicals

The **Mechanicals** are a group of amateur **actors** from around Athens. They aim to make names for themselves by having their play-within-a-play, *Pyramus and Thisbe*, chosen as the entertainment for the royal wedding of Theseus and Hippolyta.

Quince – the leader of the group

Bottom – their best actor, but a show-off, who is transformed into a donkey.

Also - Snug, Flute, Snout and Starveling.

Mind map these characters. Can you add more details?
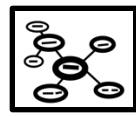
10. The Fairies

The **fairies** play a magical and mischievous role. The interact with the Mechanicals and the Lovers.

Titania – Queen of the Fairies who falls in love with Bottom (as a Donkey)

Oberon - King of the Fairies.

Puck – Oberon's magical servant

Titania's Servants - Peaseblossom, Cobweb, Moth, Mustardseed. They attend to Bottom

Mind map these characters. Can you add more details?

11. Puck

Puck is Oberon's magical servant and has been played by a male or female actor. In some productions, Puck is a puppet, a projection or a group of actors. These effects add to Puck's magical nature.

Draw how Puck might look.

12. Feminism and gender

Oberon asserts his control by denying **Titania** the changeling boy. In turn, **Titania** distances herself and is seen to have a 'love affair' with **Bottom**. **Hermia** and **Helena** are best friends but this is tested when Hermia runs off with Lysander. They resort to unladylike insults and rivalry. Pyramus is a two-dimensional male hero, and **Thisbe** is a female **caricature** played by a male (Flute).

13. Theme: Love + Loss

The play portrays romantic love as a **blind**, **irrational force** that can be both **cruel** and **forgiving**. Characters cannot control love, and the **love potion** represents this lack of control. Despite the chaos caused by **love**, the play ends with four happy couples:

1. Hermia and Lysander
2. Helena and Demitrius
3. Theseus and Hippolyta
4. Titania and Oberon

14. ACTING IN THE ROUND

Stage Layout: The stage is at the **centre**, and the audience sits on **all sides**. **Shapes** can vary (e.g. rectangular, circular, diamond, or octagonal). Actors may **enter** from different directions. It removes the traditional **"fourth wall"** engaging the audience directly.

Advantages:
1. Average distances are less.
2. Creative alternative to proscenium stages.

Challenges:
1. Actors will have their back to some audience.
2. Any set could block the audience's view.

Computing

Computing homework is to be completed in your ePortfolio booklet (online).

For each set of keywords, complete the following.

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 your keywords ready for a **spelling test** next lesson.

2. Logo design with Photopea

Please complete the following tasks using your **ePortfolio booklet**.

Task 1 – Ensure any **worksheets** you started in class this week are complete (use the class presentation to support you).
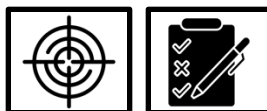
Task 2 – Finish any **retrieval tasks** which are incomplete from the week's lesson. (Use the presentation from the previous lesson).

Task 3 – Complete any **purple pen** improvements you have been advised to do using the purple font. (Use the Google classroom to support you).

4. Programming game with Scratch

Please complete the following tasks using your **ePortfolio booklet**.

Task 1 – Ensure any **worksheets** you started in class this week are complete (use the class presentation to support you).

Task 2 – Finish any **retrieval tasks** which are incomplete from the week's lesson. (Use the presentation from the previous lesson).

Task 3 – Complete any **purple pen** improvements you have been advised to do using the purple font. (Use the Google classroom to support you).

1. Client brief and mood boards

Keywords

Client brief	Colour Picker
Photopea	Gradients
Layers	Transparency
Canvas	Visual identity
Shapes	Colour Scheme
Text tool	Typography

3. Developing a game with Scratch

Keywords

Scratch	Sprites
Blocks	Algorithms
Loops	Conditionals
Variables	Events
Parallax scrolling	Collision detection
Software bug	

5. Game enhancements

Please complete the following tasks using your **ePortfolio booklet**.

Task 1 – Ensure any **worksheets** you started in class this week are complete (use the class presentation to support you).

Task 2 – Finish any **retrieval tasks** which are incomplete from the week's lesson. (Use the presentation from the previous lesson).

Task 3 – Complete any **purple pen** improvements you have been advised to do using the purple font. (Use the Google classroom to support you).

Computing homework is to be completed in your your ePortfolio booklet (online).

For each set of keywords, complete the following.

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 your keywords ready for a **spelling test** next lesson.

7. Assessment

Please complete the following tasks using your **ePortfolio booklet**.

Task 1 – Ensure any **worksheets** you started in class this week are complete (use the class presentation to support you).

Task 2 – Finish any **retrieval tasks** which are incomplete from the week's lesson. (Use the presentation from the previous lesson).

Task 3 – Complete any **purple pen** improvements you have been advised to do using the purple font. (Use the Google classroom to support you).

9. Creating a social media video

Keywords

Canva	Storyboard
Animation	Transitions
Video editing	Timeline
Trimming	Splitting
Audio	Captions
Exporting	Video format
Aspect ratio	Text overlay
Background music	

6. Creating a game controller

Keywords

BBC Micro:bit	MakeCode
Accelerometer	Buttons
Bluetooth	

8. Planning a social media campaign

Please complete the following tasks using your **ePortfolio booklet**.

Task 1 – Ensure any **worksheets** you started in class this week are complete (use the class presentation to support you).

Task 2 – Finish any **retrieval tasks** which are incomplete from the week's lesson. (Use the presentation from the previous lesson).

Task 3 – Complete any **purple pen** improvements you have been advised to do using the purple font. (Use the Google classroom to support you).

10. Launching a social media campaign

Keywords

Social media marketing	Image editing
Layers	Filters
Retouching	Hue
Saturation	Brightness
Contrast	Sharpness
Resizing	Cropping
Selection tools	Opacity
Blending node	
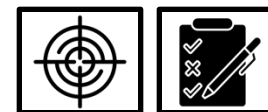
Computing homework is to be completed in your your ePortfolio booklet.

For each set of keywords, complete the following.

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

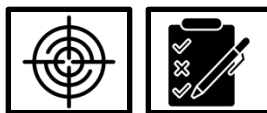Task 2 – Look at your keywords ready for a **spelling test** next lesson.

12. Creating a Hyperlinked Kiosk

Keywords

Hyperlinks	Navigation
Interactivity	Button

4. Creating a social media video

Keywords

Canva	Storyboard
Animation	Transitions
Video editing	Timeline
Trimming	Splitting
Audio	Captions
Exporting	Video format
Aspect ratio	Text overlay
Background music	

11. Developing a Chatbot with Python

Keywords

Python	Variables
If statements	Input
Print	
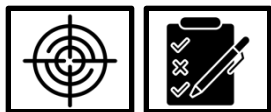
13. Assessment

Please complete the following tasks using your **ePortfolio booklet**.

Task 1 – Ensure any **worksheets** you started in class this week are complete (use the class presentation to support you).

Task 2 – Finish any **retrieval tasks** which are incomplete from the week's lesson. (Use the presentation from the previous lesson).

Task 3 – Complete any **purple pen** improvements you have been advised to do using the purple font. (Use the Google classroom to support you).

What can you do to help you become a computer expert?

Become proficient at touch typing using websites such as:

- 10 fast fingers

Explore physical computing devices:

- BBC MicroBit

Explore programming:

- Scratch using scratch.mit.edu
- Python using replit.com

Science - Biology
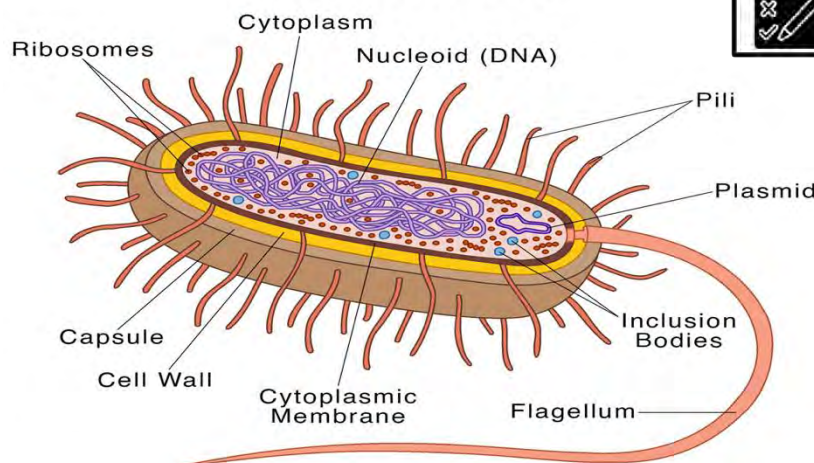
1. Animal and Plant cells

Eukaryote: Cell with membrane bound organelles e.g., Animal/Plant Cell

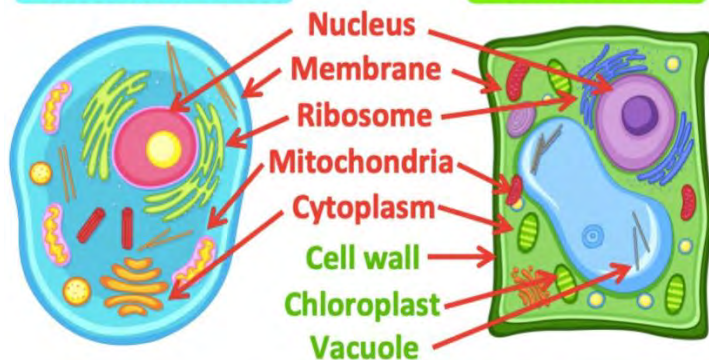**Prokaryote:** Cell without membrane bound organelles e.g., Bacterial Cell

Magnification: How much bigger or smaller an image is to the original object

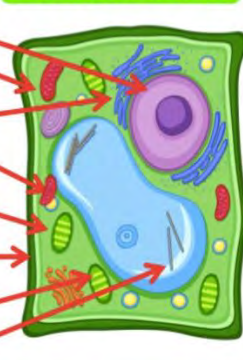**Resolution:** Minimum distance between two pixels on an image

Bacteria Cell

- Ribosomes
- Cytoplasm
- Nucleoid (DNA)
- Pili
- Plasmid
- Inclusion Bodies
- Capsule
- Cell Wall
- Cytoplasmic Membrane
- Flagellum

Animal cell / Plant cell

- Nucleus
- Membrane
- Ribosome
- Mitochondria
- Cytoplasm
- Cell wall
- Chloroplast
- Vacuole

2. Cell Specialisations

What is a specialised cell?	A cell that has a structural adaptation to perform a particular function
What are 3 examples of specialised cells in animals?	Sperm cells, nerve cells & muscle cells
What are 3 examples of specialised cells in plants?	Root hair cells, xylem and phloem cell
Why do cells differentiate?	To become specialised for a particular job
When does cell differentiation occur in animals?	In the uterus, while developing
How is a sperm cell specialised to carry out its function?	Long tail and streamlined head to swim; lots of mitochondria to provide it with energy

3. Mitosis and Stem Cells

What is a stem cell?	An undifferentiated cell capable of giving rise to more cells of the same type
What steps are involved in the cell cycle?	**STEP 1**: Cell increases the number of organelles, except nucleus **STEP 2**: The DNA is copied **STEP 3**: MITOSIS – Dual Chromosomes are split and pulled to opposite ends of the nucleus. **STEP 4**: The Nucleus, Cytoplasm and Cell membranes divide to form two identical cells
What human embryo stem cells be turned into?	Any kind of cell because they haven't become specialised yet

4&5. Transport

Diffusion: Movement of particles down a concentration gradient

Osmosis: Movement of water down a concentration gradient across a semi-permeable membrane

Active Transport: Movement of particles up a concentration gradient using energy.

|	
What factors affect the rate of diffusion?	Temperature, concentration gradient, the surface area of the membrane
What are the features of a good exchange surface?	Large surface area; Good blood supply to maintain a big concentration gradient; Thin, to provide a short diffusion path;
Where and how does active transport take place in plants?	Root hairs; mineral ions are absorbed into the root hair cells from very dilute solutions in the soil

6. Earth's Atmosphere

Argon, <1%
CO$_2$, 0.04%
Other gases, <1%
Oxygen, 21%
Nitrogen, 78%
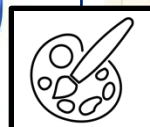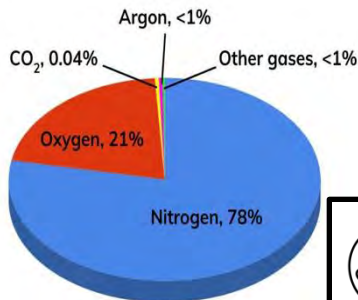
4.5 billion years ago. Earth formed. Very hot. Mainly carbon dioxide, no liquid water.

