



Year 7 Learning Journal

Learning Cycle 1

Student Name: _____

4 simple steps



Summarise

Summarise your class notes, handouts and wider reading to **condense and transform** them as **you go along** (saves time and stress closer to exams).

40%

Organise

Organise your notes and revision using PLCs (or Exam Specifications) and create **Revision Timetables**, to **focus** time and effort on **weaknesses**.

10%

Recall

Use **active recall** and **spaced repetition** to **memorise** the information.

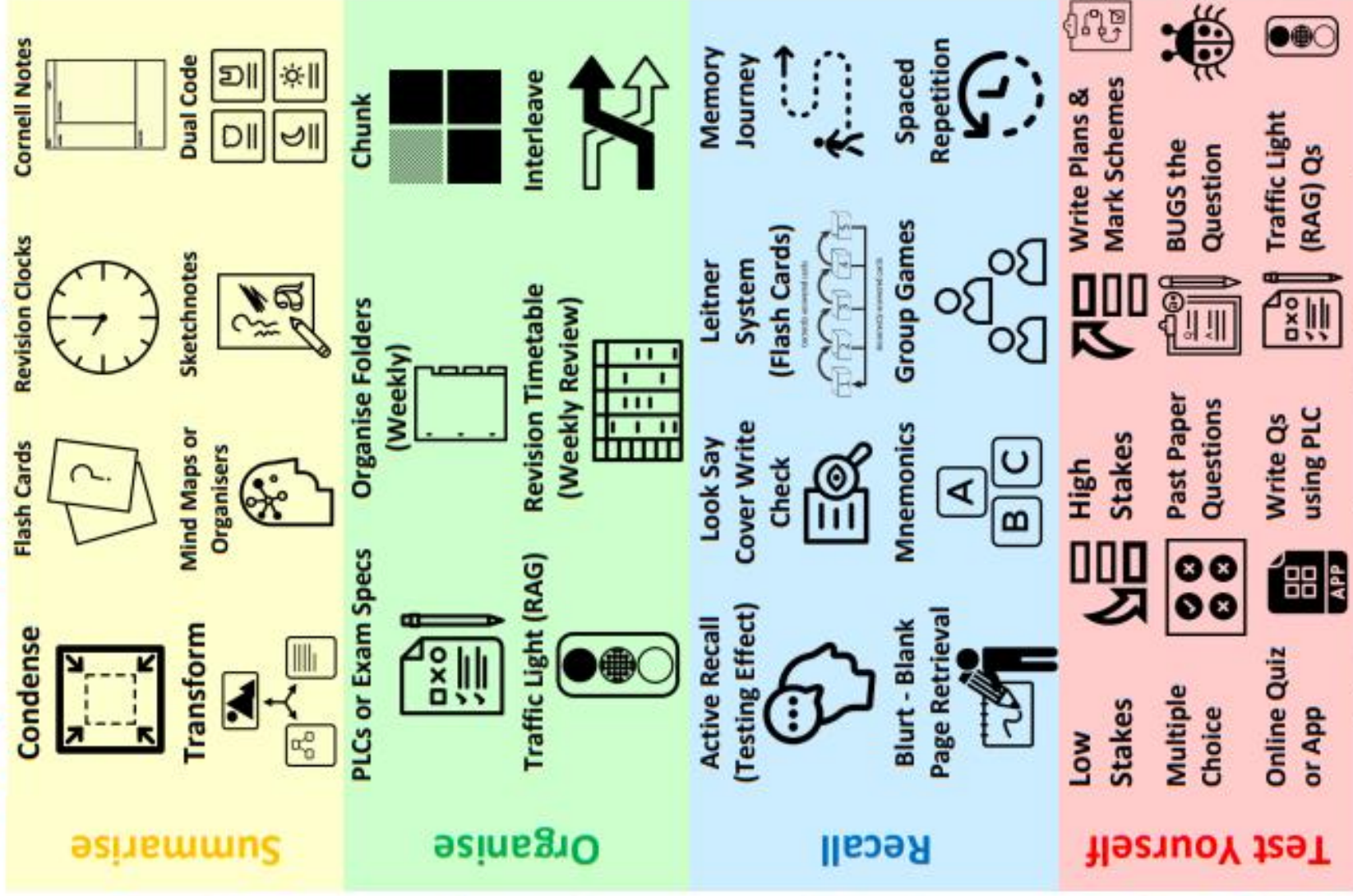
30%

Test Yourself

Test Yourself using **low stakes and high stakes** questions to check you can **apply knowledge and understanding**.

20%

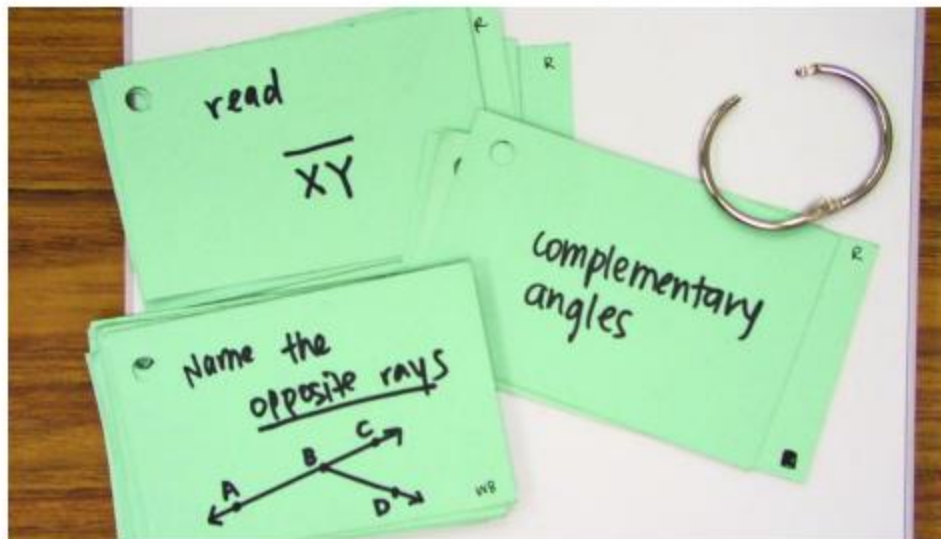
4 Steps to Success with your Studies





How to Summarise using ...

Flash Cards



How do I make one/use one?

1. Break down topics/subject into different units (you can use different colour cards)
2. Use bullet points (to help readability)
3. Doesn't always have to be question and answer – use variety
4. Don't cram too much on one flash card (or just use one word answers!)
5. Don't keep going over flash cards you know well. The 'Leitner System' is a good way to RECALL flashcards. You can also Quiz-Quiz Trade with others.

What is the idea?

A card with a key word or question on the front, and the definition or answer on the reverse.

What is it useful for?

- Learning definitions/meanings
- Learning a language/translations
- Learning short case study/topic facts

Pros

Useful for revising on the go (easy to carry).

You can test yourself using the front or the back of the card.

You can buy Ready made flashcards or use online flashcards e.g. Quizlet.

Cons

Simply copying questions and answers/definitions out of textbooks to make the cards, or just reading them over and over, doesn't improve your recall.

You can make them too simple (long question, one word answer.)

Doesn't help your visual memory (unless they have images).

Does not help you make links/apply facts and detail to high tariff questions.





How to Summarise using ...

Intelligent Graffiti (Sketchnotes)

How to draw

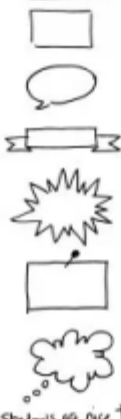
SKETCHNOTES

Sketchnotes are NOT comics or illustrated text. They are visual guides. Follow these steps to get started.

1. PICK A PATTERN

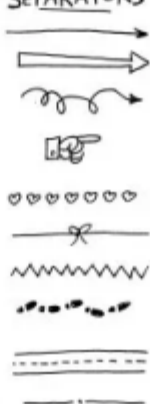


2. CHOOSE SOME FRAMES

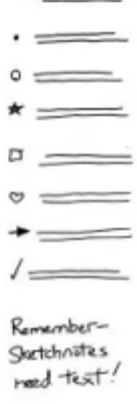


Shadows are nice, too!

3. SELECT CONNECTORS AND SEPARATORS



4. PICK SOME BULLETS



Remember - Sketchnotes need text!

5. DECIDE ON FONTS



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What is the idea?

Filling a page with notes and diagrams about a topic. Making connections between ideas and emphasising important information.

What is it useful for?

- Case studies/topic overview
- Making links between different parts of a topic and emphasising the importance of information.

How do I make one/use one?

1. The first rule of intelligent graffiti is THERE ARE NO RULES! (The following are just suggestions)
2. Don't write down everything and use abbreviations.
3. Your notes do not need to be linear – it's up to you how they flow (they only need to make sense to you).
4. Vary handwriting & add emphasise to draw eye to key points.
5. Use connectors and containers to link and organise ideas.
6. Include diagrams and images to represent ideas.

Pros

- There are no rules (flexible depending on you and the topic you are studying)
- Your notes will be compact, colourful and visual so this makes them easier to review.
- You can make connections between ideas within the topic.
- Converting notes into images and words helps your brain learn as it combines visual and verbal memory (dual coding).

Cons

- They can be time consuming to create.
- Students do not always include enough detail (not helpful if you need to remember a lot of detail!)
- The notes may be so 'free' they are hard for you to follow again/make sense of.





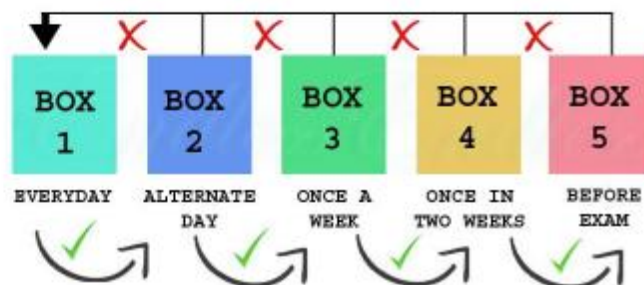
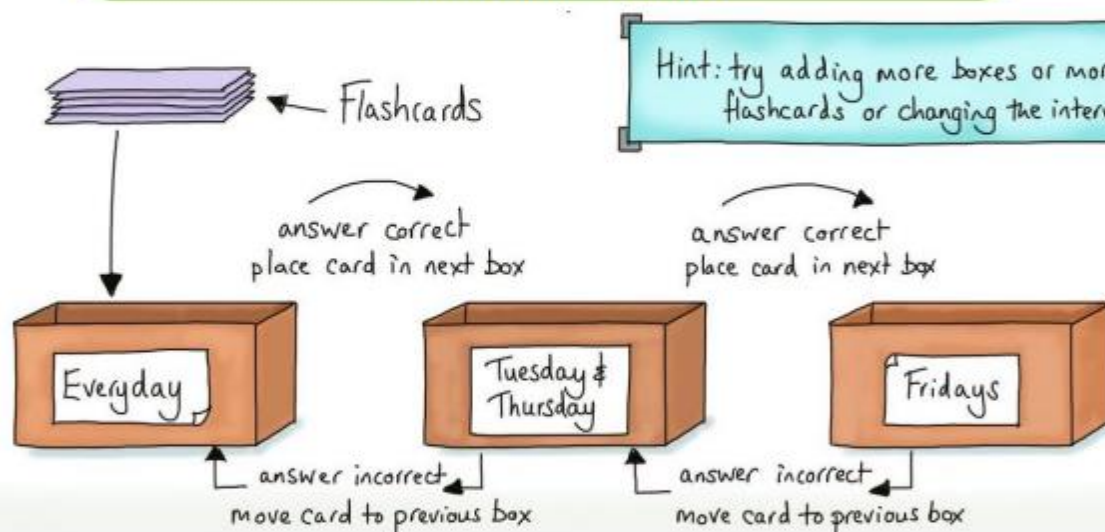
How to Recall using ...

Leitner System (For Flash Cards)

What is the idea?

To revisit flash cards you don't know more frequently and the ones you do know less frequently. Making your revision more efficient.

Hint: try adding more boxes or more flashcards or changing the intervals



How do I use this method?

1. Create 3 to 5 boxes, folders or piles.
2. Label them as shown in the diagram below.
3. Put all your flashcards (or a set number) in Box 1
4. On day 1 try to recall the information on the flashcards in Box 1
5. If you get a flashcard correct move it into Box 2
6. If you get a flashcard wrong it stays in Box 1
7. On day 2 go through Box 1 and Box 2.
8. Every time you get a card correct it moves forward one box, every time you get it incorrect it goes all the way back to Box 1!
9. Keep visiting the boxes at the time indicated on the label.
10. You can add more cards to Box 1 at any time.



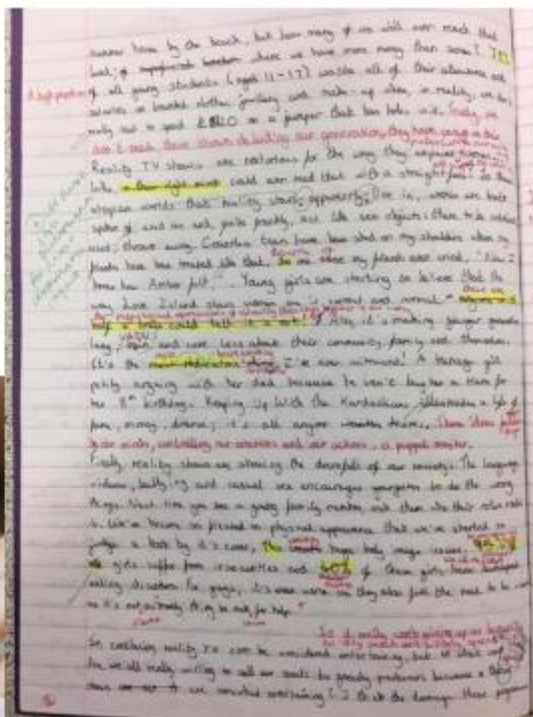
YouTube Tutorial
Video Link





How to Recall using ...

Blurring



What is the idea?

To write everything you remember on the topic you have been revising. It doesn't matter what form this takes (e.g. notes/mind map etc). Check against your revision notes to see what you got right/wrong and make corrections in a different colour. Repeat.



YouTube Tutorial
Video Link

How do I use this method?

1. Revise a topic/sub-topic
2. When you think you know it, put your revision notes away.
3. 'Blurt' what you remember onto a piece of blank/scrap paper or a mini whiteboard.
4. Use any method of organizing your ideas on the paper.
5. Once you have got down everything you remember, get out your notes and see what you missed/got wrong.
6. Make corrections in red pen.
7. Focus on learning the bits you missed/got wrong next time you revise.
8. Repeat! *Always start again from scratch and try to recall everything (don't just try and recall the bits you missed/got wrong), this will strengthen your knowledge of the whole topic.*



English and Maths Personal Learning Checklists

English	S	O	R	T
The Giver				
What is the narrative hook in 'The Giver'?				
How is Jonas' world presented as a utopian society?				
How is it simultaneously a dystopian society?				
Why do you think the citizens are not allowed to make their own choices?				
How does Lowry use symbolism in The Giver?				
How does Lowry create tension when the assignments are allocated?				
What challenges do societies face?				
Make predictions about what 'release' means.				
What is meant by sameness?				
What does the Receiver do?				
How does Jonas respond to the different memories he receives?				
Why does the Giver give out painful memories?				

English	S	O	R	T
The Landlady and Lamb to the Slaughter				
How is foreshadowing used in the story?				
How does Dahl play with stereotypes and reader's expectations about characters?				
How is the patriarchy challenged by Dahl's female protagonist?				
Who is in control in the story and how do they take control?				

