

ALL SAINTS'

CATHOLIC VOLUNTARY ACADEMY

Year 7 Absolutes



Opportunity . Achievement . Success

Term 1

NAME:

FORM:

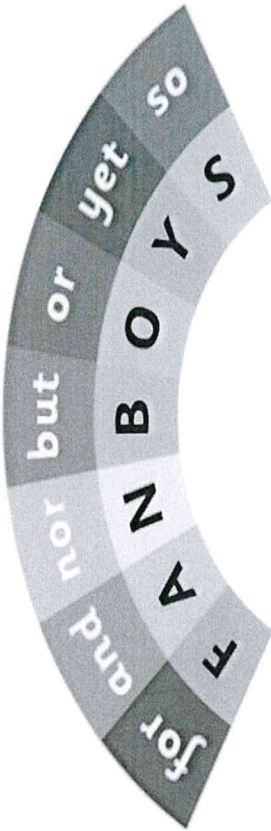
SPAG Absolute

Word Classes		Punctuation
Proper noun	A naming word - Chris, East Anglia, Nimbus3000 - needs a capital initial letter.	An upper case letter used after a full stop to begin a sentence or to indicate a proper noun.
Concrete Noun	A thing you can see -you can put 'the' or 'a' before a noun e.g. 'the table'.	. Used to mark the end of a sentence.
Abstract Noun	The name of something you can't see e.g. hate/love/creativity/passion. Again, can put 'the' or 'a' in front: The love I feel...	- lists e.g. I bought several things from the shop: books, pens and pencils. -before a FANBOYS conjunction to join two independent clauses in a compound sentence . The cat sat on the mat and the dog barked. - sentences which start with a fronted adverbial (SPACED) starts Because it was raining, we ran for cover. - embedded clauses where the clause could be removed The boy, who I disliked intensely, pulled my hair.
Adjective	A word that is used to describe a noun e.g. 'The tall teacher talked to the class.'	: Used to precede lists, expansions or explanations e.g. I bought several things from the shop: books, pens and pencils.
Verb	A word used to describe an action, state or occurrence. What is being done? E.g: hit/jump/feel/believe	; Used to join two related independent clauses e.g. I ate too much pizza; I felt very sick. Also to separate longer items in a list.
Modal verb	Verbs used to express possibility or certainty (may/might/must/will/shall).	Used after an independent clause or parenthetically, instead of commas for an embedded clause. Used to emphasise the clause after the dash. You are late - this is the third time!
Adverb	A word that is used to modify a verb e.g. 'He ran quickly.'	() Used to indicate an afterthought/sarcasm in a lower tone, like an 'aside' to the reader which can be taken out to leave a grammatically complete sentence. The old man (who smelled like cheese) sat next to me on the bus.
Pronoun	A word that can replace a noun: I, you, he, she, it, they, them, we.	! Used at the end of an exclamatory sentence to show strong emotion.
Preposition	A preposition is a word that tells you where or when something is in relation to something else. (at, in, on, after, before, under, inside and outside).	? Used to indicate an interrogative sentence or rhetorical question.
Determiner	A determiner comes before a noun and helps to define it. E.g. a boy (a, any/the/those/these)	' Used to show ownership (Sam's bag) or missing letters 'They're late'.
		... Can be used to create suspense e.g. I couldn't believe my eyes... or to show the trailing off of a sentence e.g. 'I wonder...' she said.
Sentences		
Main clause	A clause that can stand alone as a sentence. Contains a subject (the person or thing doing the action) and a verb (the action). e.g. 'The cat sat on the mat'.	
Subordinate clause	A clause that depends on an independent clause to make sense e.g. 'The cat sat on the mat without turning around'. Often uses a subordinating ISAWAWABUB conjunction (if, since, as, when, although, while, after, before, until and because.)	
Fronted subordinate clause	As above - but the subordinate clause comes at the front of the sentence: e.g. <u>Without turning around</u> , the cat sat on the mat. Also can be called a 'fronted adverbial'.	
Relative clause	Relative clauses use a relative pronoun or relative adverb to give us more information, usually about a specific word or phrase (that, which, who, whom, whose when, where, why). Relative clauses that contain non essential information need parenthetical commas and can also be called embedded clauses: e.g. The boy, who I disliked intensely, pulled my hair. The sentence should make sense if the clause was removed and the meaning should be intact.	
Simple sentence	Contains just one main clause. Makes complete sense.	
Compound sentence	Two main clauses joined together with a co-ordinating FANBOYS conjunction (for/and/or/but/so). The cat sat on the mat and the dog barked.	
Complex sentence	A main clause plus a subordinate clause. The subordinate clause ay come after the main clause or before (when it would be a fronted subordinate clause). 'The cat sat on the mat without turning around'.	
Fronted adverbial	Words, phrases or fronted subordinate clauses at the start of sentences which tell us when, where or how something is done (they describe the verb) Can remember them using SPACED . E.g: <u>Because it was raining</u> , we ran for cover.	
Expanded noun phrases	A phrase that contains a determiner (the/a) and a noun (table - e.g the table) and one or more adjectives (the black table). Can also contain a prepositional phrase e.g: The black table with wonky legs.	

Co-ordinating and subordinating conjunctions

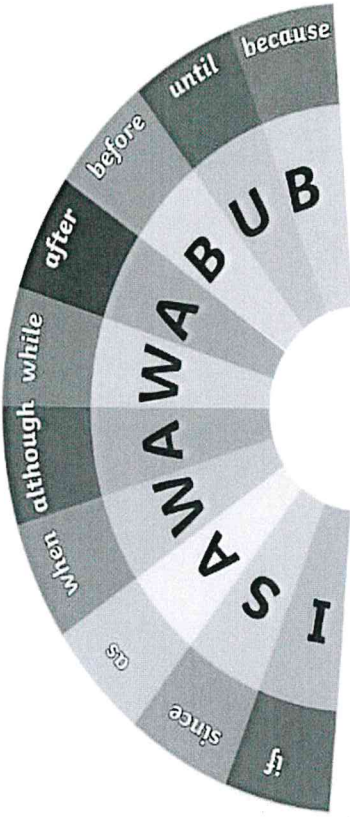
Co-ordinating Conjunctions

There are seven co-ordinating conjunctions. They give equal importance to the words or sentences they connect.



Subordinating Conjunctions

There are 10 subordinating conjunctions. They are used at the beginning of a subordinating clause which is a clause that doesn't make sense on its own.



Their/They're/There

Hear/Here

Your/You're

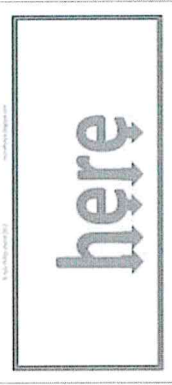
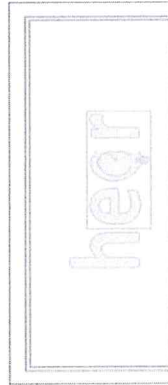
Was/Were

Ask yourself these two simple questions:

Does the word after it belong to 'them'? → **their**

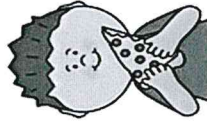
Is it short for 'they are'? → **they're**

For everything else, it's → **there**



Your
pizza

Your = you own it



It is yours.