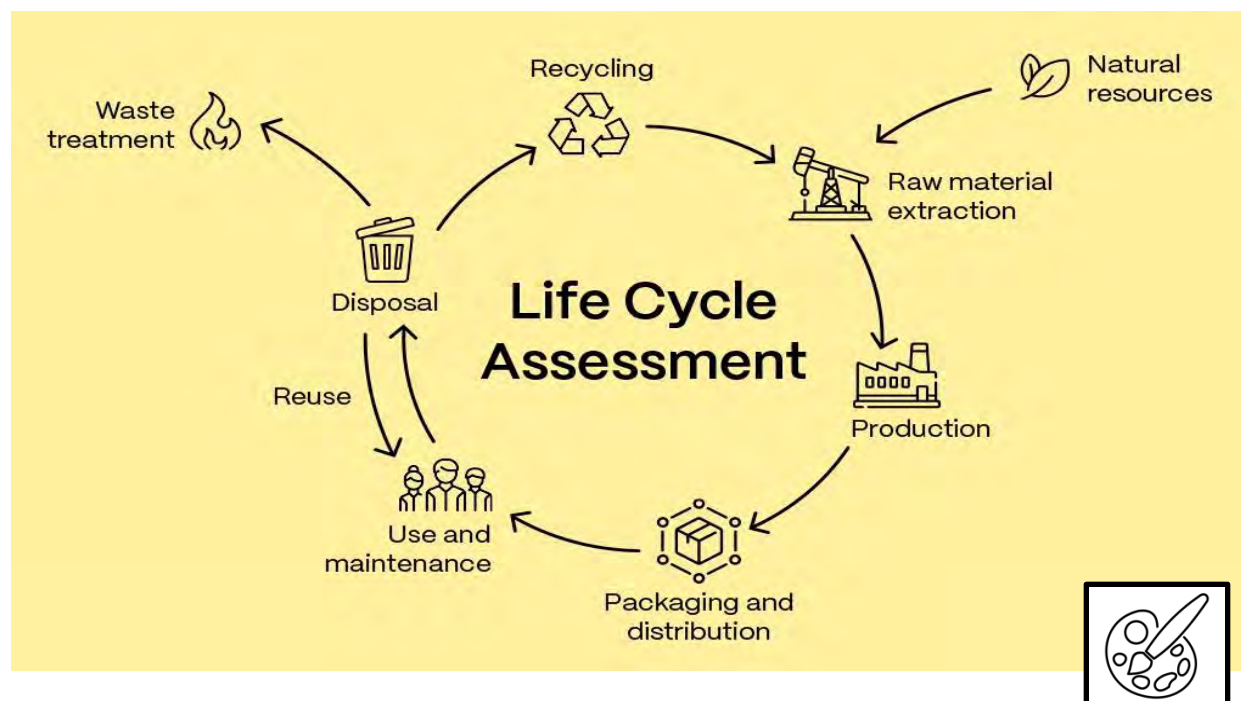2.7 billion years ago, first photosynthesising bacteria release oxygen

Current atmosphere.

Earth starts to cool, water vapour condenses. Comets bring ice, oceans fill.

300 million years ago, oxygen levels reach 35%

Carbon dioxide: 1960 = 0.03% 2023 = 0.04% and rising

7. Life Cycle Assessments

Recycling
Natural resources
Waste treatment
Raw material extraction
Disposal
Life Cycle Assessment
Reuse
Production
Use and maintenance
Packaging and distribution

8. Gas Tests

Test for hydrogen gas

POP!

Test for carbon dioxide gas

Gas

Limewater

Limewater turns milky/cloudy
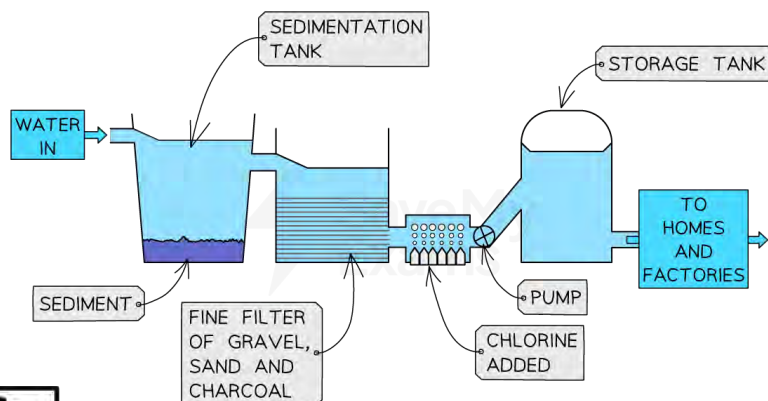
Test for oxygen gas

Oxygen

Oxygen will make a glowing splint burst into flame

9. Potable Water

Potable water is not the same as **pure water**. Potable water is drinkable water.

Pure water is water with no other substances mixed or dissolved with it.

WATER IN

SEDIMENTATION TANK

SEDIMENT

FINE FILTER OF GRAVEL, SAND AND CHARCOAL

CHLORINE ADDED

PUMP

STORAGE TANK

TO HOMES AND FACTORIES

10. Density

The density of an object can be found by dividing its mass by its volume.

For regular objects, the volume can be calculated by measuring and multiplying the length, width and height.

For irregular objects, we can either use a measuring cylinder with water or a eureka can. The volume of water displaced by the object is equal to the volume of the object.

$$\text{Density} = \frac{\text{Mass}}{\text{Volume}}$$

Measuring Cylinder

Irregular Solid

Eye

Eye

39.21g

Electronic Balance

Science – Physics
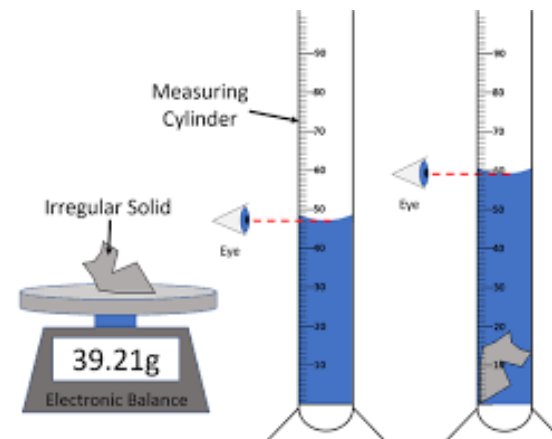
11. Changes of State & Internal Energy
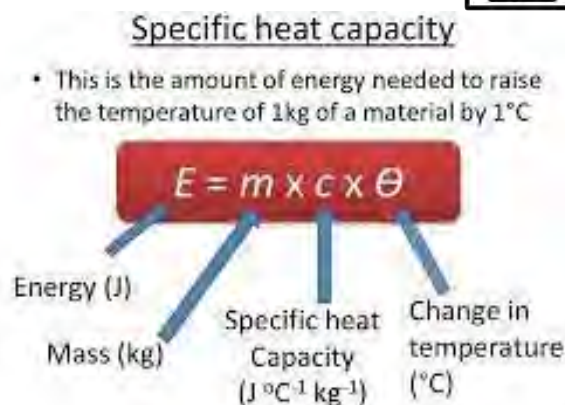
How do particles behave in solid?	Vibrate in fixed place
How do particles behave in liquid?	Particles can move around each other but are still touching
Why is changing state a physical change?	Because no new substance is formed.
What is the difference between temperature and heat?	Temperature = how hot or cold, Heat = how much energy stored by particles
How is energy stored in substances?	As kinetic energy of the particles
Which changes of state absorb thermal energy?	Melting and Boiling
Which changes of state emit thermal energy?	Condensing and Freezing

12&13. Specific Heat Capacity

The **specific heat capacity (SHC)** of an object is the amount of energy required to raise the temperature of one kilogram of the substance by 1 degree Celsius.

What is the unit for SHC?	J/kg°C
Why is it important to insulate the container during practical?	To prevent energy loss to the surroundings which will affect the accuracy of results
What units for mass must be used when calculating SHC?	Kilograms
What equipment can be used if joulemeter not available?	Ammeter and Voltmeter because P=IV

Specific heat capacity

- This is the amount of energy needed to raise the temperature of 1kg of a material by 1°C

$$E = m \times c \times \theta$$

Energy (J)
Mass (kg)
Specific heat Capacity (J °C⁻¹ kg⁻¹)
Change in temperature (°C)

14. Particle Motion in Gases

Particles in gases have enough energy to overcome the forces of attraction between them, this means that they move quickly and freely. **Particles travel in straight lines, only changing direction when they collide with other particles.**

What name describes the random movement of particles?	Brownian Motion
What is 0°C in Kelvin?	273K
Why does heating a gas in a fixed container increase the pressure?	Particles have more kinetic energy, move quicker, exert more force when they hit the walls
What three things can affect gas pressure?	Temperature, Number of particles, volume of container.
Convert room temperature (25°C) into Kelvin	25 + 273 = 298K

1. The Principles of training

Acronym – SPORT

• Specificity - Making training relevant to demands of the sport, muscles used, needs of the person.
• Progressive - Gradually increasing intensity of training over time.
• Overload - Working harder than normal to push the body.
• Reversibility - Negative effects when you stop training. Going backwards in training.
• Tedium - Boredom.

2. The Principles of training

Acronym – FITT

• Frequency - How often you train.

• Intensity - How hard you train.

• Time - How long you train for.

• Type - What method of training you use.

FREQUENCY   INTENSITY

TIME   TYPE

3. The components of fitness

Strength - The maximum force that can be created in a group of muscles.

Coordination - The ability to use 2 or more body parts together smoothly and efficiently.

Reaction time - The time taken to initiate a response to a stimulus.

Flexibility - The range of movement possible at a joint.

Speed- The maximum rate at which an individual is able to perform a movement or cover a distance in a period of time.

Agility - The ability to move and change direction quickly whilst maintaining control.

4. The components of fitness

Muscular Endurance - The ability of a muscle group to undergo repeated contractions avoiding fatigue.

Cardiovascular Endurance - The ability of the heart and lungs to supply oxygen to the working muscles.

Balance - Maintaining the centre of mass over the base of support.

Power - Maintaining the centre of mass over the base of support

Challenge!
How do components of fitness help sports performance?

PE

PE

5. Technology in Sport

Technology has significantly transformed the world of sports, enhancing performance, training, analysis, and fan engagement

Instant Replay and VAR: Instant replay technology in sports like football (soccer) and tennis allows referees to review critical decisions, reducing human error. Video Assistant Referee (VAR) systems have been introduced in many football leagues to aid officials in making accurate calls.

Virtual Reality (VR) and Augmented Reality (AR): Athletes use VR and AR for training simulations and visualizing plays. Fans can also experience events through VR, bringing them closer to the action.

Biomechanics and Injury Prevention: High-speed cameras and motion capture systems analyse athletes' movements, helping to refine techniques and prevent injuries through better understanding of biomechanics.

6. Technology in sport

Data Analytics: Teams are increasingly using big data analytics to optimize performance and strategy. This includes analysing historical data, player statistics, and game trends to gain a competitive edge.

Fan Engagement: Social media platforms, mobile apps, and virtual reality experiences enable fans to interact with sports like never before. Live streaming and fantasy sports platforms also contribute to enhanced fan engagement.

Smart Stadiums: Stadiums are incorporating technology to improve the fan experience with features like high-speed Wi-Fi, mobile ticketing, interactive displays, and in-seat food ordering.

Anti-Doping Technology: With the advancement of technology, anti-doping efforts have become more sophisticated, enabling more accurate and efficient testing for performance-enhancing substances.

7. Performance analysis

Performance Tracking: Athletes now use wearable devices like GPS trackers, accelerometers, and heart rate monitors to gather data on speed, distance covered, heart rate zones, and more. This data helps optimize training and prevent injuries.

Video Analysis: Coaches and athletes use advanced video analysis software to break down performances frame by frame, identifying areas for improvement in technique and strategy.

Sports Equipment: Innovations in materials and design have led to lighter, stronger, and more aerodynamic equipment, such as carbon fibre bicycles, high-tech running shoes, and advanced golf clubs.

8. The Heart

MAXIMUM HEART RATE = 220 MINUS YOUR AGE

E.g. 220-11=209
60-80% = Aerobic

E.g. 125-167 bpm
80+% = Anaerobic

E.g. 167 bpm and over

9. Types of practice

Fixed Practice: This is a repetitive practice, practicing a skill the same way every time

Varied Practice: This is when you change the practice. You repeat the skill but in various situations

Whole Practice: Performing the entire skill

Part Practice: The skill is broken down into its component parts and just one part is practiced.

PE

10. Health

Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.