Maths	Sparx Code	S	O	R	T
Describe and continue diagrammatical and numerical sequences	M241				
Predict and check the next term(s) of a sequence	M381				
Represent sequences in a table or on a graph	Q863				
Recognise linear and non-linear sequences	M981				
Find the missing numbers within a sequence (H)	Q267				
Maths	Sparx Code	S	O	R	T
Algebraic Notation					
Use one- and two-step function machines with numbers, diagrams and letters	Q878				
Substitute values into one- and two-step expressions	Q184, Q344				
Generate sequences given an algebraic rule	M166				
Represent one- and two-step functions graphically					

Maths Personal Learning Checklists

Maths Equality and Equivalence	Sparx Code	S	O	R	T
Understand and use fact families (numerical and algebraic)	M952, M409				
Solve one-step linear equations using inverse operations	M707				
Understand the meaning of like and unlike terms	M830				
Understand the meaning of equivalence					
Simplify algebraic expressions by collecting like terms	M795, M531				
Maths Place Value	Sparx Code	S	O	R	T
Recognise the place value of integers and decimals up to one billion					
Write integers up to one billion in words and figures	M704				
Position integers and decimals on a number line	M522				
Round integers to powers of 10 and significant figures	M994				
Compare two numbers using =, ≠, <, >, ≤, ≥	M704				
Order a list of numbers (integers and decimals)	M522				
Find the range and median from a list of numbers	M934, M328				
Write 10, 100, 1000 etc as powers of 10 (H)	M113				
Write integers in the form $A \times 10^n$ (H)	M719				
Write decimals in the form $A \times 10^n$ (H)	M719				

Maths Fractions, decimals and percentages	Sparx Code	S	O	R	T
Represent fractions as diagrams and on a number line	M158				
Identify equivalent fractions	M410				
Understand fractions as decimals	M958				
Understand the meaning of percentages using a hundred square	M476				
Convert fluently between fractions, decimals and percentages	M264				
Use and interpret pie charts	M574				
Explore fractions, decimals and percentages above 1 (H)	M958, M264, M922				

French Personal Learning Checklists

French Je me présente (Introducing myself)	S	O	R	T
Use different greetings and say my name in French				
Use the alphabet in French to spell my name				
Use numbers 1-31, days of the week and months				
Say my age and when my birthday is				
Name classrooms items in French and use classroom language				
Understand genders and plurals in French				
Say what is and what is not in my bag				
Talk about family				
Use the full paradigm of the verb <i>avoir</i> and <i>être</i> in French				
Talk about my pets and use basic adjectives				
Use simple opinions				
Describe people's physical appearance hair, eyes, height and build				
Describe myself and understand how to use adjectives				
Write 40 to 50 words in French about myself				
Use your vocab booklet to sort your learning				

French Mon temps libre (My Free Time)	S	O	R	T
Talk about Halloween in France				
Use opinions and infinitive verbs to say what I like to do				
Use adjectives to justify my opinions				
Use present tense verbs to say what I do in my free time				
Use the present tense of -er, -ir and -re verbs in the full paradigm				
Use a range of frequency adverbs				
Recognise and use weather phrases				
Say what you do in different weather				
Use jouer/faire to talk about different sports				
Complete a reading and listening assessment on my hobbies				
Write 40 to 50 words in French about myself				
Find out about Christmas celebrations in French				
Use your vocab booklet to sort your learning				

Geography & History Personal Learning Checklists

Geography	S	O	R	T
How on Earth did we get here?				
Label a blank map of the world with the 7 continents and 5 oceans.				
Outline the Big Bang theory.				
State arguments for and against the Big Bang Theory				
Describe the key stages of the rock cycle using keywords.				
Outline the main changes in evolution during the different eras.				
Describe the 3 types of geography that are studied.				
Explain why it is important to study our planet in different ways.				
What happens when the land meets the sea?	S	O	R	T
Identify human and physical features and locate them on a map.				
State the different physical features along Newquay's coastline.				
Describe how constructive and destructive waves affect the coast.				
Explain how headlands and bays are formed using a range of keywords.				
Describe the formation of a stump in chronological order.				
Apply keywords and annotations to diagrams to show my understanding of longshore drift.				
Outline & explain features of hard and soft engineering.				
Assess the effectiveness of different types of coastal engineering in different locations.				
State reasons why the coastline of Newquay has such economic and environmental importance.				

History	S	O	R	T
Roman Britain				
What is History: key concepts for Historians				
Who was in charge in Roman Britain?				
How has Mary Beard used evidence to reach conclusions about the lives of people in Pompeii ?				
What have the Romans ever done for us and who is in charge?				
Tacitus and Boudicca: Goodie or Baddie?				
Who settled after the Romans?				
Walsham: How pleasant or harsh was life in a medieval village?				
What shall we do with Cedric?				
The connected world of Islam before 1000: what drove Baghdad's thirst for knowledge				
The French village of Conques before 1000 – The light of one saint's story on the Western Christian World				

Computing Personal Learning Checklists

Computing Online Safety	S	O	R	T
I can use basic file management techniques to create folders, save, copy, move, rename and delete files and folders				
I can keep my files in well organised and in appropriately named folders				
I know how to access my school files at home				
Understand why learning about computers is so important in the modern world				
I can tell the difference between a Web Browser and a search engine				
I understand how a search engine finds information				
I can use a search engine to find information				
I can tell the difference between the internet and the world wide web				
I can describe how to minimize the risk of a range of online dangers				
Understand that all activity on the internet is recorded and nothing is truly deleted				
I can describe guidelines for keeping their identity secure on the Internet				
I can identify steps to see if a website is real or fake				
I can identify copyright laws				
Understand how to use other peoples' ideas/work without breaking copyright law				
I know what to do if I am being cyberbullied				
I can explain what constitutes a "strong" password for an online account				
I can describe what is meant by identity theft and how to minimize the risks of this				
I can identify a probable phishing email and deal with it appropriately				

Computing Programming	S	O	R	T
Understand what is input, storage & output in programming				
Understand that programs run in sequence				
Create a basic Scratch program				
Understand what is a variable and why they are used in programming				
Write Scratch programs using Variables				
Create programs using selection				
Understand the need for iteration				
Understand how to create programs that use iteration				
Run simple Python programs				
Use comments to document programs				
Understand how to store inputs into variables in python				
Understand how to correctly label variables in Python				
Use concatenation to join text in Python				
Carry out a number of programming tasks to practice programming simple arithmetic.				
Create a program that stores and displays school results				
Create a programs in Python that use selection statements				

REP & Art Personal Learning Checklists

REP Judaism	S	O	R	T
State the seven dimensions of religion				
Give an example of each of the seven dimensions of religion				
State the six main divine characteristics of God				
Explain what each of the six main divine characteristics of God are				
Describe who Abraham was				
Describe the biblical story of the Binding of Isaac				
Explain what the 'Covenant' is				
Describe the biblical story of Joseph				
Explain the concept of faith in God				
Describe the story of Moses				
Give three examples of the Plagues of Egypt				
Describe the events of Passover				
Explain the importance of the Sedar plate				
Describe what the Torah is				
Identify the four key features of a Synagogue				
Describe what happens on Shabbat				
Explain the importance of Yom Kippur to Jews				
Explain the importance of Rosh Hashanah to Jews				

Art Natural Form	Evidenced	Refined
How to analyse artists' styles to influence my own work.		
I can use proportion in drawing		
How to look carefully at shape when drawing		
I am able to use a variety of tones when shading		
I am able to develop mark making techniques to show texture and detail		
I am able to draw from primary and secondary sources		
I am able to use blend and mix colours using colour pencil		

Music, Drama & DT Personal Learning Checklists

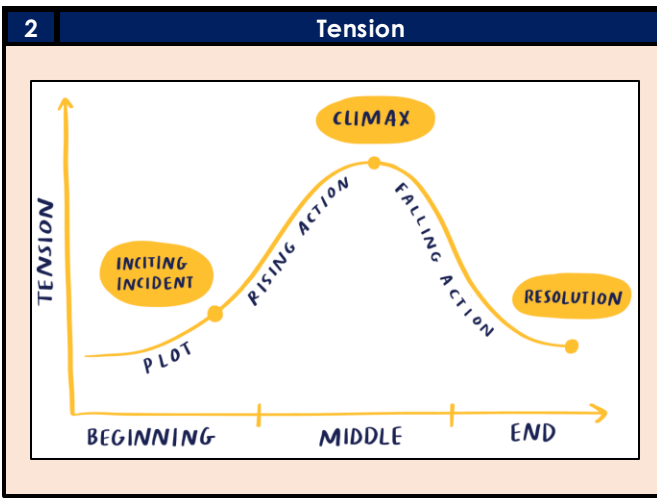
Music	S	O	R	T
Sing and play as part of an ensemble group using appropriate sounds, timbres, voices and pitch.				
Perform a solo line within a whole class performance.				
Understand the musical elements (MAD TSHIRTS) and their definitions and be able to identify them in the music that I listen to				
Perform and/or create a range of different rhythms through call and response and improvisation.				
Recognise how structure works within a pop song using key vocabulary to label the different sections.				
Develop you understanding of what a chord is and how to play a chord on multiple instruments				
Strum a chord pattern on the ukulele, developing your ability to transition between chords.				

Drama	S	O	R	T
Create a character with exaggerated body language and vocal skills				
Understand the stereotypes of three key characters				
Research real heroes in society and perform their narrative in groups				
Learn about Irena Sendler				
Question what makes someone a real hero				

DT Food and Nutrition	S	O	R	T
I understand how to ensure a hygienic and safe kitchen				
I can explain the importance of knife safety and knife skills to prevent injury				
I can identify the five different sections of the eat well guide				
I understand the importance of a healthy diet				
I can name and describe a number of common pieces of equipment in the kitchen				
I can describe the difference between the bridge hold and claw grip				
DT Fan Project	S	O	R	T
I can recall and define the tier three vocabulary in this unit				
I can name tools and equipment				
I can use hand tools and power tools with precision				
I can join materials using an appropriate method				
I can evaluate the finish of my work and link this to how precisely I have used the tools				

English Knowledge Organiser – Tension in Short Stories

1	TIER THREE VOCABULARY
Context	The cultural, political, social or historical events that are relevant or helped to inspire a text. Can also refer to information about the writer's life.
Dystopia	The worst possible version of the world
Subject Terminology	Words or vocabulary that is subject specific (also referred to as Tier 3 vocabulary)
Foreshadowing	When the reader is given a hint of something to come later in the story
Characterisation	Methods the writer uses to show the reader information about a character (i.e. description or dialogue)
Setting	The place that story takes place
Utopian	The best possible version of the world
Quote	Something that is written in the text of a story. Differ



4 Patriarchy

The twist in 'Lamb to the Slaughter' subverts the societal expectations of a patriarchal society.

The illustration depicts a scale of justice held by a large red fist. On the left pan, a woman in a black dress stands. On the right pan, a man in a suit stands. The scale is tilted towards the woman, suggesting she is heavier or more significant.

3 Foreshadowing

How do writers use foreshadowing in literature and why?

Using Foreshadowing in Fiction

The illustration shows two stylized figures on a purple background. One figure is dropping small black dots, which are being caught by the other figure. This represents the concept of foreshadowing.

5 Short Stories

Improve your understanding of the short story genre by reading other tales from the likes of Anthony Horowitz.

The book cover for 'Horowitz Horror' by Anthony Horowitz features a skull with a spiderweb. The text on the cover includes '17 CHILLING TALES FROM THE MASTER OF STORYTELLING', 'HOROWITZ HORROR', and 'THE ULTIMATE COLLECTION'.

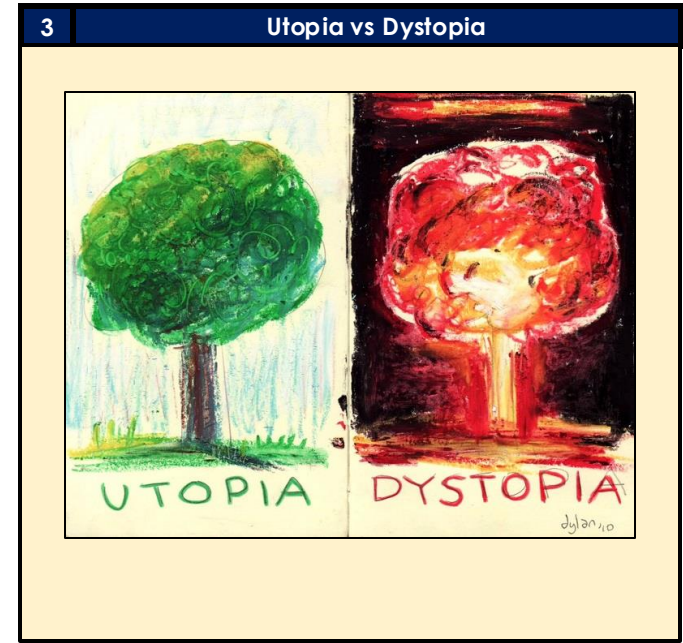
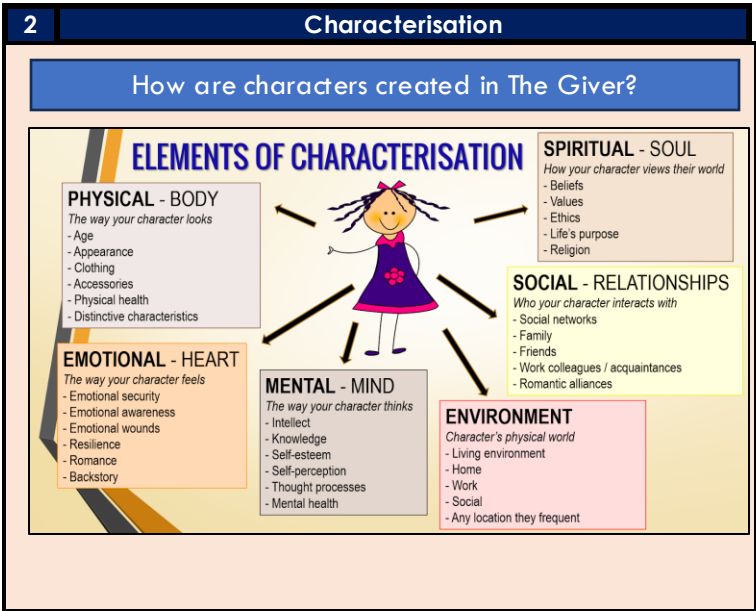
English Knowledge Organiser – The Giver

Key Characters	Purpose & Summary
Jonas	The eleven-year-old protagonist of <i>The Giver</i> . Sensitive and intelligent, with strange powers of perception that he doesn't understand, Jonas is chosen to be the new Receiver of Memory for his community when he turns twelve. Jonas is symbolic of the importance of individuality and freedom.
The Giver	The old man known in the community as the Receiver of Memory. The Giver has held the community's collective memory for many years and uses his wisdom to help the Committee of Elders make important decisions. He is symbolic of the importance of memories.
Jonas' Father	A mild-mannered, tenderhearted Nurturer who works with infants. He is very sweet with his two children. He enjoys his job and takes it very seriously, constantly trying to nurture children who will stay alive until the Ceremony of Names. He represents conformity and the darkness it can bring.
Asher	Jonas's best friend. Asher is a fun-loving, hasty boy who usually speaks too fast, mixing up his words to the exasperation of his teachers and Jonas. He is assigned the position of Assistant Director of Recreation. He represents childhood and playfulness.

Key Symbols	What They Represent
Birthdays	The loss of individuality
Sled	Jonas' journey and change
Bikes	A symbol of independence
The child - Gabriel	For Jonas, the new child Gabriel is a symbol of hope and of starting over.

English Knowledge Organiser – The Giver

1 TIER THREE VOCABULARY	
Symbolism	When something, usually a physical item, is used to represent a concept or idea that is important to the story.
Flashback	When a story changes to a memory or invent in the past that might be important in some way.
Metaphor	A comparison between two things when something is said to be something else.
Simile	A comparison between two things using the words 'like' or 'as'.
Imagery	Descriptive or figurative language that helps the reader visualize the story (i.e. metaphors and similes are forms of imagery).
Methods	The things a writer does to make his or her writing very effective (i.e. metaphors, similes, and imagery are all methods that a writer might use).
Connotation	The feeling or emotion suggested by a word.
Adjective	A describing word.



4 Thesis Writing

Thesis writing is where we outline our argument for a Literature Essay. We use a three-pronged approach.

First sentence → What does the writer aim to achieve with the text overall?

Second sentence → How does the writer get this argument across? Which characters or moments do they use?

Third sentence → Provide references from across the text and then explain WHY the writer has done this.

5 Writer's Aims

In The Giver, Lowry seeks to:

Warn us about the controlling nature of governments.

Teach us about the impossibility of a utopian society.

Criticise those who abuse their power.

Maths Knowledge Organiser – Keywords

VOCABULARY

Sequence: items or numbers put in a pre-decided order

Term: a single number or variable

Position: the place something is located

Rule: instructions that relate two variables

Linear: the difference between terms increases or decreases by the same value each time

Non-linear: the difference between terms increases or decreases in different amounts

Difference: the gap between two terms

Arithmetic: a sequence where the difference between the terms is constant

Geometric: a sequence where each term is found by multiplying the previous one by a fixed non zero number

Function: a relationship that instructs how to get from an input to an output.

Input: the number/ symbol put into a function.

Output: the number/ expression that comes out of a function.

Operation: a mathematical process

Inverse: the operation that undoes what was done by the previous operation. (The opposite operation)

Commutative: the order of the operations do not matter.

Substitute: replace one variable with a number or new variable.