You're
pizza

You're = you are



You are pizza!

'WAS' is used if you are talking about ONE person or thing (I, he/she/it);

'WERE' is used if you are talking about TWO OR MORE people/things (we/they/you);

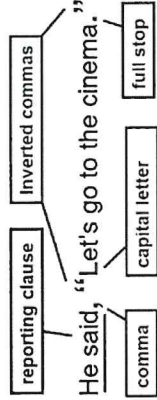
'You' is always 'were',

Punctuating Direct Speech

Reporting clause before the direct speech

The reporting clause of direct speech is the short clause that indicates who is talking. It is the clause that is outside of the inverted commas. It is therefore not the words being spoken.

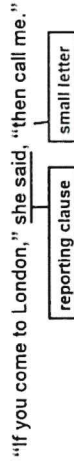
We can write the reporting clause either before or after the direct speech. If the reporting clause is before the direct speech, we write it as follows:



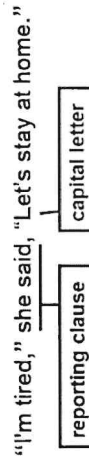
Grammar rules - If the reporting clause is before the direct speech:

- We write a comma (,) before the direct speech.
- We write the exact words inside the inverted commas.
- The first letter is a capital letter.
- We write a full stop (.) before the closing inverted commas.
- We might also use a ? Or a ! Before the closing inverted commas.

Sometimes we break up the direct speech into 2 parts:

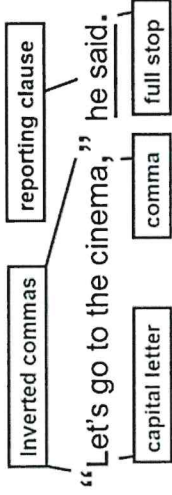


The second part of the direct speech starts with a small letter if it is the same sentence as the first part of the direct speech.



The second part of the direct speech starts with a capital letter if it is a new sentence.
 Notice that the first part still ends with a , (unless you need a ? Or a !)

Reporting clause after the direct speech



If the reporting clause is after the direct speech:

- We write the exact words inside the inverted commas.
- The first letter is a capital letter.
- We write a comma (,) before the closing inverted commas. We might also use ? or !
- We write a full stop (.) at the end of the reporting clause.

New speaker, new line

If someone else speaks, we start a new line.

"Your book is over there," said the teacher.
 "Thanks!" replied Johnny.

Using Fronted Adverbial openings - ISPACED

I

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P

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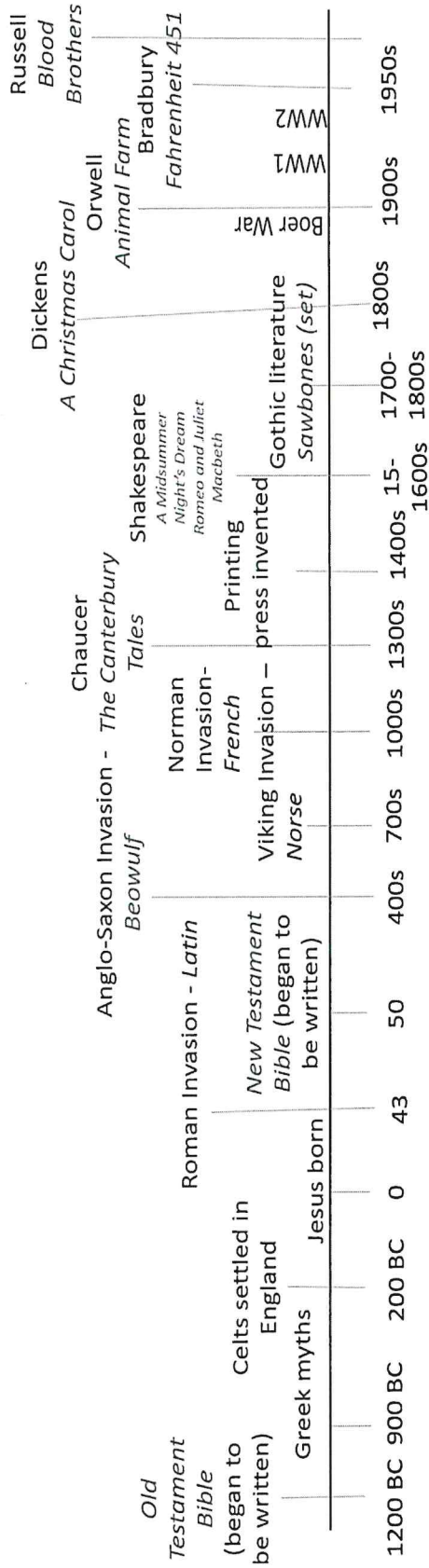
E

Ing words	Similes	Prepositions	Adverbs	Conjunctions	Ed words
Walking	Like a mouse	Over	Hastily	First	Excited
Skipping	Like a cheetah	Above	Calmly	Later on	Delighted
Running	Like a statue	Beneath	Casually	Suddenly	Pleased
Crawling	Like a tree	Below	Cautiously	Immediately	Amazed
Creeping	Like a predator	Through	Softly	Finally	Astonished
Jumping	Like a monster	Inside	Neatly	After that	Shocked
Leaping	Like a villain	By	Angrily	Before long	Scared
Escaping	As quiet as a	Before	Spitefully	Since	Puzzled
Bursting	As loud as a	During	Ominously	Whereas	Dazed
Grasping	As still as a	In	Foolishly	As	Surprised
Grabbing	As fast as a	By	Moodily	Next	Worried
Seizing	As timid as a	About	Amazingly	Whenever	Petrified
Clutching	A bright as a		Expectantly	Despite	Horried
Picking	As slowly as a		Generously	Until	Exhausted
Shaking	As noisy as a		Chaotically	So	
Hiding	As calmly as a		Unexpectedly	Eventually	
Sleeping	As angry as a		Intelligently		

Remember to use a comma before the main clause: Creeping through the forest, I trembled with fear.

Year 7 English Origins Absolute

Language and Literature Timeline



Key periods for literature

Key concepts

Concept	Definition	Use in a sentence
Sin (noun)	A bad or wicked act considered to be a rule break against God.	Murder is a sin.
To sin (verb)		He sinned when he committed murder.
Injustice (noun)	Unfair action or treatment.	Murder is an injustice . I stand up to injustice when I see it.
Morality (noun)	The set of rules which help us tell the difference between good and bad or right and wrong behaviour.	It is always important to think about the morality of an action.
Moral (adjective)	An action that is good and right. Can also be used to mean the 'lesson' in a story.	The moral thing to do is to be kind to others.
Immoral (adjective)	An action that is bad and wrong.	The moral of the story is to be kind. It is immoral to steal.

Temptation (noun) To tempt (verb)	The wish to do or have something that you know you should not do or have.	She gave in to temptation and ate the apple. She was tempted to eat the apple.
Transformation (noun) To transform (verb)	The act of changing from one thing to another.	He underwent a transformation from a miserable old man to a joyful one. He magically transformed from a creature into a man.