1.Cardiovascular Fitness: PE often includes activities like running, jumping, or dancing, which improve cardiovascular health by strengthening the heart and lungs.
2.Muscle Strength and Endurance: Regular PE activities help develop muscle strength and endurance, promoting overall physical strength and stamina.
3.Flexibility: PE typically involves stretching exercises that enhance flexibility, reducing the risk of injuries and improving overall mobility.
4.Weight Management: Engaging in physical activity helps burn calories and maintain a healthy weight, reducing the risk of obesity and related health issues.

13. Motivation

Intrinsic:
Motivation that comes from internal factors, such as the feeling as person gets.
Examples include: enjoyment, challenge, teamwork, pride and accomplishment.
Extrinsic:
Motivation that comes from external rewards
Examples include: prizes, trophies, medals, money, recognition and praise
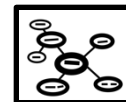
14. Goal setting

A goal is what a sports performer is trying to achieve.
SMARTER goals can ensure effective goals are effective.

Specific – the goal must be specific to what an athlete wants to achieve.
Measurable – be able to be measured to see whether progress is being made.
Achievable – there is access to the faciliites needed to achieve the goal.
Realistic – it must be possible to reach the goal.
Time – there must be a set goal or timescale for completion.
Exciting – Should be something that the person wants to achieve.
Recorded – the results should be written down so they can see how they are doing.

11. Mental health

Mental Health benefits:
Helps reduce levels of stress
• Can result in the release ofserotonin (feel-good hormone)
• Able to control emotions

Social benefits:
• Opportunities to socialise/make friends
• Cooperation
• Teamwork
• Have essential human needs

Challenge!
Research how exercise benefits mental health.

12. Types of Skill

Simple
Requires little coordination
Uses fewer body parts
Requires minimal thinking
Players make minimal decisions

Complex
Requires lots of coordination
Uses several body parts together
Many decisions to be made
Generally specific to a sport

Closed
Skills performed in an environment that stays the same, it is predictable environment
Environment has little impact on the skill
Player has high levels of control

Open
Performance of these skills is adapted because of the environment
Player has less control
Influenced by weather, opponents time restraints and space available

RPE

1. What is Evil?

This is a philosophical question where everyone will have different answers, this term you will consider your own ideas about what is evil? and why evil exists?

2. Evil and Suffering

Moral Evil:
Moral Evil is caused by human action or inaction i.e. murder, rape, theft, neglect etc.

Natural Evil:
Natural evil refers to natural disasters i.e. famines, floods, earthquakes, volcanoes etc

Evil:
An act that is profoundly immoral and wicked.

Suffering:
The state of pain, distress, fear or hardship.

3: The problem of Evil

God is believed to be omnibenevolent (all loving) omnipotent (all powerful) and omniscient (all knowing). Because of this, evil should not really exist. But it does. There are, therefore, a number of possibilities: God is not powerful enough to stop evil. God does not know that evil is happening. God does not love us enough to want to stop the evil. None of these are very satisfactory conclusions.

Christians believe that free will is given by God to human beings. Humans therefore have the ability to choose to do good and the ability to choose to do evil. Catholics believe that as a result of original sin, humans find it easier to choose to do wrong, but with the help of God can choose to do good. Those who do sin can attempt to atone and gain forgiveness through prayer and, for Catholics, confession and penance.

4. Christian beliefs about Evil and Suffering.

THINK: How can God be all loving and all powerful when there is evil and suffering in the world?

The Inconsistent Triad:

Christians believe that God gifted Humans freewill and therefore, God cannot interfere with human actions. However, this answer does not explain why God always Natural Evil.

Atheists believe that evil and suffering proves that God does not exist. If God exists and God is all loving and all powerful, why does evil exist?

5. Key quotes

- Evil and suffering are real . . . They aren't an illusion, nor are they simply an absence of good," according to Billy Graham.
- "The greatest evil is physical pain," according to Saint Augustine.
- "Non-cooperation with evil is as much a duty as is cooperation with good," according to Mahatma Gandhi.
- "Evil is whatever distracts," according to Franz Kafka.

6. Forgiving Evil

Forgiveness by Eva Kor:
"Forgiveness is a way of healing oneself from pain, trauma, and/or tragedy.

It is a means of self-liberation and self-empowerment. Forgiving is not forgetting"

7. Key words

Good : Something that is considered morally good or right. Forgiveness: To grant pardon for a wrongdoing.
Free Will: The God-given ability to choose for ourselves.
Justice: Fairness, when everyone has equal provisions. Morality: Standards which determine whether something is good or bad.
Punishment: A penalty given for a wrongdoing.
Sin : A deliberate immoral action; going against religious rules.

8. Cosmological argument

Aquinas argues that everything that exists must have a cause except God who is the 'uncaused cause'. How can the First Cause be unique and be exempt from needing a prior cause? One of the key objections to what is also referred to as the cosmological argument is that there is no evidence for an 'uncaused caused' or God.
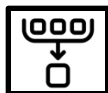
9. Teleological argument

The teleological argument, also known as the argument from design, suggests that the intricate order, complexity, and purpose observed in the natural world are evidence of an intelligent designer, often identified as God. It's an a posteriori argument, meaning it relies on empirical evidence from the world around us, rather than purely logical reasoning.

Challenge Q
Justify which argument is strongest in proving God's existence?

10. Sanctity of life

The sanctity of life is a principle asserting that all human life is inherently valuable and sacred, regardless of its stage of development or quality. It is often associated with religious beliefs, particularly in Christianity and Islam, where life is seen as a gift from God and therefore worthy of respect and protection.

11. Problems with God's existence

The Holocaust resulted in the death of 6 million Jews. Many people would ask, how can you still believe in God when God allowed 6 million of his followers to die?

12. Quality of life

The sanctity of life argument is a principle that asserts human life is inherently valuable and should be protected, often based on religious or ethical beliefs. It suggests that life, particularly human life, is sacred, holy, or of intrinsic worth, and therefore should not be violated or taken. This principle is often invoked in debates about abortion, euthanasia, and other issues where the termination of life is considered.

13. Design argument

This is an argument to prove the existence of God through nature. William Paley (1743-1805) compared the design of the universe to finding a watch. He argued that if you were walking on a moor (grassland area) and found a watch lying on the grass and saw how complicated it was you would have to assume someone made it. By looking at the watch you would see that all the coils, springs and movements all work together so that the watch is able to keep time.

14. Ontological argument

The ontological argument is a philosophical argument for the existence of God that relies on reason and logic, rather than empirical evidence. It attempts to prove God's existence by analysing the concept of God itself. Essentially, it argues that a perfect being, by definition, must possess the attribute of existence, and therefore God exist.

1.Memphis Design Movement

The Memphis Group was founded in Milan in 1981 by Ettore Sottsass, an Italian architect and designer. The group included young designers and architects who wanted to break away from the rigid rules of modernism. Their work was bold, colorful, and often humorous.

Key Features:
1. Bright, clashing colors
2. Geometric shapes (circles, triangles, zigzags)
3. Abstract squiggles and patterns
4. Use of plastic laminate and unconventional materials

Design Task:
Design a lamp panel using Memphis-style patterns.
Idea: Create a panel with zigzag lines, polka dots, and bold color blocks that reflect a fun, retro 1980s vibe.

2. Bauhaus Movement

The Bauhaus was a revolutionary design school founded in 1919 by Walter Gropius in Weimar, Germany. It aimed to unify art, craft, and technology. The Bauhaus believed that good design should be accessible to everyone and that form should follow function.

Key Principles:
- Functional, minimalist design
- Use of basic geometric shapes
- Integration of art and industry
- Emphasis on craftsmanship and mass production

Design Task:
Design a lamp that is simple, functional, and elegant.
Idea: Create a panel with overlapping circles and rectangles in red, blue, and yellow, arranged in a balanced composition.
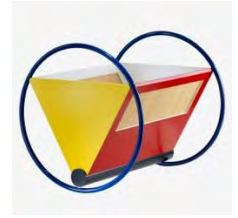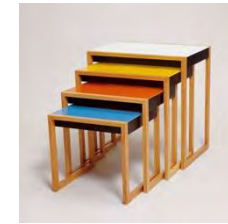
3. Piet Mondrian & De Stijl

Piet Mondrian was a Dutch painter and a founding member of the De Stijl movement, which began in 1917. De Stijl (meaning "The Style") focused on pure abstraction and universality by reducing designs to the essentials of form and colour.
Key Concepts: Use of horizontal and vertical lines, Primary colours (red, blue, yellow), Black, white, and grey background with no curves or diagonals

Design Task:
Create a lamp panel inspired by Mondrian's grid system.
Idea: Use black lines to divide the panel into rectangles and fill some with primary colors, leaving others white.
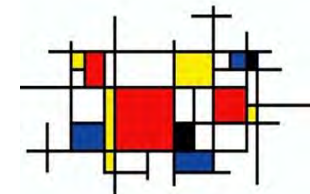
4.Laser Cutting Basics

Laser cutting is a digital manufacturing process that uses a high-powered laser beam to cut or engrave materials. It is controlled by a computer using a vector file (usually created in software like TS Design or TinkerCAD).

How It Works:

The laser follows paths defined in your digital design.
Red lines are typically used for cutting all the way through.
Blue or black lines are used for engraving or etching the surface.
The laser vaporizes the material, leaving a clean, precise edge.

Materials Commonly Used:
Wood (e.g., plywood, MDF)
Acrylic
Cardboard
Paper
Safety Considerations:
Always wear safety goggles if required.
Never leave the machine unattended.
Ensure proper ventilation.

Design Task:
Create a vector design ready for laser cutting.

Idea 1:: Design a panel with stars and moons cut out, and clouds engraved to create a night sky theme.

Ideas 2: design a panel inspired by your school House either – Cedar, Maple, Oak or Willow.

5. Laser Cutters: Health & Safety and Material Guidelines

Laser cutters are powerful tools used to cut and engrave materials with high precision. While they are incredibly useful in design and technology projects, they must be used with strict safety precautions to protect users and equipment.

🔧 How Laser Cutters Work
A laser cutter uses a high-powered laser beam to cut or engrave materials. The laser cutter we use in school is powered by CO_2.

The laser follows a vector path (lines and shapes) from a digital design file that has been created on a computer.

If you have images than are made of pixels (small dots) then you must vectorize these so that the laser cutter can see them.

It can cut through or etch materials like wood, acrylic, and card with extreme accuracy.

⚠ Health & Safety Rules
Never leave the laser cutter unattended while it is operating.
Always use the extractor fan to remove fumes and smoke.
Make sure that your setting are correct for the materials that you are using.

Keep flammable materials away from the machine.
Check your material before cutting—some materials release toxic fumes or can catch fire.

6.Laser Cutting software

Laser Cutting with CAD Software: TechSoft Design (2D Design / TS Design)
TechSoft Design is one of the most common programs used in schools for laser cutting. It lets you create precise 2D drawings using lines, shapes, and curves.
❑ Best for flat designs like keyrings or signs.
❑ It works well with most school laser cutters because you can use colour-coded lines (like red and blue) to tell the machine what to do.
❑ Used mostly for cutting and engraving sheet materials like acrylic or plywood.

3D CAD for Laser Cutting: Tinkercad & SketchUp
While Tinkercad and SketchUp are mostly used for 3D modelling, they can be used with laser cutters by creating flat shapes (2D faces) to export as .SVG or .DXF files.
❑ Tinkercad is great for beginners – drag-and-drop design, and easy to convert 3D parts into 2D for cutting.
❑ SketchUp is good for more complex buildings or product models – but you'll need to flatten your design to export for the laser cutter.
❑ These tools help you visualise in 3D, but your designs must be flattened into 2D shapes for cutting.

5. Laser Cutters: Understanding Line Colours

In Laser Cutting In most laser cutting software , different coloured lines are used to tell the laser what action to take. It's important that your file uses the correct colours and line settings.

🔴 Red Line – CUT
❑ The laser will cut all the way through the material.
❑ Used to create shapes, outlines, and components.
❑ Common for cutting acrylic, plywood, card, etc.
❑ Example: Cutting out a keyring shape.

🔵 Blue Line – SCORE / VECTOR ENGRAVE
❑ The laser will follow the path of the line but only etch the surface of the material.
❑ Used to mark logos, outlines, or light decoration.
❑ Less deep than a full cut but still visible.
❑ Example: Lightly engraving borders or scoring folding lines in card.

⚫ Black Fill / Line – RASTER ENGRAVE
❑ Used for engraving solid areas or shading.
❑ The laser moves back and forth like a printer, burning away the surface layer.
❑ Works with text, logos, photos, or detailed designs.
❑ Example: Engraving a school badge or name onto a panel.

