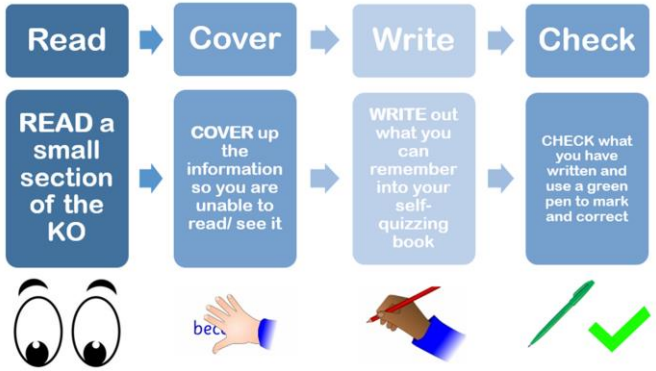
Year 7
Knowledge Organiser: Cycle 1

Name: _____

Tutor group: _____



Article 29:
Education must develop every child's personality, talents and abilities to the full. ***UNCRC***

Your Knowledge Organiser

- Knowledge Organisers contain critical knowledge you must know. This will help you recap, revisit and revise what you have learnt in lessons in order to remember this knowledge for the long-term.

- You must have this book for every lesson – it is part of your equipment.

Using your Knowledge Organiser for revision

- Students remember 50% more when they test themselves after learning.
- You can use your book to help **memorisation**.
- **Read** a section of your Knowledge Organiser.
- **Cover** it up.
- **Write** out what you've remembered.
- **Check** the Knowledge Organiser to see if you're right.
- **Repeat** this process.
- Do this **every day** to help commit the information to your **long-term memory**.

How to use the book for self-quizzing

Read	Cover	Write	Check
READ a small section of the KO	COVER up the information so you are unable to read/ see it	WRITE out what you can remember into your self-quizzing book	CHECK what you have written and use a green pen to mark and correct

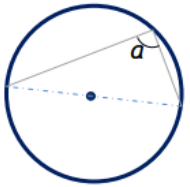
Using your Knowledge Organiser for revision

Research shows that students remember 50% more when they test themselves after learning something.

You can use your 100% book to create **flashcards**.

These should be:

- **double-sided**
- **a question on one side, the answer on other**
- **a keyword on one side, a definition or image on the other**
- **used for self-testing.**

Circles	**Circles**
1. What is the size of angle a? 2. State the rule. 	1. What do you know about the angles *x* and *y*? 2. State the rule. 

Q1 What is **emulsion**? Oil, water, droplet, shake, immiscible, bond, mixture.	**Q2** What is **one similarity** between an **alkene** and an **unsaturated** fat?
Q3 What is the name for the **test** for **unsaturated fat** or **alkene**? Describe what you would **see**.	**Q4** Describe two ways that **saturated** fat and **unsaturated fat** (oil) are **different**.
Q5 What is **the advantage** of cooking food in **oil**? **Explain** your answer.	**Q6** **Describe** what an **emulsifier** molecule does.
Q7 Name the **two parts** of an **emulsifier** molecule.	**Q8** What is the difference between a **monounsaturated** fat and **polyunsaturated** fat? **Mono** = one **Poly** = many

Feedback

Your teachers will give you feedback about your learning and progress in many different ways. These will include:

- Verbal feedback about something you are working on in the lesson (practical or written work).
- Verbal feedback through asking questions.
- Guided independent self-assessment.
- Guided peer assessment.
- Instant/quick written comments or identification of SPAG errors on your work as you complete it.
- Written feedback on your work and setting R4 or extension questions for you to complete.
- Knowledge quizzing/short tests that give you a score (i.e. 15/20).
- Longer tests that may also give a score (i.e. in %) as well as feedback about the content you need to re-learn/refresh.

You will be expected to respond to feedback in the following ways:

- ✓ Correcting all SPAG errors and copying out spellings as directed by your teacher.
- ✓ Answering R4 questions and completing extension questions/tasks in green pen.
- ✓ Giving peer feedback when it is expected by the teacher, using the format provided.
- ✓ Setting yourself targets when required, to ensure that you keep developing your knowledge and skills.
- ✓ Focusing on the areas of knowledge that you need to learn and quizzing yourself on these for homework.
- ✓ Showing that you take pride in your work by presenting it neatly.
- ✓ Always asking for help if you don't understand the work or what to do.

The Literacy Mat

Connectives

Adding Ideas
Furthermore, in addition, similarly, also, and, too.

Showing Difference
But, however, on the other hand, although, whereas, alternatively, arguably.

Evaluating
Consequently, surprisingly, significantly, interestingly, unexpectedly.

Listing
Firstly, secondly, last, then, next, finally.

Common Mistakes

Correct Capital Letters
To start EVERY sentence.
For 'I' (as in 'I went').
For ALL names.
Film/book names.
NeVeR To be uSed RanDomLy!

Would HAVE' vs 'Would OF'
NEVER use '**of**' after a modal verb:

'Would have' **NOT '**would of'
'Could have' **NOT '**could of'
'May have' **NOT '**may of'
'Should have' **NOT '**should of'
'Might have' **NOT '**might of'

Great Big Nevers!
Gonna - going to
Ain't - am not
We/they was - we were
Gotta - have got to
Innit - isn't it
Gotten - got
Coz/cause - because

Homophones
To/too - I went to school (towards). I ate too much (more than enough). I am happy too (also).
Their/there/they're - They're (they are) over there (that place) reading their (belonging to them) books.
Your/you're - Your work is great (belonging to you). You're awesome (you are).

Correct Sentences

Simple Sentence - must contain a verb and a subject.

subject — verb
Matt was very cold today.

subject — verb
I always eat breakfast in the morning

Compound Sentence - two **simple sentences** joined by a **connective**.

connective
I tried to speak slowly **but I was far too excited.**

connective
Dan is very organised and he always helps others.

Complex Sentence - contains a **simple sentence** and one or more '**subordinate clauses**' (extra information!).

subordinate clause — comma
When he handed in the homework, the teacher knew he had worked hard on it.

comma — comma
She told a joke, **which was hilarious**, to her friends.
subordinate clause

Proof Reading

Follow this checklist when proof-reading or editing your work, especially assessments!

1. Check your presentation: Underline your date, title and any subtitles. Check that your work is laid out in paragraphs.
2. Skim read: Make sure capital letters and full stops are 100% accurate.
3. Skim read again: Check that your complex sentences have accurate commas.
4. Skim read again: Check the spelling of words you are not sure about (neighbour/dictionary/teacher/literacy mat).
5. Read a final time but carefully: Do **ALL** of your sentences make sense? Is there a better, clearer way of explaining/describing something?

Apostrophe Rules

1. Contractions
The apostrophe is put in the place of missing/omitted letters:
I will becomes I'll / should not becomes shouldn't etc.

2. Possession
If something belongs to someone, we put an apostrophe, then an 'S':
Toby's football / The dog's collar / The door's handle.
But if the name already ends in an 'S', you just put an apostrophe:
Chris' guitar / Jess' book / Mr Jones' classroom.

3. Plural Possession
If something belongs to a group, we just put an apostrophe at the end.
The class' whiteboard / The boys' shoes.

4. It's vs Its
'It's' should ONLY have an apostrophe if it is being shortened from 'it is'.
NEVER for possession: Its legs were long and hairy.

Never use an apostrophe for plurals! Carrot's / Ball's / CD's

The Literacy Mat: Common spellings

accommodation	daughter	improvise	performance	soldier
actually	decide/decision	industrial	permanent	stomach
alcohol	definite	interesting	persuade/persuasion	straight
although	design	interrupt	physical	strategy
analyse/analysis	development	issue	possession	strength
argument	diamond	jealous	potential	success
assessment	diary	knowledge	preparation	surely
atmosphere	disappear	listening	prioritise	surprise
audible	disappoint	lonely	process	survey
audience	embarrass	lovely	proportion	technique
autumn	energy	marriage	proposition	technology
beautiful	engagement	material	questionnaire	texture
beginning	enquire	meanwhile	queue	tomorrow
believe	environment	miscellaneous	reaction	unfortunately
beneath	evaluation	mischief	receive	Wednesday
buried	evidence	modern	reference	weight
business	explanation	moreover	relief	weird
caught	February	murmur	remember	women
chocolate	fierce	necessary	research	
climb	forty	nervous	resources	
column	fulfil	original	safety	
concentration	furthermore	outrageous	Saturday	
conclusion	guard	parallel	secondary	
conscience	happened	participation	separate	
conscious	health	pattern	sequence	
consequence	height	peaceful	shoulder	
continuous	imaginary	people	sincerely	
creation				

Maths core knowledge

hegartymaths

http://hegartymaths.com

Maths Lesson Essentials!

- Have you written and underlined the date and title?
- Have you written the question and shown your working out?
- Have you shown your units?
- Have you brought your calculator?
- Have you marked your answer in green pen?
- Does your answer make sense?

Number and Algebra

Ascending
Descending
Denominator
Numerator
Solve
Solution
Decimal
Percentages
Binary
Integer

Data

Mean
Median
Mode
Range
Scale
Proportion
Discrete data
Continuous data
Frequency
Cumulative frequency
Upper quartile
Lower quartile
Interquartile range
Distribution
Correlation
Scatter graph

Shape

Names 3D

Sphere
Cylinder
Tetrahedron
Prism
Cone
Pyramid

Shape

Names 2D

Quadrilaterals
Parallelogram
Trapezium
Rectangle
Rhombus

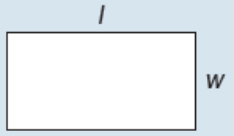
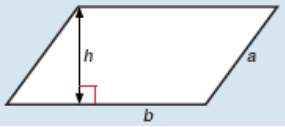
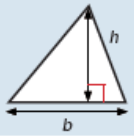
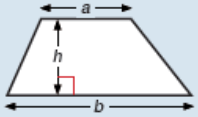
Triangles
Equilateral
Right-angle
Isosceles
Scalene

Keywords

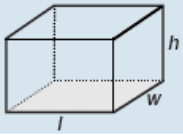
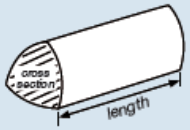
Circle
Polygon
Interior angles
Exterior angles
Acute angle
Right angle
Obtuse angle
Reflex angle
Vertically opposite angles
Corresponding angles
Alternate angles
Co-interior angles
Pythagoras
Trigonometry
Parallel
Perpendicular

Maths core knowledge

Areas

Rectangle = $l \times w$	
Parallelogram = $b \times h$	
Triangle = $\frac{1}{2} b \times h$	
Trapezium = $\frac{1}{2}(a + b)h$	

Volumes

Cuboid = $l \times w \times h$	
Prism = area of cross section × length	
Cylinder = $\pi r^2 h$	

Important Formulae

Compound measures

Speed

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

Pressure

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

Density

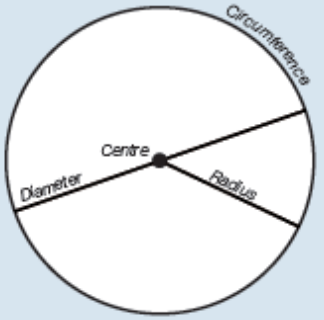
$$\text{density} = \frac{\text{mass}}{\text{volume}}$$

Circles

Circumference = $\pi \times$ diameter, $C = \pi d$

Circumference = $2 \times \pi \times$ radius, $C = 2\pi r$

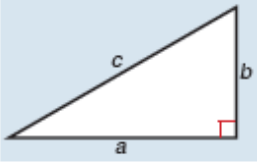
Area of a circle = $\pi \times$ radius squared $A = \pi r^2$



Pythagoras

Pythagoras' Theorem

For a right-angled triangle,
$a^2 + b^2 = c^2$



Trigonometric ratios (*new to F*)

$$\sin x^\circ = \frac{\text{opp}}{\text{hyp}}, \quad \cos x^\circ = \frac{\text{adj}}{\text{hyp}}, \quad \tan x^\circ = \frac{\text{opp}}{\text{adj}}$$

http://hegartymaths.com

hegartymaths

Science core knowledge

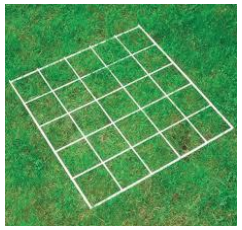
1. How Science Works Keywords

Keyword	Definition
Evidence	A set of data that proves a prediction or hypothesis.
Hazard	Something that could be dangerous.
Risk	Chance of something dangerous happening.
Prediction	Something you think will happen.
Hypothesis	Why you think something will happen.
Variables	Something that changes.
Independent variable	The variable that is changed or controlled in an experiment to test the effects on the dependent variable.
Dependent variable	The variable being tested and measured in an experiment.
Control variable	Something that is constant and unchanged during the experiment.
Repeatability	Closeness of repeats of results to each other.
Reproducibility	Agreement of results from different groups testing the same factor.
Accuracy	Closeness of a measured value to a standard or known value.
Precision	Closeness of two or more measurements to each other.
Reliability	The degree to which the result of a measurement can be depended on to be accurate.