Key Vocabulary

Word	Definition	Use in a sentence
Immigration (noun) Immigrant (noun) Emigrate (verb)	When people leave their country and move to another. Someone who leaves their country to live in another. The act of moving to a new country.	Our language has been shaped through immigration . Rodney the Roman was an immigrant in Britain. Rodney the Roman emigrated from Rome to conquer Britain.
Duplicitous (adjective)	If someone is duplicitous, they lie, and the way they show themselves to others is not how they really are.	The girl's friend was duplicitous because he convinced her that others were laughing at her when they were not.
Villainous (adjective) Villain (noun)	Wicked behaviour. A wicked person.	The snake villainously persuaded Eve to eat the apple. The snake was a villain .
Mythological (noun)	Greek myths are untrue stories created by the ancient Greeks. If we say something is a 'myth', we mean it is a story that is not true.	<i>Bigfoot</i> is a myth – nobody has ever found proof. He is a mythological creature.
Protagonist	The main character in a book – usually the hero, in the case of Greek myth.	Hercules was a powerful protagonist .
Antagonist	The opponent to the protagonist/hero (in the case of Greek myth).	Cyclops was a powerful antagonist .
Climactic (adjective) Climax (noun)	The exciting part of a story or event.	The climax in <i>Harry Potter</i> is Harry's fight with Voldemort.
Sympathetic (adjective) Sympathy (noun)	We feel sorrow/pity for someone.	I feel sympathy for the homeless. I am sympathetic towards them.
Unsympathetic (adjective)	We do not feel sorrow/pity for someone.	The teacher was unsympathetic when I said the dog ate my homework.
Pilgrimage (noun)	A journey undertaken for a religious motive.	Some Catholics go on pilgrimage to Lourdes, as it is a holy site.
Feudal system (noun)	The old way of ordering society so that the king owned all the land and gifted it to the rich, so the poor could not own their own land, but they still had to pay rent to farm on it, making little money.	The feudal system punished the poor but benefitted the rich.

Key Techniques/forms

Word	Definition	Use in a sentence
Allusion	Allusions are often used in books, and they make reference to other books or ideas that are outside the text, that aren't further explained.	Many books contain biblical allusion – for example, referring to a place as 'paradise'.

Symbol	When something stands for something else.	His snake bracelet symbolises he is an untrustworthy, duplicitous character.
Metaphor	When something is described as something else in order to bring out the similarities between the two things. A poem written as if a single person is speaking.	The metaphor 'The teacher was a dragon' conveys a negative impression of the teacher. Medusa by Carol Ann Duffy is a dramatic monologue written as if Medusa were a real woman, speaking about feeling betrayed.
Epic poem	Long, narrative poems which tell stories involving a battle between good vs evil.	<i>Beowulf</i> is an epic poem .

SPAG revision

Sentences		
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Simple sentence	Contains just one main clause. Makes complete sense.	
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Co-ordinating and subordinating conjunctions

for	and	nor	but	or	yet	so
F	A	N	B	O	Y	S

if	since	as	when	although	while	after	before	until	because
I	S	A	W	A	W	A	B	U	B

Using Fronted Adverbial openings - ISPACED



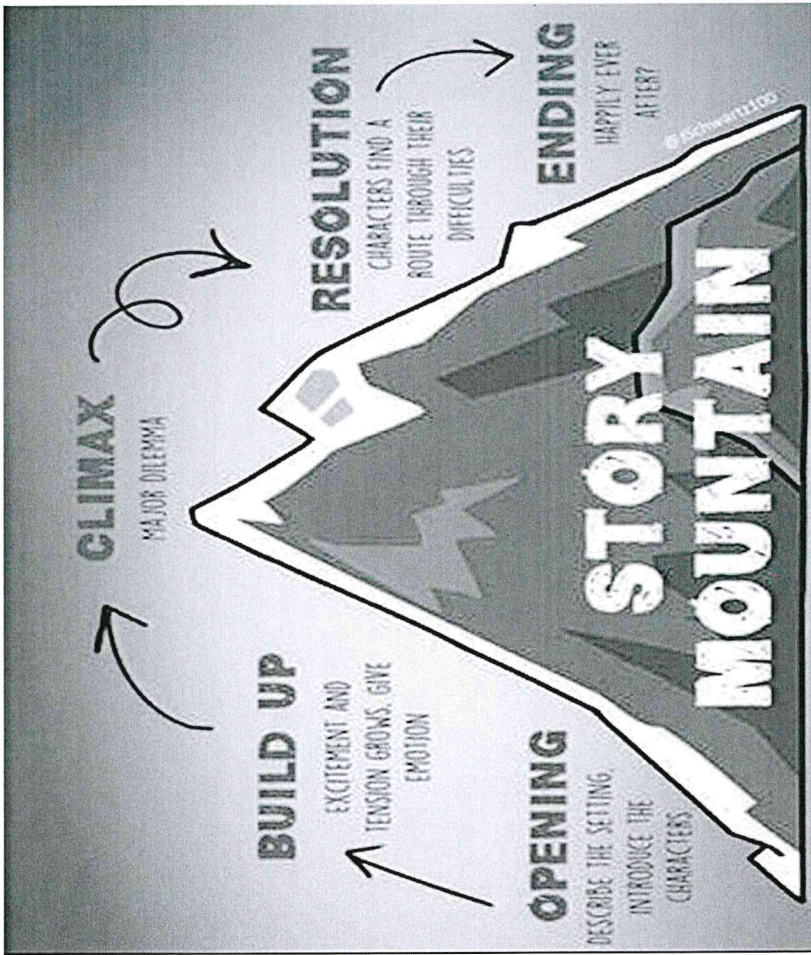
Ing words		Similes	Prepositions		Adverbs		Conjunctions	Ed words
Walking	Shivering	Like a mouse	Over	On top of	Hostily	Quickly	First	Excited

Remember to use a comma before the main clause: Creeping through the forest, I trembled with fear.

Narrative techniques

Story Mountain

Showing not telling



Bad writers tell us everything: Harry killed Voldemort.

Good writers show us things, so we can picture what happened clearly:
"Expelliarmus!"

The bang was like a cannon blast, and the golden flames that erupted between them, at the dead centre of the circle they had been treading, marked the point where the spells collided. Harry saw Voldemort's green jet meet his own spell, saw the Elder Wand fly high, dark against the sunrise, spinning across the enchanted ceiling like the head of **Nagini**, spinning through the air toward the master it would not kill, who had come to take full possession of it at last. And Harry, with the unerring skill of a **Seeker**, caught the wand in his free hand as Voldemort fell backward, arms splayed, the slit pupils of the scarlet eyes rolling upward. Tom Riddle hit the floor with a mundane finality, his body feeble and shrunken, the white hands empty, the snakelike face vacant and unknowing. Voldemort was dead, killed by his own rebounding curse, and Harry stood with two wands in his hands, staring down at his enemy's shell.

Nagini – *Voldemort's pet snake*

Seeker – a player of the magical sport of Quidditch who must catch a very fast flying golden ball with wings.

Year 7 A Midsummer Night's Dream Absolute

Features of Comedy

- Slapstick/Physical humour;
- Wordplay/Puns;
- Funny names;
- Music and dance;
- Ridiculous / exaggerated behaviour;
- Chaos;
- Incongruity; (*The ___ is incongruous (out of place) with the ___*)
- Disguises/ costumes/ impersonating different genders;
- Timing;
- Foolish characters;
- Characters who think they possess talent when they don't.