8 .Laser Cutting Pros and Cons

Traditional Tools vs Laser Cutting
Traditional tools (like saws, drills, and scissors) are **manual**, often slower, and depend on your **hand skill**.
A **laser cutter** uses computer control to cut or engrave materials **quickly and precisely**. The laser can make **very fine, complex cuts** that would be difficult or impossible by hand – especially useful for **intricate shapes or repeat designs**.
Laser cutting is ideal for **mass production** or designs that need to be **exactly the same every time**.

1. Keywords spelling/definition test.

Festival	a festival is a gathering of people who are attending a music and arts or other themed festival that usually involves camping.
counterfeit	When something is reproduced and sold without permission
Product analysis	Looking at existing products to establish their strengths and weaknesses.
Net	A flattened piece of packaging that shows the cut lines, fold line and tabs.
Pop up mailer	a self-assembly product that pops up when opened such as a pop-up moneybox.
Site map	a clear map showing all the necessary sites that you would need at your festival.

2. The History of Festivals

The music festival emerged in England in the 18th century as an extension of urban concert life into a form of seasonal cultural festivity structured around a schedule of music performances or concerts

Music festivals have developed as an emerging industry which contributes to many national economies. For example, Coachella Valley Music and Arts Festival earned $114.6 million in 2017.[7] Music festivals nowadays also can serve as a way of building a brand for a destination, creating a unique image for it and attracting visitors. The Uks most well-known festival is Glastonbury Festival.

Most festivals provide the following promotional products to guests
- A ticket – most now have a way of making them counterfeit proof
- A map – especially if camping is involved or multiple stages
- A poster displaying the acts that will perform.
- badges, stickers, wrist bands etc.

Glastonbury Festival has been around since 1970, over the years they have redeveloped their logos multiple times to match the genre, feel and style of the festival.
Logos are an essential part of any brand, the colours are normally minimal but Glastonbury has defied this and created many colourful logos over the years. Most of the logos incorporate the font as well and normally feature a symbol from the Glastonbury area or the festival.

3. Facts about Glastonbury and the Lego
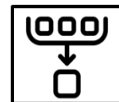
4. Fold lines and cut lines

Fold Line:

Definition: A fold line is a pre-marked line on a sheet of paper, cardstock, or other materials that indicates where the material should be bent or folded to create a specific shape or structure.
Appearance: A fold line is usually a straight or dashed line printed or scored onto the material. It serves as a visual guide to ensure accurate folding at the desired location.

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

Cut Line:

Definition: A cut line is a marked or printed line on a material that indicates where it should be cut or trimmed to shape or size as part of a project or design.
Appearance: A cut line is typically a solid line or a series of dashes and dots that outline the desired shape or cutout on the material. It serves as a guide for precise cutting.

_____   Cut lines are seen as solid lines
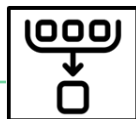
5. Facts about Fonts

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. Display fonts are decorative and tend to be the focal point of a designed piece of work. The font that is used to write the paragraphs are called **body** fonts.

Font Types

Serif.
Traditional, have feet.

Sans Serif.
Modern, feet free.

Script.
Cursive, a bit more decorative.

DISPLAY
Decorative, good as a design focal point.

An easy way to remember the difference between **display** and **body** fonts are to remember that when something is on **display**, it shows off and the **body** font is the bulky part.

The most recognizable fonts used today on computers are

Arial
Times New
Roman
Stylus

Tahoma
Helvetica
ONYX
Ravie

Gothic
Courier
Script

Nyala
broadway
CASTELLAR

6. Types or merchandise

- **Key-Rings:**
  Description: Key-rings are small, decorative items for holding keys. They have festival designs.
  Materials: They can be made from metal, plastic, or fabric.
- **T-Shirts:**
  Description: Festival T-shirts are comfy shirts with festival designs.
  Materials: They're usually made of cotton or a cotton blend.
- **Hats:**
  Description: Festival hats come in different styles with festival logos.
  Materials: They're made from materials like cotton, wool, or polyester.
- **Mugs:**
  Description: Festival mugs are collectible cups with festival artwork.
  Materials: They're made of ceramic, porcelain, or stainless steel.
- **Maps:**
  Description: Festival maps show where everything is at the festival.
  Materials: They're often on paper or digital in apps.
- **Badges:**
  Description: Badges are small wearable items with festival logos.
  Materials: They're made of metal, plastic, or fabric.
- **Stickers:**
  Description: Stickers are adhesive labels with festival designs.
  Materials: They're made from paper, vinyl, or plastic.

7. Counterfeiting Tickets

Festival tickets like all event tickets can easily be copied by criminals and sold as fake ticket to unsuspecting people.

To stop this happening, there are several things that can be done. Festivals like Glastonbury require you to send in a photo which is then added to your ticket, even bank notes have a metal strip and a hologram.

Barcodes and QR codes are a simple way to protect the reproduction of tickets.
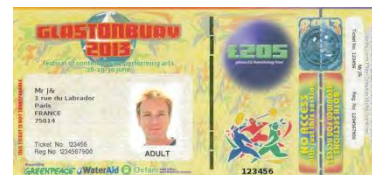
8. Types or merchandise

A music festival map is a picture of the festival site showing important places. It uses symbols and labels to help you find things like stages, food, restrooms, first aid, and more. These maps are like guides to the festival, so you know where everything is.

Typical places that should be identified on a map are –
Stages, food and drink, restrooms, first aid, camping area, exit and entrance, lost and found, ATMS etc.

A key on a map is like a special code or symbol that tells you what different things are and where they are located. It's used so that you can understand the map without needing to write out long descriptions for each place. Instead, you can just look at the key and know what each symbol or label means.

1. Classification of timber

Trees can be classified into two groups.

Coniferous is the technical name for the group commonly known as soft woods are evergreen.

Deciduous is the technical name for the group commonly known as hard woods shed their leaves for winter.

The names soft wood and hard wood does NOT relate to how hard the wood from that tree is.

Physical features like type: of leaf or seed type can help identify which group a tree belongs to.

Balsa wood is very soft and can be crushed with your hands but comes from the deciduous group of trees (Hard wood)
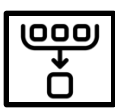
2. Structure of timber

Wood grain refers to the arrangement of a wood's fibres resulting from the growth of a tree.

When the tree is cut, these visual pattern of relatively darker and lighter wood, commonly known as the grain

End grain is the narrow, porous top and bottom edge of the board. The rings of the trees' growth are sometimes visible in stack, parallel, curved lines.

Knots are visible imperfections in wood. They are typically circular and darker than the surrounding wood area and when the knot separates from the surrounding wood a knothole form.

3. Conversion of timber

After felling the tree trunk needs to be converted into useable sizes. The two common methods are; radial and plain methods.
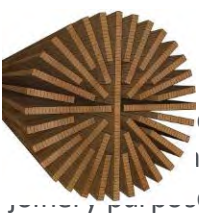
Plain method.
Faster to produce.
More affordable.
Readily available.

there are certain drawbacks to plain sawn lumber. As the wood dries and ages, the tension of the end grain can make plain sawn planks cup, twist and sometimes bow.

Quarter sawn.

Most expensive method of conversion because it ...es   the best ...nd is   ideal for ... purposes.

Timber is a valued natural resource that serves directly as a material for use in construction, paper manufacturing, specialty wood products such as furniture, and as a fuel source

4. Wood finishes

Finishing is the final step of the manufacturing process that gives wood surfaces desirable characteristics.

Finishing provides a way of giving low-value woods the appearance of ones that are expensive and difficult to obtain.

Usually, there are two primary types of wood finish: penetrating and surface finish. Each type has a unique appearance and protection, making it necessary to choose the right type of finish.

Penetrating wood finishes offer a more natural look as they enter deep into the surface of the wood. You may have to use a rag to add a protective layer of wood oils to ensure better sheen and surface penetration. You can apply them easily.

Surface finishes are applied on the top of the wood to create a protective layer. This type of wood finish makes an excellent choice for furniture and materials exposed to a lot of wear and tear.
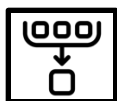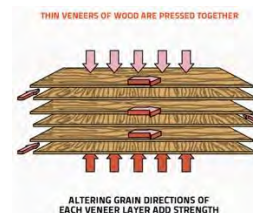
5. Plywood

Plywood:
is made up of thin layers of wood called veneers.

Usually has an odd number of layers so that the grain on each face runs in the same direction.

THIN VENEERS OF WOOD ARE PRESSED TOGETHER
ALTERING GRAIN DIRECTIONS OF EACH VENEER LAYER ADD STRENGTH

Advantages of Plywood
•Incredibly flexible.
•Split edges due to nails are reduced.
•Material strength is increased.
•Minimal expansion and shrinkage.
•Low risk of warping.
•Plywood furniture is lighter to transport than solid wood pieces.
•Plywood is economical to use.

Disadvantages of Plywood
•Risk of long-term insect or water damage, although this can be minimised with a treatment to the veneers.
•Sculpting to surfaces is not always easy.
•Not as durable as wood.
•If not painted well, the surface of plywood can peel off.

6. MDF

Medium-density fibreboard is an engineered wood product made by breaking down hardwood or softwood residuals into wood fibre, often in a defibrator, combining it with wax and a resin binder, and forming it into panels by applying high temperature and pressure. MDF is generally denser than plywood.

What are the advantages of MDF?

- MDF is hard to both flex or crack.
- MDF is more affordable and easier to supply
- MDF is easier to paint and seal
- MDF is BEST for cabinetry.

What are the disadvantages of MDF?

- Engineered wood is easy to damage
- MDF is heavier
- MDF is vulnerable to extreme heat
- MDF can't support too much weight.

Conclusion: Is solid wood better or MDF?

You decide.

7. Tenon saw

A Tennon saw has a relatively short blade with a reinforced back providing stability. It has hard point teeth and creates a fine finish so is ideal for carpentry as it makes a straight, precise cut. Tenon saws are commonly used to make the tenons used in mortise and tenon joints

Hold the saw with your dominant hand, index finger pointing towards the blade for support.

The proper stance is one in which your wrist is aligned with your forearm; when thus aligned, little stress is placed on your joints, and the saw feels like an extension of your arm.
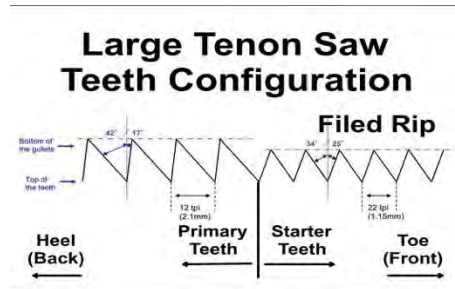
8. Coping saw

A coping saw is used to cut fine, intricate cut-outs or shapes in carpentry or woodworking, ideal for delicate applications such as curves or patterns.

You can install the blade to cut either on the push or pull stroke, although for most work students find that a pull cut is easier to control.

Coping saws aren't designed to cut through all materials. Rather, they are intended for use on light, thin materials of 25mm thickness or less. Attempting to cut through materials thicken than this increases the risk of injury, as the blade may slip or break.

Over time, the blade will lose its sharpness, forcing you to push with greater force to cut into materials.

Contrary to popular belief, cutting with a dull blade actually increases the risk of injury. So, if your coping saw has a dull blade, replace it ASAP to avoid injury.


CP308GR
Extra Fine

CP301GR
Fine Skip

CP302GR
Fine 18 tpi

D&T - Textiles

1. Street Art

Street art is a form of visual art created in public spaces. It includes styles like graffiti, stencils, and murals, and is used to express social, political, or personal messages. Street art became popular in the 1970s, particularly in New York, before spreading globally.

Famous artists like **Banksy** (left image), known for his thought-provoking stencils, and **Jean-Michel Basquiat** (right image), who started with graffiti before moving to painting, have helped shape the movement.

Street art often challenges traditional art boundaries and has become a major part of modern culture.
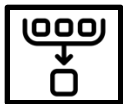
2. Key Words and Definitions

Design Brief: A clear statement that outlines the goals, purpose and requirements for a design project.

Design Specification: A list of detailed requirements a design must meet, including materials, size and features.

Sustainability: Using resources wisely so that they last for the future and do not harm the environment.

Urban: Refers to areas that are related to cities or towns, typically with lots of buildings, people and busy areas.

Contemporary: Something that is modern or happening right now.

Tagging: A form of graffiti where an artist writes their name or symbol in a stylized way, usually on public surfaces.

3. Six R's

As designers, we must minimise our environmental impact by considering the 6R's in our designs.

Re-think: Be mindful of what you buy. Ask yourself if you really need something.

Refuse: Don't buy something you don't need. Refuse to buy products that cannot be recycled or reused.

Reduce: Cut down on the amount of products and services you use.

Re-use: Take a product/item and repurpose it for a different item.

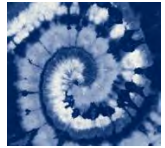**Repair:** Fix, don't replace your products.