2. Key Equipment

Measuring cylinders – 10 ml cylinders will allow measurement to the nearest 0.1 ml.
100 ml cylinders will allow measurement to the nearest 1 ml.

Thermometers – digital thermometers allow measurement to 1 decimal place, whereas alcohol thermometers only allow measurement to the nearest degree.



Quadrats – are used to do sampling and find the amount of a species in a certain area. Quadrats are placed onto the ground.

Metre ruler – used in multiple investigations in the lab. Allows us to measure to the nearest cm.

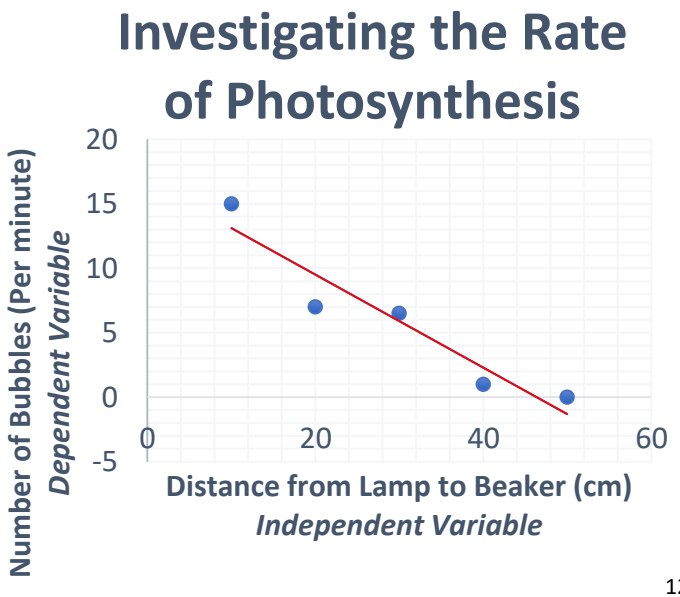
Measuring tape – used in sampling alongside the quadrat. Placed onto the ground to make a transect line to measure against.

Science Core Knowledge

3. Graphing, Analysis and Evaluation Keywords

Keyword	Definition	Example
Hypothesis	An educated guess based on what you already know.	The rate of photosynthesis will increase as the lamp moves closer to the beaker.
Independent Variable	The variable that can be changed by the scientist, it is the cause. Found on the *x*-axis.	Distance from lamp to beaker (cm)
Dependent Variable	The variable that the scientist observes, it is the effect. Found on the *y*-axis.	Number of bubbles (per minute)
Control Variable	The variables that must always be kept the same	Temperature, the size of the pond weed, amount of water
Line of Best Fit	A line that goes roughly through the middle of all the scatter points on a graph.	The red line on the graph above shows the line of best fit for the data plotted.
Calculations	Use the correct equation to be used based on the variables of the experiment. Use correct units.	Calculation for mean of number of bubbles per minute: Trial 1 + Trial 2 + Trial 3 ÷ 3 15 + 14 + 15 ÷ 3 = 14.6
Results Analysis	Identify patterns in data. Describe what the table and graph show.	As the lamp is getting closer to the beaker, more bubbles are produced.
Conclusion	Answer your original question. State whether or not the hypothesis was supported.	The results prove that the rate of photosynthesis is effected by the distance of the light source. As the lamp was moved closer to the baker, more bubbles were produced.
Evaluation	Suggest an improvement for the equipment used. Suggest an improvement for the method used.	Use an LED lamp. Measure the volume of oxygen produced.

Distance from lamp to beaker (cm)	Number of bubbles (per minute)			Mean number of bubbles
	Trial 1	Trial 2	Trial 3	
10	15	14	15	14.6
20	7	7	7	7
30	7	7	6	6.7
40	1	2	1	1.3
50	0	0	0	0



Art

Practical Skills Visited

Skills

Colour

The colour wheel – deepening knowledge and ability to confidently mix primaries and secondaries

Drawing

Mark-making
Basic shapes/accuracy of outline shapes
Tone – shading from dark to light and directional shading
Portrait basic – proportions

Painting

Colour mixing, blending, directional brushstrokes.

Printing

Mono – printing

3D

Clay – basic intro – rolling/joining, pinch pot etc.

Photography

Photography for recording ideas – basic editing on phones

Literacy

To be able to explain ideas, and reflect on your own work.
To be able to write about an artwork, describing it in detail using the model 'form, content, process, mood.'

Vocabulary

Colour

Tone – Darks and lights and everything in between

Primary colours – Red, yellow and blue; cannot be created by mixing other colours together

Secondary colour – 2 primary colours mixed together in equal amounts – green, purple and orange

Portrait – An artwork focusing on a person's face.

Proportion – The size things are in comparison to each other

Blending – Mixing colours or tones together

Charcoal – Burnt willow sticks used to create very black dramatic lines and shadows

Texture – The way something feels to the touch, or showing this through the way you draw or paint something, e.g. through mark making

Form – The 3D shape of something

Natural forms – Objects that are natural, e.g. leaves, seedpods, fir cones, shells

Still life – A group of objects arranged together in a particular way

Stretch/Further Reading

Drawing

1. Complete drawings of anything from real life each week, focusing on the actual shape.
2. Complete some 'blind contour' drawings.

https://www.bing.com/videos/search?q=blind+coltour+drawing&&view=detail&mid=645E010C9DA18F675865645E010C9DA18F675865&&FORM=VDRVRV

3. See how many different tones/shaded you can get out of an HB pencil.

4. Find out about traditional African Art –
a. How is Moroccan Art different from the Art of Kenya?
b. How was Picasso influenced by African Art.?
5. If possible, visit the British Museum in London
https://www.bing.com/videos/search?q=british+museum+african+art&view=detail&mid=2AEAAA6B885C5075FC092AEAAA6B885C5075FC09&FORM=VIRE

Artists

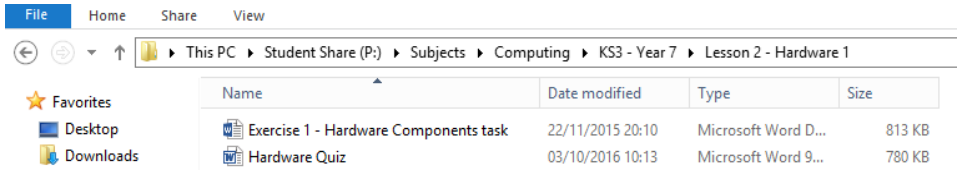
Find out about the following artists

- **Van Gogh**
- **Matisse**
- **Paul Klee**
- **Picasso**

Computing

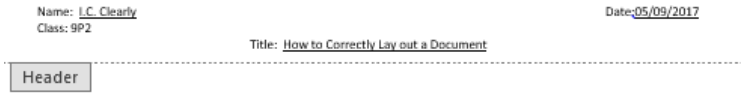
Saving Work:

File Naming: File names should be sensible and describe what the document is to make it easy to find again in the future.
Folder Structure: Like file names, folders must be sensibly named with a logical structure to make locating work easy.
Frequency: Ensure you save your work at the start to avoid losing it, so Autosave saves it constantly.



Document Structure: Header

Name: Your name must be on the top left.
Class: Your Class must be under your name.
Date: In the short form dd/mm/yy on the top right.
Title: An appropriate title describing the work should be in the centre.



Document Structure: Footer

Filepath: On the bottom left you should place the filepath showing where it is saved.
Page Number: In the bottom centre, you need the page number and number of pages/

Accounts (complete in pencil)

Account	Site	Login	P/W hint
Login	19SurnameInitial		
OneDrive/Email	http://outlook.office365.com/owa/theregisschool.co.uk	@theregisschool.co.uk	
Homework – iDEA	https://idea.org.uk	Email	
Classcharts	https://www.classcharts.com		
Keywords practice	https://quizlet.com/login	TRS Year 7 Comp Sci 2019	

Computing

Keyword	Definition
Password	A string of characters that allows access to a computer, interface or system.
Special Character	The characters other than letters and numbers such as % & “ ? *
Complexity	The state or quality of being intricate or complicated to make it hard to crack.
Cyberbullying	The use of electronic communication to bully a person, typically by sending messages of an intimidating or threatening nature.
Trusted Adult	Adults in a position of responsibility and trust, such as teachers, youth leaders, police officers and family members.
Bystander	A person who is present at an event or incident but does not take part.
Grooming	When someone builds an emotional connection with a child to gain their trust for the purposes of sexual abuse, exploitation or trafficking.
Victim	A person harmed, injured, abused or killed as a result of a crime or a person feeling helpless in the face of ill-treatment.
CEOP	Child Exploitation and Online Protection. This is the organisation you can report concerns to who will investigate and take police action.

Homework Checklist for first term

1	‘All About Me’ PowerPoint	Complete the sections from the template. See the template for extension opportunities.
2	Idea Badges	• E-Safety & Online Etiquette, Safe Online • Digital Ethics, Social Media Ethics, GDPR
3	Keywords from KO	You could also use Quizlet to practice.
4	Extension work	Add your school email to your Outlook at home.

e-Safety Key Points

1. Protect your personal information online, do not post: your address, telephone number, email, date of birth, bank details.
2. On social media use the highest privacy settings to make sure only your friends and family can see your pages.
3. Use a nickname online, not your real name.
4. Be careful about what photos you share online. If they show your home, work, school or places you regularly go to, you can be easily traced.
5. Think about the suitability of what you post, images and text, would you want your granny to see it? Are you revealing too much?
6. Remember once you post it online you cannot get it back. It could be shared and downloaded around the world.
7. If you are concerned report it straight away.
8. Tell trusted adults if you are worried: Teachers, Parents, Youth Workers, Police Officers.
9. Know where to get more help: CEOP; NSPCC https://www.nspcc.org.uk/; Childline – Call 0800 1111

Performance (Drama and Dance)

Drama – Physical and Vocal Skills

1	**Facial Expressions:** Changing and adapting your facial features to show your character's emotions.
2	**Physicality (Body Language):** Movement or posture of the actor's body to represent a character and their emotion.
3	**Gestures:** Hand actions to emphasise your character's feelings or show what they are doing.
4	**Voice Projection:** The volume of your voice.
5	**Tone of Voice:** How your voice sounds in terms of emotion.
6	**Pitch:** How high or low your voice is.
7	**Pace:** The speed in which the character speaks.
8	**Pause**: Gaps within speech to add tension.

Drama Techniques

1	**Mime:** Acting without using sound or props.
2	**Physical theatre:** Using your body to create an object.
3	**Freeze frame:** A still frozen/image of actors on stage.

Dance: Creating and Developing a Motif

1	Using actions, space, dynamics and relationship content.
2	Choreographic devices to manipulate movement such as repetition, unison, canon and contrast.
3	Choreographic process to include research, improvisation, refinement and development.

Dance Physical and Expressive Skills

1	**Flexibility**: The range of movement in the joints (involving muscles, tendons and ligaments).
2	**Balance**: A steady or held position achieved by an even distribution of weight.
3	**Stamina**: Ability to maintain physical and mental energy over periods of time.
4	**Strength**: Muscular power.
5	**Focus**: Use of the eyes to enhance performance or interpretative qualities.
6	**Projection**: The energy the dancer uses to connect with and draw in the audience.
7	**Musicality**: The ability to make the unique qualities of the accompaniment evident in performance.
8	**Safe Practice**: To include warm up and appropriate clothing.