VOCABULARY

Expression: a maths sentence with a minimum of two numbers and at least one math operation (no equals sign)

Evaluate: work out

Linear: the difference between terms increases or decreases by the same value each time

Approximate: To estimate a number, amount or total often using rounding of numbers to make them easier to calculate with

Integer: a whole number that is positive or negative

Interval: between two points or values

Median: A measure of central tendency (middle, average) found by putting all the data values in order and finding the middle value of the list.

Negative: Any number less than zero; written with a minus sign.

Place holder: We use 0 as a place holder to show that there are none of a particular place in a number

Place value: The value of a digit depending on its place in a number. In our decimal number system, each place is 10 times bigger than the place to its right

Range: The difference between the largest and smallest numbers in a set

Significant figure: A digit that gives meaning to a number. The most significant digit (figure) in an integer is the number on the left. The most significant digit in a decimal fraction is the first non-zero number after the decimal point

VOCABULARY

Fraction: how many parts of a whole we have

Decimal: a number with a decimal point used to separate ones, tenths, hundredths etc.

Percentage: a proportion of a whole represented as a number between 0 and 100

Tenth: one whole split into 10 equal parts

Hundredth: one whole split into 100 equal parts

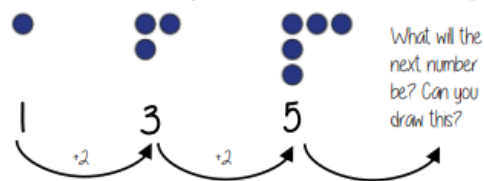
Sector: a part of a circle between two radius (often referred to as looking like a piece of pie)

Recurring: a decimal that repeats in a given pattern

Maths Knowledge Organiser - Sequences

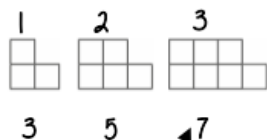
Describe and continue a sequence diagrammatically

Count the number of circles or lines in each image



Sequence in a table and graphically

Position: the place in the sequence



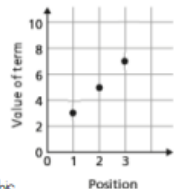
Term: the number or variable (the number of squares in each image)

Position	1	2	3
Term	3	5	7

+2 +2

Because the terms increase by the same addition each time this is **linear** – as seen in the graph

Graphically



"The term in position 3 has 7 squares"

Predict and check terms



CHECK – draw the next terms



Predictions:

Look at your pattern and consider how it will increase.

e.g. How many lines in pattern 6?

Prediction - 13

If it is increasing by 2 each time - in 3 more patterns there will be 6 more lines

Linear and Non Linear Sequences

Linear Sequences – increase by addition or subtraction and the same amount each time

Non-linear Sequences – do not increase by a constant amount – quadratic, geometric and Fibonacci

- Do not plot as straight lines when modeled graphically
- The differences between terms can be found by addition, subtraction, multiplication or division

Fibonacci Sequence – look out for this type of sequence

0 1 1 2 3 5 8 ...

Each term is the sum of the previous two terms

Continue Linear Sequences

7, 11, 15, 19...

How do I know this is a linear sequence?

It increases by adding 4 to each term

How many terms do I need to make this conclusion?

At least 4 terms – two terms only shows one difference not if this difference is constant (a common difference)

How do I continue the sequence?

You continue to repeat the same difference through the next positions in the sequence.

Continue non-linear Sequences

1, 2, 4, 8, 16 ...

How do I know this is a non-linear sequence?

It increases by multiplying the previous term by 2 – this is a geometric sequence because the constant is multiply by 2

How many terms do I need to make this conclusion?

At least 4 terms – two terms only shows one difference not if this difference is constant (a common difference)

How do I continue the sequence?

You continue to repeat the same difference through the next positions in the sequence.

Explain term-to-term rule

How you get from term to term

Try to explain this in full sentences not just with mathematical notation

Use key maths language – doubles, halves, multiply by two, add four to the previous term etc.

To explain a whole sequence you need to include a term to begin at...

The next term is found by tripling the previous term
The sequence begins at 4.

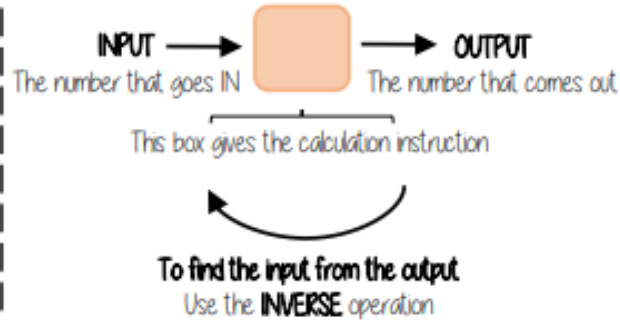
4, 12, 36, 108...

x3 x3 x3

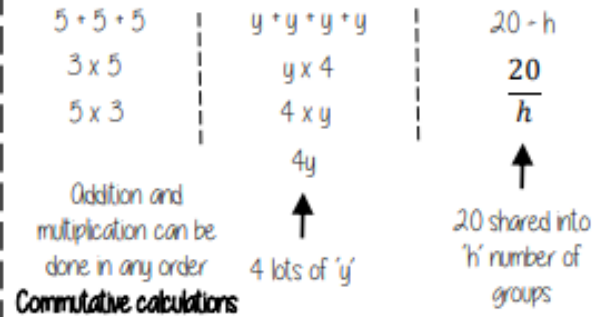
First term

Maths Knowledge Organiser – Algebraic Notation 1

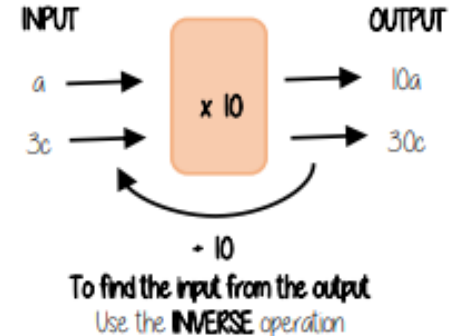
Single function machines



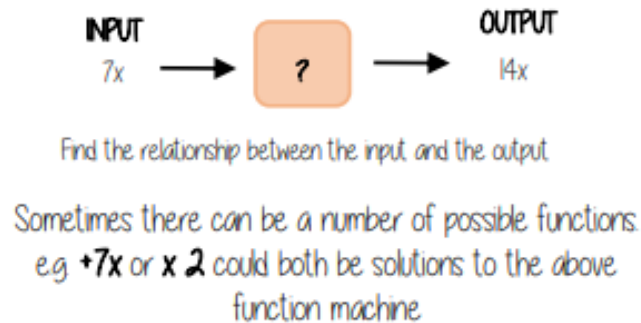
Using letters to represent numbers



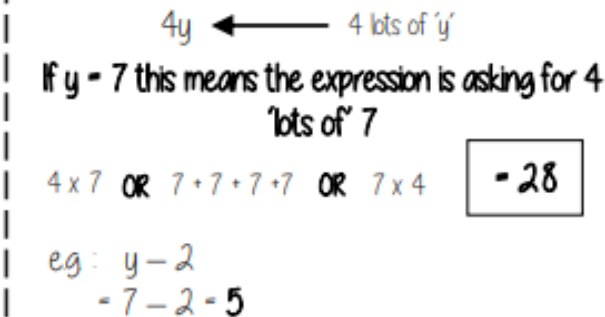
Single function machines (algebra)



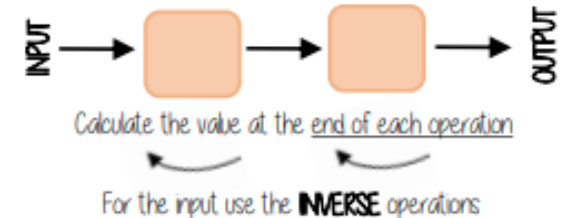
Find functions from expressions



Substitution into expressions

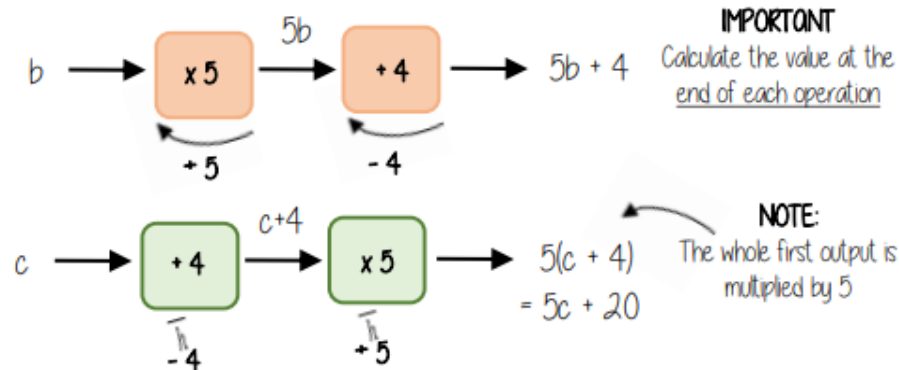


Two step function machines

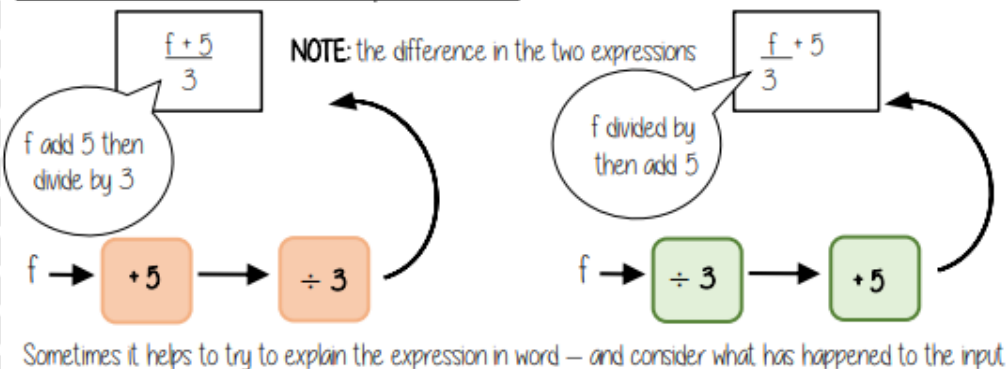


Maths Knowledge Organiser – Algebraic Notation 2

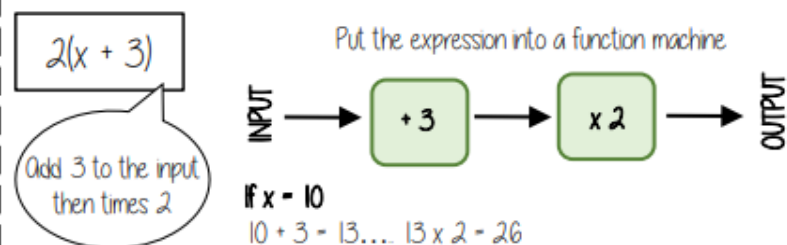
Two step function machines (algebra)



Find functions from expressions



Substitution into an expression



Representing functions graphically

Take the function and generate a sequence $2(x + 3)$



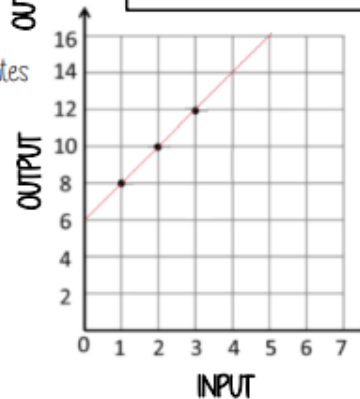
To represent graphically the input becomes x co-ordinates and the output becomes y co-ordinates

$$y = 2(x + 3)$$

INPUT (x)	1	2	3
OUTPUT (y)	8	10	12

This becomes a co-ordinate pair (2, 10) to plot on a graph

Not all graphs will be linear only those with an integer value for x. Powers and fractions generate differently shaped graphs



NOTE: Because this is a linear graph you can predict other values

Forming a sequence

$2(x + 3)$

INPUT	1	2	3
OUTPUT	8	10	12

The substitution is the 'input' value
The OUTPUT becomes the sequence

Maths Knowledge Organiser – Equality and Equivalence 1

Equality

$$\underbrace{2 + 14}_{16} = \underbrace{5 + 5 + 6}_{16}$$

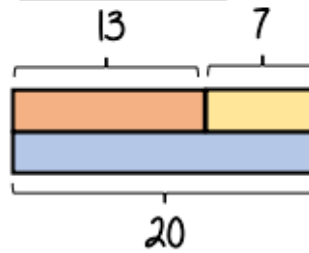
"is equal to"

The sum on the left has the same result as the sum on the right

Saying it out loud sometimes helps you to understand equality

Fact Families

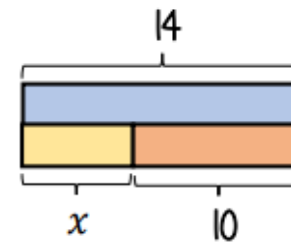
Use a bar model to display the relationships between terms and numbers.



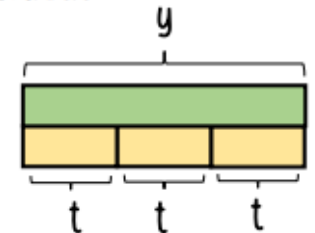
Model the information

$$\begin{array}{l} 13 + 7 = 20 \\ 7 + 13 = 20 \\ 20 - 7 = 13 \\ 20 - 13 = 7 \end{array}$$

Fact Family



$$\begin{array}{l} x + 10 = 14 \\ 10 + x = 14 \\ 14 - 10 = x \\ 14 - x = 10 \end{array}$$



$$\begin{array}{l} t + t + t = y \\ 3t = y \\ y - t = 2t \\ y - t = 3t \end{array}$$

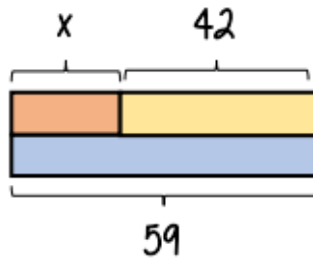
Solve one step equations (+/-)

There is more to this than just spotting the answer

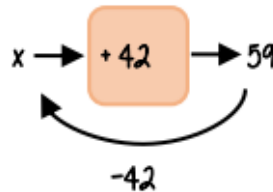
$$x + 42 = 59$$

$$\begin{array}{l} x + 42 = 59 \\ 42 + x = 59 \end{array}$$

$$\begin{array}{l} 59 - x = 42 \\ 59 - 42 = x \end{array}$$



Don't forget you know how to use function machines

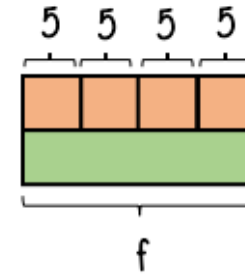


Solve one step equations (x/÷)

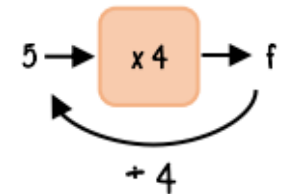
$$\frac{f}{4} = 5$$

$$\begin{array}{l} f \div 4 = 5 \\ f \div 5 = 4 \end{array}$$

$$\begin{array}{l} 5 \times 4 = f \\ 4 \times 5 = f \end{array}$$



Don't forget you know how to use function machines



Maths Knowledge Organiser – Equality and Equivalence 2

Like and unlike terms

Like terms are those whose variables are the same

♥ and 3♥ are like terms

the variable is the same

★ and 3♥ are unlike terms

the variables are NOT the same

Examples and non-examples

Like terms

$y, 7y$
 $2x^2, x^2$
 $ab, 10ba$
 $5, -2$

Un-like terms

$y, 7x$
 $2x^2, 2c^2$
 $ab, 10a$
 $5, -2t$

Note here ab and ba are commutative operations, so are still like terms

Equivalence

Check equivalence by substitution

e.g. $m=10$

$$\begin{array}{l} 5m \\ 5 \times 10 \\ - 50 \end{array}$$


$$\begin{array}{l} 2 \times 2m \\ 2 \times (2 \times 10) \\ - 2 \times 20 \\ - 40 \end{array}$$


$$\begin{array}{l} 7m - 3m \\ (7 \times 10) - (3 \times 10) \\ - 70 - 30 \\ - 40 \end{array}$$

Equivalent expressions

Repeat this with various values for m to check

$$5m$$


$$2 \times 2m$$


$$7m - 3m$$


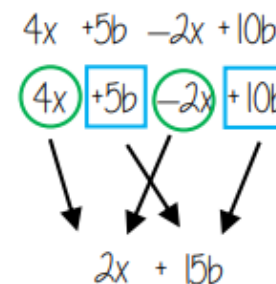
Collecting like terms \equiv symbol

The \equiv symbol means equivalent to

It is used to identify equivalent expressions

Collecting like terms

Only like terms can be combined

$$4x + 5b - 2x + 10b$$


Common misconceptions

$$2x + 3x^2 + 4x \equiv 6x + 3x^2$$

Although they both have the x variable, x^2 and x terms are unlike terms so can not be collected

Maths Knowledge Organiser – Place Value

Integer Place Value

Billions			Millions			Thousands			Ones			
H	T	O	H	T	O	H	T	O	H	T	O	
			3	1	4	8	0	3	3	0	2	9

Placeholder

Three billion, one hundred and forty eight million, thirty three thousand and twenty nine

1 billion 1,000,000,000
1 million 1,000,000

Intervals on a number line

Divide the difference by the number of intervals (gaps).
Eg $100 \div 5 = 20$

Rounding to the nearest power of ten

If the number is halfway between we "round up"

5495 to the nearest 1000 → 5000

5475 to the nearest 100 → 5500

5475 to the nearest 10 → 5480

Decimal intervals on a number line

One whole split into 10 parts makes tenths = 0.1
One tenth split into 10 parts makes hundredths = 0.01

Round to 1 significant figure

370 to 1 significant figure is 400
37 to 1 significant figure is 40
3.7 to 1 significant figure is 4
0.37 to 1 significant figure is 0.4
0.00000037 to 1 significant figure is 0.0000004

Round to the first non zero number

Range

Spread of the values

Difference between the biggest and smallest

3 9 8 12

Range: Biggest value - Smallest value
 $12 - 3 = 9$

Range = 9

Median

The middle value

Example 1
4 3 9 8 12
Median: put the in order 3 4 8 9 12
find the middle number 3 4 **8** 9 12

Example 2
150 154 148
137 160 158
Median: put the in order 137 148 150 154 158 160
There are 2 middle numbers
Find the midpoint
152

Comparing decimals

Which the largest of 0.3 and 0.23?