Recycle: Recycle what you cannot reduce, re-use or Repair.

4. Textile techniques

Tie-dye is a fabric-dyeing technique where parts of fabric are tied and dyed to create vibrant patterns. It became popular in the 1960s but has links with ancient techniques practiced in Asia, Africa, and the Americas.

Batik involves covering fabric with wax before dyeing to create intricate patterns. It originated in Indonesia and has been used for centuries.

Stencilling involves cutting a design into a material and applying paint or ink over it. It dates back to ancient Egypt and Greece.

Block printing uses a carved block to print designs onto fabric or paper. It began in China around 200 AD and spread worldwide.
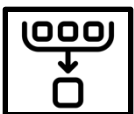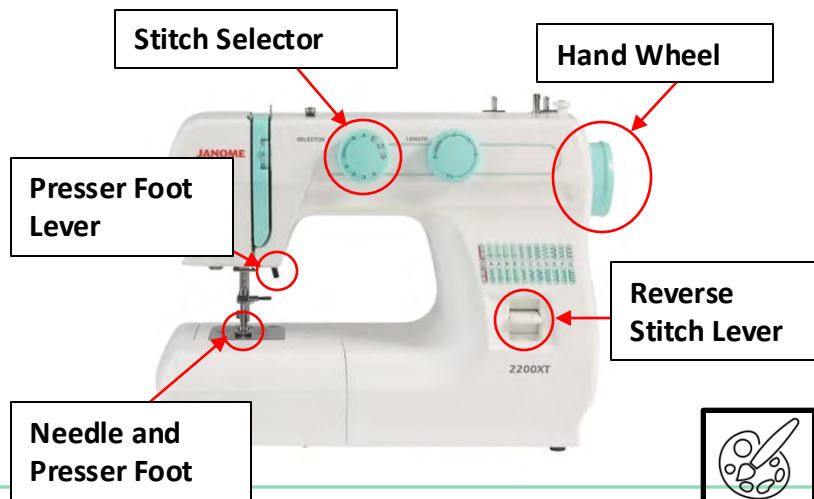
D&T - Textiles

5. Health and safety

Health and Safety in the Textiles Room. Everyone is responsible for health and safety. It's important to follow the rules to protect yourself and others.

Rules to follow:
- Listen carefully to instructions.
- Walk calmly around the room; no shouting.
- Pick up any dropped pins or needles — they can hurt your feet.
- Be cautious of cotton spools and threads, which can cause tripping.
- Only use equipment you've been instructed to operate.
- Keep your work area tidy.
- Store bags under tables and coats on chairs.
- Don't distract others while they are using machines.

7. The Sewing Machine

Stitch Selector

Hand Wheel

Presser Foot Lever

Reverse Stitch Lever

Needle and Presser Foot

6. Sewing Machine Health & Safety Rules

- Only operate a sewing machine once you have been shown how to use it.
- Always ask permission.
- Sensible behaviour at all times.
- One person only to operate it.
- Keep fingers clear of the needle.
- Switch off the sewing machine after use.
- Tie long hair back.
- No drinks, liquids or wet fabric near sewing machine.
- Tell the teacher if something breaks or stops working.
- **Ask for help if needed.**

Follow Health & Safety rules at all times!
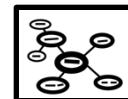
8. Analysis and evaluation of our own work

It is important to get feedback from others as well as analysing our own work. This enables us to identify areas we could improve, as well as areas which are successful.

It is useful to get feedback from at least three people. It is also important for this feedback to be useful and offer ideas on ways to develop an idea further.

By using feedback from others and your own analysis, you can then evaluate your ideas to plan on ways you could improve it further.
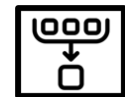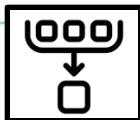
1. Key Words

Eatwell Guide – the guide which helps us eat the right sort of foods in the correct quantities. The size of each segment shows how much of that type of food we should eat each day / week.

Marinade – soaking meat in an acidic sauce to tenderise it and add flavour.

2. Nutritional Information

Each serving (150g) contains

	Fat 3.0g	Saturates 1.3g	Sugars 34g	Salt 0.9g
Energy 1046kJ 250kcal	LOW	LOW	HIGH	MED
13%	4%	7%	38%	15%

of an adult's reference intake
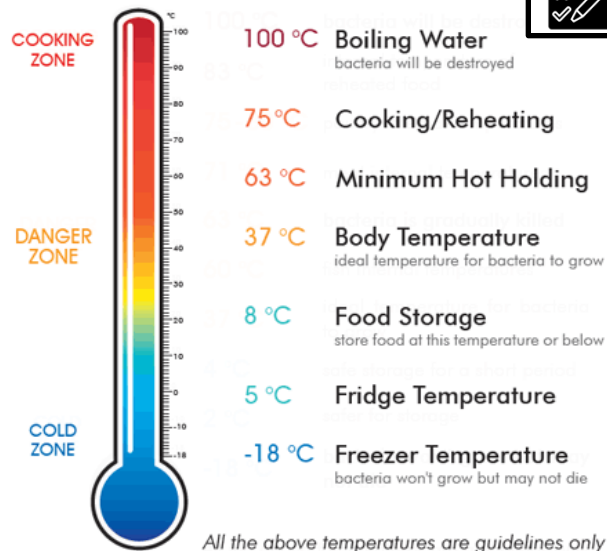Typical values (as sold) per 100g:697kJ/167kcal

The traffic light labelling system will tell you whether a food has high, medium or low amounts of fat, saturated fat, sugars and salt. It will also tell you the number of calories and kilojoules in that particular product.

Use food labels to check calories (kcals).

Reduce: Sugars, Saturated Fat & Salt.

Increase: Fibre.

3. The Danger Zone Temperatures

COOKING ZONE

100 °C   Boiling Water
bacteria will be destroyed

75 °C   Cooking/Reheating

63 °C   Minimum Hot Holding

DANGER ZONE

37 °C   Body Temperature
ideal temperature for bacteria to grow

8 °C   Food Storage
store food at this temperature or below

5 °C   Fridge Temperature

COLD ZONE

-18 °C   Freezer Temperature
bacteria won't grow but may not die

*All the above temperatures are guidelines only*

4. Food Choices

People eat different foods for many reasons, the thought-shower below highlights some of them. It might be personal preference or a religious or cultural reason. They might have an ethical reason to buy food with low Food Miles or have chosen not to eat animal products. They may not have the time or skills to make some foods.
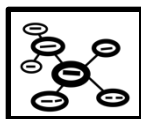

5. Research: Definitions
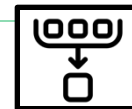
Food Miles – The distance in miles that food travels from where it is grown or raised, through all of its stages of production to where it is eaten. The higher the Food Miles then the further your food has travelled. This means more fossil fuels have been used depleting the Earth's natural resources.

Seasonality – Eating food which is just ripe or 'in season' means it is at its peak nutrition and give you the best health benefits. As soon as its picked or harvested the nutrients reduce over time. A good way to stop this is to immediately freeze the food – a good example of this is peas which can be harvested and frozen ready to sell in less than 3 hours.

Organic - Organic food is farmed avoiding the use of man-made fertilisers, pesticides; growth regulators and livestock feed additives. It means it contains less man-made chemicals which some believe is healthier. However, as less food is made per acre it tends to be more expensive to buy. Typical organic foods are vegetables, fruit and meat.

6. Nutrients
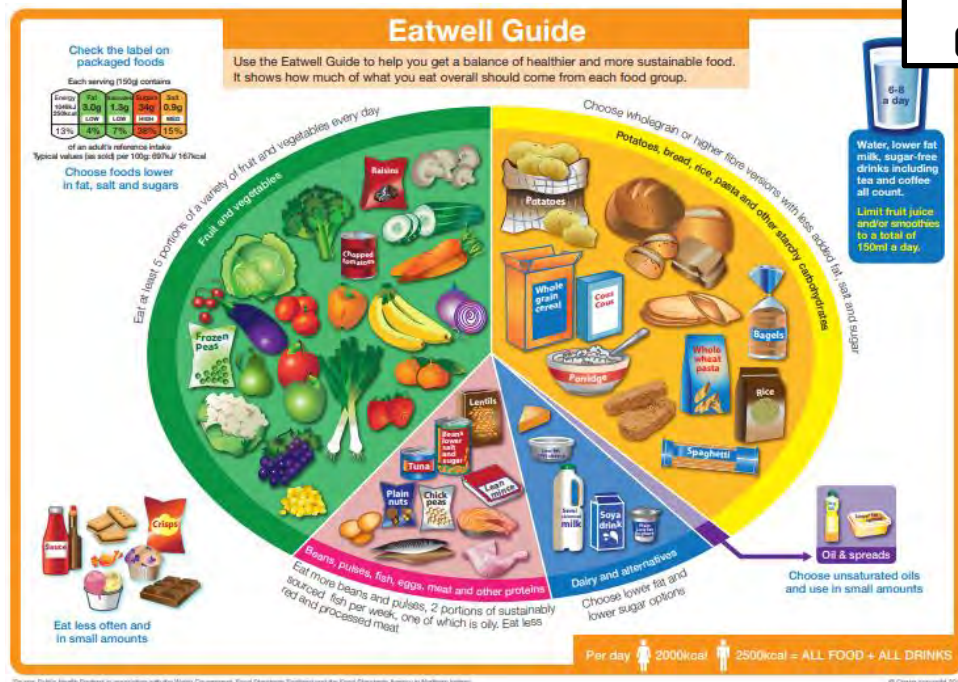
Eatwell Guide

In Year 9 we start discussing nutrients (macronutrients and micronutrients), which foods provide them and why they are important for our health. This table shows the different types of nutrients and which sections of the Eatwell Guide they relate to.

The Eatwell Guide is a simplified way of making sure you eat healthily but has limitations. In GCSE we learn about macronutrients and micronutrients.
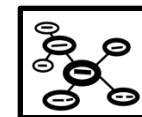
There are 3 MACROnutrients:

- **Carbohydrates** can be split into STARTCH & SUGAR and give us energy.
- **Protein** comes from meat but also other foods and is needed for growth and repair.
- **Fats** provide energy, insulation and vitamins.

There are 2 MICROnutrients:

- Vitamins
- Minerals

7. Research: Diet Through Life

Think about how our dietary needs change from babies, to young children, to adolescents, to pregnant women, to older adults. At each stage of life our nutritional needs are slightly different.

Babies: They are growing rapidly and need their food in a form that can be easily digested.

Young children: At this stage in life energy demands are high, due to rapid growth and high levels of physical activity.

Adolescents: Like children, adolescents are growing rapidly. This is commonly referred to as the **growth spurt**. This rapid development means that adolescents have complex dietary needs. Protein is needed to build new cells. Iron is important for girls who menstruate. Fibre is needed to keep the gut heathy. The quantity of carbohydrate depends on how physically active they are.

Pregnant women: During pregnancy the body's requirement for nutritious food becomes much higher as the foetus grows and develops, and also as the mother's body changes over a nine-month period. Vitamin C helps to maintain a strong immune system. Folate is one of the most important vitamins during pregnancy. It is required for the normal growth and development of the foetus. It is also required to prevent neural tube defects.

Older adults: Energy requirements decrease in older adults. However, the rest of their requirements remain much the same as they did during adulthood.

Baby   Young child   Adolescent   Pregnant woman   Older adult
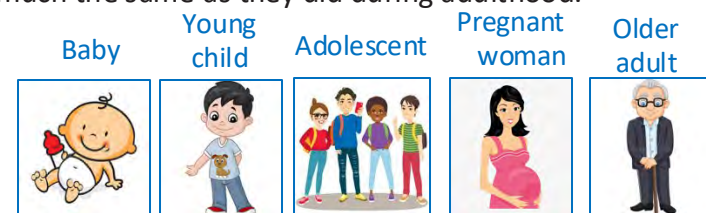
8. Vitamins

Your body needs vitamins to grow and function properly, they also help you to use other nutrients. You can normally get enough vitamins from a healthy diet that includes plenty of fruit and vegetables.

Vitamins can be divided into 2 groups: Fat-Soluble Vitamins (Vitamins A, D, E & K) and Water-Soluble Vitamins (Vitamin C and all the B Vitamins). Fat-Soluble Vitamins are dissolved in and carried around in the body in fat. Whereas Water-Soluble Vitamins are dissolved in water.

There are about five essential minerals and they have important functions in the body.

1. Calcium:

Function: vital for maintaining strong bones and teeth, helping muscle contraction, nerve transmission, and blood clotting.

Sources: Dairy products (milk, cheese, yogurt), leafy green vegetables, nuts, seeds.