Key ages / concepts

Concept	Definition
The Renaissance	A period of time where people started to become more interested in philosophy, art, science and politics, and interested in looking back and revising ancient Greek and Roman literature.
The Age of Enlightenment	Science became more understood as people learned more about how the world works. People became more interested in using reason and the evidence of the senses.
The Inkhorn Controversy	In the 1500s-1600s, the borrowing of Greek and Latin words by writers really annoyed some people, who said that writers doing this were 'diluting' or 'polluting' the English language with these foreign words, which they called 'inkhorn terms' .
Patriarchy (noun)	A system where men hold the power – A patriarchy existed in Shakespearean times.
Patriarchal (adjective)	<i>A Midsummer Night's Dream</i> is set in a patriarchal society.

Key Vocabulary

Word	Definition	Use in a sentence
Convention (noun)	A way of doing things that is accepted and followed.	The conventions of most Disney animations include songs, talking animals and a happy ending.
Incongruity (noun) Incongruous (adjective)	If something is incongruous, it appears strange or wrong in a particular situation.	The elephant was incongruous in the classroom.
Amateur	Someone who is not a professional at doing something – usually does it unpaid.	I am an amateur tennis player.
Tragedy play	A genre of play based on human suffering, where terrible events befall the protagonist.	I cried a lot when I watched the tragedy play .
Highlight	To draw attention to.	My teacher highlighted my excellent homework to the class.
Establish	To set up/ introduce	Shakespeare establishes the Mechanicals as comic characters.
Criticise	To judge something, often by picking out the faults.	My teacher criticised my homework.

Key Techniques/forms/word classes

Word	Definition	Use in a sentence
Literal language	The actual meaning of the words without over exaggeration or saying something as something else (metaphor)	Literally , 'My teacher is a dragon' would mean that you had an actual fire breathing dragon for a teacher.
Figurative language	Language that does NOT use the word's literal meaning but instead uses language creatively. Techniques such as simile, metaphor, hyperbole and personification are all examples of figurative language.	Figuratively , 'My teacher is a dragon' would be a metaphor to suggest that your human teacher is terrifying like a dragon is.
Metaphor	Describing something as something else in order to suggest a similarity between the two.	My teacher is a dragon. The classroom was an oven.
Idiom	A common saying that uses metaphor – the meaning of the saying is hard to understand by the words alone, but we all accept what it means.	"It's raining cats and dogs" "You're driving me round the bend"
Slapstick comedy	A style of humour involving exaggerated physical comedy.	The pantomime was full of slapstick comedy .
Pun	A humorous use of a word or phrase that has several meanings that sounds like another word.	My favourite pun is in the joke: "Why didn't the skeleton go to the dance? He had no body to go with!"
Hyperbole	Over exaggeration for effect.	I am starving – I've waited a million hours for dinner.
Oxymoron	When two contradictory words are placed together in the same phrase	That movie was bittersweet . That was seriously funny! It was awfully good .
Imperative verb	A 'bossy' verb that issues a command.	e.g "Come here" "Let me go" "Put that down"
Pronoun	Used instead of a noun.	'I, me, we, you'
Superlative adjective	Adjectives that are used to indicate that a word is the most extreme it can be. This is created through the superlative adjective 'most' or the addition of 'est' to the end of the word.	This is the most difficult task. She was the prettiest cat. He was the smallest man.
Parody	To imitate with deliberate exaggeration for comic effect.	The Mechanicals' play is a parody of other actors and writers' plays at the time.
Personification	Describing something non-human as if it has human characteristics, or is alive in some way.	The chairs sat quietly in the classroom. The books danced in the flames.

All Saints' Drama Department: **Year 7 Basic Skills Unit**

1. What makes a good performance – using a range of techniques that give the audience a reason to keep watching.
2. What makes a good audience – being attentive and supportive to those performing, offering constructive feedback.
3. What are the key features of a still image – not blocking, use of levels, making your actions clear.
4. What is a duologue – dialogue (talk/conversation) that takes place between two characters.
5. How could you demonstrate status in your performance – using levels, facial expression, body language and varying your vocal expression.

Understanding of vocal and physical skills: Using the mouldy parmesan criteria – remembering the mnemonic and showing these skills in practice

Mouldy (**movement**), parmesan (**posture**), grates (**gesture** – use of hand movement to signal thoughts and feelings), itself (**interaction** between other characters), very (**vocal expressions** – the way you use your voice) **pitch** (low pitch or high pitch) **pause** (stops between speech) **projection** (use of how you project your voice loudly or softly), **pace** (speed of speech), flipping easily (**facial expressions**).

Performance tasks

- Working in a group to create a still image, incorporating levels and voice overs.
- Working independently to take on a different role and sustain throughout a performance.
- Working in a pair to devise and perform a scene containing mime and ending with a still image, incorporating facial expression, dialogue and gesture.

Drama Skills you need to demonstrate in this unit:

1. **Mime** – suggesting action, character or emotion, without using words. Using only gesture, facial expression and movement.
2. **Freeze frame** – pausing the performance and capturing the still image.
3. **Still image** – Creating a still image, like a photograph depicting an event
4. **Use of Levels** – each taking on a different physical height position within the performance to create visual levels.
5. **Blocking** – consciously being aware of your positioning in the performance area so as not to 'block' another performer or the audience
6. **Character** – to take on the role of another person or to play a different part.
7. **Narrator** – a person who narrates something, especially a character who recounts the events of a novel or narrative poem
8. **Voice over** - a piece of narration in a film or broadcast, not accompanied by an image of the speaker.
9. **Status** – the social position that someone takes i.e. manager vs shop assistant (high/low status)

Evaluative / appraisal tasks

1. Evaluate a performance by your peers, using at least 3 of the 'mouldy parmesan' criteria explain what aspects of the performance went well and what aspects could be improved – be able to say why
2. Evaluate your own performance, using at least 3 of the 'mouldy parmesan' criteria explain what went well and what you could improve next time

Half-term 1 – Introductions and basic details

Vocab book pages 3-4

Quiz 1.1 – Introducing yourself and saying how you are

Hello	Bonjour
Hi	Salut
How are you?	Ça va?
I am fine/bad, thank you	Ça va bien/mal, merci
I am called ----- and you?	Je m'appelle ----- et toi?
Goodbye	Au revoir

Quiz 1.2 – Numbers and age

How old are you?	Quel âge as-tu?
I am 11/12 years old ("I have 11/12 years")	J'ai onze/douze ans
I am 13/14 years old	J'ai treize/quatorze ans
I am 25 years old	J'ai vingt-cinq ans

Quiz 1.3 – Dates and birthdays

Know days and months to create dates and birthdays (see page 7 in this booklet)	lundi sept septembre <i>Monday 7th September</i>
When is your birthday?	Quelle est la date de ton anniversaire?
My birthday is on the ---	Mon anniversaire, c'est le ---