0.3 > 0.23
"There are more counters in the furthest column to the left"

Ones	Tenths	Hundredths
	0.1 0.1	
	0.1	

0.30

Ones	Tenths	Hundredths
	0.1	0.01 0.01
	0.1	0.01

0.23

Comparing the values both with the same number of decimal places is another way to compare the number of tenths and hundredths

Compare integers using <, >, =, ≠

< less than

> greater than

= equal to

≠ not equal to

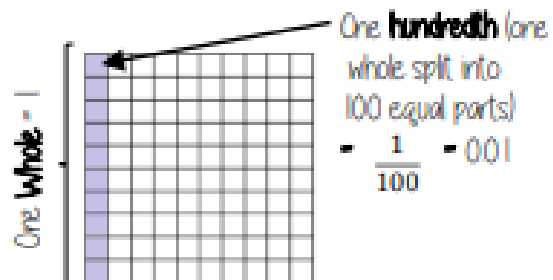
Two and a half million = 2 500 000

300 000 000 = Three billion

Six thousand and eighty < 68 000

Maths Knowledge Organiser – Fractions, decimals and percentages 1

Tenths and hundredths



One **tenth** (one whole split into 10 equal parts) = $\frac{1}{10} = 0.1$



0 ones, 5 tenths and 2 hundredths
 $0 + 0.1 + 0.1 + 0.1 + 0.1 + 0.1 + 0.01 + 0.01$
 $= 0 + 0.5 + 0.02$
 $= 0.52$

On a number line

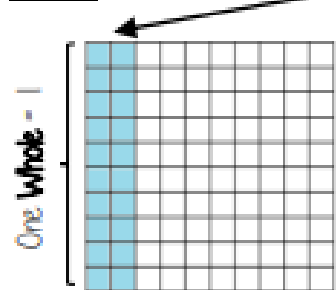


One tenth = $\frac{1}{10} = 0.1$



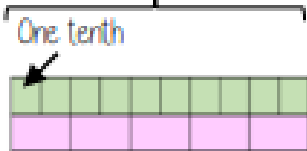
One hundredth = $\frac{1}{100} = 0.01$

Fifths



Twenty hundredths

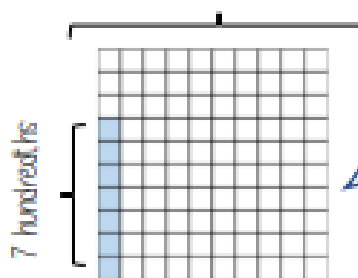
One whole = 1



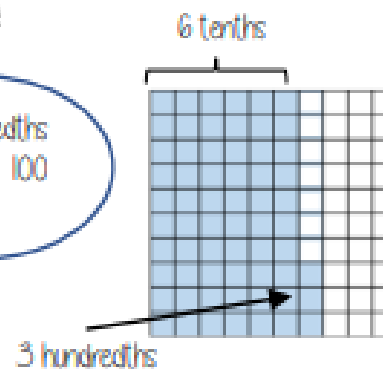
One **fifth** (one whole split into 5 equal parts) = $\frac{1}{5} = 0.2$

Percentages on a hundred grid

100% = a whole = 100 hundredths



7 hundredths
7 out of 100
7%

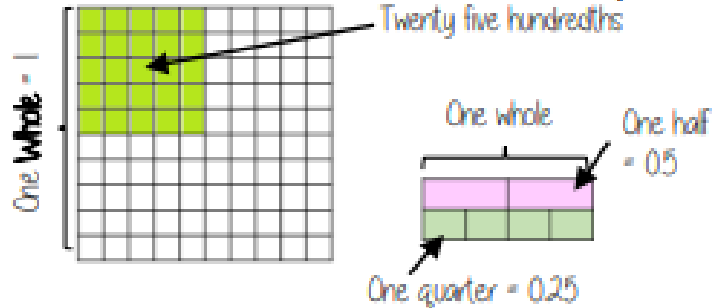


6 tenths and 3 hundredths
63 hundredths
63%

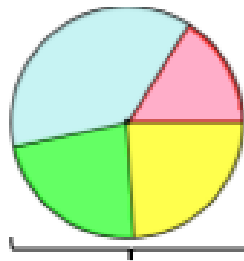
Maths Knowledge Organiser – Fractions, decimals and percentages 2

Quarters

One **quarter** (one whole split into 4 equal parts) = $\frac{1}{4} = 0.25$



Simple pie charts



A pie chart has 360° so all FDP calculations are out of 360

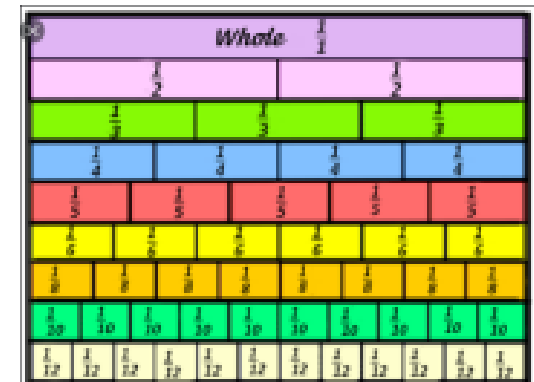
Split into 10 parts
= $10\% = 36^\circ$

Split into 2 parts
= $50\% = 180^\circ$

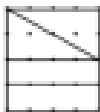
Split into 5 parts
= $20\% = 72^\circ$

Equivalent fractions

Represent equivalence with fraction walls

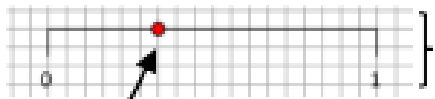


Fractions – on a diagram



The denominator is represented by **EQUALLY** sized parts – this is split into quarters

Fractions – on a number line



This point is at the 6th part
6 is the **numerator**

One whole split into 18 equal parts
18 is the **denominator**

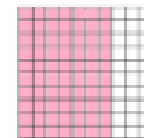
$$\frac{6}{18} \longleftarrow \frac{3}{9} \longleftarrow \frac{1}{3}$$

Convert FDP

$$\frac{70}{100}$$

This also means
70 - 100

70 out of 100 squares
70 'hundredths'
= 7 'tenths'
0.7



70 hundredths
= 70%

Using a calculator

$$\frac{\square}{\square}$$

$\frac{\square}{\square} = \square$ Convert to a decimal

This will give you the answer in the simplest form

$\times 100$ converts to a percentage

Be careful of recurring decimals

eg $\frac{1}{3} = 0.3333333$
 $\frac{1}{3} = 0.\dot{3}$

The dot above the 3

Science Knowledge Organiser

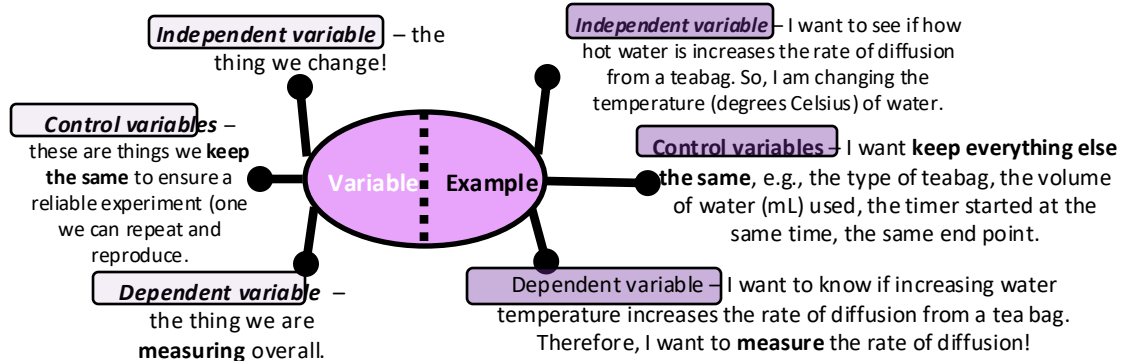
Key words	Definition
Independent variable	The variable you change in an investigation
Dependent variable	The variable you measure in an investigation
Control variable	The variable you keep the same in an investigation
Hypothesis	A prediction of what will happen in an investigation
Reliability	We use control variables to ensure a reliable experiment
Reproducible	To re-do our experiment and get similar results due to a reliable method
Mean	Doing an experiment 3 times then dividing by 3 to get an average
Fair test	An experiment where only the independent variable changes.
Anomalous result	Result that does not fit with the rest of the data.

1. Designing and performing experiments

- Repeatable** – The **same** person gets the **same** results after repeating the experiment using the same method and equipment.
- Reproducible** – Similar results can be achieved by **someone else** or using a **different method**/piece of equipment.
- Accurate** – Results are close to the true answer
- Precise** – data is **close** to the **mean** (or the average!)

For data to be **reliable**, it must be **repeatable** and **reproducible**

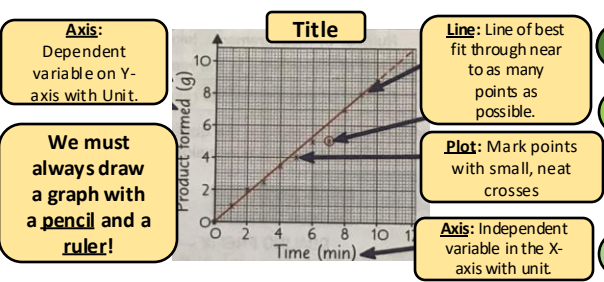
2. The Variables



3. Presenting Data



- Scale** – evenly spread
- Plot** – draw with a small, neat 'x'
- Line of best fit**
- Axis** – both X (bottom) and Y (side) axis have **titles and units!**
- Title**



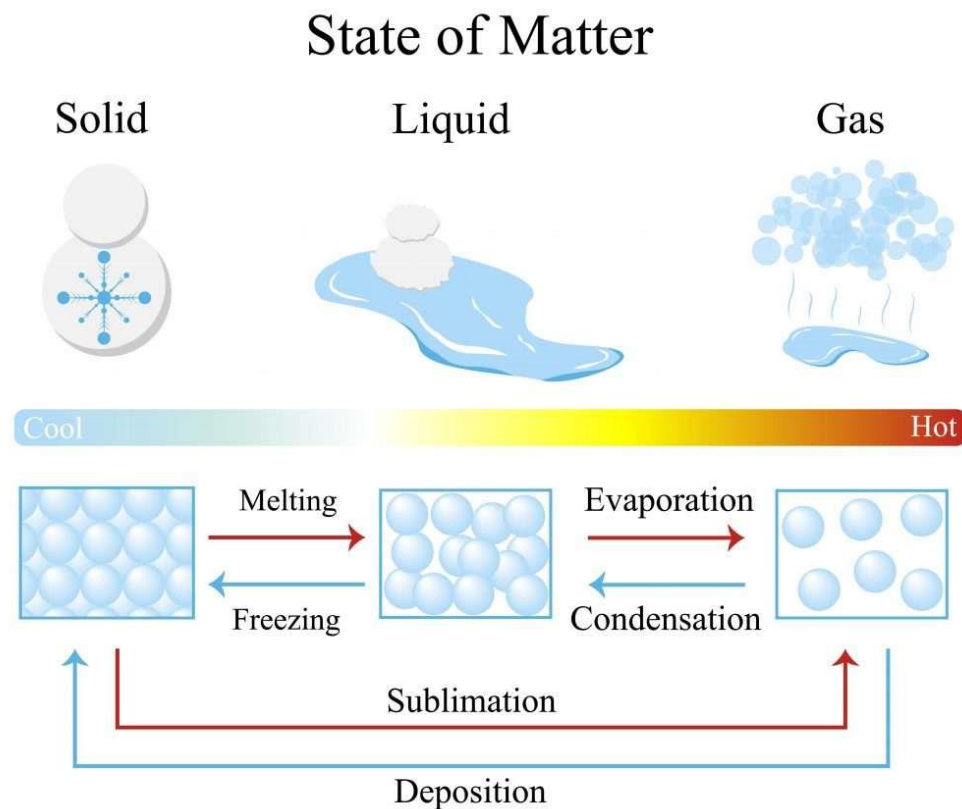
Drawing conclusions from data:

- State the **relationship** between the independent and dependent variable, e.g., '**as the time increases the product formed increases.**'
- Use statistics to support your answer.** 'For example, at 10 minutes there was 50g of product, compared to 160g at 20 minutes'
Refer to the original hypothesis – does the data support this?
-

When **evaluating** think of the **positives** and **negatives** of the method (the validity - did they use enough controls? And of the results – were results **reliable, accurate, reproducible?**) and come to an overall **conclusion**.

Science Knowledge Organiser

1	TIER THREE VOCABULARY
States of matter	Shows how solids, liquids and gases change state
Boiling	When a liquid turns into a gas
Melting	When a solid turns into a liquid
Freezing	When a liquid turns into a solid
Evaporating	When a liquid turns into a gas
Condensing	When a gas turns into a liquid
Sublimation	When a solid turns into a gas without becoming a liquid first.
Chromatography	Is a separation technique used to separate mixtures of soluble substances
Filtration	Is used to separate an insoluble solid from a pure liquid or a solution.
Distillation	Is a separation technique used to separate a solvent from a mixture.
Pure substance	A substance made of only one type of particle
Impure substance	A substance made from more than one element or compound (Mixture)



Science Knowledge Organiser

How can I use the Periodic Table?

Group 1 – Alkali Metals

Group 7 – Halogens

Group 0 – Noble gases

Group number – tells you the number of **electrons** in an elements **outer** shell.

Elements in the **same group** have **similar properties**.

Key

- relative atomic mass
- atomic symbol
- name
- atomic (proton) number

Mass Number = number of protons and neutrons added together.

Atomic / Proton Number = number of protons which is the same as the number of electrons.

Neutrons = Mass number – Atomic number

Transition Metals

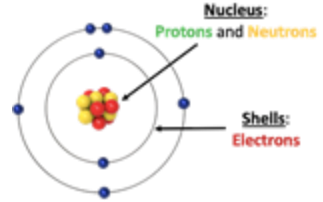
Non-Metals

Noble gases have a **full outer shell** of electrons. E.g., Neon (Ne)

Magnesium (Mg) has **12 electrons** in total. It is in **group 2** so has **2 electrons** in its **outer shell**. Mg's electronic configuration is **2,8,2**.