2. Iron:

Function: essential for making haemoglobin that carries oxygen from the lungs to the rest of the body. It prevents anaemia and supports energy production.

Sources: Red meat, poultry, fish, beans, lentils, spinach.

3. Fluoride:

Function: helps prevent tooth decay by strengthening tooth enamel and also contributes to bone health.

Sources: Fluoridated water, tea, fish, and some toothpaste and mouthwashes.

4. Sodium:

Function: regulates fluid balance in the body. But excessive sodium can lead to high blood pressure and other health issues.

Sources: Table salt, processed foods (chips, canned soups, fast food).

5. Iodine:

Function: essential for the hormones which regulate metabolism, growth, and development. It is especially important for proper brain development during pregnancy.

Sources: Iodized salt, seafood, dairy products.

Vitamin	Foods	Function(s)
Vitamin A	Cheese, eggs, oily fish	Fighting infection, better vision, keeping skin healthy
Vitamin B1	Peas, bananas, oranges, nuts, bread	Releasing energy from food
Vitamin B2	Milk, eggs	Healthy skin, eyes and nervous system, releasing energy from food
Vitamin B12	Meat, fish, milk, cheese, eggs	Make red blood cells, release energy from food
Vitamin C	Citrus fruits	Healthy skin, blood vessels, bones and cartilage
Vitamin D	Our body creates this from direct sunlight but it is in oily fish, red meat and egg yolks	Helps keep bones, teeth and muscles healthy
Vitamin E	Vegetable oil, olive oil, nuts, seeds, cereals	Healthy skin, eyes and immune system
Vitamin K	Green vegetables, vegetable oil, cereals	Healing wounds

History

1) Using evidence

Evidence: Something from the time you are studying that gives a view about happened in the past.

What could historical evidence include?
- Diaries.
  - Government records.
  - Paintings/art.
  - Photos.
  - Films.
  - Letters

Evidence can be anything as long as it is from the time you are studying!

2) What were the "isms" in the 20th century?

In the late 1800s and early 1900s, new **ideas** emerged about how countries should be run. These ideas were called **ideologies**.

Nationalism became an important ideology. New countries were made in Europe and many countries were proud of their nation and wanted them to succeed.

Other smaller countries were also nationalist, but they were often dominated by larger countries. These countries wanted to be **independent** and have control over themselves.

Militarism was also important. Countries wanted to build up their armies so that their countries could win wars and prove they were great nations.

3) What friendships emerged in the 1900s?

In the late 1800s, the German government were **nationalist**. They wanted Germany to be a successful country.

However, Germany was **surrounded** by other countries and could easily be attacked. France was a danger in the West and Russia was a danger in the East.

Germany began to make **alliances** with other countries. This led to the creation of the **Triple Alliance** between Germany, Austria-Hungary and Italy. However, Britain, France and Russia also had an alliance called the **Triple Entente**.

The belief amongst European powers was that these two powerful alliances would never go to war. They believed neither country would think about attacking each other…

4) What happened in Sarajevo in 1914?

In the early 1900s, Austria-Hungary had a large **empire**. They controlled many countries in Eastern Europe such as Serbia, Slovakia and Croatia. Many of these countries were unhappy about this.

The Black Hand Gang were a terrorist group of Serbian nationalists who wanted **freedom**. They wanted Serbia to be independent. They were angry that they were part of the Austro Hungarian empire.

In June 1914, the Black Hand Gang hatched a plan that would change the course of history…

5) How did we get to war?

Afte the events in Sarajevo in June 1914, Austria Hungary wanted **revenge**. Germany promised to help their friend Austria.

Meanwhile, Russia promised to help Serbia. Austria Hungary invaded Serbia and Russian troops prepared for war and ignored Germany's pleas to stay out of it.

Germany then declared war on Russia. France began to mobilise their troops for war to help Russia.

Germany declared war on France which involved an invasion of Belgium. Britain promised to defend Belgium so declared war on Germany.

War! In 1914, was declared between the major powers of Europe.

History (vertical, left margin)

6) Key Terms:

Alliance: An agreement between countries.

Empire: When one country controls land belonging to another country.

Extreme:

Ideology: A belief about how a country should be run.

Independence (Self Determination): The idea of a country making it's own laws.

Mobilise: Prepare your army for war.

Militarism: Where the armed forces are important and powerful and may quickly use war to solve problems between countries.

Nationalism: Being proud of your country and wanting you country to succeed.

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8)

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 early 20th century:
- Upper Class: Rich powerful landowners
- Middle Class: Educated people often with professional jobs or small business owners.
- Working class: Less educated manual labourers such as miners. or spoken word.

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9) Who was fighting for the rights of women?

Suffragists
Believed in peaceful methods e.g. meetings, speeches, letters)
Wanted to be seen as gentle to try and persuade men to give them the vote.

Middle-Class
Wanted vote for women.

Suffragettes
Believed in direct action.
Believed in 'deeds not words'.

EMMELINE PANKHURST
HELPED WOMEN WIN THE RIGHT TO VOTE
DEEDS NOT WORDS

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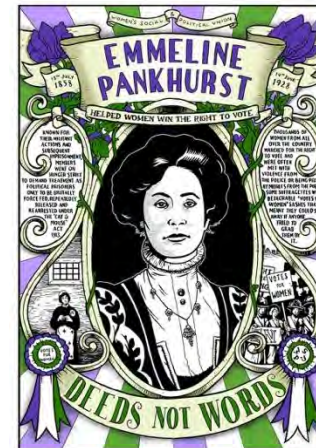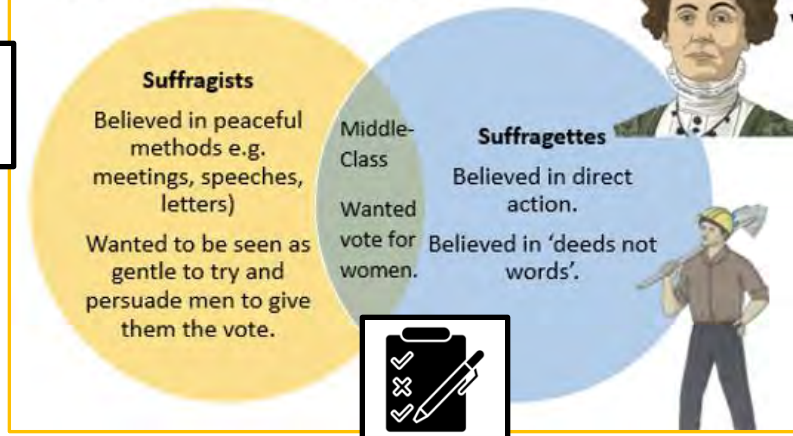
7) Learn the following timeline.

Modern Age (20th Century – 1900-Present)

1914: The First World War begins.

1871: German-speaking lands unite to form one country – **Germany**.

1881: Germany forms the **Dreikaiserbund** between Germany, Russia and Austria-Hungary.

1882: Germany also forms the **Triple Alliance** between Germany, Austria-Hungary and Russia.

1907: France, Russia and Britain form the **Triple Entente**.

1917: Russia leaves the First World War and America joins.

1918: The **armistice** is signed, signalling the end of the fighting First World War.

History

10) Why was there a General Strike in 1926?

Impact of War: Coal mining production grew during the war and the government **nationalised** coal mines. After the war, there was a fall in **demand** for coal. This meant that some smaller mines closed.

Technology: British coal mines struggled to compete with coal produced from other countries such as Germany and the USA. This meant that other countries could sell their coal at cheaper prices. The government refused to **nationalise** mines.

Mine owners and the unions: In 1921, mine owners announced longer working hours and a cut in wages. The miners decided to strike, however, without the support of other groups of workers, they had to accept the pay cut and go back to work or lose their jobs. Other industries also had to accept pay cuts.

In 1925, the government stopped **subsidising** mines. This meant that miners faced another significant wage cut...

11) How did the First World War change attitudes to women?

Women ran family businesses and worked in stressful war environments. This showed they could make important decisions.

Women proved they could do work and still look after their children and homes.

Women played a vital role in the effort to win the war. Victory was partly owed to the hard work of women during the war.

12) **Learn the following timeline.** Modern Age (20th Century – 1900-Present)

1897: Millicent Fawcet founds the Suffragists.

1903: Emmeline Pankhurst founds the Suffragettes.

1913: Emily Davison dies after being trampled on a horse at the Epsom Derby horse race.

1914: The First World War begins.

1918: The **armistice** is signed, signalling the end of the fighting First World War.

1926: Trade Unions call a **general strike**

1927: The government passed the **Trades Disputes Act** which stopped unions joining together to strike.

History


13) How did women win universal suffrage?

The government felt that some women deserved the vote, as did the working-class men who fought in the war.

In 1918, the **Representation of the People Act** gave *all men* over 21 the right to vote and women over 30 with property qualifications.

After the war, women had to leave the workplace and make way for men returning from the war.

Women continued to campaign for the right to vote. In 1928, all women were given the vote the same.

STRIKE! In 1926, the miners and the whole **Trade Union Congress** went on strike. This affected nearly the whole country.
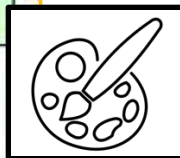
Challenge!
Write a letter to the government persuading women to have the vote from the perspective of a Suffragette.

14) Key Terms

Nationalisation: Where the government owns businesses.

Picket: Where striking workers protest outside of their workplace.

National Union of Women's Suffrage Societies (NUWSS): The suffragists.

Women's Social and Political Union (WPSU): The suffragettes.

Strike: When workers stop working to improve their life at work.

Subsidise: Where the government pays money to keep businesses open.

Trade Union: Organisations that work to secure better working conditions.

Trade Union Congress: An organisation that represents all trade unions.

Universal Suffrage: Where all adults have the right to vote.

French

1. Qu'est-ce que tu aimes? *What do you like?*

- **Quand je suis seul(e)…** - *When I'm alone …*
- **Quand je suis avec mes copains …** - *When I'm with my friends …*

- **Le weekend….** - (At) the weekend …

- **J'aime (beaucoup)** - I like (a lot)…
- **J'adore** - I love …
- **Je n'aime pas (tellement) …** - I don't (particularly) like …
- **Je n'aime pas du tout…** - I really don't like …
- **Je déteste** …- I hate …

- **le sport / le collège** - sport / school.
- **la musique / la télé -** music/TV
- **la lecture / la danse** - reading / dancing.
- **les animaux / les jeux vidéo**. - animals / video games

2. Qu'est-ce que tu aimes faire?
– What do you like to do?

- **J'aime (beaucoup)** - *I like (a lot)…*
- **J'adore** - *I love …*

lire des bd	reading comics
faire des promenades	going for walks
nager	swimming
prendre des selfies	taking selfies
faire du vélo	going cycling
aller à la pêche	going fishing
aller en ville	going to town

3. Qu'est-ce que tu fais comme activités extrascolaires?
– What do you do for after school activities?

tous les lundis	Every Monday
une/deux fois par semaine	Once/twice per week
après les cours	After lessons/classes
Pendant l'heure du déjeuner	During lunchtime
Je joue au badminton/au foot	I play badminton/football
Je fais de la gymnastique	I do gymnastics
Je vais au club (de photographie)	I go to (photography) club
Je joue dans l'orchestre	I play in the orchestra
Je chante dans la chorale	I sing in the choir
Je ne chante pas	I don't sing
Je ne danse jamais	I never dance
Je ne fais rien	I do nothing/I don't do anything

4. Comment tu t'entends avec ton meilleur ami / ta meilleure amie ?
– How do you get on with your best friend ?

- **Je m'entends bien avec lui/elle**. *I get along well with him/her.*
- **Je me dispute avec lui/elle**. *I argue with him/her.*
- **Je me fâche contre lui/elle.** *I get angry with him/her.*
- **Il/Elle se fâche contre moi.** *He/She gets angry with me.*
- **Il/Elle a un bon sens de l'humour.** *He/She has a good sense of humour.*
- **sympa / drôle** *nice / funny*
- i**mpatient(e) / bête** *impatient / stupid*
- **arrogant(e) / égoïste** *arrogant / selfish*

French

5. Comment as-tu fêté ton anniversaire ? _How did you celebrate your birthday?_

- **J'ai fêté mon anniversaire le dix mai.** _I celebrated my birthday on the 10th of May._

- **Comment as-tu fêté ton anniversaire?** _How did you celebrate your birthday?_