Quiz 1.4 – Saying what objects you have and don't have

I have a phone	J'ai un portable
I have a games console and a tablet	J'ai une console et une tablette
I have <u>two</u> teddies	J'ai <u>deux</u> peluches
I don't have a <u>small car</u>	Je n'ai pas de <u>petite voiture</u>
I would like a <u>pen</u>	Je voudrais <u>un stylo</u>
My favourite object is <u>a book</u>	Mon objet préféré, c'est <u>un livre</u>

Quiz 1.5 – brothers and sisters

I have a brother and a sister	J'ai un frère et une soeur
I have a half-brother	J'ai un demi-frère
I don't have a brother or a sister	Je n'ai pas de frère ou soeur
I would like a half-sister	Je voudrais une demi-soeur
who is called <u>Bob</u>	qui s'appelle <u>Bob</u>
I have <u>two sisters</u> who are called Lucy and Megan	J'ai <u>deux soeurs</u> qui s'appellent Lucy et Megan

Parallel texts

<p>Hi! How are you? My name is Francine and I have 12 years. My birthday is the 13th January. And you?</p> <p>In my family I have a brother who is called Daniel and a half-brother who is called Luc. I have also two sisters who are called Elisha and Annabelle.</p> <p>I don't have half-sister but I would like A half-sister.</p> <p>My object favourite is a phone. In addition, I have a book and a pen, however I don't have medal. I would like a console.</p> <p>Goodbye!</p>	<p>Salut. Ça va? Je m'appelle Francine et j'ai douze ans. Mon anniversaire est le treize janvier. Et toi?</p> <p>Dans ma famille j'ai un frère qui s'appelle Daniel et un demi-frère qui s'appelle Luc. J'ai aussi deux soeurs qui s'appellent Elisha et Annabelle.</p> <p>Je n'ai pas de demi-soeur mais je voudrais une demi-soeur.</p> <p>Mon objet préféré est un portable. En plus, j'ai un livre et un stylo, cependant je n'ai pas de médaille. Je voudrais une console.</p> <p>Au revoir!</p>
<p>Hi! How are you? My name is Francine and I have 12 years. My birthday is the 13th January. And you?</p> <p>In my family I have a brother who is called Daniel and a half-brother who is called Luc. I have also two sisters who are called Elisha and Annabelle.</p> <p>I don't have half-sister but I would like A half-sister.</p> <p>My object favourite is a phone. In addition, I have a book and a pen, however I don't have medal. I would like a console.</p> <p>Goodbye!</p>	<p>Salut. Ça va? Je m'appelle Francine et j'ai douze ans. Mon anniversaire est le treize janvier. Et toi?</p> <p>Dans ma famille j'ai un frère qui s'appelle Daniel et un demi-frère qui s'appelle Luc. J'ai aussi deux soeurs qui s'appellent Elisha et Annabelle.</p> <p>Je n'ai pas de demi-soeur mais je voudrais une demi-soeur.</p> <p>Mon objet préféré est un portable. En plus, j'ai un livre et un stylo, cependant je n'ai pas de médaille. Je voudrais une console.</p> <p>Au revoir!</p>

Key skills for this half term

1. Pronounce and recognise sound-spelling links
2. Communicate coherently through speaking and writing
3. Ask and reply to questions about yourself
4. Understand how sentences are structured
5. Recognising masculine (un) and feminine (une) words

End of half-term checklist			
<i>I can...</i>	☹	☺	😊
give my name and age			
ask for someone's name and age			
give my birthday			
ask for someone's birthday			
recall months, days and numbers 1-31			
talk about objects I have/don't have			
talk about brothers and sisters			
say what objects/siblings I would like			



Quiz 2.1- Other family members and their ages

I have a brother	J'ai un frère
I don't have a sister	Je n'ai pas de soeur
He has an uncle	Il a un oncle
I have an Aunt. She is called Andrea	J'ai une tante. Elle s'appelle Andrea
In my family there is my dad, my mum and me	Dans ma famille, il y a mon père, ma mère et moi

Quiz 2.2 – Pets/Objects/Colours

I have a black dog and a brown hamster	J'ai un chien noir et un hamster marron
He has a white cat	Il a un chat blanc
She has a blue bird	Elle a un oiseau bleu
I have a green tortoise	J'ai une tortue verte
I don't have a black mobile	Je n'ai pas de portable noir

Quiz 2.3 – Describing hair and eyes

I have long, brown hair	J'ai les cheveux bruns et longs
I have short, blonde hair	J'ai les cheveux blonds et courts
I have blue eyes	J'ai les yeux bleus
he has green eyes	Il a les yeux verts
my mum has red hair	Ma mère a les cheveux roux

Quiz 2.4 – Describing personalities and height

I am sporty and intelligent	Je suis sportif et intelligent
I am not active	Je ne suis pas actif / active
He is very fun	Il est très amusant
She is quite boring	Elle est assez barbante / ennuyeuse
I am really tall (f)	Je suis vraiment grande
He is fun however she is shy.	Il est amusant cependant elle est timide.

Parallel texts

<p>Good day. I am called Kacper. I have twelve years. My birthday is the 14 September.</p> <p>In my family there is my mum, my dad, my brother and two sisters who call themselves Bart, Kinga and Ola. Bart is very sporty like me but my sister Ola is really stupid and Kinga is quite difficult even if she is fun.</p> <p>Finally, I have two hamsters white, a cat who calls himself Oskar and a fish but I would like to have a dog black.</p> <p>I have the hair dark and short, and the eyes blue. I am quite tall. I am also sporty and I am not shy in general. In my class Dawid is cool and he loves the football.</p> <p>In GCSE you often have to cope with translating words you have not met before and work them out from the clues around them How did you cope?</p>	<p>Bonjour. Je m'appelle Kacper. J'ai douze ans. Mon anniversaire est le 14 septembre.</p> <p>Dans ma famille, il y a ma mère, mon père, mon frère et mes deux soeurs qui s'appellent Bart, Kinga et Ola. Bart est très sportif comme moi mais ma soeur Ola est vraiment stupide et Kinga est assez difficile, même si elle est amusante.</p> <p>Enfin, j'ai deux hamsters blancs, un chat qui s'appelle Oskar et un poisson mais je voudrais avoir un chien noir.</p> <p>J'ai les cheveux noirs et courts et les yeux bleus. Je suis assez grand. Je suis aussi sportif et je ne suis pas timide en général. Dans ma classe Dawid est cool et il adore le foot.</p>
<p>Good day. I am called Kacper. I have twelve years. My birthday is the 14 September.</p> <p>In my family there is my mum, my dad, my brother and two sisters who call themselves Bart, Kinga and Ola. Bart is very sporty like me but my sister Ola is really stupid and Kinga is quite difficult even if she is fun.</p> <p>Finally, I have two hamsters white, a cat who calls himself Oskar and a fish but I would like to have a dog black.</p> <p>I have the hair brown and short, and the eyes blue. I am quite tall. I am also sporty and I am not shy in general. My mum is fun and intelligent. She has the eyes green and the hair long and blonde.</p>	<p>Bonjour. Je m'appelle Kacper. J'ai douze ans. Mon anniversaire est le 14 septembre.</p> <p>Dans ma famille, il y a ma mère, mon père, mon frère et mes deux soeurs qui s'appellent Bart, Kinga et Ola. Bart est très sportif comme moi mais ma soeur Ola est vraiment stupide et Kinga est assez difficile, même si elle est amusante.</p> <p>Enfin, j'ai deux hamsters blancs, un chat qui s'appelle Oskar et un poisson mais je voudrais avoir un chien noir.</p> <p>J'ai les cheveux bruns et courts et les yeux bleus. Je suis assez grand. Je suis aussi sportif et je ne suis pas timide en général. Ma mère est amusante et intelligente. Elle a les yeux verts et les cheveux longs et blonds.</p>

Key skills for this half term

1. Use a range of pronouns and verb forms to communicate information about yourself and other people
2. Communicate coherently through speaking and writing
3. Ask and reply to questions about yourself and your family
4. Use a range of connectives to develop longer paragraphs
5. Start to use more challenging vocabulary for flair

End of half-term checklist			
I can...	☹	☺	😊
say who is in my family and give their names and ages			
describe what pets I have/would like			
describe people's hair and eyes			
describe people's personalities and height			
use some challenging vocabulary to make my work sound sophisticated			

Geography – How can I save the world?