7 Li lithium 3	9 Be beryllium 4																	11 B boron 5	12 C carbon 6	13 N nitrogen 7	14 O oxygen 8	15 F fluorine 9	16 Ne neon 10
23 Na sodium 11	24 Mg magnesium 12																	27 Al aluminum 13	28 Si silicon 14	31 P phosphorus 15	32 S sulfur 16	35.5 Cl chlorine 17	40 Ar argon 18
39 K potassium 19	40 Ca calcium 20	45 Sc scandium 21	48 Ti titanium 22	51 V vanadium 23	52 Cr chromium 24	55 Mn manganese 25	56 Fe iron 26	59 Co cobalt 27	59 Ni nickel 28	63.5 Cu copper 29	65 Zn zinc 30	70 Ga gallium 31	73 Ge germanium 32	75 As arsenic 33	79 Se selenium 34	80 Br bromine 35	84 Kr krypton 36						
85 Rb rubidium 37	88 Sr strontium 38	89 Y yttrium 39	91 Zr zirconium 40	93 Nb niobium 41	96 Mo molybdenum 42	[97] Tc technetium 43	101 Ru ruthenium 44	103 Rh rhodium 45	106 Pd palladium 46	108 Ag silver 47	112 Cd cadmium 48	115 In indium 49	119 Sn tin 50	122 Sb antimony 51	128 Te tellurium 52	127 I iodine 53	131 Xe xenon 54						
133 Cs caesium 55	137 Ba barium 56	139 La* lanthanum 57	178 Hf hafnium 72	181 Ta tantalum 73	184 W tungsten 74	186 Re rhenium 75	190 Os osmium 76	192 Ir iridium 77	195 Pt platinum 78	197 Au gold 79	201 Hg mercury 80	204 Tl thallium 81	207 Pb lead 82	209 Bi bismuth 83	[209] Po polonium 84	[210] At astatine 85	[222] Rn radon 86						
[223] Fr francium 87	[226] Ra radium 88	[227] Ac* actinium 89	[267] Rf rutherfordium 104	[270] Db dubnium 105	[269] Sg seaborgium 106	[270] Bh bohrium 107	[270] Hs hassium 108	[278] Mt meitnerium 109	[281] Ds darmstadtium 110	[281] Rg roentgenium 111	[285] Cn copernicium 112	[286] Nh nihonium 113	[289] Fl flerovium 114	[289] Mc moscovium 115	[293] Lv livermorium 116	[293] Ts tennessine 117	[294] Og oganesson 118						

Subatomic Particle	Mass	Charge
Proton	1	+1
Neutron	1	0
Electron	Negligible	-1



Science Knowledge Organiser

2 The particle model

Solid



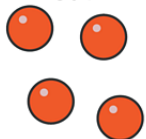
The particles in solids are very close together, therefore they cannot usually be compressed or squashed. The particles in solids are arranged in a regular way. The particles in solids move only by vibrating about a fixed position. This gives solids a fixed shape and means that they cannot flow like liquids.

Liquid



The particles in liquids are arranged in a random way, and are close together, touching many of their neighbours. There are some gaps, but liquids cannot usually be compressed or squashed. The particles of a liquid have enough energy to break free of some of the forces of attraction between the particles. So particles in liquids can move around and can move over each other, allowing liquids to flow and be poured.

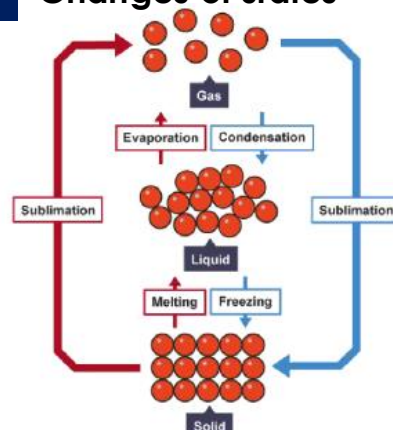
Gas



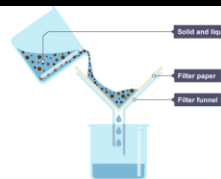
The particles in gases are widely spaced and randomly arranged, meaning they can be easily compressed or squashed. The particles in a gas have enough energy to overcome the forces of attraction between the particles, so are free to move in any direction. They move quickly in straight lines, colliding with each other and the walls of their container.

All information resourced from BBC Bitesize

3 Changes of states



5 Filtration



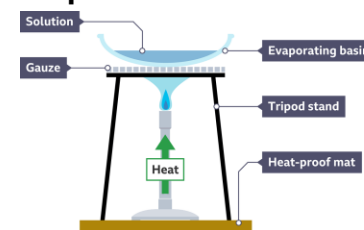
Filtration is the process of separating solids from liquids using .

The process can be used to separate an insoluble solid, for example stone or sand grains from a liquid. The liquid could be a pure liquid, for example water, or it could be a , for example, salty water.

When a mixture of sand and water is filtered:

- the sand stays behind in the filter paper, it becomes the residue
- the water passes through the filter paper, it becomes the filtrate

4 Evaporation



Evaporation can be used as a technique to separate the solid from the in a . The solvent is the liquid, and when the solution is heated, the solvent evaporates. The solute is left behind as crystals.

In a lab the heat is usually supplied by a Bunsen burner, and the solution is heated in an evaporating basin.

6 Further reading and websites

The particle model of matter:
<https://www.bbc.co.uk/bitesize/topics/z9r4jxs>

Pure and impure substances:
<https://www.bbc.co.uk/bitesize/topics/zych6g8>

Science Knowledge Organiser

1	TIER THREE VOCABULARY
Microscope	A scientific instrument that is used to see tiny objects, such as cells, magnified several hundred times or more
Specialised cells	Cells which have a particular adaptation to allow them to complete a specific function
Offspring	An animals young
Sexual fertilisation	A process in which new organisms are created by combining the genetic information from two individuals of different sexes
DNA	The store of genetic information for all living things, passed from parents to offspring
Ova	Female gametes
Sperm	Male gametes
Hormones	Chemical messages produced by glands. They travel in the blood to a target organ where they take effect
Uterus	The part of the female reproductive system where a fertilised egg cell develops into an embryo and then a fetus. Also called the womb.
Oviduct	Tubes in the female reproductive system which link the two ovaries to the uterus. Also called the fallopian tubes.

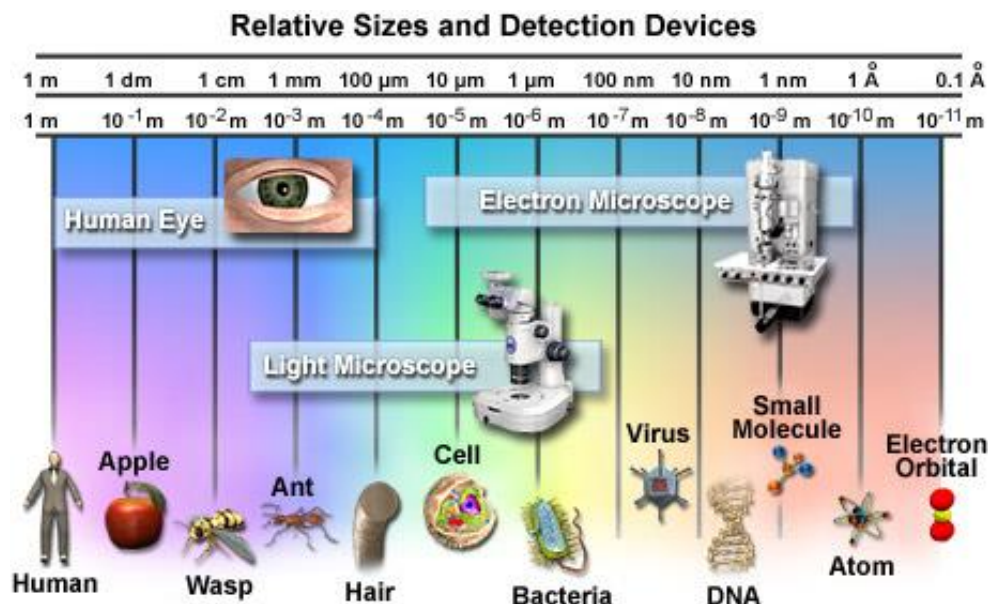
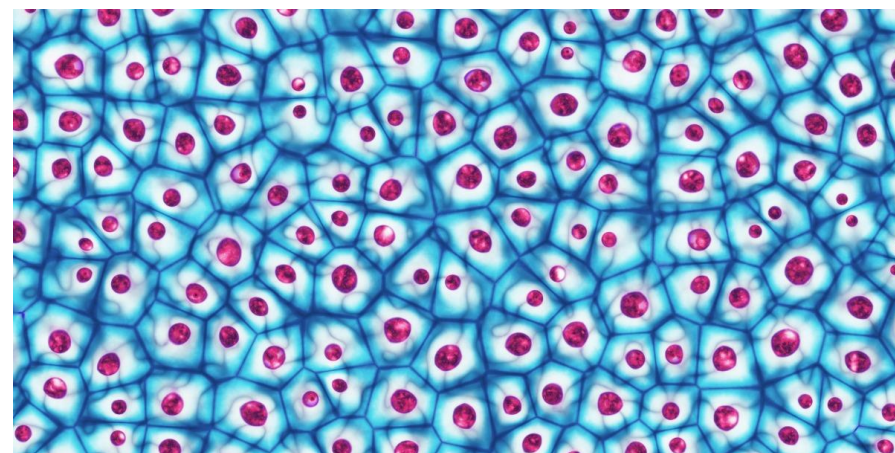
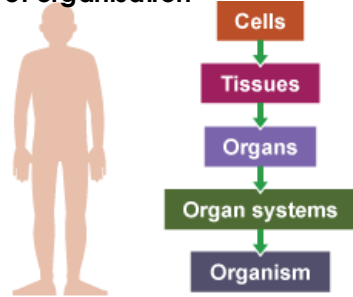


Figure 1



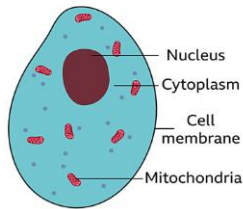
Science Knowledge Organiser – Life Science

2 Levels of organisation



Multicellular animals and plants consist of different types of cells organised in a hierarchy as tissues, organs and systems.

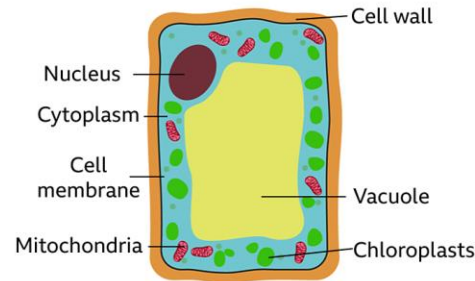
3 Animal cells



The four key components of most animal cells are:

- **Nucleus** - this contains the genetic material (DNA) of the organism and controls the cell's activities.
- **Cytoplasm** - the liquid that makes up most of the cell in which chemical reactions happen. This is mainly water.
- **Cell membrane** - a flexible outer layer that surrounds the cell and controls which substances can pass into and out from it.
- **Mitochondria** - tiny parts of cells floating in the cytoplasm where energy is released from glucose from food. The mitochondria, found in the cell cytoplasm, are where most **respiration** happens.

3 Plant cells



Plant cells often have a regular shape. They have the same cell components as animal cells: a **nucleus**, **cell membrane**, **cytoplasm** and **mitochondria**.

They also have these extra three as well:

- **Cell wall**: a tough outer layer of the cell, which contains cellulose to provide strength and support to the plant.
- **Vacuole**: a space inside the cytoplasm that contains a watery liquid called cell sap. It keeps the cell firm.
- **Chloroplasts**: structures found in the cells of green parts of plants only (leaves and stems) which contain a green pigment called chlorophyll in which **photosynthesis** occurs.

4 Specialised cells



Sperm cells

Sperm are the male sex cell. They are made in the testes after **puberty**. They join with an egg cell during **fertilisation** to form an **embryo** which can then develop into a new life. The following features make them well suited to this function:

- A tail moves them towards an egg cell.
- Many **mitochondria** release energy for movement.
- Part of the tip of the head of the sperm, called the **acrosome**, releases enzymes to digest the egg membrane to allow fertilisation to take place.
- The **haploid** nucleus contains the genetic material for fertilisation.
- Sperm are produced in large numbers to increase the chance of fertilisation.

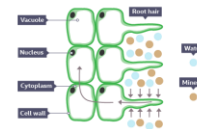
Root hair cells

Roots hold plants in place as they grow and also absorb water and minerals from the soil. Roots divide into smaller and smaller branches as they travel into the soil. The outside surface of roots are covered with root hair cells, which have tiny 'hairs' which poke into the soil. This massively increases the surface area for the root hair cell to absorb more water and minerals.

Red blood cells

Red blood cells carry oxygen around the body, which is needed for **respiration**. They are well suited to this function because:

- They contain **haemoglobin**, which carries oxygen molecules.
- They don't have a nucleus, allowing more space to carry oxygen.
- They are a flat disc shape with dips on both sides (**biconcave**). This gives them a large surface area, and the best chance of absorbing as much oxygen as they can in the lunas.



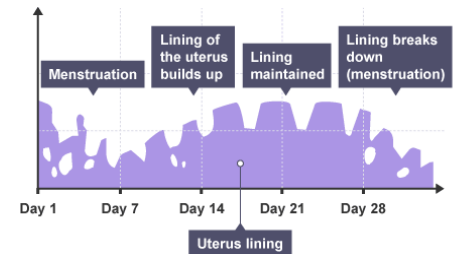
5 Puberty and adolescence

Changes during puberty

The menstrual cycle begins at puberty. It is an approximately 28 day cycle that prepares for pregnancy. The cycle stops during pregnancy.

Most females begin puberty between the ages of eight and 14. Puberty takes about four years during which the following physical changes occur:

- underarm hair grows
- pubic hair grows
- body smell gets stronger
- hips widen
- breasts develop
- ovaries release ova during the menstrual cycle



6

Further reading



[What are cells? Animal and plant cells - KS3 Biology - BBC Bitesize - BBC Bitesize](#)



[Specialised animal cells - Living organisms - KS3 Biology - BBC Bitesize - BBC Bitesize](#)
[Human reproduction - Reproduction - KS3 Biology - BBC Bitesize - BBC Bitesize](#)

Science Knowledge Organiser

Idea it is explaining	Money as a model	How the model links to energy
Energy's ability to be stored	We store our money in pockets, purses and bank accounts.	Energy is stored. For example, energy is stored in the kinetic energy store in objects that move.
Energy can be transferred	When we pay for an item in a shop we are transferring our money from one store (pocket, purse or wallet) to another (the till).	Energy can be transferred between different stores.
The unit of energy	In the United Kingdom, money is measured in pounds sterling (£).	Energy is measured in <i>joules</i> (J).



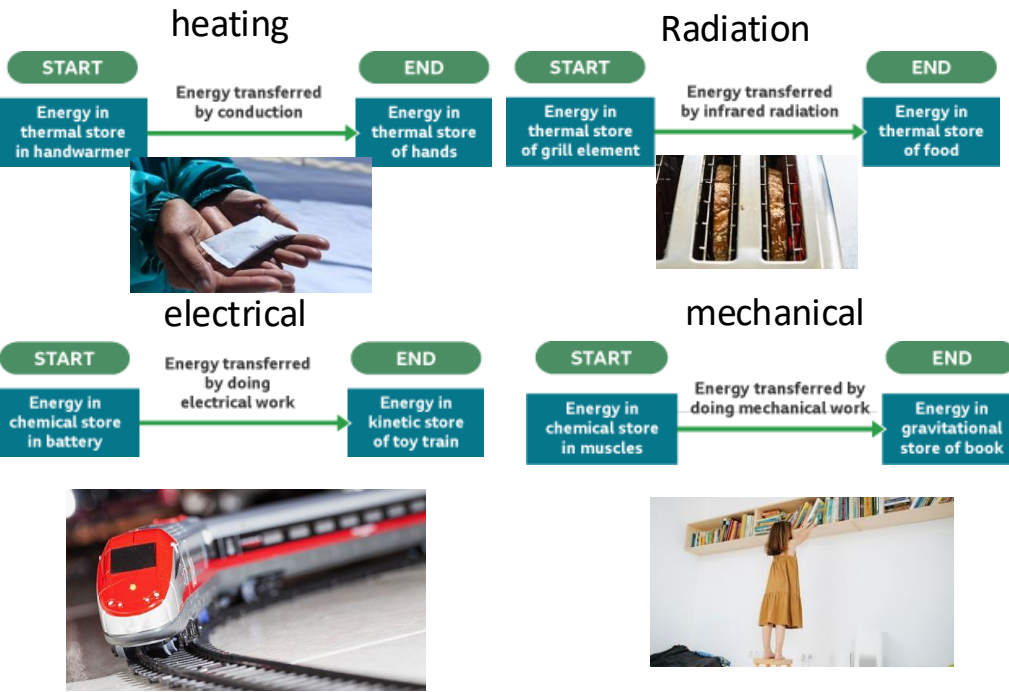
Kinetic energy store
 The runner has more energy in their kinetic energy store when they are running faster. The amount of energy in the kinetic energy store depends on the speed of the object.