- **j'ai ouvert mes cadeaux** - _I opened my presents_

- **j'ai reçu un tee-shirt** - _I received a tee-shirt_

- **j'ai regardé mes cartes virtuelles** - _I looked at my e-cards_

- **j'ai lu mes messages** - _I read my messages_

- **je suis allé(e) en ville** - _I went to town_

- **nous avons fait du bowling** - _we did / went bowling_

- **j'ai mangé du gâteau** - _I ate some cake_

- **j'ai porté** (un jean/un pull) - _I wore (jeans, a jumper)_

- **j'ai bu du coca** - _I drank some cola_

- **je suis resté(e) au lit** - _I stayed in bed_

- **j'ai dormi** - _I slept_

- **j'ai invité mes ami(e)s** - _I invited my friends_

- **nous avons dansé** - _we danced_

- **nous avons pris des selfies** - _we took selfies_

- **C'était …** - _It was …_

- **rigolo / délicieux.** - _a laugh / delicious._

6. Qu'est-ce que tu vas porter pour ta fête d'anniversaire ? - _What are you going to wear for your birthday party?_

(Je pense que) je vais… - (I think that) I am going…
- ….**porter** … - to wear …
- …**acheter** … - to buy …
- …**emprunter** - to borrow …
- …**mettre** - to put on …

- **un chapeau** - a hat
- **un costume** - a suit
- **un jean / un pantalon** - jeans / trousers
- **un pull / un sweat** - a jumper / a sweatshirt
- **une casquette / une jupe** - a cap / a skirt
- **une chemise** - a shirt
- **une cravate** - a tie
- **une robe / une veste** - a dress / a jacket
- **des baskets / des bottes** - trainers / boots
- **des chaussettes** - socks
- **des chaussures** - shoes

- **Comment tu trouves ça?** - How do you like that / it?
- **Je trouve ça …** - I find it …
- **un peu / assez / très** - a bit / quite / very
- **vraiment / trop** - really / too
- **complètement** - completely
- **beau / cool** - beautiful / cool
- **joli / super** - pretty / super
- **démodé / ennuyeux** - old-fashioned / boring
- **moche / nul** - ugly / rubbish

French

7. Qu'est-ce que tu fais pour gagner de l'argent? – *What do you do to earn money?*

- **Pour gagner de l'argent, …** *To earn money, …*
  - **on peut/je dois** *You can / I have to*
  - **travailler dans le jardin** *work in the garden*
  - **aider à la maison** *help at home*
  - **aider les voisins** *help the neighbours*
  - **trouver un petit boulot** *find a part-time job*
  - **nourrir les animaux** *feed the animals*
  - **faire du baby-sitting** *babysitting*

8. Qu'est-ce que tu achètes avec ton argent ? – *What do you buy with your money ?*

- **j'achète** *I buy*
- **je fais des économies …** *I'm saving …*
- **pour acheter** *to buy*

- **du maquillage** *make-up*
- **de la musique.** *music.*
- **du crédit téléphonique.** *phone credit.*
- **des fournitures scolaires.** *school supplies.*
- **des trucs à manger.** *things to eat.*
- **des billets de cinéma.** *cinema tickets.*
- **des jeux vidéo.** *video games.*
- **des vêtements.** *Clothes.*

- **C'est …** *It is …*
- **une bonne idée.** *a good idea.*
- **une mauvaise idée.** *a bad idea.*
- **facile / difficile.** *easy / difficult.*
- **cool / ennuyeux.** *cool / boring.*

9. Qu'est-ce que tu veux faire plus tard ? - *What do you want to do later ?*

- **Il/Elle est …** *-He/She is a …*
- **Je veux être …** *-I want to be a(n) …*
- **Je ne veux pas être …** *-I don't want to be a(n)*
- **scientifique** *-scientist*
- **pilote** *-pilot*
- **ingénieur(e)** *-engineer*
- **danseur/danseuse** *-dancer*
- **instituteur/institutrice** *-primary school teacher*
- **infirmier/infirmière** *-nurse*
- **policier/policière** *-police officer*
- **mécanicien/mécanicienne** *- mechanic*
- **musicien/musicienne** *-musician*
- **architecte** *- architect*
- **vétérinaire** *- vet*
- **car c'est …** *- because it is …*
- **créatif.** *- creative.*
- **dangereux.** *- dangerous.*
- **fatigant.** *- tiring.*
- **intéressant.** *- interesting.*
- **passionnant.** *- exciting.*
- **utile.** *- useful.*
- **varié.** *- varied.*

Challenge!
Script a conversation between an employee and employer (boss) about the responsibilities of a given job role. For example, working as a veterinarian.

10. Qu'est-ce que tu veux faire à l'âge de 16 ans? – *What do you want to do at 16*

- **À l'âge de 16 ans, je veux**   *At the age of 16, I want …*
- **rester à l'école.**   *to stay at school.*
- **étudier les sciences.**   *to study science.*
- **étudier les maths.**   *to study maths.*
- **étudier le dessin.**   *to study art.*
- **étudier les langues.**   *to study languages.*
- **trouver un petit boulot.**   *to find a part-time job.*
- **aller au lycée.**   *to go to sixth form college.*
- **faire un apprentissage.**   *to do an apprenticeship.*
- **faire du travail bénévole.**   *to do voluntary work.*
- **travailler en équipe.**   *to work in a team.*
- **travailler avec des**   *to work with elderly people.*
personnes âgées.
- **Je dois gagner de l'argent**.   *I must earn money.*
- **J'aime aider les autres.**   *I like helping others.*
- **J'adore les enfants**.   *I love children.*
- **J'adore les animaux.**   *I love animals.*
- **J'adore les voitures**.   *I love cars.*

Challenge!
Write about your personal goals for the future in English. Translate this into French. The phrases here will give you some helpful vocabulary.

11. Qu'est-ce que tu feras à l'avenir – *What will you do in the future ?*

• **J'habiterai**	➤ **en Europe/en Afrique/à l'étranger**	*I will live*	*in Europe / in Africa / abroad*
• **je travaillerai**	➤ **avec des enfants / chez Google**	*I will work*	*with children / at Google*
• **j'achèterai**	➤ **une belle maison / une Ferrari rouge**	*I will buy*	*a beautiful house*
• **j'aurai**	➤ **une Mobylette / cinq enfants / un petit copain**	*I will have*	*a moped / 5 children / a boyfriend*
• **j'irai**	➤ **à New York / en Chine / en Amérique du Sud**	*I will go*	*to New York / to China / to South America*
• **je ferai**	➤ **du travail bénévole / du Snowboard**	*I will do*	*voluntary work / snowboarding*
• **je serai**	➤ **célèbre / marié / heureux (heureuse)**	*I will be*	*single / married / happy*
• **je gagnerai**	➤ **beaucoup d'argent**	*I will earn*	*lots of money*
• **j'aiderai**	➤ **les autres**	*I will help*	*others*

French
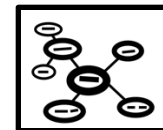
12. A l'avenir, le monde sera comment ? – What will the world be like in the future *?*

- **On portera** — *We will wear*
- **On mangera** — *We will eat*
- **On voyagera** — *We will travel*
- **On achètera** — *We will buy*
- **On ira** — *We will go*
- **Il y aura** — *There will be*

- **des vêtements "intelligents"** — *"smart" clothing*
- **des insects** — *insects*
- **en voiture sans conducteur** — *driverless cars*
- **tout en ligne** — *everything online*
- **en vacances sur la Lune** — *holidays on the moon*
- **un robot dans chaque maison** — *a robot in every house*

13. Un robot magique ? Qu'est-ce qu'il fera – *A magic robot, what will he do?*

- **Il organisera** — *It will organise*
- **il fera** — *it will do*
- **il ira** — *it will go*
- **il jouera** — *it will play*
- **il coupera** — *it will cut*
- **il appliquera** — *il will apply*

- **Il rapportera** — *It will bring*
- **Il examinera** — *it will examine*
- **Il décidera** — *it will decide*
- **Il donnera** — *it will give*

- **pour aider / travailler** — *To help/work*
- **ce sera (passionnant / effrayant)** — *il will be (exciting/scary)*

Challenge!
Design your own futuristic robot... what will it be able to do? Describe it in French

14. Profil d'un inventeur ou d'une inventrice – *Profile of an inventer*

- **il est inventeur** — *He's an inventor*
- **il est né** — *He was born*
- **il a fait ses études** — *He studied*
- **il a immigré** — *He immigrated*
- **il a développé** — *He developed*
- **il a inventé** — *I invented*

- **un robot** — *a robot*
- **des lunettes** — *glasses*
- **pour aider les personnes handicappés** — *to help disabled people*
- **pour traduire en anglaise** — *to translate into english*
- **A mon avis ce sera utile** — *in my opinion it'll be useful*
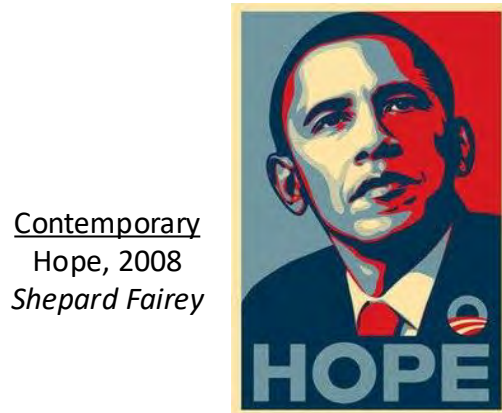
Art

1. What is a portrait?

A painting, drawing, photograph, or engraving of a person, especially one depicting only the face or head and shoulders.
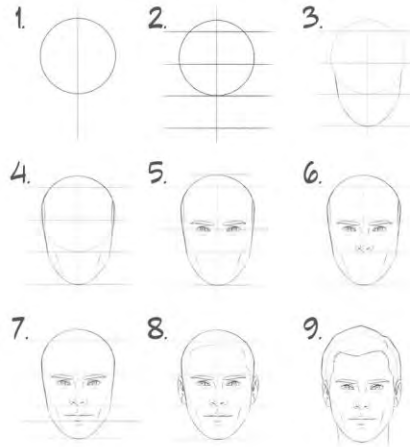
Ancient
Mona Lisa, 1503
Leonardo DaVinci
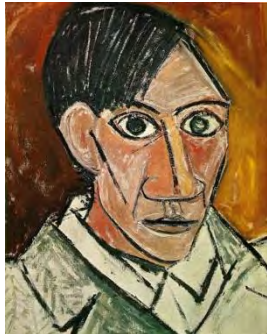
Modern
Self-portrait, 1907
Pablo Picasso

Contemporary
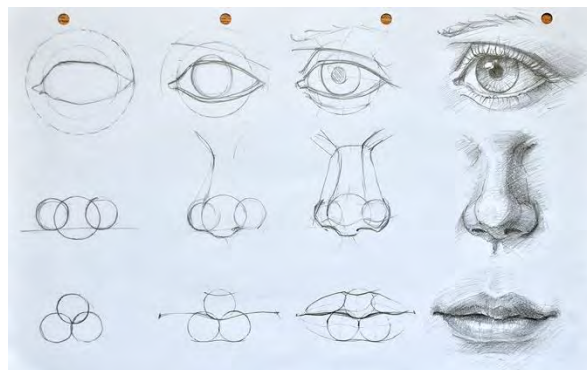Hope, 2008
Shepard Fairey

2. Proportions of the face

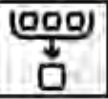Practice drawing the facial proportions using the step-by-step guide.

3. Features of the face

Practice drawing the features of the face using the step-by-step guide.

4. Expressing Identity in a portrait

Expressive portraits can include, words, objects, collage, photographs, paint techniques, varied contextual backgrounds.

A person may choose things that they like or dislike in their imagery or create an image that portrays their identity.

5. Analyse 1 image.

Analyse one of the portraits below your books.
Focus on 3 areas:
Content - describing what you see.
Process - how the work is made.
Mood - how does the artwork make you feel?
What do you think it is about?

Keyhinde Wiley

Art

6. Cubism

- Cubism is a style of painting that was developed in the early 1900s.

- Cubist paintings show objects from many angles at once.

Who were the Cubist's?

- Two main artists, Pablo Picasso and Georges Braque, developed Cubism.

- They believed that painters should not just present realistic views of subjects.
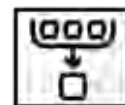

Pablo Picasso

Georges Braque

7. Cubist landscape study

Paul Cezanne

8. Cubist Influences

- The Cubists were influenced by several different art forms, including African masks, which have exaggerated features.

- Egyptian paintings, which show more than one point of view, also inspired the Cubists.

- The paintings of Paul Cézanne were another influence. Cézanne often simplified objects to their basic shapes.

9. Cubist Portraits
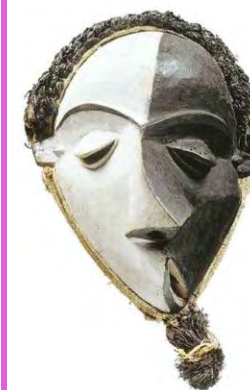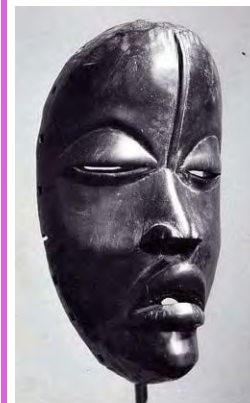
African Masks & Pablo Picasso

Challenge!
Using inspiration from the images, draw your own cubist portrait.