English

Keywords

Evidence	The use of information to prove a point that you are making
Quotation	A selection of words or phrases taken, word for word, from a text
Fiction	Writing that describes imaginary events and people, e.g. *Private Peaceful*
Non-fiction	Writing that describes people's opinions or information on facts and reality, e.g. a newspaper
Identify	To pick out a specific piece of information from a text
Inference (noun)	A thought or opinion about a text that is formed by looking at the evidence
Infer (verb)	To have a thought or opinion about a text, formed by looking at the evidence
Explicit	Obvious, specific or clear
Implicit	Suggested, not openly stated, an educated guess
Analysis (noun)	The close examination of a text
Narrator	The person telling the story
Perspective	The views and opinions of the writer

Rhetorical Devices

Rhetorical question	Asking a question that gets the reader to consider or do something. Used to emphasise a key point
Direct address	Directing a statement clearly to the reader/audience using the pronoun 'you'
Tripartite sequence	When you list three actions or descriptions in a sentence.
Inclusive pronouns	Use of 'us'/'our' etc. to make the audience feel included and therefore more likely to agree.
Hyperbole	Exaggerated or over the top language
Facts / statistics	A statement that is known or proven to be true
Opinions	A view or judgement of something that someone could disagree with
Repetition	Words or phrases repeated across a text for emphasis

Parts of Speech

1	**Noun**	People, place things
	Adjective	Describes a noun
	Adverb	Tells you how, when, where or why something is being done
2	**Verb**	Describes an action
3	**Pronoun**	Works as a noun and indicates other people in the discussion
4	**Connective**	A word used to connect clauses or ideas together
5	**Preposition**	Usually used in front of nouns or pronouns and they show the relationship between the noun or pronoun and other words in a sentence

Language and Structural Devices

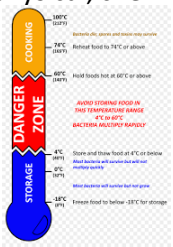
Simile	Comparing two objects using 'as' or 'like' to create imagery
Metaphor	Comparing one thing to another by saying it is something else.
Personification	Giving inanimate objects human properties
Pathetic fallacy	When you give human emotions to nature (specifically the weather) to create atmosphere
Alliteration	Words in a passage/sentence that begin with the same sound
Onomatopoeia	Words that sound like the sounds they are describing
Semantic field	A group of words that suggest a theme/topic
Sequence	The order of events in a text (opening, middle, end)
Flashback/flash -forward	An interruption of the story to describe a past or future event
Past and present tense	Identifying whether the events are happening now, or if they have already happened
Narrative viewpoint	Writing in the first person ('I'), second person ('you') or third person (he, she, it, names)
Foreshadowing	Hints about what might happen later in the speech

Food Preparation and Nutrition

Keywords

Bacteria – A single celled organism that can cause food poisoning.

Contamination types – physical, chemical and bacterial.



Cross Contamination – When bacteria travels using equipment or food to a different source.

High risk food – Those most likely to encourage bacterial growth e.g. meat, poultry, fish and dairy.

Danger zone – The temperature range in which bacteria thrives.

Ambient temperature – Normal room temperature.

Processes and Techniques

Bridge Hold

Claw Hold

The Eatwell Guide

Tips for healthy eating:

1. Base your meals on starchy food
2. Eat lots of fruit and vegetables
3. Eat more fish
4. Cut down on saturated fat and sugar
5. Try to eat less salt – not more than 6 g a day
6. Drink plenty of water
7. Don't skip breakfast

Electronic scales using for measuring ingredients, e.g. flour, butter, sugar

Measuring jug used to measure liquid ingredients, e.g. water, milk, oil

Macronutrients

Macronutrients are needed by the body in large amounts.

Carbohydrates

- Provide the body with energy.
- Most of our energy should come from complex starchy food.
- One third of your diet should come from starch foods.
- If the diet contains more carbohydrates than the body needs, they will be turned into fat and be stored in the body.

Fats

- Animal fats are usually saturated **(solid)** and vegetable fats are usually unsaturated **(liquid).**
- Saturated animal fats have been linked to increased cases of heart disease.
- Fat provides us with energy.
- It keeps the body warm.
- It protects and cushions internal organs by covering them.

Protein

- Essential for growth, repair, maintenance and energy.
- High biological value (HBV) proteins come from animals.
- Low biological value (LBV) proteins come from mainly plant foods.

Food Preparation and Nutrition – Recipes

FRUIT SALAD

1 apple
1 orange
5 grapes
Some berries
1 kiwi
a small carton of fruit juice (orange/apple)
a plastic container, with your name on it, to take your fruit salad home in

FAIRY CAKES

100 g self raising flour
100 g butter/margarine
100 g caster sugar
2 eggs
12 cake cases

FRUITY BISCUITS

75 g caster sugar
225 g plain flour
150 g butter

ROCKY ROAD

250 g digestive biscuits
150 g milk chocolate
150 g dark chocolate
100 g butter
150 g golden syrup
100 g chopped dried apricots
75 g raisins

PASTA IN TOMATO SAUCE

200 g pasta shapes
2 tbsp oil
1 small onion
1 clove of garlic
1 small tin tomatoes
1 tbsp tomato puree
1 tbsp mixed herbs
50 g grated cheese
OPTIONAL INGREDIENTS: 1 red/green pepper, 1 courgette, 6 mushrooms

TOMATO AND BASIL TART

1 packet of readymade short curst pastry
2 tomatoes
50 g cheese, e.g. mozzarella, gruyere, cheddar
handful of basil leaves
2 eggs
125 ml semi skimmed milk
black pepper

MUFFINS

240 ml milk
125 ml sunflower or vegetable oil
2 medium sized eggs
250 g plain flour
100 g sugar
2 heaped tsp baking powder
muffin cases

ALWAYS REMEMBER A CONTAINER TO TAKE YOUR FOOD PRODUCTS HOME!!!!

LEARN VOCAB — French — BUILD SENTENCES

Time Expressions

Avant/ après le college,	before/after school
Le matin,	in the morning
L'après-midi,	in the afternoon
Le weekend,	at the weekend
D'habitude,	usually,
quelquefois	sometimes
toujours	always
souvent	often
Un jour	one day
À l'avenir	In the future

Countries and Nationalities

Je suis…	I am…
Je parle…	I speak…
Je veux parler…	I want to speak…
Anglais**(e)**	English
Français**(e)**	French
Allemand**(e)**	German
Polonais**(e)**	Polish
J'habite…	I live…
Je suis né**(e)**…	I was born…
Je viens de…	I come from
Je voudrais habiter…	I would like to live…
(En) Angleterre	(In) England
(En) Espagne	(in) Spain
(En) Allemagne	(in) Germany
(En) Pologne	(in) Poland

Connectives

et	and
mais	but
ou	or
aussi	also
cependant	however

Question Words

Comment? = how?
Quoi? = what?
Où?= where?
Qui? = who?
Quand? = when?
Pourquoi? = why?
Combien? = how many?
Ça va? = how are you?

Meeting and Greeting

Bonjour = Hello
Salut/ Coucou! = Hi / Hiya!
Ça va bien, merci = I'm fine, thanks
Pas mal = not bad
Au revoir! = bye
Merci beaucoup = thanks a lot

Les chiffres = Numbers

zéro	0	onze	11
un	1	douze	12
deux	2	treize	13
trois	3	quatorze	14
quatre	4	quinze	15
cinq	5	seize	16
six	6	Dix-sept	17
sept	7	Dix-huit	18
huit	8	Dix-neuf	19
neuf	9	Vingt	20
dix	10		

J'ai … ans = I'm … years old
Il/elle a … ans = he / she is … years old

Core Questions

1) Quel âge as-tu?	How old are you?
2) Comment t'appelles-tu?	What's your name?
3) Où habites-tu?	Where do you live?
4) Tu es comment?	What are you like?
5) Qu'est-ce que tu aimes faire?	What do you like doing?

Les mois = Months

Janvier	Juillet
Février	Août
Mars	Septembre
Avril	Octobre
Mai	Novembre
Juin	Décembre

Les jours = Days

Lundi
Mardi
Mercredi
Jeudi
Vendredi
Samedi
Dimanche

La météo = The Weather

Quand il fait chaud	When it's hot
Quand il fait froid	When it's cold
Quand il pleut	When it rains
Quand il fait beau	When the weather's nice
Quand il fait mauvais	When the weather's bad
S'il neige	If it snows

Opinions

J'adore…	I love…
J'aime…	I like…
Je n'aime pas…	I don't like…
Je déteste…	I hate…
Parce que / car…	Because…
C'est barbant	It's boring
C'est chouette	It's awesome

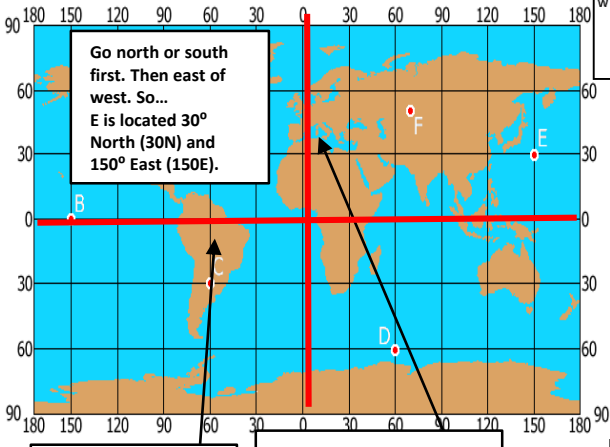
Verb Phrases

Jouer **aux** jeux video	playing video games
courir	running
Faire **de la** natation	swimming
Faire de l'équitation	horse-riding
Faire **de la** voile	sailing
Rester chez moi	staying at my house
Aller en ville	to go to town
Aller **à la** patinoire	to go to the ice rink

Geography

Key Vocabulary

Continent – One of the seven large land masses of the earth
Country – A nation with its own government occupying a particular territory
Longitude – The lines down the earth showing east or west
Latitude – The lines across the earth showing north and south
Eastings – The grid reference along the bottom
Northings – The grid reference up the side
Contour Lines – Brown lines on a map that show height
Relief – The height of the land
OS Map – Ordnance Survey is a map of areas of the UK



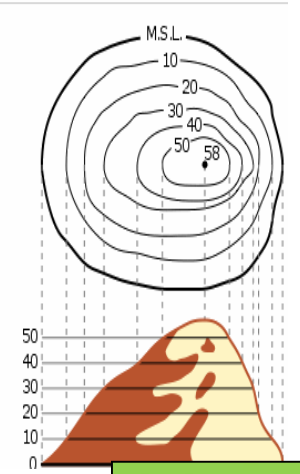
The Equator, the main line of latitude

Greenwich meridian, the main line of longitude

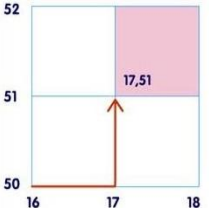
Ordnance Survey (OS) Maps

On an OS map there are many symbols that show features of the land. Use the key on the side or bottom of the map to find them out.
Some symbols might include:

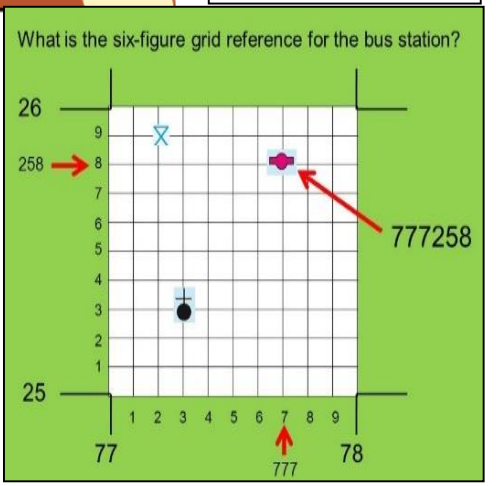
- **Picnic site**
- **Church with spire**
- **Information point**



Contour lines show the height of the land. Each line shows another 10 m above sea level. The closer the lines are together, the steeper the slope.



Four-figure grid references
Each square has a grid reference that you get by putting together the numbers of the easting and northing that cross in its bottom left-hand corner.

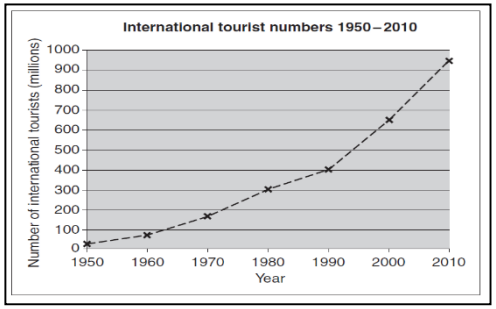


The growth of tourism?

International **tourist numbers have grown dramatically** since 1950, with an increase of around 925 million international tourists between 1950 and 2010.
There are many reasons for this including:

- P – People have more money **(disposable cash)**
  D – THIS MEANS THAT more people can afford holidays abroad.
- P **– More advertising**

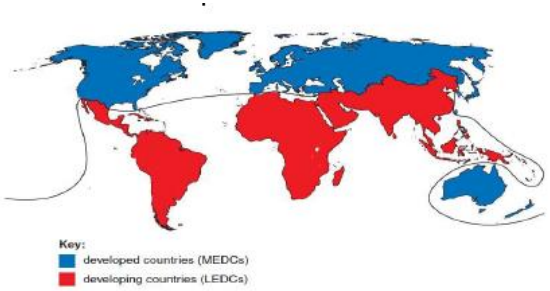
D – THIS MEANS THAT people are encouraged to go on holidays abroad as it seems more accessible.



Measure the scale line to work out how many cm = 1 km.
On an OS Map, you could measure the width of a square instead!

Geography

Where are the poor countries of the world?