Gravitational potential energy store
 The box has more energy in its gravitational potential energy store when it is placed on a higher shelf. The amount of energy in the gravitational potential energy store depends on the height of the object.

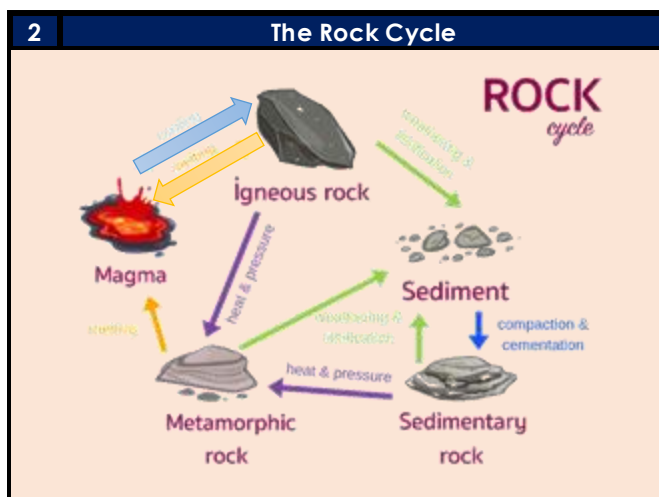


Chemical energy
 Batteries, foods and fuels store energy in their chemical energy stores. The candle wax in the picture is a type of fuel. Transfer of energy from the chemical energy store occurs due to chemical reactions.



Geography Knowledge Organiser – How on Earth did we get here?

1	TIER THREE VOCABULARY
The Big Bang	The explosion of energy that led to the formation of the Universe.
Evolution	The process by which new species of plants and animals develop.
Mass extinction	When a large number of species die off; for example, because an ice age arrives.
Geological Time	How time is measured since Earth began it is measured in eons, eras and periods.
Physical Geography	Natural features of the Earth such as waterfalls, volcanoes, oceans and mountains.
Human Geography	How people interact with the Earth, for example how towns and cities are formed or how countries trade with one another.
Environmental Geography	The study of how people impact the Earth. For example, plastic pollution, renewable energy or waste recycling.
Continent	A large piece of land, the Earth has 7 of them.
Ocean	A very large area of sea, there are 5 in the world.
Weathering	The breaking down of rock caused by physical, chemical or biological processes.
Sedimentary Rock	Formed from sediment that has settled on the ocean bed and been compressed.
Metamorphic Rock	Forms when rock is changes through the action of heat or pressure, without melting,
Igneous Rock	Forms when melted rock from volcanoes hardens.



3 Types of Geography



4 Evolution of organisms on Earth

ERA	Evolution of flora	Evolution of fauna
Cenozoic 66MYA	Pines – Mosses – Oak – Grasses	Giant whales – Great apes – Horses- Elephants – HOMOSAPIENS
Mesozoic 250 MYA	Trees with cones – Flowering plants	Birds – Dinosaurs – Turtles – First mammals
Paleozoic 540 MYA	Algae – Land plants - Trees in swamps	Trilobites – Fish - Reptiles on land – Giant insects – Animals with shells
Pre-Cambrian 4.5 BYA	Single cells	Kimberella – Jellyfish – Charnia

4 World map of continents and oceans




Geography Knowledge Organiser – What happens when the land meets the sea?

1 TIER THREE VOCABULARY	
Erosion	The wearing away of rock, soil or stones by waves.
Hydraulic Action	When waves force air into cracks in the rock which weakens it and breaks it off, wearing it away over time.
Abrasion	The wearing away of cliffs by the sediment in the waves.
Longshore Drift	How sand and other material is carried along the shore (transported) by the waves.
Deposition	When waves drop material/sediment as they have little energy.
Transportation	The movement of beach sediment by the waves (longshore drift).
Sediment	Small bits of rock and sand in the water.
Hard (resistant) rock	Rock that has a strong structure and takes a long time to erode. These are often igneous and metamorphic rock.
Soft (less resistant) rock	Weaker rock that is eroded easily by the sea due to its structure. These are usually sedimentary rocks.
Hard engineering	Using man-made hard materials to create a physical barrier between the land and sea, like sea walls and gabions.
Soft engineering	Using natural materials to try and protect the coast, like replanting grasses or moving beach material.
Social impact	Something that will affect people and communities.
Economic impact	Something that will affect the income (money) in an area.
Environmental impact	Something that will affect the natural world.

2 Types of wave

Constructive Waves



Strong swash

Constructive Waves

Weak backwash


Flat beach

Frequent in Summer

Low Frequency

Constructive Wave: A low frequency wave with little energy, it has a strong swash which deposits sediment to build up the beach.

Destructive Waves



Strong backwash

Destructive Waves

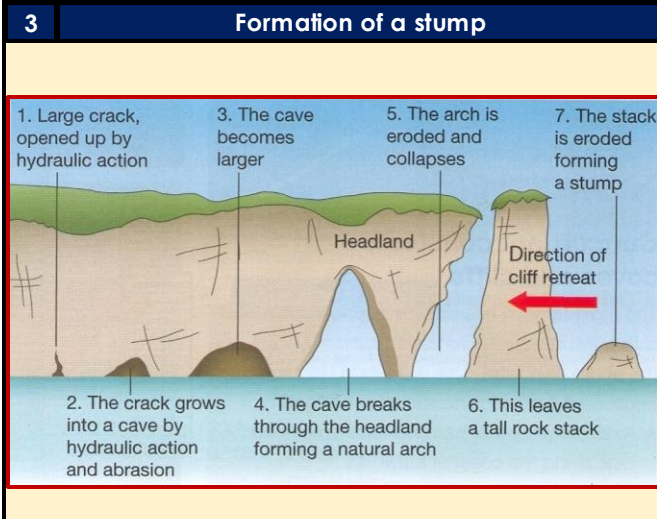
Weak swash

Steep beach

Frequent in Winter

High Frequency

Destructive wave: A high frequency wave that has lots of energy, with a strong backwash, which erodes the beach.

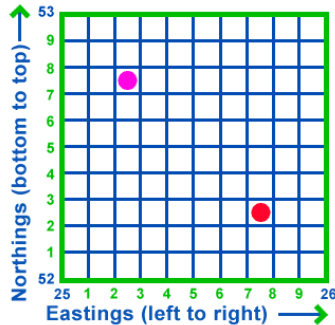


4 Hard and soft engineering strategies

	Hard engineering	Soft engineering
Named examples	Sea wall Groyne Rock armour	Offshore Reef Beach Replenishment Replanting dunes
Advantages	<ul style="list-style-type: none"> • Long term • Reflects or dissipates wave energy • Physical barrier between land and the sea 	<ul style="list-style-type: none"> • Less impact on environment • Visually appealing • Creates good social space at beach
Disadvantages	<ul style="list-style-type: none"> • Expensive • Eye sore • Loss of habitat and species during construction 	<ul style="list-style-type: none"> • Can be short term • Relies on community interaction • Maintenance costs

4 4 and 6 figure grid references

Rule: along the corridor and up the stairs. No commas or brackets.



Northings (bottom to top) ↑

Eastings (left to right) →

4 figure = 25 52
6 figure = 252 527 & 257 522

History Knowledge Organiser - The Romans

1	TIER THREE VOCABULARY
Province	A territory outside Italy that was controlled and governed by the Roman Empire. Britain was a Roman province known as Britannia.
Legion	The principal unit of the Roman army, typically consisting of about 5,000–6,000 soldiers.
Villa	A large country house or estate, often luxurious and self-sufficient, owned by wealthy Romans or Romanized Britons.
Bathhouse	Public baths where Romans would bathe, socialize, and relax.
Aqueduct	A structure built to convey water from a source to a distribution point, used in some Roman towns in Britain.
Boudica	The queen of the Iceni tribe who led a major uprising against Roman rule in 60-61 CE.
Iceni	A tribe in eastern Britain that famously rebelled against Roman rule under Boudica.
Vindolanda	A Roman auxiliary fort south of Hadrian's Wall, known for the Vindolanda tablets, which provide insights into daily life in Roman Britain.
Hadrian's Wall	A defensive fortification in northern Britain built under the rule of Emperor Hadrian to protect against incursions from northern tribes.
Mosaic	Art form using small pieces of coloured glass, stone, or other materials to create images or patterns, often used to decorate floors and walls.
Client King	A local ruler who retained his position and autonomy by aligning himself with Rome, governing on behalf of the emperor.
Londinium	The Roman name for London, which was sacked and burned by Boudicca's army.
Prasutagus	Boudicca's husband and king of the Iceni tribe. His death and the subsequent mistreatment of his family by the Romans were catalysts for the revolt.

2 Why did the Romans come to Britain?

The Romans came to Britain for several reasons, including strategic, economic, political, and military motivations. Here are the primary reasons why the Romans decided to invade and ultimately conquer Britain:

1. Economic Motives

- **Resources and Wealth:** Britain was rich in natural resources such as tin, lead, iron, silver, and gold. The fertile lands also promised agricultural wealth. Control over these resources was highly attractive to Rome.
- **Trade:** Britain had established trade networks and incorporating Britain into the Roman Empire allowed Rome to control and benefit from these economic activities more directly.

2. Military and Strategic Considerations

- **Prevention of Threats:** By the time of the Roman Empire, there were concerns about potential threats from the tribes in Britain, who could ally with Gaulish tribes against Rome. Securing Britain helped to neutralize this potential threat.
- **Expansion of the Empire:** Conquering new territories was a way to demonstrate Roman military superiority and secure the empire's borders. Britain's conquest was also seen as a way to extend Rome's power and influence.

3. Historical Precedents and Aspirations

- **Julius Caesar's Expeditions:** Julius Caesar had conducted expeditions to Britain in 55 and 54 BCE, which, while not resulting in permanent conquest, established a precedent for Roman interest in the island. His reports highlighted the wealth and potential of Britain, making it an attractive target for future emperors.
- **Roman Imperialism:** The Romans had a long tradition of expansionism. The conquest of Britain fit within the broader pattern of Roman imperialism, where new territories were sought after to showcase the might of Rome and bring more peoples under Roman control.

3



Daily Life in Pompeii

- **Social Structure:** Beard examines the social hierarchy of Pompeii, from the wealthy elite living in grand villas to the lower classes residing in more modest homes and apartments.
- **Family and Gender Roles:** The book explores the roles of men, women, and children within the family and society, highlighting the complexities of Roman social norms and relationships.

4 Boudicca

Boudicca as a "Goodie"

- 1. Freedom Fighter:** Boudicca is often celebrated as a symbol of resistance against oppression. She led a significant uprising against the Roman Empire, which many view as a fight for the freedom and independence of her people, the Iceni, and other British tribes.
- 2. Avenger of Injustice:** After the death of her husband, King Prasutagus, the Romans annexed his kingdom, flogged Boudicca, and raped her daughters. Her rebellion can be seen as a response to these personal and collective injustices.
- 3. Defender of Culture:** Boudicca's resistance is viewed as an effort to preserve the indigenous culture, traditions, and autonomy of the British tribes against Romanization and foreign rule.

Boudicca as a "Baddie"

- 1. Destruction and Violence:** Boudicca's rebellion was marked by extreme violence and destruction. Her forces destroyed Roman towns such as Camulodunum (Colchester), Verulamium (St Albans), and Londinium (London), and it is reported that tens of thousands of Roman civilians and loyalists were killed in brutal ways.
- 2. Roman Perspective:** From the Roman point of view, Boudicca was a dangerous insurgent who disrupted the peace and stability of the province. The Romans portrayed her as a savage and ruthless leader in their historical accounts.
- 3. Historical Bias:** The primary sources about Boudicca come from Roman historians like Tacitus and Cassius Dio, who might have portrayed her negatively to justify Roman actions and underscore the perceived barbarism of the Britons.

4 LINKS & FURTHER READING

<https://www.bbc.co.uk/teach/class-clips-video/articles/zbv8p3>

BBC teach Boudicca

<https://www.bbc.co.uk/bitesize/articles/zhn6cqt>

Who is Boudicca

<https://www.bbc.co.uk/iplayer/episodes/b01gknyq/meet-the-romans-with-mary-beard>

History Knowledge Organiser – Changing Views

1	TIER THREE VOCABULARY
Heptarchy	Over time, the Anglo-Saxons established several kingdoms in England, known collectively as the Heptarchy. These included Northumbria, Mercia, East Anglia, Essex, Kent, Sussex, and Wessex.
Sutton Hoo	One of the most significant archaeological sites from this period is Sutton Hoo in Suffolk, where an Anglo-Saxon ship burial was discovered, providing rich insights into the culture, art, and social structure of early Anglo-Saxon England.
Angles	A Germanic tribe originating from the region of Angeln in present-day Germany. They settled in eastern and northern England.
Saxons	A Germanic tribe from the area that is now northern Germany and the Netherlands. They settled in southern and western England.
Jutes	A Germanic tribe from the Jutland Peninsula in modern-day Denmark. They settled mainly in Kent and the Isle of Wight.
Witan	The council of nobles and clergy that advised Anglo-Saxon kings. Also known as the "Witenagemot."
Ceorl	A free peasant or commoner in Anglo-Saxon society.
Ealdorman	A high-ranking noble or regional governor in Anglo-Saxon England.
Burh (Borough)	A fortified settlement established by the Anglo-Saxons for defense against Viking raids.
Thegn	A noble warrior or retainer who served a king or ealdorman.
Paganism	The pre-Christian religion of the Anglo-Saxons, involving the worship of gods like Woden (Odin) and Thunor (Thor).
Christianization	The process by which the Anglo-Saxons converted to Christianity, beginning in the late 6th century with the mission of St. Augustine of Canterbury.
Tun (Town)	An early Anglo-Saxon settlement or village.

2 Migration into Britain post-Roman

The Migration and Settlement

- Angles, Saxons, and Jutes:** These were Germanic tribes from what is now Denmark, Germany, and the Netherlands. The Angles came from the region of Angeln in modern-day Germany, the Saxons from Saxony, and the Jutes from the Jutland Peninsula in Denmark.
- Initial Invasions:** According to historical accounts, such as those by the monk Gildas and later by the Venerable Bede, these tribes initially came to Britain as mercenaries hired by the native Britons to defend against other invaders like the Picts and Scots. Over time, they began to settle and establish their own territories.

Key Events and Figures

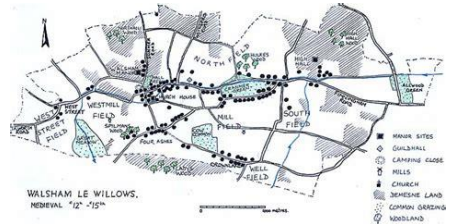
- Hengist and Horsa:** According to legend and historical sources like Bede's "Ecclesiastical History of the English People," Hengist and Horsa were two Jutish brothers who led the initial groups of settlers to Britain. They are said to have landed in Kent around 449 CE.
- Battle of Mount Badon:** A significant battle in which the native Britons, possibly led by the legendary King Arthur, achieved a temporary victory against the Anglo-Saxon invaders. This battle likely took place in the late 5th or early 6th century.

Formation of Anglo-Saxon Kingdoms

- Heptarchy:** Over time, the Anglo-Saxons established several kingdoms in England, known collectively as the Heptarchy. These included Northumbria, Mercia, East Anglia, Essex, Kent, Sussex, and Wessex.
- Cultural and Linguistic Changes:** The arrival of the Anglo-Saxons led to significant cultural and linguistic changes in Britain. Old English, derived from the Germanic languages of the settlers, became the dominant language. The Anglo-Saxons brought their own pagan beliefs, which later merged with Christianity as they converted over the subsequent centuries.

3 Walsham le Willows & Cedric

Life in a medieval English village was structured around agriculture, community, and the feudal system. Villages were the heart of rural life, with most people living as peasants under the authority of local lords. Here's a detailed overview of key aspects of life in a medieval English village:



4 al-Mansur and Baghdad's knowledge

The round city of Baghdad, built by the Abbasid Caliph al-Mansur in AD 762-767
Diameter: 2km (1.2mi)

Historical Context

- Foundation:** Baghdad was founded in 762 CE by the Abbasid Caliph al-Mansur. It quickly became the capital of the Abbasid Caliphate and a major centre of political and cultural life.
- Islamic Golden Age:** This period, roughly from the 8th to the 14th century, was marked by a flourishing of science, technology, medicine, philosophy, and the arts in the Islamic world.