Art

10. Sculpture Throughout History

Ancient – Easter Island and Olmec heads.

Stone Carving

Modern – Pablo Picasso and Elizabeth Frink heads.

Casting

Contemporary – Mark Quinn and James Lake

Mould and Construction

11. Sculptural Techniques

Relief
Relief sculpture is created on a flat, two-dimensional surface. The back of the sculpture is typically not meant to be seen.

In-The-Round
In-the-round sculpture is three-dimensional and meant to be viewed from multiple angles.

Additive
Additive sculpture is the construction of creating form by adding material to the base or armature.

Subtractive
Subtractive sculpture is removing the unwanted material to create the form, as in wood or stone carving.

Kinetic or Mobile
Kinetic sculpture is art that contains movable parts in the design.

Sculpture can be creating through:
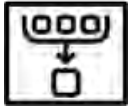- Carving
- Modeling
- Casting
- Construction
- Assembling

12. Sculptural Key Words

- Carving
- Modelling
- Casting
- Construction
- Assembling
- 3 Dimensional
- Relief
- Construct
- Kinetic

13. James Lake – Contemporary

- Uses cardboard as a sculptural material.
- Reasonable cost and low environmental impact.
- Creates life size, three-dimensional portraits of people and animals, anatomical models and furniture.
- The process and outcomes have always been about sculpting with a physical impairment.

"I lost my right leg to cancer when I was a teenager, so I spent time searching for a material that I could use from my bedroom whilst rehabilitating." James Lake

14. Make a sculptural head from recycled materials. See examples.

Geography
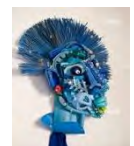
1. Measuring Development

Development measures progress within a country. The development gap refers to differences between low-income countries **(LIC)** and high-income countries **(HIC).**

There is no single way to measure how developed a country is. However, development indicators can give some idea of a country's development. Some common.

Economic indicators

GNI per capita is the total value of all the goods and services produced in a country in a year plus income from abroad, divided by the number of people (per capita) living in that country.
GNI per capita allows us to compare wealth between different countries. However, the calculation only tells us the average income within a country. The wealth of the country may not be shared out equally. Some people may earn a lot of money, whereas others may have very little.
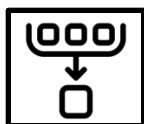
2. Development indicators

Social indicators show how a country uses its wealth to try and improve the quality of life of its people. Social indicators can measure different things like health, diet and education.
Education is measuring using the literacy rate; the percentage of people aged 15 years and above who can read and write.
Literacy rates tell us about the level of education within a country. Children who learn to read and write are more likely to get jobs when they are older. However, literacy rates do not tell us about the health or wealth of people.
Birth rate measures number of live births in a year per 1000 people.
Death rate measures number of deaths per year per 1000 people.
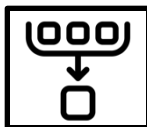
Challenge
Scan this QR code, open the quiz and test yourself.

3. Human Development Index

The human development index is made up of
 important measures:
- GNI per capita
- Number of years in education
- Life expectancy

However, HDI does not consider other important factors, such as inequality or environmental issues. For example, HDI does not show whether there is a gender pay gap - a difference between the average earnings of men and Women.

Key

0.9 - 1	0.4 - 0.3
0.8 - 0.9	0.3 - 0.2
0.7 - 0.8	0.2 - 0.1
0.6 - 0.7	0.1 - 0
0.5 - 0.6	No data
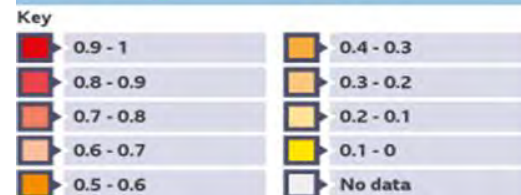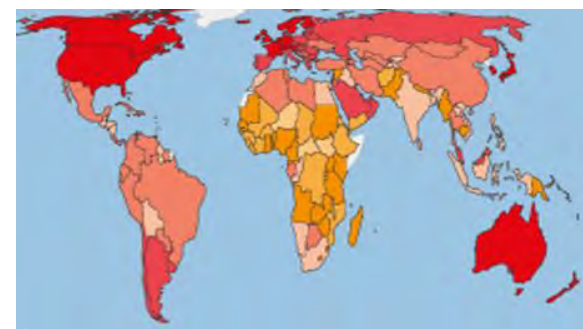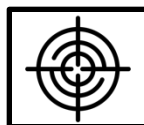
HDI ratings 0=Less developed; 1- more developed

4. Causes of uneven development

Many LICs have a wealth of natural resources. Early European explorers **colonised** many of these regions, exploiting the resources and the people living there. The colonial powers grew wealthier, whilst many of the colonies became low-income countries. This caused a development gap which continued to grow.

Political reasons

Poor governance and conflict have prevented some countries from developing. Some governments have used their power for personal gain rather than to benefit the country. Wars are expensive. Money is spent on weapons and repairing damage, rather than on healthcare and education.

Geographical reasons

Some countries have very hot or very dry climates. This makes it difficult to secure a water supply and grow crops. Warm climates also allow tropical diseases to spread. Natural hazards such as earthquakes can also prevent a country from developing. This is because countries spend a lot of time and money recovering from the hazard.

Hot, dry countries have unreliable water supplies, which can lead to crop failure.

5. Phases of industry

What industry or industries a country focuses on changes over time and can be shown using the **Clark Fisher model**.

The model is split into three phases:
1. The pre-industrial phase – a country is mostly focused on the primary sector and the main activity is likely to be agriculture.
2. The industrial phase – secondary and tertiary sectors increase in importance. Primary sector activities start to decline. For example, in cities such as Manchester and later Liège in Belgium during the Industrial revolution.
3. The post-industrial phase – manufacturing starts to decline as the tertiary sector becomes the most important sector and quaternary industries start to develop. Only a very small percentage of the overall population will now be involved in primary industries.

6. Types of industry

Industry is any economic activity which creates jobs and generates income. There are four main types of industry:

Primary industry involves the production or extraction of raw minerals

Secondary industry is the manufacturing of goods. For example, the northwest of England used to have a thriving textile industry making cloth from cotton, China has a thriving manufacturing sector producing electronics, and Germany is one of the largest manufacturer of cars.

Tertiary industry involves providing services to people, for example a cleaner or a doctor.

Quaternary industry is the newest sector and focuses on knowledge-based industries or high-tech industries such as ICT (information and communication technologies) and research and development.

Challenge
Scan these QR codes and watch these clips.

Geography

7. Pollution

There may also be negatives for these countries as industry can be polluting.

For example, leather manufacturing is one of the largest causes of pollution in the River Ganges in India. This includes wastewater from factories being released into rivers and lakes along with chemicals.

Increasingly there are calls for a new 'Green Industrial Revolution' in manufacturing with a move away from polluting industries such as energy production using fossil fuels towards the development of green, environmentally friendly, technology such as wind turbines.

In 2020 the UK government announced a ten-point plan for a green industrial revolution to support green jobs and move towards a zero-carbon economy.

In the UK during the 1980s as the government moved from the secondary sector to a new phase of **post-industrialism**, where the tertiary and quaternary sectors were encouraged.

The decline in primary and secondary industries in many places has led to unemployment and many other social issues.

When HICs move away from manufacturing emerging economies such as Nigeria move into the industrial phase of their development and begin to develop tertiary industries, they can use the money generated to improve schools, hospitals and infrastructure in the country and provide jobs for the workforce.
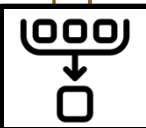
8. RUSSIA

Russia is the ninth most populous country in the world, with a population of approximately 144 million people. The major language is Russian.

The capital city is Moscow. It lies to the west of the country and is home to around 12 million people.

Russia contains several biomes, including tundra, taiga, temperate woodland, steppe and desert.
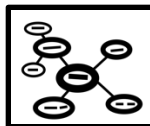
9. Physical characteristics

Russia contains several biomes, including tundra, taiga, temperate woodlands, deserts and steppe biomes.

Geography

10 Biomes

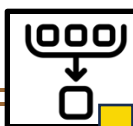Taiga vegetation covers most of the country. This is forest, with trees such as spruce, fir and pine.

Deserts are in the far south of Russia. These areas have very little precipitation and so few plants can grow here.

Tundra biomes are found in the far north of Russia. Small shrubs, and grow, and these provide food for animals such as reindeer. Larger species of vegetation struggle to exist in the cold, dry conditions found here.

Temperate biomes are found in the south of Russia. These are warmer landscapes consisting of trees and grasses.

11 Population distribution

Most people live in the west of the country. This is where the of Moscow and is located, as well as many other larger cities, such as St Petersburg and Kazan. Around 75 per cent of Russia's population live in cities, where there are jobs and opportunities. Few people live in the far north, where temperatures are very low.
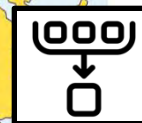
12 St Petersburg

Saint Petersburg is a fascinating city in Russia known for its beautiful canals, history, and culture. It's often called "The Venice of the North" because of all its canals. The city was founded by Tsar Peter the Great in 1703. It's also home to the deepest subway system in the world.

- **Canals:** Saint Petersburg has many canals, like a network of rivers within the city.
- **Peter and Paul Fortress:** This is one of the oldest buildings in the city and is a historical landmark.
- **Ballet:** The first ballet school in Russia was opened in Saint Petersburg.
- **Used to be the Capital:** For a long time, Saint Petersburg was the capital of Russia
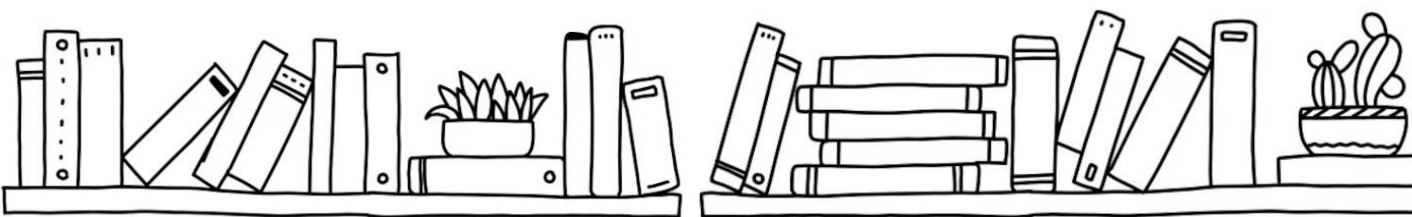
13 Life expectancy and literacy rates

With approximately 144 million people, Russia is the ninth most country in the world. is almost 73 years, so the average person in Russia can expect to live beyond age. are above 99 per cent. This means that almost all Russian people can read and write.

14 Lake Baikal

Situated in south-east Siberia, the 3.15-million-ha Lake Baikal is the oldest (25 million years) and deepest (1,700 m) lake in the world. It contains 20% of the world's total unfrozen freshwater reserve.

READING Log

Book and Author	Next page	Comments and signature

RECOMMENDED READS!

Rebel Voices
THE RISE OF VOTES FOR WOMEN
EVE LLOYD KNIGHT · LOUISE KAY STEWART

GERARD SIGGINS
RUGBY FLYER
HAUNTING HISTORY, THRILLING TRIES

'Selected for Best YA and Children's Books of 2020'
TIME MAGAZINE
SURVIVING SCHOOL WITH ONE EYE OPEN
W-I-N-K
ROB HARRELL

How did women get the vote? They didn't keep quiet. They didn't behave. They didn't play nice. They had to stand up. They had to shout loud. They had to say Time's Up. But who were the rebel women who did those things?

Recommended for less confident readers, this sports story thriller will engage anyone with an interest in rugby or ghosts….or both.
Vividly drawn, engaging characters and short, sparky chapters keep the action fast-paced in this absorbing story.

A hilarious and heart wrenching story about surviving middle school - and an unthinkable diagnosis - while embracing life's weirdness. 'Wink' is semi-autobiographical as the author draws o n his own experiences.

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CORAM BOY
JAMILA GAVIN
WINNER OF THE WHITBREAD CHILDREN'S BOOK AWARD

George Orwell · Chris Mould
Animal Farm

Starfish
This book is a gem'
BOOK RIOT
AKEMI DAWN BOWMAN

ASPIRE
Challenge. Achieve. Succeed.
PYRLAND SCHOOL

The Pyrland Way
Ready, Respectful, Responsible