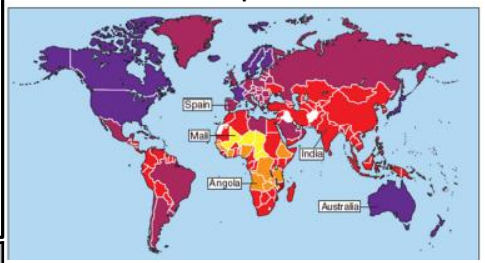


Development across the world is not even. As can be seen from the map Brandt made in the 1980s:
The **developed countries** are in the **northern** hemisphere and the **developing countries** are in the **southern** hemisphere. The **anomaly** is Oceania.

How do we measure development?

1. **Infant mortality** – the number of babies that die per 1000 before their first birthday.
2. **Life expectancy** – The average age you are expected to live to in a country.
3. **Birth rate** – The number of births per 1000.
4. **Literacy rate** – The percentage of people that can read and write.
5. **People per doctor –** The number of people to one doctor
6. **Access to internet –** The percentage of people with access to the internet. If this is low it shows that people can't afford computers, phones or tablets.
7. **Access to safe water –** This is the percentage of people with access to clean water.

How does Africa compare to the rest of the world?



The map shows the Human Development index scores for different countries.

Key

over 0.950	very high
0.800–0.949	high
0.500–0.799	medium
0.350–0.499	low
under 0.350	very low
no data	

HDI uses 4 indicators to work out how developed countries are. African countries are still very poor today. The continent has the lightest colours. It is the only continent that has areas coloured yellow (very low). **The area coloured yellow is near the Sahara.** Here people will struggle to farm, they will not have water and many children will not go to school as they will be looking for water or helping their parents grow food. Life expectancy will be low here.

Fairtrade as a way of escaping poverty?

Advantages of Fairtrade	Disadvantages of Fairtrade
Producers get a **fair price** so they can afford to buy food and medicine. Workers get better **working conditions** so avoid injuries and long days. It **creates jobs** for local people meaning the government gets taxes to invest in schools and hospitals to improve development.	The product is a **higher price** – the customer pays more so often the products do not sell and the farmers do not make the money. The **non-fair trade workers get paid less** meaning some people are forced into greater poverty and will struggle to provide for their families.

Different types of aid?

Bilateral Aid: Aid given from one countries government to another. It normally includes deals and tied in contracts.

Multilateral Aid: Aid given by NGO's (Non-Government Organisations) like the Red Cross or Oxfam.

Short Term Aid: Normally given after a natural hazard simply to help the country through a crisis, e.g. food and water.

Long Term Aid: Given over a longer period to support people rather than giving them food etc.

Aid Case Study – Tree Aid

Background

Set up in the Sahel region of Africa. In Mali. A British Company.

Reasons aid is needed

They are cutting down their trees, which is causing less moisture to stay in the area, causing more droughts – less food and water.
Population pressure and little money means trees are exploited for selling as wood or burning for fuel.

Features

Tree seeds given so tree nurseries can be set up for food production, creating 7.2 million trees and helping over 450,000 people.
Bikes and donkey carts given so that finished items can be taken to market to sell, these are easy to maintain and stop dependence.
People taught how to look after the trees, so they can become self-sufficient.

Success / Sustainability

More food such as cashew and shea nuts, which they use to feed themselves and sell. This means they now have money to send children to school, which is improving literacy rates.
The tree roots stop soil erosion meaning that more crops can be grown and higher yields achieved, increasing profits for farmers.
The trees hold moisture in the area, meaning less drought and less chance of death through dehydration or lack of food.

Reasons why some countries develop while others do not

South Korea NIC	Malawi –- Poor
Strong Government can enforce taxes and spend it on schools and hospitals to improve quality of life. **Locational benefits** such as having a coastline for trade with surrounding countries. Loans used to improve infrastructure, such as roads, means that more imports and exports can take place. **Hardworking people** means that companies are attracted to the area, so the government receives even more taxes. **Little crime** so businesses are attracted to the area, and jobs. **No drought** or problems with access to food so children do not spend time looking for these things, instead they can attend school.	Very **weak Government** – little control to enforce taxes to keep people safe. **High crime** means industry does not want to set up in the area. **Droughts** and famines common so people starve, or spend their days looking for water. People struggle to find jobs as **unsafe**, meaning the government has little money for schools and hospitals. The country is **land locked** meaning they have no ports to import and export goods, reducing trade.

ADVANTAGES OF AID

- People **learn new skills** e.g. farming, so people can grow food and pass skills on to other people.
- It helps people through a disaster like food and medicine during a hurricane, reduces the death toll.
- Some aid can be used for a **long time** e.g. a water pump that is simple and cheap to run, and will not break down.

DISADVANTAGES OF AID

- Aid that requires **electricity, spare parts**, or an expert to fix it, e.g. computers as the recipient country will become **dependent**.
- Just giving countries **food** and water year after year as people will become dependent.
- Only giving aid to the **desperate** – as this could **discourage others** from working.
- Giving aid to **corrupt governments** to hand out – as they might try and sell it on instead.
- Aid such as **loans** or aid where deals are made could end with **recipient country** going in to **debt**!

BUILD SENTENCES — German — LEARN VOCAB

Core Questions

1) Wie alt bist du?	How old are you?
2) Wie heißt du?	What's your name?
3) Wie geht's?	How are you?
4) Wo wohnst du?	Where do you live?
5) Wie bist du?	What are you like?

Die Zahlen = Numbers

null	0
eins	1
zwei	2
drei	3
vier	4
fünf	5
sechs	6
sieben	7
acht	8
neun	9
zehn	10
elf	11
zwölf	12
dreizehn	13
vierzehn	14
fünfzehn	15
sechzehn	16
siebzehn	17
achtzehn	18
neunzehn	19
zwanzig	20

Ich bin … Jahre alt = I'm … years old
Er ist … Jahre alt = he is … years old
Sie ist … Jahre alt = she is … years old

Haben = To Have

Ich	habe	I have
du	hast	you have
er/sie	hat	he/she has
wir/sie	haben	we/they have
Sie	haben	you have (formal)

Sein = To Be

Ich	bin	I am
du	bist	you are
er/sie	ist	he/she is
wir/sie	sind	we/they are
Sie	sind	you are (formal)

Meeting and Greeting

Guten Tag! = Hallo
Es geht mir gut = I'm well
Nicht schlecht = not bad
Tschüs! = bye
Auf Wiedersehen! – goodbye!

Question Words

Wie? = how?
Was? = what?
Wo? = where?
Woher? = where from?
Wer? = who?
Warum? = why?

Opinions

ich mag = I like …
Ich mag… nicht = I don't like …
ich hasse = I hate …
Mein(e) Lieblings____ ist = my favourite … is

die Monate = Months

Januar
Februar
März
April
Mai
Juni
Juli
August
September
Oktober
November
Dezember

die Tage = Days

Montag
Dienstag
Mittwoch
Donnerstag
Freitag
Samstag
Sonntag

Personality:

Man sagt, ich bin…. = people say I am…..

freundlich	friendly
intelligent	clever
kreativ	creative
launisch	moody
laut	loud
lustig	funny
musikalisch	musical
sportlich	sporty

Location:

Ich wohne in … = I live in…
Er wohnt in … = he lives in…
Sie wohnt in … = she lives in
England = England
Wales = Wales
Irland = Ireland
Deutschland = Germany
Schottland = Scotland
Österreich = Austria
Die Schweiz = Switzerland
Spanien = Spain
Polen = Poland

Useful Words

und = and aber = but oder = or

sehr = very ziemlich = quite

nie = never immer = always manchmal = sometimes

History – Medieval England

Key Content

Catholic Church	The religion that everyone in Medieval England followed.
Doom Paintings	Wall painting of heaven and hell on the wall of a medieval church.
Fyrd	The Saxon army.
Housecarls	Harold Godwinson's professional army.
Latin	The official language of the Catholic Church (not many ordinary people understood it).
Medieval	A period of time from 1066 to 1485.
Monks and Nuns	Men who women who have dedicated their lives to God.
Monastery	Building where monks and nuns lived.
Monastic	Religious way of life.
Norman	A people from northern Europe and France who conquered England in 1066.
Saxon	The race of people that lived in England before the Battle of Hastings.
Tithe	A payment made to the Church (tax).
Viking	Group that first invaded England in AD 730. Last invaded in 1066.

Key Concepts

Source	Something that tells us about the past.
Evidence	Information used to prove something.
Provenance	The nature, origin and purpose of a source.
Usefulness	Why a source is useful for finding out about the past.
Change	Differences over a period of time.
Continuity	What stayed the same over a period of time.
Cause	Things that lead to another event.
Consequence	Things that happened because of an event.
Inference	Use clues in the text to find out what is not stated.

Useful links:

https://www.bbc.com/bitesize/guides/zsjnb9q/revision/1

https://ks3historyhelp.weebly.com/

https://www.educationquizzes.com/ks3/history/the-norman-conquest-03/

https://www.youtube.com/watch?v=zigjVCFzZ38

Key Dates

1065	Death of Edward the Confessor
1066	Battle of Stamford Bridge
1066	Battle of Hastings
1069	Harrying of the North
1086	Domesday Survey

Key Individuals

Edward the Confessor	The king of England until he died in 1065. He died without leaving an heir to the throne.
William, Duke of Normandy	Claimed to have been promised the throne by Edward. Launched an invasion against Harold Godwinson in 1066.
Harold Godwinson	He was a Saxon and took over England after Edward died.
Harald Hardrada	Was the Viking King. he led an invasion in England after Edward died.

Maths

1. Place value and number sense

Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Units	•	Tenths	Hundredths	Thousandths	Ten thousandths	Hundred thousandths
100 000	10 000	1000	100	10	1	•	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$	$\frac{1}{10\,000}$	$\frac{1}{100\,000}$

Order the following numbers, starting with the smallest:
12 808, 1 082, 1 208, 81 430

1. List the numbers, lining up the place value columns.
2. Compare the value of each column, starting with the largest place value.

TT	T	H	T	U	
1	2	8	0	8	(3)
	1	0	8	2	(1)
	1	2	0	8	(2)
8	1	4	3	0	(4)

1082, 1208, 12 808, 81 430

Order the following numbers, starting with the smallest:
0.16, 0.106, 0.1, 0.6

1. List the numbers, lining up the place value columns.
2. Compare the value of each column, starting with the largest place value.

U	•	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$	
0	.	1	6	0	(3)
0	.	1	0	6	(2)
0	.	1	0	0	(1)
0	.	6	0	0	(4)

0.1, 0.106, 0.16, 0.6

You can also use symbols to compare numbers:

$a < b$ a is less than b
$a > b$ a is greater than b
$a = b$ a is equal to b
$a \neq b$ a is not equal to b
$a \leq b$ a is less than or equal to b
$a \geq b$ a is greater than or equal to b

For example:
34.5 < 38.0 8.6 > 8.15 12.2 = 12.20

hegartymaths
http://www.hegartymaths.com

2. Addition and Subtraction

Addition: Line up your numbers in their correct place value columns.
Add the digits in each column.
Example: Calculate 4563 + 578

	T	H	T	U
	4	5	6	3
+		5	7	8
	5	1	4	1
	1	1	1	

Subtraction: Line up your numbers in their correct place value columns.
Subtract the digits in each column.
Example: Calculate 534 + 217

	H	T	U
	5	~~3~~ 2	1 4
-	2	1	7
	3	1	7

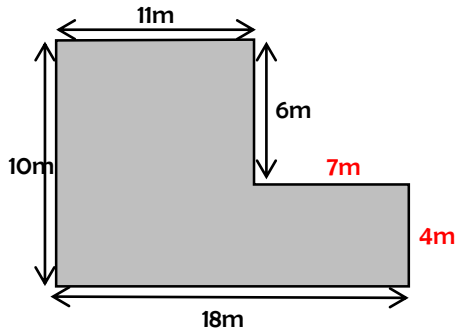
3. Perimeter

The total distance around the outside of a 2D shape.
The sum of all side lengths of a 2D shape.