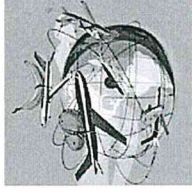
Background

1. What is human geography? The study of how people and their activities affect the earth and society.
2. What is physical geography? The study of the natural environment.
3. What are HICs? High income countries such as USA, UK, Germany, France, Canada, Spain, Italy, Australia
4. What are NICs? Newly industrialised countries such as China, Vietnam, India, Brazil, Mexico, South Africa
5. What are LICs? Low income countries such as Bangladesh, Chad, Haiti, Kenya, Madagascar and Somalia.



Globalisation – Food Miles

6. How can a person be connected to the rest of world? The food they eat, TV shows or films they watch, the holidays they go on, the clothes they buy, the sports they watch or play.
7. What are food miles? The distance that a food product has travelled from farm to plate.
8. What are the disadvantages of high food miles? Food is transported via planes, ships, trains and lorries which all have high carbon emissions. The further the food travels, the more carbon is released.
9. Why are food miles not the biggest contributor to emissions within food? Actually farming and producing products creates 83% of food carbon emissions and transporting it only produces 11%. Rest from retail stores.
10. Why is organic farming seen as a better option? Organic farms use methods which release less carbon dioxide, conserve water and reduce soil erosion. They also do not use pesticides which is better for animals and people who live nearby.



Globalisation – Clothing

11. Where are the headquarters for many clothing companies? In HICs (high income countries). This is where research and development of products takes place. The highest paid jobs in the company are here.
12. Where are clothes actually made? Many companies outsource production to NICs (Newly industrialised countries) like Taiwan, Vietnam and China.
13. What are the benefits of outsourcing for the company? The company can find a cheap contract in a factory, saving them money and creating a higher profit margin. They do not have to build their own factory and are free to move to a different country if they can get a cheaper contract.
14. What are the issues with outsourcing for the host country? The managers of the factories are receiving contract from companies and they are often under pressure to meet deadlines. This often leads to poor conditions in the factories such as; long days, low wages, no breaks, no trade unions, physical punishments. These are often called sweatshops. How can consumers help to stop sweatshops? By checking where brands and companies make their clothes. This will be an indication of how ethical the factory is.



Fairtrade

16. What is Fairtrade? This changes the way trade works through better prices, decent working conditions and a fairer deal for farmers in developing countries.
17. What are the ways in which consumers can support Fairtrade?: Always choose Fairtrade products when shopping, if you cannot find Fairtrade bananas in your local supermarket, fill in a customer comment card or ask to speak to the manager and request that Fairtrade bananas are stocked, encourage your local, independent shop to stock Fairtrade and learn more about Fairtrade and tell your friends and family all about how it benefits farmers and workers.
18. What is a social impact(s) of the Banana Industry on St. Vincent through Fairtrade? No child labour is allowed, and farmers are better educated about how to conserve the environment.
19. What is an economic impact(s) of the Banana Industry on St. Vincent through Fairtrade? Money (wages) go to the rural areas that helps keeps people on the land and social premiums help build schools in the area, improve roads, and makes it easier for farmers to get their produce to the markets.
20. What is an environmental impact(s) of the Banana Industry on St. Vincent through Fairtrade? Number of birds increase and wildlife benefits from less chemical pollution, bananas are not planted as close to rivers which prevents any chemicals reaching the water supply and farmers who are part of the Fairtrade scheme are given trees to plant on their land which helps with soil conservation on steep hills.



FAIRTRADE



Keywords

Human Geo	The study of people and the man-made world.
Physical Geo	The study of the natural environment.
Food Miles	How far food has travelled from farm to plate.
Outsourcing	When a business in a HIC asks a business in a LIC/NEE to make a product for them.
Symbol	A character used on maps which represents something in real life.
Relief	The height and shape of the land
Sustainable	Meeting the needs of today without compromising the ability of future generations to meet their own needs.
Fairtrade	This changes the way trade works through better prices, decent working conditions and a fairer deal for farmers and workers in developing countries.
Winward Islands	A group of islands in the south-eastern West Indies.
Climate Change	A change in the usual temperature and weather patterns found in a place that can be naturally occurring or accelerated by human activities.

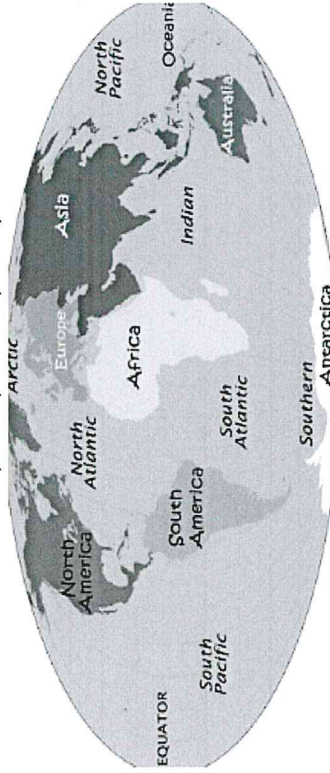
Test yourself questions

1. What is the difference between human and physical Geography?
2. Give three example topics for human geography and three example topics for physical geography.
3. Explain how you would locate a particular place on an OS map using 4 figure and 6 figure grid referencing.
4. Describe three different ways that consumers can do to shop more sustainably?
5. Why does outsourcing have negative views globally? Research a company that has been in the media for outsourcing.
6. Outline what food miles are, the negatives of food miles and a way to reduce the negative impacts of food miles.
7. Outline what fairtrade is and explain three ways in which you could support fairtrade.
8. State a social, economic, and environmental impact of The Banana Industry in St. Vincent.
9. For each scale, state a way in which climate change is being combatted on a locally, nationally, and globally.
10. Why is it important to consider ways in which we can live and act more sustainably for the future of our planet?

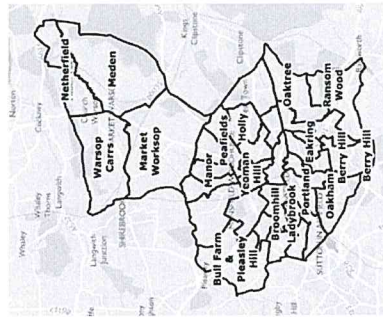
Geography – How does my local place compare to the rest of the world?