4 LINKS & FURTHER READING

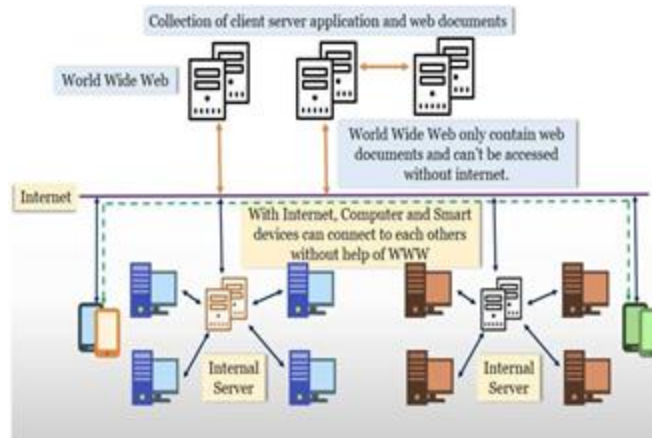
Anglo-Saxon Crime and punishment

<https://www.youtube.com/watch?v=1Oj8Ag3lhQ>

Computing Knowledge Organiser – Online Safety

1	TIER THREE VOCABULARY
Anti-virus	Anti-virus software scans all forms of storage devices for viruses and, if found, attempts to remove them.
Bias	Being unfairly in favour of one thing over another
Browser	An application used to view web pages, eg Edge
Copyright	A law to protect other peoples ideas/work.
Cyber-Abuse	Being tormented, harassed, humiliated, embarrassed or otherwise targeted by another person using technology
Cyberbullying	The bullying of another person using the internet, mobile phones and other digital devices.
Data	Data is information in digital format
Digital footprint	Digital footprints are a trail of places that you have visited on the internet and the activities and games you have taken part in.
Downloading	To copy a file from the internet onto your computer or device.
Email	Electronic mail. A method for sending messages and files to other people.
File	An object on a computer that stores data, information, settings, or commands used with a computer program.
Firewall	An application that prevents unauthorised connections to and from the Internet.
Folder	A storage space where many files can be placed into groups and organise the computer. A folder can also contain other folders.
Hyperlinks	A link in a document or webpage that connects to another location.
Internet	A global network connecting millions of computers.
Malware	Software that is designed to cause harm or damage to a computer.
Network	A group of interconnected computers/devices.
Online	Connected to and using the internet.
Phishing	An attempt to gain personal information about someone by way of deception,
Plagiarism	Using other peoples' ideas/work and pretending it is yours
Print-Screen	A way to capture what is on the screen at any given time

2



3

Digital footprint

A digital footprint is something online about you. If your a good person there could be a positive footprint about you on the internet. If your a bad person it's more likely to have something bad about you on the internet.



This is an example of a Digital Footprint. Inside of the foot there could be a good or bad thing about you that someone wrote probably.

4

How can you stay safe?

- Block any bad behaviour you see.
- Report any spams.
- Delete any strangers friend requests.
- Always use safe secure passwords.
- Recommended to use private accounts.
- Don't give away any personal information.



This is a report button. You can click on it to report any bad behaviour you might of saw.

5

What is social media?

Social media is apps that you can use recommended for 13+ years where you can do videos or pictures to people and message them through the apps.

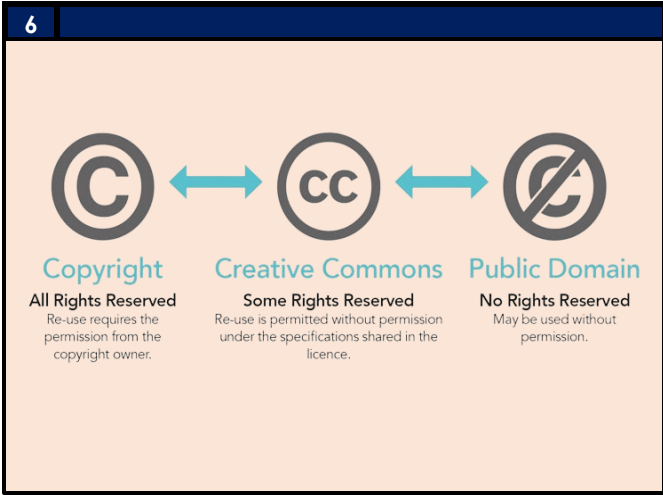
Examples of social media are:
 Instagram
 Facebook
 Twitter
 Snapchat
 Tiktok
 Vine
 Youtube
 Whatsapp



It is recommended for any social media if you are a kid have a private account so you are safe.

Computing Knowledge Organiser – Online Safety

1	TIER THREE VOCABULARY
Program	Sequences of instructions for a computer.
Pseudonym	An online name – different from a real name. Good to use to keep your identity safe.
Search Engine	A website that searches through a database (usually for web pages)
Streaming	Data that is sent in pieces. Each piece is viewed as it arrives, eg a streaming video is watched as it downloads.
Technological change	The process through which new technologies are generated and introduced
Trojan	Malware that appears legitimate, but performs some malicious activity when it is run.
Troll	A derogatory name taken from the troll character in folklore and now used as a term for a person who posts offensive messages online.
Trustworthiness	How sure we are that the information is correct
Upload	To add data to a server on the internet, eg you can upload videos to social media websites.
URL	Uniform resource locator - Each web page address on a network is written as a URL.
Virus	Any computer program designed to replicate and damage other computer systems and software.
WAN	Wide area network. A network that spans across a building, buildings or even countries, eg the internet.
Web page	Also known as webpage. A page viewed in a web browser.
Web server	A computer that serves web pages to users.
Website	A web page or group of web pages hosted on one web server and viewed in a web browser, usually maintained by a person, group or organisation.



7

Scammers!!

Out in the internet there are millions of websites. Some websites though are scams or remakes of another website that could be more well known. You can tell if its a fake or scam website by the reviews or ratings. You can even tell by how many people rated the website.

This is an example of a famous well known and commonly used website.

8

Safe secure passwords.

Always choose safe passwords and things that are hard to guess because if it's easy passwords like "123" or "password" that's an easy guess and you could get hacked. If you have a lot of progress on a game that wouldn't be fun.

If you get hacked something like this could happen and you can't do anything about it much. The hacker could even change the password so you can't guess it and then you can't get in your account.

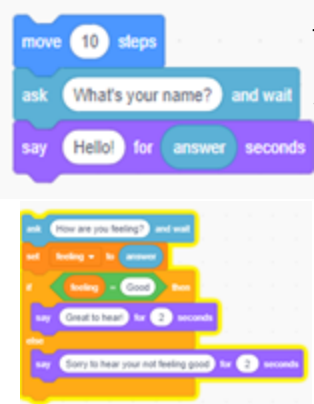
9

LINKS & FURTHER READING

Computing Knowledge Organiser - Programming

1	TIER THREE VOCABULARY
Algorithm	A sequence of logical instructions for carrying out a task. In computing, algorithms are needed to design computer programs.
Casting	Changing the data type of a variable.
Concatenating	The operation of joining two pieces of text together
Data Type	In computer programming, data is divided up and organised according to type, eg numbers, characters
Input	Taking user input to be used by the program
Instruction	A single action that can be performed by a computer processor.
Integer	A whole number - this is one data type used to define numbers in a computer program
Iteration	In computer programming, this is a single pass through a set of instructions.
Operators	Operator is a character that represents a specific mathematical or logical action or process. For example, >, +, -, *
Output	Displaying information to the user
Program	Sequences of instructions for a computer.
Programming	The process of writing computer software.
Python	A high-level programming language.
Script	A piece of programming code in scratch
Selection	A decision within a computer program, using a condition it will select different code to run
Sequencing	An ordered set of instructions to complete a task.
Sprite	A programmable object in scratch
Statement	The smallest element of a programming language which expresses an action to be carried out.
String	A sequence of characters often stored as a variable in a computer program. These characters can include numbers, letters and symbols.
Variable	A memory location within a computer program where values are stored.

2



Sequence Code runs in sequence, each line of code is run in turn from top to bottom of our code

Selection is the process of making a decision. The result of the decision determines which path the program will take next.

3 Python Commands

```

Output
print("hello")

Input String
name = input("What is your name?")

Input Integer
age = int(input("How old are you?"))

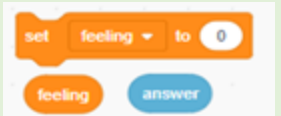
Selection
feeling = input("How are you feeling?")
if feeling == "Good":
    print("Great to hear!")
else:
    print("Sorry to hear your not feeling good")
    
```

4

Iteration is the repetition of code in sequence



Variables are used to store information to be used later in our program



```
feeling = input("How are you feeling?")
```

5 Conditions

Operator	Meaning
==	Equal to
!=	Not Equal to
>	Greater than
<	Less than
>=	Greater than or equal to
<=	Less than or equal to

REP Knowledge Organiser – Judaism

Lesson 1 - Seven Dimensions of Religion

Common Features of Religions:

Material	Physical objects used by the religion e.g. Holy books or places of worship
Ethical	Rules and regulations e.g. the 10 Commandments
Experiential	Contact with the divine e.g. miracles and religious experiences
Mythical	Stories and narratives e.g. Noah's Ark
Ritual	Set actions and practices of significance e.g. infant baptism
Doctrinal	Core beliefs and values e.g. Hindu belief in the Trimurti
Social	Community practices e.g. Sunday service or festivals such as Eid

Lesson 2 - God and Abraham

Divine Characteristics of God:
 Omnipotent (all-powerful), omniscient (all knowing), omnipresent (everywhere), benevolent (loving), creator, judge.

Abraham:
 One of the key patriarchs of Judaism and the man who established the covenant between God and Abraham's people

The Binding of Isaac:
 The biblical story in which Abraham offers his son Isaac as a sacrifice to God

Covenant:
 The agreement that Abraham's people will worship God in return for his protection

Lesson 3 - Joseph

Joseph's Background and Family:
 Joseph is the youngest of 12 brothers and a descendant of Abraham through the line of David.

The Story of Joseph:
 Joseph's dreams, being sold into slavery by his jealous brothers, his successes and struggles first as a slave and later as an advisor to the Pharaoh.

Joseph's Judgement:
 Joseph testing his brothers before agreeing to help them.

Joseph's Faith in God:
 The nature of Joseph's unbreakable faith and trust in God despite the trials and suffering he has to endure.

Lesson 4 - Moses and the Festival of Passover

The story of Moses:
 His birth as a Hebrew slave, being raised as the son of the Pharaoh, his flight from Egypt and reconnecting with his people. Moses becomes the chosen Prophet of God, tasked with freeing the Hebrews from slavery in Egypt

The 10 Plagues:
 God sent 10 plagues to Egypt to try and convince the Pharaoh to let the Hebrew slaves go including turning water into blood, swarms of locusts and the death of the first born children.

Pesach (Passover):
 The festival of Pesach marking the protection of the Hebrews from the plagues, including the Sedar meal and its contents

Lesson 5 - The Torah and the Synagogue

The Torah:
 Also called the Old Testament, consists of the five books of Moses:

- Genesis
- Exodus
- Leviticus
- Numbers
- Deuteronomy

Key Features of a Synagogue:

- Ark (where the Torah scrolls are kept)
- Eternal Light - representing the eternal presence of God
- Bimah - raised platform from where the Torah is read
- Rabbi - spiritual leader of the Jewish community

Lessons 6 & 7 - Shabbat and Jewish Festivals

Shabbat:
 Celebrating the creation of the universe by God and the day of rest. Shabbat is performed weekly and involves prayers and a special meal

Yom Kippur:
 The Jewish New Year, celebrated with a festive meal and time in prayer at the Synagogue

Rosh Hashanah:
 Festival of atonement where Jews reflect on their actions and make apologies to God

Hanukkah:
 A celebration of the liberation of the Temple and the miracle of the everlasting light

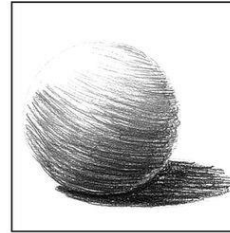
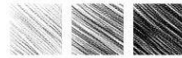
Art Knowledge Organiser – Natural Form

1	TIER THREE VOCABULARY
Drawing	Drawing is essentially a technique in which images are depicted on a surface by making lines, though drawings can also contain tonal areas, washes and other non-linear marks
Form	In relation to art the term form has two meanings: it can refer to the overall form taken by the work – its physical nature; or within a work of art it can refer to the element of shape among the various elements that make up a work
Line Drawing	A line drawing uses the outline of shapes to show the subject. It is made up entirely of lines, with no shading or tones.
Mark making	Mark making describes the different lines, dots, marks, patterns and textures created in a drawing. It can apply to any drawing materials.
Natural Forms	The natural form of an object which has not been altered or manipulated, but is in its' original form found in nature.
Observational drawing	Observational art is drawing or painting from life.
Pen	Pen is used for creating fine linear drawings and expressive textural drawings.

2 Skills and Techniques: Drawing Techniques

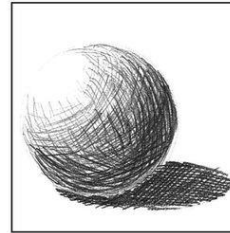
Hatching

Draw strokes in the same direction and layer them to produce darker shades.



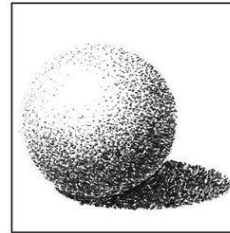
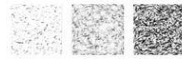
Crosshatching

Similar to hatching, crosshatching uses layered strokes to build shades. Draw the strokes in two different directions to create this effect.



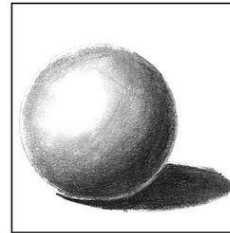
Stippling

Draw dots close together to create dark values, and further apart to achieve lighter values.



Blending

Use your tortillon to create smooth shading and subtle transitions between lights and darks in your shadows.



TONAL SCALES

H F HB B 2B 3B 4B 5B 6B 7B 8B 9B
 HARD ↑ SOFT SOFTER VERY SOFT
 REGULAR

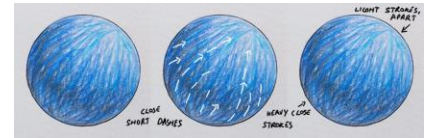
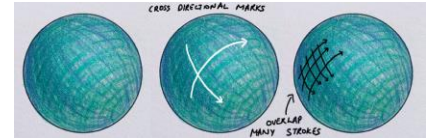
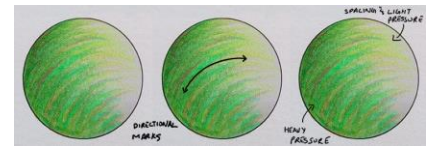
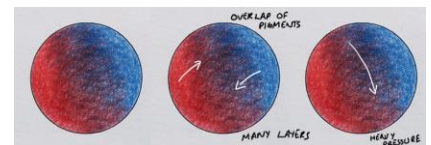
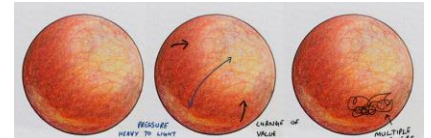
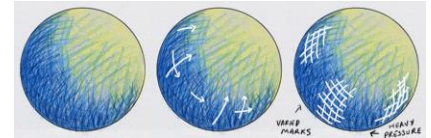


STEPPED GRADIENT

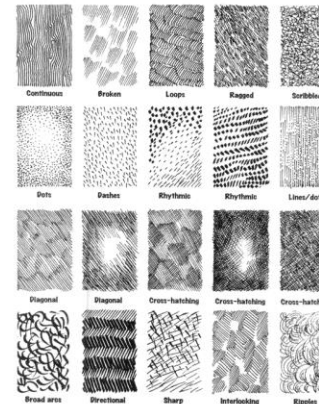


SMOOTH GRADIENT

Colour Blending Techniques:



Line and linear drawing













Cross Hatching
 Scribbles
 Layer and blend
 Contouring
 Cross Contouring
 Short dashes