Example: Vertical lengths = 10 + 6 + 4
= 10 + 10
= 20 m

Horizontal lengths = 18 + 11 + 7
= 18 + 18
= 36 m

Total perimeter = 20 + 36
= 56 m



Key Vocabulary

place value, addition, sum, subtract, difference, product, divide, units, perimeter, area, factor, multiple

4. Times Tables

1 x 3 = 3	1 x 4 = 4	1 x 5 = 5
2 x 3 = 6	2 x 4 = 8	2 x 5 = 10
3 x 3 = 9	3 x 4 = 12	3 x 5 = 15
4 x 3 = 12	4 x 4 = 16	4 x 5 = 20
5 x 3 = 15	5 x 4 = 20	5 x 5 = 25
6 x 3 = 18	6 x 4 = 24	6 x 5 = 30
7 x 3 = 21	7 x 4 = 28	7 x 5 = 35
8 x 3 = 24	8 x 4 = 32	8 x 5 = 40
9 x 3 = 27	9 x 4 = 36	9 x 5 = 45
10 x 3 = 30	10 x 4 = 40	10 x 5 = 50
11 x 3 = 33	11 x 4 = 44	11 x 5 = 55
12 x 3 = 36	12 x 4 = 48	12 x 5 = 60
13 x 3 = 39	13 x 4 = 52	13 x 5 = 65
14 x 3 = 42	14 x 4 = 56	14 x 5 = 70
15 x 3 = 45	15 x 4 = 60	15 x 5 = 75
1 x 6 = 6	1 x 7 = 7	1 x 8 = 8
2 x 6 = 12	2 x 7 = 14	2 x 8 = 16
3 x 6 = 18	3 x 7 = 21	3 x 8 = 24
4 x 6 = 24	4 x 7 = 28	4 x 8 = 32
5 x 6 = 30	5 x 7 = 35	5 x 8 = 40
6 x 6 = 36	6 x 7 = 42	6 x 8 = 48
7 x 6 = 42	7 x 7 = 49	7 x 8 = 56
8 x 6 = 48	8 x 7 = 56	8 x 8 = 64
9 x 6 = 54	9 x 7 = 63	9 x 8 = 72
10 x 6 = 60	10 x 7 = 70	10 x 8 = 80
11 x 6 = 66	11 x 7 = 77	11 x 8 = 88
12 x 6 = 72	12 x 7 = 84	12 x 8 = 96
13 x 6 = 78	13 x 7 = 91	13 x 8 = 104
14 x 6 = 84	14 x 7 = 98	14 x 8 = 112
15 x 6 = 90	15 x 7 = 105	15 x 8 = 120

Maths

5. Multiplication and Division

Multiplication:
Use the written long multiplication method to complete multiplications that you cannot complete in your head.

1. Line up your numbers in their place value columns.
2. Break the calculation into 2 parts: 372 × 4 and 272 × 20
Be careful when multiplying by 20 – insert a 0 into the 'ones' column to represent a multiplication by 10, then multiply all the digits by 2.

Example: 372 × 24

	H	T	U
	3	7	2
x		2	4
	2	8	8
7	4	4	0
7	7	2	8

Division:
Use the written short division method or 'bus stop method' to complete divisions that you cannot complete in your head.

Example: 1526 ÷ 7
1. Start from the highest place value column then move to the left.
2. Ask yourself "how many 7s go into 1?" the answer is 0 with a remainder of 1.
3. Carry this over to the 5 and ask "how many 7s go into 15?" etc.

	0	2	1	8
7	1	15	2	6

6. Factors and Multiples

$3 \times 8 = 24$

Factors: 3 is a factor of 24; 8 is a factor of 24
Multiple: 24 is a multiple of 3 and 8

$4 \times 5 = 20$

Factors: 3 is a factor of 24; 8 is a factor of 24
Multiple: 24 is a multiple of 3 and 8

Factors are integers that we multiply together to get another number.
You will sometimes to be asked to list all the factors of a number e.g. list all the factors of 24: 1, 2, 3, 4, 6, 8, 12, 24
You could also be asked to find the Highest Common Factor (HCF) of two or more numbers. You do this by listing all the factors of both numbers and stating the biggest number that appears in both lists. e.g.:
Find the HCF of 12 and 32: Factors of 12: 1, 2, 3, 4, 6, 12
Factors of 32: 1, 2, 4, 8, 16, 32
} The HCF of 12 and 32 is 4

Multiples are the result of multiplying integers together.
You will sometimes be asked to list the multiples of a number e.g. list the first 6 multiples of 8: 8, 16, 24, 32, 40, 48
You could also be asked to find the Lowest Common Multiple (LCM) of two or more numbers. You do this by listing the times tables of both numbers until you reach the first number that appears in both lists. e.g.:
Find the LCM of 6 and 8: Multiples of 8: 8, 16, 24, 32, 40...
Multiples of 6: 6, 12, 18, 24, 30...
} The LCM of 6 and 8 is 24

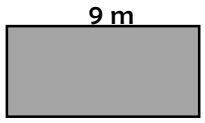
7. Area

The 2D space a shape covers.
As you are measuring an area your units of measurement will always be squared. For example: mm^2 , cm^2 , m^2... etc.

Square/Rectangle

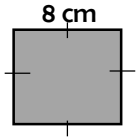
Area = length × width

Rectangle:



Area = length × width
= 9 × 5
= 45 m^2

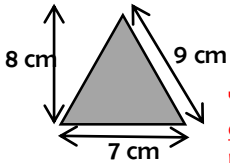
Square:



Area = length × width
= 8 × 8
= 64 cm^2

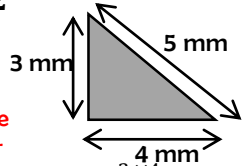
Triangle

$$\text{Area} = \frac{\text{base} \times \text{height}}{2}$$



$\text{Area} = \frac{7 \times 8}{2}$
$= \frac{56}{2}$
$= 28\ cm^2$

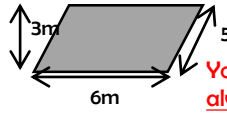
You must always use the perpendicular height – ignore the slanted length.



$\text{Area} = \frac{3 \times 4}{2}$
$= \frac{12}{2}$
$= 6\ mm^2$

Parallelogram

Area = base × height



Area = 3 × 6
= 18 m^2

You must always use the perpendicular height – ignore the slanted length.

Music

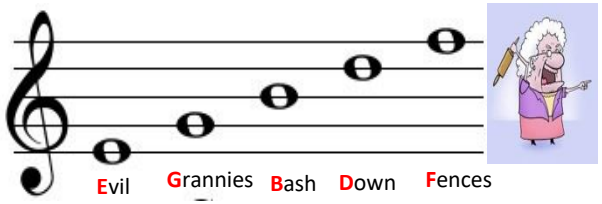
Keywords

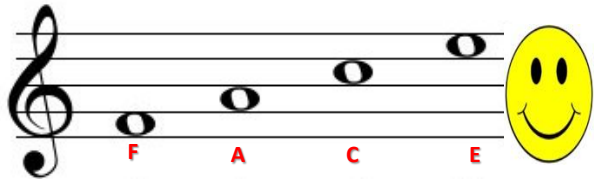
Dynamics	Symbol	Definition
Fortissimo	*ff*	Very Loud
Forte	*f*	Loud
Mezzoforte	*mf*	Moderately Loud
Mezzopiano	*mp*	Moderately Quiet
Piano	*p*	Quiet
Pianissimo	*pp*	Very Quiet
Crescendo		Becoming gradually louder
Decrescendo		Becoming gradually quieter

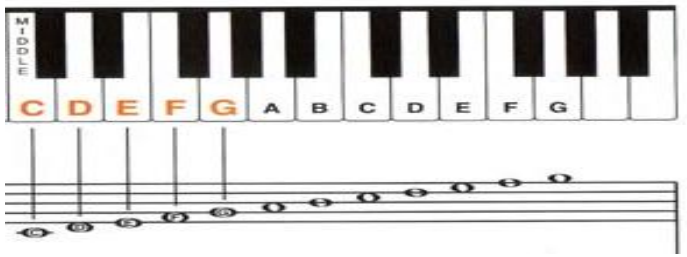
Tempo	Definition
Lento	Slowly
Largo	Slow and stately
Adagio	Leisurely
Andante	At a walking pace
Allegro	Fast
Vivace	Lively
Presto	Very Quickly

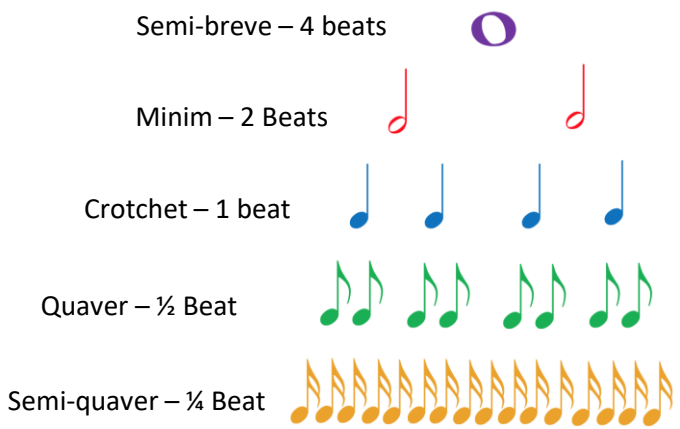
Musical Instrument Families

Woodwind	**Brass**
Flute Clarinet Oboe Saxophone Bassoon	Trumpet French horn Trombone Tuba
Strings	**Percussion**
Violin Viola Cello Double Bass	Timpani Piano Glockenspiel Xylophone







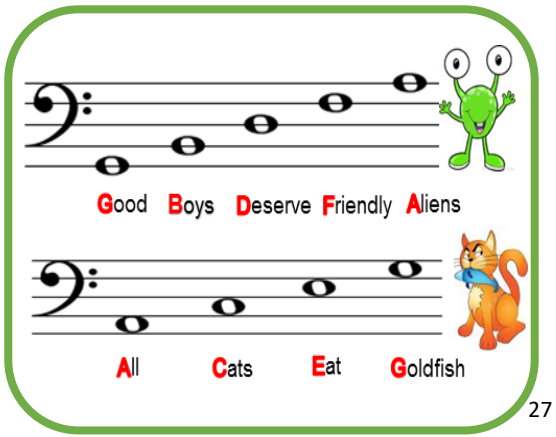


Spellings to Learn in Music

Rhythm
Rehearsal
Guitar

Stretch and Challenge

Listen to the following piece of music. Would you be able to identify each instrument of the orchestra if you heard it again?
'Peter and the Wolf' by Prokofiev
https://www.youtube.com/watch?v=9ueGfjBKbiE



Physical Education

Sports

Invasion
Netball
Handball
Basketball
Football
Rugby
Hockey

Artistic
Gymnastics
Trampolining

Striking and fielding
Stoolball
Rounder
Cricket
Softball
Tennis

Athletics

Swimming

Key Skills

Passing
Shooting
Dribbling
Tackling
Catching
Throwing
Kicking

Balancing
Travel
Vaulting
Landing
Rotation

Striking
Hitting
Catching
Throwing
Stopping

Sprinting
Jumping
Throwing
Pacing

Legs
Arms
Breathing
Timing

Components of Fitness

Balance – the ability to maintain centre of mass over a base of support. There are two types of balance: static balance and dynamic balance. A gymnast uses static balance when performing a headstand and dynamic balance when performing a cartwheel.

Coordination – the smooth flow of movement needed to perform a motor task efficiently and accurately.

Reaction Time – the time taken for a sports performer to respond to a stimulus and the initiation of their response.

Agility – the ability of a sports performer to quickly and precisely move or change direction without losing balance or time.

Power – the product of strength and speed. Expressed as the work done in a unit of time.

Muscular Endurance – the ability of the muscular system to work efficiently, where a muscle can continue contracting over a period of time against a light to moderate fixed resistance load.

Muscular Strength – the maximum force (in kg or N) that can be generated by a muscle or muscle group.

Aerobic Endurance – the ability of the cardiorespiratory system to work efficiently, supplying nutrients and oxygen to working muscles during sustained physical activity.

Flexibility – having an adequate range of motion in all joints of the body; the ability to move a joint fluidly through its complete range of movement.

Speed – distance divided by the time taken. Speed is measured in metres per second (m/s). The faster an athlete runs over a given distance, the greater their speed.

Product Design – Materials and Tools

Tools and Equipment
If you are unsure, ask about the use first!

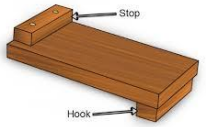
Coping Saw for cutting **curved** lines in **thin** material with a thin blade. The blade can be rotated by undoing the handle first.

Tenon Saw for cutting straight vertical cuts. The depth of the cut is restricted by the brass spine. You must stretch the index finger out when using this saw to steady it and get a more accurate cut. Start cutting on a corner, drawing back several times.

Bevel Edge Chisel for removing wood. Always chisel away from yourself. Use only for cutting wood – they must be razor sharp!

Steel Rule Measuring with accuracy up to 1/2 mm depending on your eyes! It starts at zero on the end, unlike a ruler that has material on the end first. Make sure that you look at the measurements from above to get an accurate reading. You also need a sharp pencil!

Bench Hook and Clamp Use the bench hook to help cut wood with accuracy. Top tip – always cut all the way through your work into the bench hook to avoid splintering the back of your work.



Squares: 45 degree and 90 degree Take care of these – your work accuracy depends on them being accurate! You must keep the stock (wooden bit) tight against your work and your pencil must be sharp!