1. Continents and Oceans

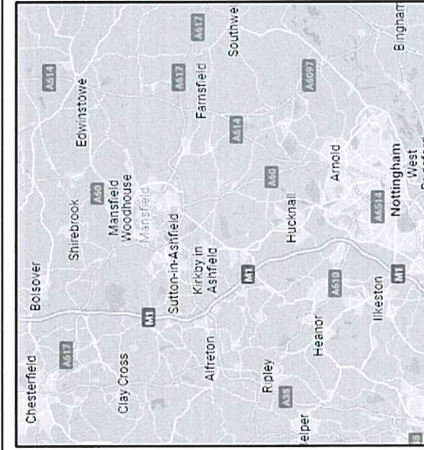
- What are the 7 continents? Europe, Africa, Asia, North America, South America, Australasia and Antarctica.
- What are 5 oceans? Atlantic, Pacific, Southern, Indian, Arctic.



3. Mansfield's location



Mansfield is 10km north east of junction 28 of the M1 and 20km north of Nottingham.



2. Comparing Mansfield locally

- How can geographers collect data on towns and cities? Conducting surveys like transects and land use surveys.
- Why would geographers collect data on towns and cities? To learn about the place and its identity so town planners know how to improve the area.
- How does Mansfield compare to local towns? Mansfield has many similarities to Sutton, Worksop and Chesterfield, like TNCs, pedestrianized areas and fast food. However, Mansfield has a popular football club unlike Sutton and Worksop and strong mining history, unlike Chesterfield which alters its identity.



Comparing Mansfield globally

Place	Location	Population	Identity	Similarities	Differences
Mansfield, UK	20km N of Nottingham	108,576	Ex-mining, Stags and brewery.		
Mansfield, MA, USA	30km S-W of Boston	23,860	Upper middle class, liberal.	Surface area (76.69 vs 53.7km ²)	Pop. density (sparse)
Rocinha, Brazil	5km S-W of Rio de Janeiro	180,000	Vibrant, happy, slum.	Some deprivation in both places	Rapid pop. increase
Cape Coast, Ghana	100km S-W of Accra	217,032	Fishing, art, history.	Mans 22%, Cape 29% high. education	Mans 6%, Cape 7% unemployed
Daet, Philippines	200km E-S-E of Manila	111,700	Surfing, University.	Warmer months May to August	Rainfall range 28mm in Mans, 460mm in Daet
Christchurch, New Zealand	330km S-W of Wellington	381,500	Rural landscapes and earthquakes	Experienced earthquakes	Magnitude 5.2 vs 7.0

Test yourself questions

- Which is the largest ocean and largest continent?
- Describe the location of Mansfield.
- Ask someone to quiz you on the keyword spellings and definitions.
- Do you think Mansfield is a clone town?
- Which local town do you think Mansfield is most similar to? Why?
- Which international town do you think Mansfield is most similar to? Why?
- Which international town do you think Mansfield is different to? Why?
- How would you describe Mansfield's identity?
- Does Mansfield experience the same problems as other places around the world?

Keywords

Comparison	Look for similarities and differences between places
Demographic	Statistical data relating to the population and particular groups within it
Evaluate	To judge the significance of something
Fieldwork	Practical work conducted out in the environment or the 'field'.
Identity	The physical features and culture of a place that make it unique
Land use survey	Fieldwork technique to find out how land is being used e.g. retail, residential
Place	Used in geography to discuss a specific location like Mansfield
Population	The people who live in an place e.g. village, town, city, country, country.
TNC/MNC	Trans-national or Multi-national Corporation e.g. Nike
Transect	Data collected in a straight line to measure changes from one point to another

History

Year 7

Topic Norman Conquest (Unit 2)

Timeline of events: Battle of Hastings-1066	
1.	1066- England's population was 1.5 million. Edward the Confessor is ruler. Country divided by Earldoms, some of whom rebelled against Edward.
2.	5 th January 1066- Edward dies without children.
3.	Three claimants to the throne...
4.	Harold Godwinson- Belonged to the most powerful family in England and controlled Wessex
5.	William, Duke of Normandy- Edward's cousin, supported Edward by sending troops when Harold Godwinson had rebelled in 1051. Edward had made William his heir.
6.	Harald Hardraada- wanted to revive Viking Empire of King Knut; ancestors had held position on King of England previously; Viking families in the North who supported.
7.	20 th Sept 1066: Harald H arrives on East coast with 500 ships. Harold G marches army North and defeats Harald H, who is killed at Stamford Bridge.
8.	27 th Sept 1066: William of Normandy sails fleet across the Channel. Harold G marches an exhausted army south to face William.
9	William gathered an invasion fleet of 700 ships and a large army. Landed at Pevensey, built a castle and raided the surrounding area.
10	Harold was marching south after the battle at Stamford Bridge with an exhausted army.
11	The two sides met at Senlac Hill, near Hastings. Harold's army at the top of the hill, formed a shield wall to protect themselves and the Norman knights could not charge uphill.
12	Some Norman soldiers fled thinking William had been killed; he removed his helmet to show them he was alive. Normans pretended to run away, then turned and cut down the Saxons when the inexperienced fyrd (farmers with weapons- inexperienced soldiers) chased them.
13	William's knights on horse back and archers with cross bows were well equipped. William's archers broke the Saxon shield wall.
14	Housecarls (household troops) formed a ring around Harold, yet he was killed; the Bayeux Tapestry (a famous tapestry documenting the battle) has the words "Harold is killed" next to a man with an arrow in his eye. But it is impossible to know as all Saxon soldiers are dressed identically on the tapestry.

Key words	
1	Edward the Confessor King in 1066— has no children
2	Earldoms Territory of an Earl
3	Roman Catholic Church England was a Christian country, belonged to the RC Church.
4	Pope Head of the Catholic Church and in charge of Bishops and Priests
5	Harold Godwinson Edward's brother in law, belonged to the most powerful family in England
6	William Duke of Normandy Edward's named heir
7	Harald Hardraada Wanted to revive the Viking Empire.
8	Stamford Bridge Location of battle between Harold G and Harald H
9	Feudal System Hierarchy (system of land ownerships) whereby William had granted land in England to men who had helped him conquer England; these barons sent knights for the king's army; knights were given land, which peasants farmed on.
10	Domesday Book William uses a survey to find the value of people's land. Information from 13000 villages
11	Battle of Hastings Battle between William and Harold G— Harold G killed and William victorious.
12	Motte and Bailey Style of castle based on the design of Normandy castles— built within to weeks, providing immediate safety.
13	Norman Keep Later, castle design with a stone keep — more difficult to attack. Used to control surrounding areas—location for people to pay taxes or attend court of law.

Why did William win the Battle of Hastings?

Preparations	Luck	Leadership
William: well trained, professional soldiers, fresh and well rested, lots of supplies Harold: large number of untrained farmers who left to collect the harvest, tired and reduced numbers following Battle of Stamford Bridge	The weather changed when William was trying to Harold had to fight the Vikings this gave William the advantage. The Saxons left the shield wall to chase the Normans down the hill. At a key moment in the battle Harold was killed.	William was very brave and led his men well. William showed his face during the battle to keep his soldiers from running away.