Art Knowledge Organiser – Natural Form

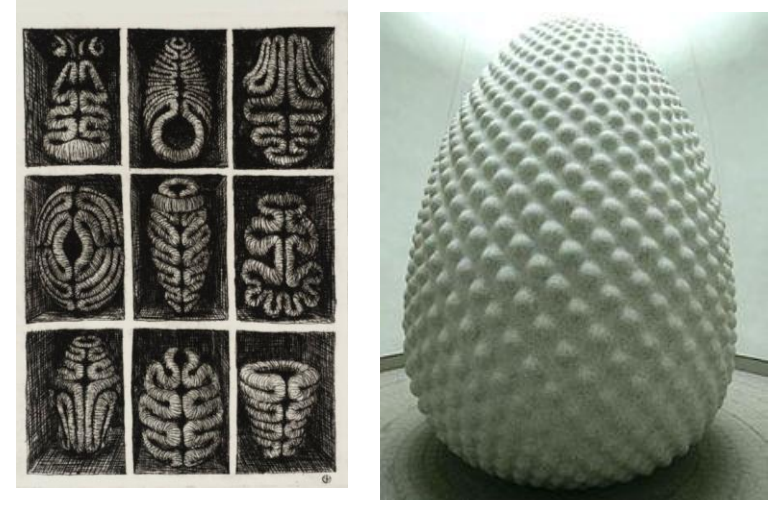
1 continued	TIER THREE VOCABULARY
Pencil	Pencils come in a range of hardness. The higher the number on a H pencil, the harder and lighter it is; the higher the number on a B pencil the softer and darker it is.
Refine	Refine to improve your artwork
Tone	The lightness or darkness of something – this could be a shade, or how dark or light a colour appears
Texture	Texture means how something feels. There are two types of texture: actual texture and visual texture.
Techniques	Techniques are skills and methods employed to create a piece of art.
Shading	Shading is used to represent light and shade to create a sense of depth by varying the colour and intensity of the medium being used
Record	If you record something, you keep an account of it through drawing or photography so that it can be referred to later.
Proportion	Proportion is the relationship of one part of a whole to other parts

3 Extension tasks to develop skills.

1		Be Observant. Look at your subject often and draw what you see; not what you know or remember. Constantly compare your drawing to the subject.
2		Keep an open mind and try new strategies; even if it makes you feel uncomfortable. Repeating strategies that were unsuccessful may make you feel more comfortable, but it won't improve your drawing skills.
3		Sight angles and compare relationships. Use your pencil to match angles from your subject to your drawing. Instead of looking only at the subject; look also at the negative shapes/space around the subject.
4		Begin light and loose. Avoid erasing mistakes; restate them instead. You will improve your proportions more quickly if you see the relationship between a mistake and a correction. You will begin to draw the entire shape/subject more accurately. Do this first, then erase and begin finishing work of detail, shading, etc.
5		Become a master at identifying and drawing the 5 basic shapes (sphere, cube, cylinder, pyramid, & cone). Look at your subject and identify its basic form. Extend and expand basic shapes to draw complex objects. Draw shapes; not objects.
6		Draw what you cannot see. Draw through the subject as if you could actually see something that is concealed from your view. Imagine every object is made of glass.
7		Use cross-contour lines to create the illusion of depth and form. Use these lines to guide the direction of your shading.
8		Identify a light source. Shade your subject to reveal the light source to any viewer. Try to include all 5 parts of light and shade using the entire value scale.
9		Stay positive and develop a problem-solving dialogue. Ask yourself practical questions that will help you improve your drawing rather than being negative about your progress and ability.
10		Be patient and practice. Don't expect immediate results. Learning to draw takes time and a lot of practice. Drawing is a skill that can be acquired. The more you draw; the better you draw.

Read the strategies to help improve your drawing, watch the videos on BBC Bitesize with technical ideas. Consider what you draw on it could be the inside of a cereal box rather than white paper. Select some interesting natural forms and practice drawing.

4 Artists: Peter Randall-Page



5 LINKS & FURTHER READING



The Tate
Peter Randall-Page



BBC Bitesize
Explore the pages looking at drawing techniques.

Music Knowledge Organiser



The Elements of Music

Pulse
The beat of the music. Every piece of music has a heartbeat. It doesn't need to be played by drums - you can 'feel' the beat.
Rhythm
Notes have different lengths, some long, some short. When we combine long and short sounds, it creates a pattern, which is a rhythm.
Pitch
Pitch is a variation of high and low sounds. Pitch increases and decreases by steps of a scale. Scales are Major and Minor.
Tempo
Tempo means the speed of the music. Music can change tempo within a piece. We describe tempo using Italian words.
Dynamics
Dynamics means the volume of the music. Music can change dynamics within a piece. We describe dynamics using Italian words.
Structure
Music is divided into sections. The order of these sections creates a structure. Song structure includes Chorus, Verse, Instrumental etc.
Texture
A single melody creates a thin sound. Adding more parts/layers creates a bigger sound. These layers can interact with each other.
Timbre
Each instrument has a unique sound and sounds different to others. This individual sound quality is called Timbre.


Tempo in Italian

<i>Largo</i>	<i>Adagio</i>	<i>Andante</i>	<i>Allegro</i>	<i>Presto</i>
Very Slow	Slow	Walking pace	Fast	Very Fast

Dynamics in Italian

<i>pp</i>	<i>p</i>	<i>mp</i>	<i>mf</i>	<i>f</i>	<i>ff</i>
<i>Pianissimo</i>	<i>Piano</i>	<i>Mezzo Piano</i>	<i>Mezzo Forte</i>	<i>Forte</i>	<i>Fortissimo</i>
Very Quiet	Quiet	Medium Quiet	Medium Loud	Loud	Very Loud
	Crescendo Gradually getting louder		Diminuendo Gradually getting quieter		

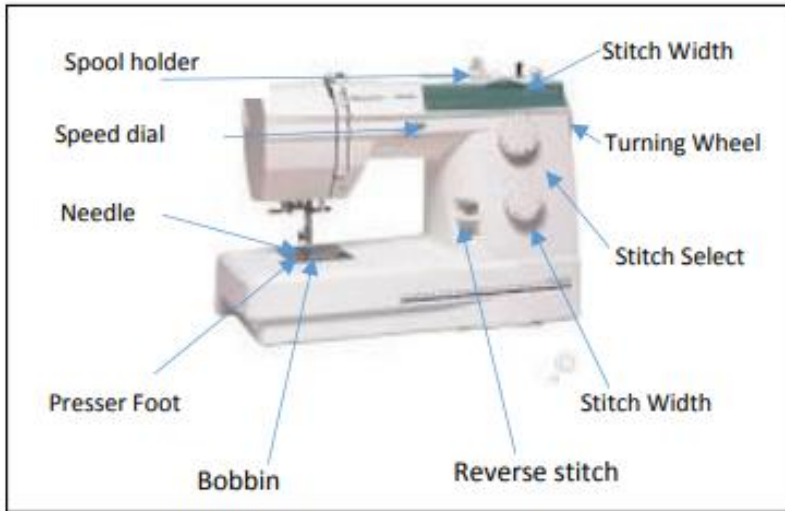
Rhythm Symbols and Values

				
<i>Semibreve</i>	<i>Minim</i>	<i>Crotchet</i>	<i>Quaver</i>	<i>Semiquaver</i>
4 beats	2 beats	1 beat	1/2 beat	1/4 beat

Rhythms into Syllables

				
Tea	Coffee	Lemonade	Coca-Cola	Pineapple

DT Knowledge Organiser – Textiles Dumpy Doorsteps



Key Words and Definitions:

Pins	a piece of metal with a point at one end for holding fabric together	Stitch	A thread that passes through fabric	Tie dye	Resist method of dyeing- created by tying string/ elastic bands around areas of the fabric.
Scissors/shears	Used for cutting fabric	Sew/Sewing	Done by machine or hand to join fabric or add decoration	Applique	Applying 1 fabric to another to create a design
Sewing Machine	A machine used to produce stitches in fabric	Tacking	Temporary stitching to hold fabric in place	Reverse Applique	cutting away a layer of fabric to reveal a shape appliquéd underneath
Needle	a piece of metal with a point at one end and a hole or eye for thread at the other, used in sewing	Hem	The finishing off at the edge of fabric	Embroidery	Decorative stitching by hand or machine
Thread	a strand of cotton, used in sewing or weaving	Seam	Joining two fabrics together	Design	A drawing to show the look of your idea
Tailors chalk	Chalk used to mark fabric	Seam Allowance	Distance between the edge of fabric and the stitching line (1.5 cm)	Annotation	Labelling to explain your design
Fabric	Cloth produced by weaving or knitting textile fibres.	Pattern	A template used to cut out the fabric	Evaluation	Making a judgement about your product
Unpicker	A small piece of equipment with a sharp pointy end used to unpick stitches	Components	Buttons, zips, sequins	Specification	A list of requirements that a product must meet

Drama Key Terminology

DRAMA KEY WORDS		ADJECTIVES		
VOCAL SKILLS		<ul style="list-style-type: none"> • abrupt • angry • anxious • assured • cold • controlled • deep 	<ul style="list-style-type: none"> • enthusiastic • firm • forceful • gentle • harsh • hesitant • loud 	<ul style="list-style-type: none"> • sarcastic • sly • soft • stutter • timid • trusting
Tone Pitch Pace Intonation Silence	Pause Projection Inflection Accent Emphasis			
PHYSICAL SKILLS		<ul style="list-style-type: none"> • aggressive • defiant • dismissive • distraught • distressed • eager 	<ul style="list-style-type: none"> • eye contact: direct, focused, avoiding, accusing • fearful • gentle • rapid 	<ul style="list-style-type: none"> • relaxed • slow • sluggish • smooth • smug • strong • thoughtful
Body Language Facial Expressions Gestures Stillness Eye-Contact	Posture Movement Gait Stage Presence Interaction			
SPACE PERFORMANCE CONVENTIONS		<ul style="list-style-type: none"> • anger • anti-climax • appreciation • believable • delight • development • disappointment 	<ul style="list-style-type: none"> • emotional response • empathy • emphasis • engagement • feeling • focal point • horror 	<ul style="list-style-type: none"> • interest • intrigue • irritation • light-relief • realistic • sympathy • understanding
Levels Proxemics Stage Left/Right Centre Stage Transition Blocking Cannon Duologue	Freeze Frame Narration Split Scene Thought-Track Mime Improvisation Physical Theatre Unison Monologue	Other Useful Vocabulary: Hot-seating Character Motivation Warm-Up Role-on-the-Wall Genre	Other Useful Vocabulary: Rehearsal Sound Effects Naturalistic Abstract Minimalistic	

DT Knowledge Organiser – Fan Project

1. Tier Three Vocabulary

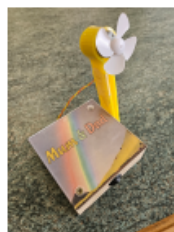
Key Words	Definitions
Deciduous	Deciduous trees lose their leaves in winter. The word is from the Latin word decidere, meaning "to fall off."
Coniferous	Coniferous trees are cone bearing and do not have leaves - they have needles.
Hardwoods	Hardwoods come from deciduous trees - they take over 100 years to mature, have a variety of colours and grains and are expensive to buy.
Softwoods	Softwoods come from coniferous trees and are fast growing taking 35 years to mature. They are sustainable.
Manufactured Boards	Manufactured boards are timber products made by compressing and gluing timber fibers.
MDF	MDF - medium density fibre board is a manufactured board made from Pine
Thermoplastics	A type of plastic that can be reshaped when heated to 180 degrees C
Acrylic	A plastic thermoplastic that is clear and can come in a range of colours.
Pilot Hole	The first small hole to drill when joining two items together.
Countersink	A cone shape drill that is used to keep screw heads flush with the surface.
Jigs	A tool used to help manufacture several parts/holes to the same size/location

2. Skills in the workshop

Marking out	Using a try square, steel rule and pencil to mark out accurately on material.
Cutting and shaping	Using coping saw and electric sander to cut and shape material accurately.
Drilling	How to change drill bits, secure work ready for drilling - Pilot holes, clearance holes and countersinks.
Forming	Using Jigs to drill holes and form thermoplastics into the correct shapes..
Soldering	Creating electric circuits to power a motor with a battery pack and switch. Using a soldering iron to solder and join wires together.

3. Assembly/Testing

When the components are produced they will have to be assembled correctly to work.



After you have made all the component parts of the fan project you will need to assemble them together in the correct sequence (order) using hand tools. After assembly testing needs to be done and any faults identified and rectified.

4. Workshop Safety



- Leave your bags in the bag space so that people don't trip over them.



- Never run in a workshop.
- Don't play with the vice on the workbench as it can easily pinch your skin.



- Tell the teacher if there is sawdust/metal filings on your workbench - Don't blow them or brush away with your hand.



- Don't touch tools without permission from the teacher

- Only use equipment you have been trained to use

- Make sure you know where the emergency stops are

- Tie back long hair and loose clothing in the workshop

- Put extraction on when sawing/drilling/soldering

5. Links and Further Reading

Materials:

<https://www.bbc.co.uk/bitesize/topics/zh4cqyc/articles/zmgrdnb#zt49qyc>



Safety:

<https://www.bbc.co.uk/bitesize/topics/zh4cqyc/articles/zq89qyc#zxqwxg8>



Revise: Mindmap Maker
[is.gd/mindmapmaker](https://www.is.gd/mindmapmaker)



DT Knowledge Organiser – Food and nutrition

1 TIER THREE VOCABULARY	
Hygiene	Keeping things clean and germ-free, especially when it comes to food and cooking.
Safety	Taking precautions to make sure that no one gets hurt or sick while working with food or in the kitchen.
Bridge Hold	A way of holding a knife where you grip the handle with your hand and rest your index finger on the blade for better control.
Claw Grip	Holding food with your fingers curled like a claw to keep it stable and stop your fingers from getting cut while cutting or chopping.
Knife/Knives	Sharp tools with a blade used for cutting and slicing food.
Nutrients	Important stuff found in food that gives our bodies energy and helps us grow and stay healthy.
Balanced Diet	Eating different types of food in the right amounts to get all the nutrients our bodies need.
Protein	A nutrient found in foods like meat, fish, eggs, and beans that helps our bodies build and repair tissues.
Fat	A type of nutrient that gives us energy, keeps us warm, and helps our bodies absorb certain vitamins, found in foods like butter, oil, and meat.
Carbohydrates	A type of nutrient found in foods like bread, pasta, and potatoes that gives our bodies energy to do stuff.

4 SAFETY IN THE KITCHEN	
<p>Safety is extremely important when it comes to working in the kitchen. There are a few key things to keep in mind to ensure that everyone stays safe while cooking. First, always wash your hands with soap and water before handling any food to prevent the spread of germs. It's also essential to handle knives and other sharp objects with caution, using proper techniques and focusing on what you're doing. When using the stove or oven, be mindful of hot surfaces and use oven mitts or potholders to protect your hands. Additionally, make sure to turn off appliances and unplug them when you're finished using them. Lastly, be aware of potential hazards like spills, cords, and loose clothing that can cause accidents, and keep a clean and tidy workspace to avoid trips and falls.</p>	

2 THE EATWELL GUIDE

The Eatwell Guide is a great way of ensuring that you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.

Eatwell Guide

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.

Check the label on packaged foods. Each serving (150g) contains: Energy 200kcal, Fat 10g, Carbs 20g, Protein 5g, Salt 1.5g. Typical values (as sold) per 100g (dry wt) 100kcal, 18%, 41%, 27%, 8%.

Choose foods lower in fat, salt and sugars.

Choose wholegrain or higher fibre varieties with less added fat, salt and sugar.

Water: Lower fat milk, sugar-free drinks including tea and coffee all count. Limit fruit juice and/or smoothies to a total of 150ml a day.

Oil & spreads: Choose unsaturated oils and use in small amounts.

Per day: 2000kcal, 2500kcal = ALL FOOD + ALL DRINKS

3 KNIFE SKILLS

There are different ways of cutting food depending on the type of food you are cutting. Below are two of the most common methods: the Claw Grip, and the Bridge Hold.

Holding the Knife Correctly

Claw Grip
Used when cutting longer fruits and vegetables.
Keep your fingers tucked under!

Bridge Hold
Used when cutting smaller fruits and vegetables to hold the food and protect your fingers.

6 LINKS & FURTHER READING

Video:
The Eatwell Guide
<http://y2u.be/7MIE4G8ntts>

Article:
Safety in the Kitchen
<https://cpdonline.co.uk/knowledge-base/safeguarding/kitchen-safety-rules-for-children/>

Revise:
Mindmap Maker
[is.gd/mindmapmaker](https://www.is.gd/mindmapmaker)

5 PREPARING THE FOOD HANDLER

It is important to make sure that if you are about to handle food that you prepare yourself. You need to make sure that your hands are cleaned and surfaces where food will touch is clean too. It is important to make sure that the chopping boards you use to prepare meat is on a separate chopping board. Any food needs to be stored at the right temperature as well.

4 STEPS TO FOOD SAFETY

CLEAN **SEPARATE** **COOK** **CHILL**