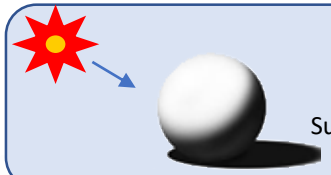
Soldering Iron These are used to join electrical items such as wire, remember to take care because these are very hot, be sensible, use a stand. Apply heat to the whole area to be soldered before putting the solder wire onto the joint.

Machine tools You must not use these unless you have been shown how to by a teacher and you understand! Always ask if you are unsure.

Fret saw for cutting **curved** lines in **thin** material with a thin blade. Always keep your fingers clear. Make sure the guard is intact. Cut slowly. Use the clamp to stop wood rattling about.

Pillar Drill
We use this for drilling vertical holes in material. Almost always you will clamp your work down first. Wear glasses, use the guard and know how to turn it off in an emergency. Do not use if you are unsure – ask!

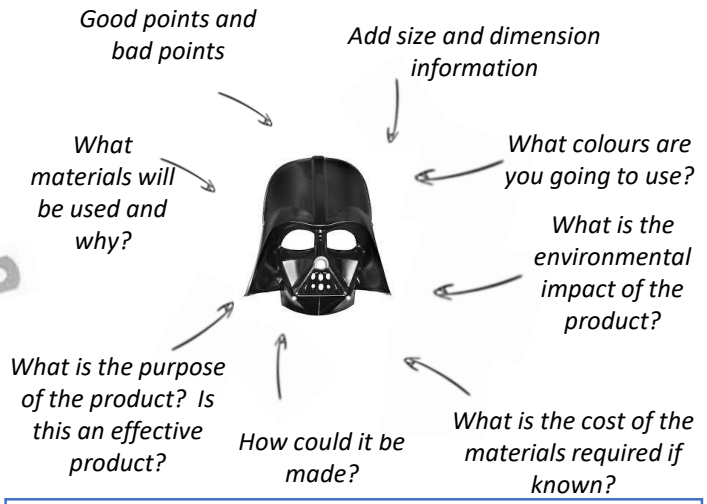
Rendering



Surface facing directly towards light = lightest tone

Surfaces facing directly away from light = darkest tone

Product Analysis



Project Materials

MDF (Medium Density Fibre Board) – a product made of recycled wood dust

Solder – a thin strip of metal used to help stick electronic components together

Switch – a component that allows electricity to go through a circuit

Battery snap – a component that lets you connect a battery to the circuit

Connector block – a component that lets you connect wires together

Wire – red wire is positive, black wire is negative

Product Design – Maths Element

Measuring

Length: measured using a steel rule or ruler. For small measurements we use mm, then cm and m for larger ones.

Angles: measured using a protractor and using degrees. A right angle = 90°. There are 360° in a circle.

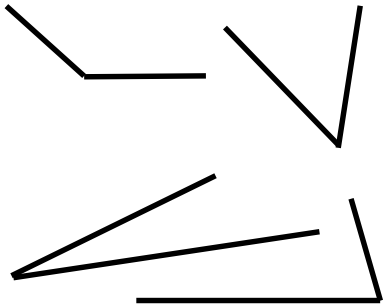
Examples: line measuring below – use a ruler and ask someone to check your answer. Give the answer in mm and cm

1)

2)

3).

Examples:
Angle measuring – use a protractor to measure these angles and ask someone to check for you.



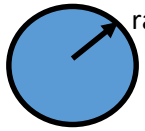
Area: the two-dimensional space taken up by something – for example, the area of a sheet of material like card. Measured in either cm^2 or m^2 for larger problems.

Area of a rectangle = width × length

Area of a circle = πi^2

π = 3.142

The radius is half the diameter



Examples – rectangle area

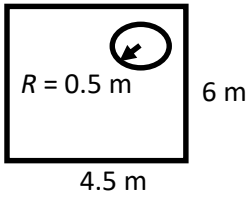
1) If the width of a piece of fabric is 10 cm and its length is 15 cm, what is its area in cm^2?
2) Width = 12 cm, length = 32 cm, what is the area?
3) Width = 3 m, length = 8 m, what is the area in m^2?

Answers below.

Examples – circle area

1) If the radius of a piece of metal is 5 cm what is its area in cm^2?
2) Radius is 3 cm, what is the area?
3) Radius is 9.5 cm, what is the area?
4) Diameter is 12 cm, what is the radius?

Answers below.



Harder Example – combined area problem

This is plan for a carpet for a room. The circular part will be removed for a special floor. How much is the actual carpet area now?

Extension question – if the carpet costs £12 per m squared, how much will this cost?

Answers below.

The easiest way to remember these is to ask someone to set you more questions!

Answers:

Rectangle area: 1) 150 cm^2. 2) 384 cm^2. 3) 24 m^2

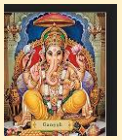
Circle area: 1) 78.57 cm^2. 2) 28.2 cm^2. 3) 283.6 m^2. 4) 452.4 cm^2

Harder question: rectangular area 27 m^2; circle area .78 m^2; total area = 26.21 m^2; carpet cost = £314.55

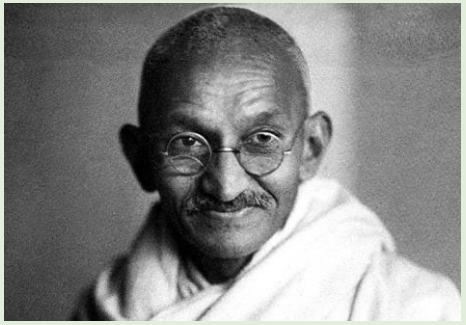
Religious Education

Hindu Beliefs and Practices

Keyword	Definition
Atman	The Hindu understanding of the soul
Moksha	The belief that we can escape the cycle of life and be at one with God
Karma	An action. Good actions result in good karma and bad actions result in bad karma.
Samsara	The cycle of life and death
Reincarnation	The belief that people can be reborn into a new body
Prejudice	To think of something unfair of someone
Caste system	An unfair way of categorising people
Dharma	Refers to a Hindu's duty
Ahimsa	Belief in non-violence
Mandir	A Hindu temple, place of worship
Murti	Images of deities that form the focus of worship, in the form of statues and pictures
Omnipotent	God is all-powerful
Shrine	A place regarded as holy because of its association with divinity or a sacred holy person
Puja	The popular ritual of showing devotion to images of the divine
Arti tray	An ancient and popular means of connecting with the divine in puja. Each artefact represents an element (air, fire, water, earth)
Ritual	A religious ceremony observed by believers
Deity	Supernatural or divine being or god
Avatar	An incarnation or manifestation of deity
Ethics	The beliefs about right and wrong
Vedas	Several texts originating from ancient India written in Vedic Sanskrit and include Hindu scriptures

Deity	Description
Brahman	The one God in Hinduism
Brahma 	Manifestation of Brahman in the Trimurti – the creator
Vishnu 	Manifestation of Brahman in the Trimurti – the preserver
Shiva 	Manifestation of Brahman in the Trimurti – the destroyer
Trimurti 	The great triad of gods, consisting of Brahma, Vishnu and Shiva
Hanuman 	Hanuman is a very powerful and strong god. Hanuman's image shows him as a strong man with the face of a monkey. He also has a tail.
Ganesh 	The elephant-headed god in Hinduism. Ganesh is one of the most worshipped God in Hinduism. Hindu tradition states that Ganesh is a god of wisdom, success and good luck.
Rama 	Rama is the seventh avatar of the Hindu god Vishnu. His wife is Sita. Their story forms the basis of the celebration of the Diwali festival.

Hindu Beliefs and Practices

Theme	Explanation
Brahman	Hindus are monotheists as they believe in supernatural or divine being or god, referred to as Brahman. Brahman has different qualities and manifestations of himself in other gods and deities.
Worship 	Hindus may worship anywhere – in mandir, at home or in the workplace. Hindus worship to express the value of God Brahman. They may worship in temple, called mandir, at home or the workplace. The act of worship is called puja. Hindus use murtis (images of gods) to represent the divine in the shape of gods or goddesses. Hindu worship may be very noisy and colourful to awaken Brahman.
Gandhi 	Gandhi was a famous Indian political and religious leader. He was from a wealthy background and pursued a career as a lawyer. He believed in equality and spoke out against the abuse of the 'untouchables'. He named them 'Children of God'. Gandhi said "You must be the change you wish to see in the world", which means that if we want to see any change for better in the world, we should start with ourselves. **CHALLENGE** Go to this website for further research on Hinduism: http://www.bbc.co.uk/religion/religions/hinduism/ Go to this website, watch the videos and complete the quizzes: https://www.bbc.com/bitesize/topics/z73d7ty

Practice	Explanation
Worship in the mandir	The mandir is the home of God and visiting one is similar to visiting God. Hindus use all their senses to direct themselves towards God and raise spirituality. Hindus worship the one God, Brahman and use the statues and idols to connect with God. These statues are called murtis. Each ritual in mandir reminds Hindus of god.
Puja	The most popular form of worship is puja, which usually involves adoration of images of the divine, mantras (prayers) and food offerings. Puja uses all the five senses of a human to worship god. Puja is a daily routine for Hindus. It is performed at least once a day, usually in the morning. At the end of puja, any food offered to the god is shared out amongst the worshippers. Food offerings are given called prashad (holy food).
How is puja performed?	When a Hindu rings a bell its reveals to God that they are worshipping. A Hindu bends down and travels around clockwise around the deity (on right hand side). During puja, water is used to signify purity. A Hindu offers flowers and fruit to show gratitude. Puja provides Hindus with a close relationship with God, blessings and good karma. The images, statues and music help a Hindu focus only on God. The statues remind a worshipper of the different qualities and aspects of God.
The puja tray	The puja tray contains different items that Hindus might use to awaken their senses, as all of a Hindu's senses should be awoken in worship. 

Science 7CB Cells – Biology

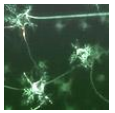
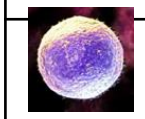
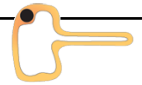
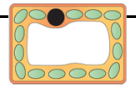
1. Keywords

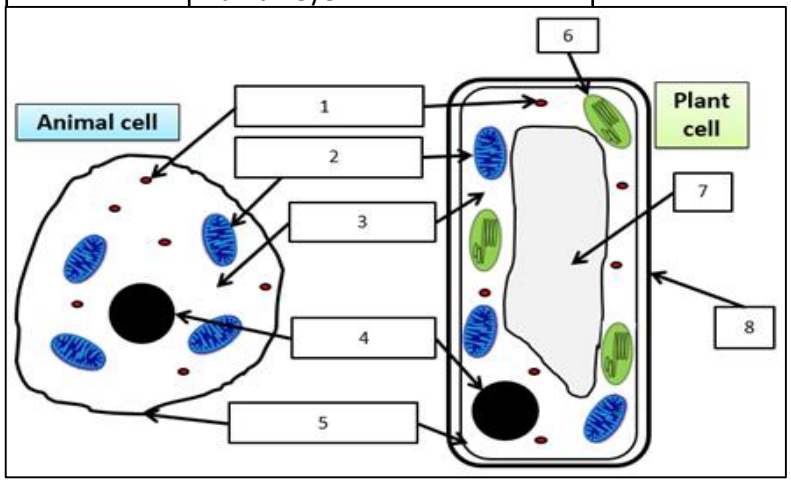
Cells:	The building blocks of all living things
Organelle	A cell structure that has a specific function
Unicellular	Simple organisms made up of just one cell
Diffusion	The random movement of a substance from an area of high concentration to an area of low concentration
Specialised Cells	Where a cell has adapted in order to carry out a specialised job
Microscope	An instrument that magnifies objects, enabling visibility of 1000 times or more than what can be seen by the naked human eye

2. Cell Organelles

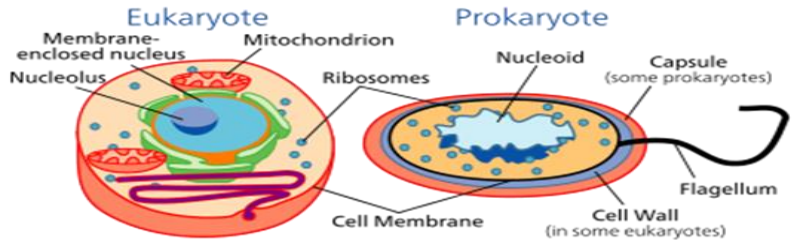
No.	Structure	Function
1	**Ribosomes**	Where proteins are made from amino acids
2	**Mitochondria**	Where respiration occurs and energy is produced
3	**Cytoplasm**	Where chemical reactions occur
4	**Nucleus**	Contains genetic material
5	**Cell Membrane**	Controls the movement substances into and out of the cell
Only in plant cells		
6	**Chloroplasts**	Absorb light for photosynthesis
7	**Vacuole**	Keeps the cell turgid to support the plant
8	**Cell Wall**	Strengthens the cell

3. Specialised Cells

Cell	Function
	Red Blood Cells – carry oxygen
	Nerve Cells – carry nerve impulses
	Egg Cells – meet up with male sperm cells, then produce food for new cells being formed
	Sperm Cells – meet up with female egg cells
	Root Hair Cells – to absorb water and minerals
	Leaf Cells – to absorb sunlight for photosynthesis



4. Unicellular Organisms



Eukaryotes	Prokaryotes
Have their DNA in a nucleus	Have free DNA (not in a nucleus)
Membrane-bound organelles	No membrane-bound organelles, only ribosomes

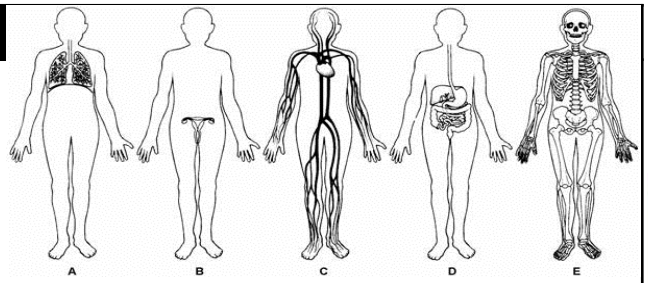
Science 7CB Cells – Biology

5. The Organisation of Living Things

Cell	The structural, function and biological unit of all organisms
Tissue	Made from a group of cells with a similar structure and function, which all work together to do a particular job
Organ	Made from a group of different tissues, which all work together to do a particular job
Organ System	Made from a group of different organs, which all work together to do a particular job

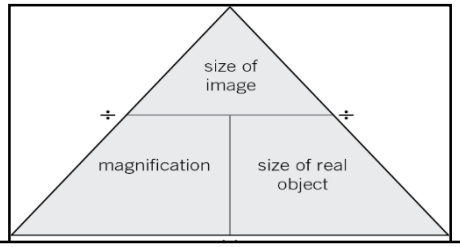
Cell → Tissue → Organ → Organ system

6. Human Organ Systems



	Organ system	Main function	Key organs
A	Respiratory	To get oxygen into the blood and carbon dioxide out of the blood	Lungs, diaphragm ribs
B	Reproductive	The reproduce	Ovaries, uterus (female) Penis, testes (male)
C	Circulatory	The pump blood around the body to deliver oxygen and glucose	Heart, arteries, veins
D	Digestive	Break down and absorption of food	Stomach, liver, small intestine, large intestine, pancreas
E	Skeletal	Support and help you move	Bones

7. Calculations and Using Formulas

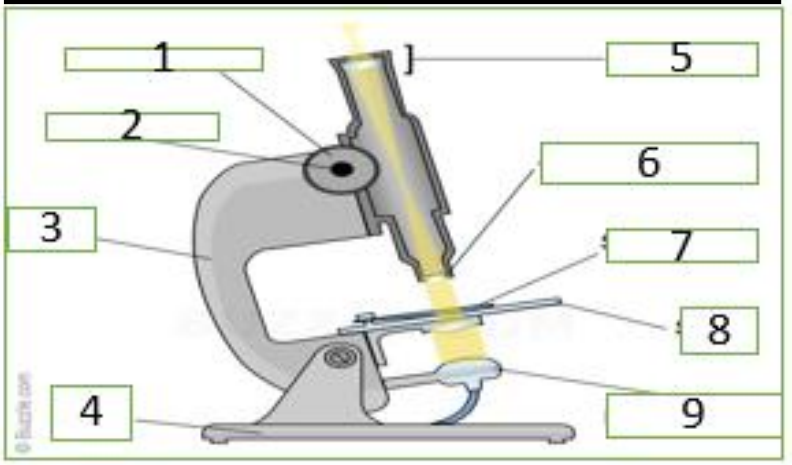


$$\text{magnification} = \frac{\text{size of image}}{\text{size of real object}}$$

$$\text{size of image} = \text{magnification} \times \text{size of real object}$$

$$\text{size of real object} = \frac{\text{size of image}}{\text{magnification}}$$

8. The Microscope

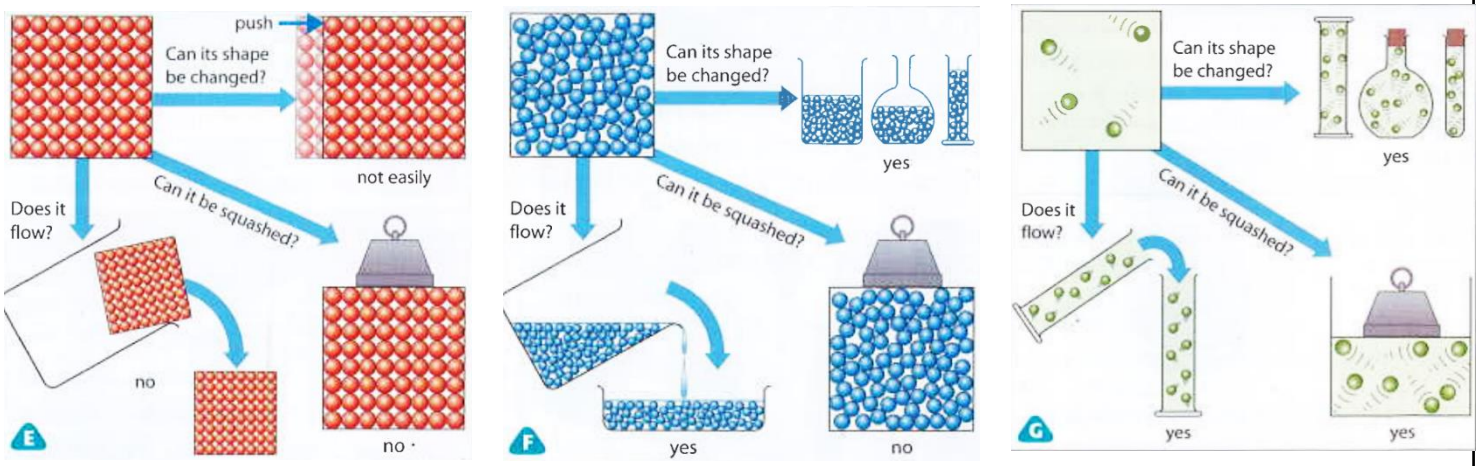


1 Coarse Focus	4 Base	7 specimen
2 Fine focus	5 Eyepiece lens	8 Stage
3 Arm/spine	6 Objective lens	9 Light/mirror

Science 7CP – Particles and Separations

Solids	Liquids	Gases

1. Properties



3. Particle Arrangement

Solids	Liquids	Gases
Regular pattern Particles close together	Random arrangement Particles close together	Random arrangement Particles far apart

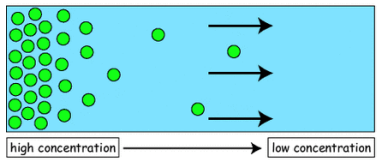
4. Particle Motion

Solids	Liquids	Gases
Particle vibrate around a fixed position	Particles are free to slide over each other	Particles are free to move in all directions

5. Keywords and Definitions

Dissolve	Becomes part of a liquid
Solvent	Liquid in which something dissolves
Solute	The solid substance to be dissolved
Solution	A solvent containing a dissolved solute
Soluble	Something that does dissolve
Mixture	A solvent containing solid particles that do not dissolve

6. Diffusion



The random movement of a substance from an area of high concentration to an area of low concentration

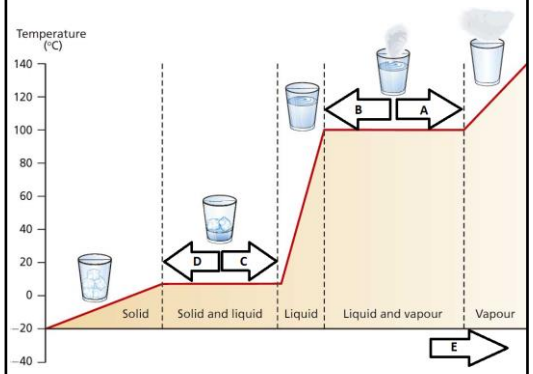
7. Separation Methods

Distillation	**Evaporation** followed by **condensation** of a **solvent** from a **solution**
Filtration	Separation of in**soluble solute** particles from a **mixture**
Chroma-tography	Separation of dissolved **solute** particles. The most **soluble solutes** travel the furthest.

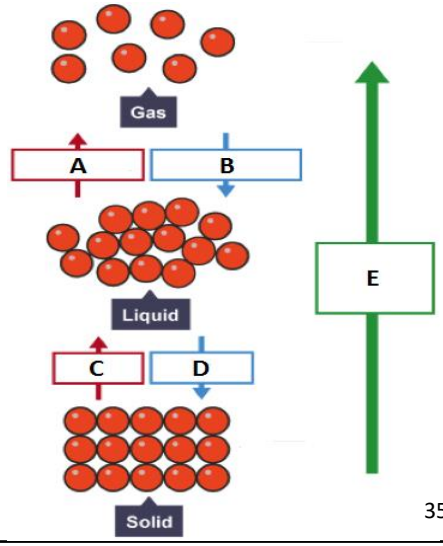
8. Water, Key Temperatures

1. Freezing/melting point:	**0°C**
2. Dew/boiling point:	**100°C**

2. Changes of State



A) Evaporation
B) Condensation
C) Melting
D) Freezing
E) Increasing internal energy



Science – 7PE Energy

1. Energy Stores

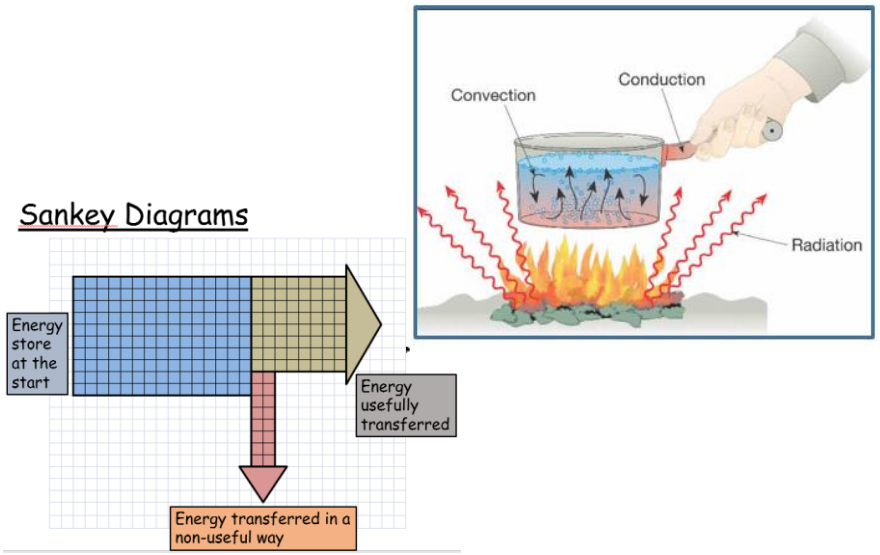
Energy Store	Definition	Example
Kinetic	Energy of a moving object	A moving car
Gravitational Potential	Energy stored by being above ground level	A diver standing on a diving board
Chemical	Energy stored in the bonds between particles	A burger and fries
Electrostatic	Energy stored in charged particles	A build up of static electricity
Thermal	Energy stored in an object that is hot	A hot cup of coffee
Elastic Potential	Energy stored in an object that is stretched or compressed	A stretched bow string
Magnetic	Energy stored in magnetic fields	A magnet
Nuclear	Energy stored in atoms	Nuclear power

2. Pathways

Heating	Mechanical Transfer	Electric Current	Radiation
Energy moves from a hot object to a cooler one.	By use of a machine or tool or by an energy wave. E.g. Sound and seismic waves	Charged particles called electrons move around a circuit	All forms of electro-magnetic waves. Such as light, infra red, ultra violet.

3. Efficiency

$$\text{Effeciency (\%)} = \frac{\text{Useful energy output (J)}}{\text{total energy input (J)}} \times 100$$



4. Ways of Transferring Thermal Energy

Method	Works in	Caused by
Conduction	Solids	particles vibrating into each other
Convection	Liquids and gases	expansion of the space between particles reducing in density
Radiation	All materials and in a vacuum	infra red (IR) radiation being emitted
Insulation	All materials and in a vacuum	stopping thermal energy being transferred

Science – 7PE Energy

7. Energy Resources

Energy Resource	Renewable	Advantages	Disadvantages
Fossil Fuels	No	Low cost, easily transportable.	Produce large amounts of pollution.
Nuclear	No	Generates a lot of electricity.	Expensive. Produces dangerous b- products.
Solar	Yes	No fuel costs or pollution.	Expensive to set up. Doesn't work at night.
Wave	Yes	No fuel costs. Reliable and easily accessible.	Can damage marine ecosystems.
Tidal	Yes	No fuel costs or pollution. Predictable.	Can damage marine ecosystems.
Wind	Yes	No fuel costs or pollution.	Not always reliable, noisy.
Geothermal	Yes	No fuel costs or pollution.	Very few areas where it is accessible.
Biomass	Yes	Low cost, readily available.	Large scale land use requiring irrigation.
Hydro-electric	Yes	No fuel costs, reliable and easily controlled.	Environmental impact during construction.

5. Power

Power (W)	Energy ÷ Time	E ÷ t
Energy (J)	Power x Time	P x t
Time (s)	Energy ÷ Power	E ÷ P

6. Electricity Cost

Energy (KWh) = Power (KW) × Time (Hours)

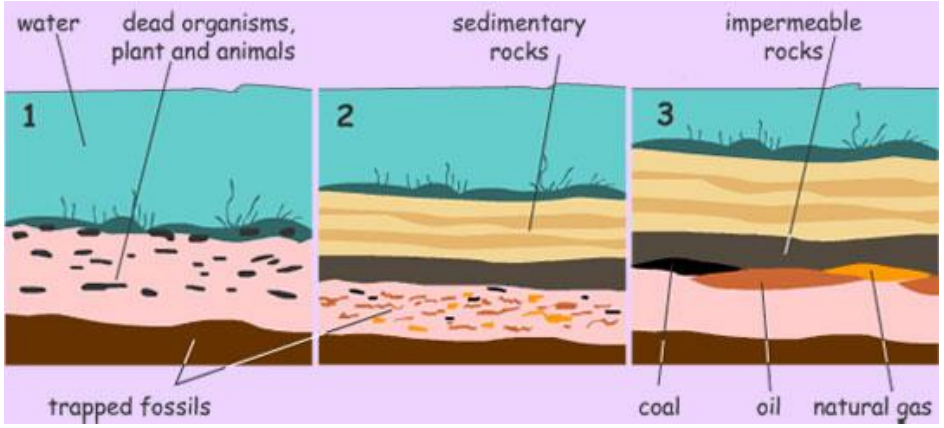
Cost (pence) = Energy used (kWh) × Price per unit (pence/kWh)

8. Keywords

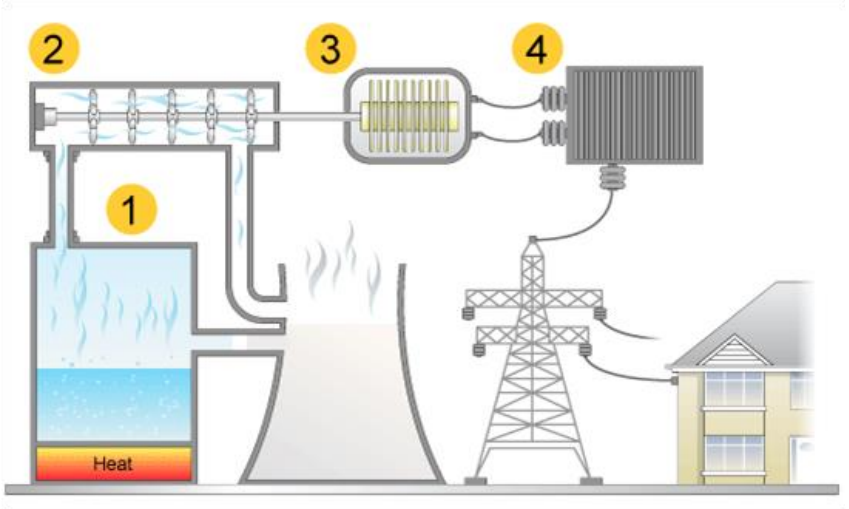
Keyword	Meaning
Power	The rate of energy transfer in joules per second (called watts).
Fuel	A substance that is burned to release the energy it contains.
Energy Resource	A source of energy that can be used to generate electricity.
Law of Conservation	Energy cannot be created or destroyed, only transformed.
Joule (J)	The unit of energy.
Watt (W)	The unit of power.

9. Fossil Fuels

Fuel	How it is made
Coal	Dead trees and plants become buried underground, over millions of years the pressure underground causes these to form coal.
Oil and Gas	When small sea animals die they become encased in sand, this all gets buried under the sea. Over millions of years the sand becomes rock and the small sea animals form crude oil and natural gas.



10. Generating Electricity



1	Energy is transferred from the chemical store in the fuel to the water.
2	The steam produces is blasted at turbines, which increases their kinetic store so that they turn.
3	The turbines run a generator to generate electricity.
4	The electricity is carried to our homes via the National Grid.

LEARN VOCAB — Spanish — BUILD SENTENCES

Time Expressions

por la mañana,	in the morning
por la tarde,	in the afternoon
los fines de semana,	at the weekend
los lunes,	on Mondays
a veces	sometimes
Siempre	always
nunca	never
un día	one day
En el futuro	in the future

Countries and Nationalities

Soy…	I am…
Hablo…	I speak…
quiero hablar…	I want to speak…
inglés	English
francés	French
Alemán	German
Polaco	Polish
Vivo en…	I live in
Vive en…	He lives in
Vivemos en …	We live in…
Soy de…	I come from
Inglaterra	England
España	Spain
Alemania	Germany
Polonia	Poland

Connectives

Y	and
Pero	but
O	or
Además	also
Sin embargo	however

Question Words

¿Cómo? = how?
¿Qué? = what?
¿Dónde?= where?
¿Quién? = who?
¿Cuándo? = when?
¿Porque? = why?
¿Cuánto(s)? = how many?
¿Cómo estás? / ¿Qué tal? = how are you?

Meeting and Greeting

¡Hola! = Hallo
Estoy bien = I'm well
Así así = not bad
¡Hasta luego! = bye
¡Gracias! – thank you!

Los números = Numbers

zero	0	once	11
uno	1	doce	12
dos	2	trece	13
tres	3	catorce	14
cuatro	4	quince	15
cinco	5	dieciséis	16
seis	6	diecisiete	17
siete	7	dieciocho	18
ocho	8	diecinueve	19
nueve	9	veinte	20
diez	10		

Tengo … años = I'm … years old
Tiene … años = he / she is … years old

Core Questions

1) ¿Cuántos años tienes?	How old are you?
2) ¿Cómo te llamas?	What's your name?
3) ¿Dónde vives?	Where do you live?
4) ¿Cómo eres?	What are you like?
5) ¿Qué te gusta hacer?	What do you like doing?

Los meses = Months

Enero	Julio
Febrero	Agosto
Marzo	Septiembre
Abril	Octubre
Mayo	Noviembre
Junio	Diciembre

los diás = Days

Lunes
Martes
Miércoles
Jueves
Viernes
Sábado
Domingo

El tiempo = The Weather

Cuando hace calor	When it's hot
Cuando hace frío	When it's cold
Cuando llueve	When it rains
Cuando hace buen tiempo	When the weather's nice
Cuando nieva	When it snows

Opinions

Amo…	I love…
Me gusta/ me gustan…	I like…
No me gusta/ no me gustan…	I don't like…
Odio…	I hate…
porque	Because
Es aburridísimo	It's dead boring
Es divertido	It's fun

Verb Phrases

bailar	dancing
nadar	swimming
Jugar a los videojuegos	playing videogames
Escuchar música	listening to music
Hacer deporte	to do sport
Salir con mis amigos	going out with my friends

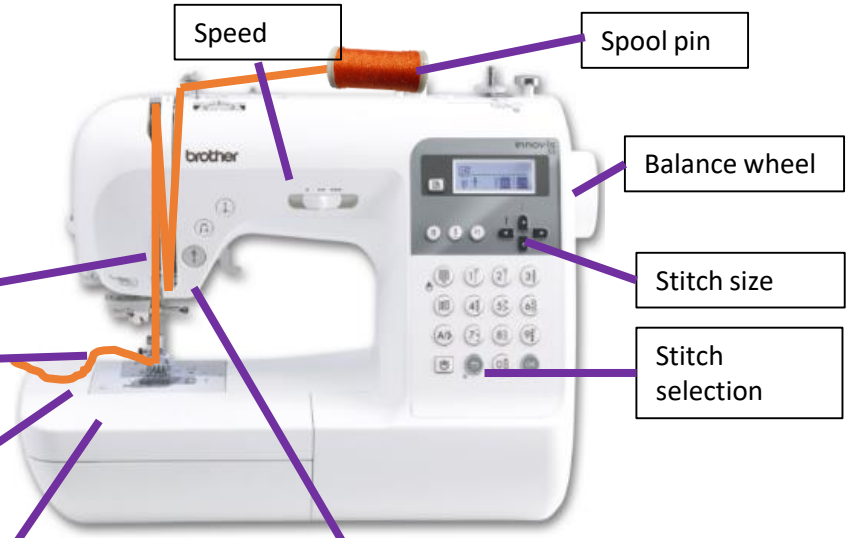
Textiles

Keywords

Interpret
Inspiration
Applique
Visual
Embroidery
Annotation
Evaluation
Bondaweb
Design

Annotation: Descriptive sentences to explain WHY you have made those design decisions.

Labelling: One or two words that describe facts about your design.




Cotton


Satin


Fleece


Felt

Health and safety rules:

- Long hair must be tied back.
- **NO** food or drink in the workshop.
- **One** person using a machine.


Tie Dye


Batik


Applique


Embroidery

Cotton

Used for making jeans, T-shirts and towels and has the following qualities:

- Cool to wear
- Very absorbent, dries slowly
- Strong
- Soft
- Good drape
- Durable/hard wearing
- Creases easily
- Can be washed and ironed
- Absorbs dye well
- Easy to cut and work with

Fabric shears are used for cutting out fabric. The blades are smooth and very sharp.

A **tape measure** is used to measure fabric and the body accurately.

To hold fabric together before it is stitched, you need to use some **pins**.

You need to use a **stitch unpicker** to undo any stitches that are in the wrong place.

Pinking shears have a zig zag edge. They produce a decorative edge to fabrics, which can stop them from fraying.

Tailor's chalk is good for marking fabric because it can be easily rubbed off.

To join fabric together permanently you need to use a **needle** and thread.

Textiles and Maths

NUMERACY IN DESIGN

JAMBLED&T

'Maths behind the design':

+

=

Alexander McQueen
S/S 10' Dress

Can you combine inspiration found in research to come up with a design for a product? Try the 'Maths behind the design' to demonstrate in a simple way how patterns are combined to form a solution.

NUMERACY IN MANUFACTURE

JAMBLED&T

Measuring:
Tape Measure
1m=100cm=1000mm

Marking Gauge
Scribes a parallel cutting line

Plastic Ruler
10cm=100mm

Steel Rule
1cm=10mm

Make sure that you start at zero.
Measure in mm for better accuracy.
Add suggested sizes to initial designs and actual sizes to developments & final ideas.
Double check all measurements!
Use a sharp pencil.

NUMERACY IN EVALUATION

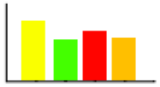
JAMBLED&T

Product questionnaire:
Ease of use?
Appropriate sizes?
Value for money?
Happy with product?
Anthropometrics?
Ergonomics?
Quality of finish?

£

%

cm

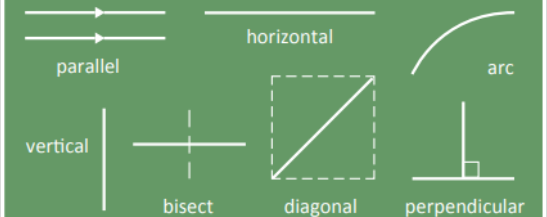


mm

As we manufacture our products, we find that many changes take place. It is important to analyse data gathered from users of the product in order to figure how successful it is and if any further changes are necessary.

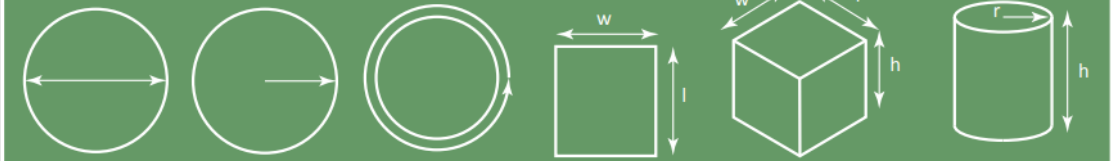
LINES

What do each of following lines mean



SHAPES

How to measure different shapes



Diameter (d)

Radius (r)

Circumference $C = 2\pi r$

Area length x width

Volume length x width x height

Volume $\pi r^2 h$