Key words	
1. Medieval	The period between 1066-1500.
2. Feudal System	The social structure of Medieval England.
3. Villein	Peasant at the bottom of the Feudal system.
4. Baron	Noble land owner that pledged their loyalty to the King.
5. Normans	People from the Normandy region of France, led by King William.
6. Motte and Bailey	The first type of castle made by William. It was made out of wood and had a higher Motte part and a lower Bailey part.
7. Stone Keep Castle	Similar to Motte and Bailey but made of stronger materials such as stone.
8. Concentric Castle	A castle with two or more supporting walls with a stone keep.
9. Domesday Book	A record of what everyone owned in the country in order to decide how much tax people should pay.
10. Taxes	Money collected from people by the King.

Key events: Castles

William kept control by building castles throughout England. Over time 3 types of castles developed throughout Britain:

Motte and Bailey: The first castles built to fight against rebellions. They were built quickly and made out of wood, meaning that they were not very strong and could easily be destroyed. The Bailey was on flat land where the majority of the people lived. The Motte was the higher land of the castle where the fort was.

Stone Keep: This castle was now made out of stone and had tower a form of defence. The main part of the castle was the Keep, a large square tower, used as the main defence.

Concentric- At least two surrounding walls with the inner wall higher than the outer to help defence. These protected the central tower which was made of stone.

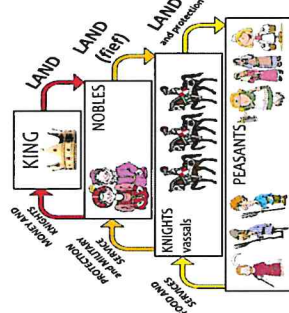


Key events: Problems faced

1. Short term	Threat of invasion from the North; many English Lords did not accept his control and many of Harold's supporters were still in London.
2. Long term	Needed to collect taxes but to do this he needed to find out who owned what and needed to make sure the whole country was under his control. This resulted in creating the Feudal system, the Domesday book and building castles.

Key events: The Feudal System

After taking the throne in 1066, William had a few problems: he doesn't trust the English lords, who do not like him, he had to force the English to accept him as King and many were rebelling and fighting against him. He had to pay the French knights who helped him win the throne. His solution was to crush the rebellions and take land from the English lords to give to his supporters. He then had his supporters helping him to control the whole country. He also set up the Feudal System which forced the English to give William their taxes and loyalty in return for protection and land to farm. William was at the top of this system as he had all the land and money, which he gave to the Barons. They promise William their money, soldiers and loyalty. They give the land to the Knights in return for loyalty and military service. Finally the knights give the land to the peasant to farm in return for money and services.



Feudal Pyramid of Power



Key events: Domesday Book

In 1086, William sent out surveyors to every part of England, with orders to list:

- How much land there was
- Who had owned it in 1066 and who owned it now
- What was the place like and who lived there
- How much was it worth in 1066 and how much now.

William did this to allow him to effectively tax the land and earn money and so that he knew what could be seized if the landowners didn't show loyalty.

Timeline	
1. 1170	Thomas Beckett is killed
2. 1122-1204	Eleanor of Aquitaine
3. 1215	Magna Carta
4. 1265	De Montfort's Parliament
5. 1312-1337	Mansa Musa
6. 1348	Black Death
7. 1373-1399	Jadwiga of Poland
8. 1381	Peasants Revolt

The Black Death (1348-9)

Causes

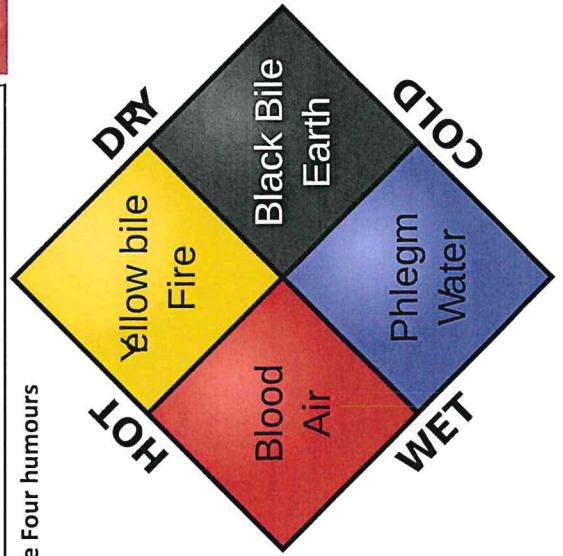
God deserting mankind/ unusual position of the planets/ impure air from a volcano or earthquake/ the Jews

Treatments

Ask for God's forgiveness/ bleeding/ purging/ strong smelling herbs/ theriaca/ lancing buboes

Prevention

Pray/ Pilgrimage/self-flagellation/ escape/ carry a posy of flowers/ do joyful things/ quarantine laws



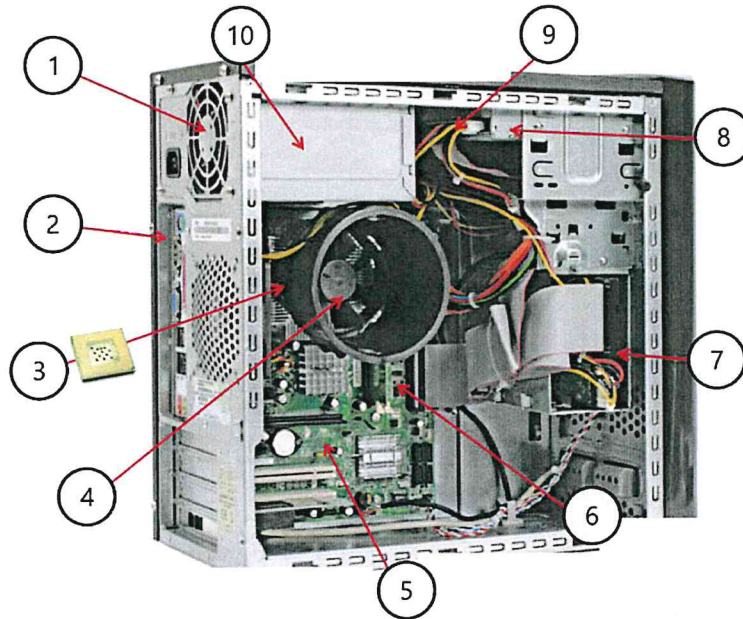
The Four humours



Key words	
1. Magna Carta	A document signed by King John to reduce the power of the King and make it more difficult for the King to make laws.
2. The Crusades	The 'Wars of the Crosses', a Holy war in which crusaders from Europe set out to fight Muslim Turks.
3. Tithe	A medieval tax involved paying one tenth of all farm produce to the church
4. Cruck House	Peasants home made out of wood and mud
5. Black Death	The disease that affected England from 1348 onwards. It is estimated that it killed 40% of the population.
6. Bubonic Plague	The more common Plague that was carried in the bloodstream of rats. Fleas bit the rats and became infected. They then hopped onto humans, bit them and passed on the disease.
7. Pneumonic Plague	This was more deadly. It was caught by breathing in the germs when an infected person coughed or sneezed. They would cough up blood and their lungs rotted inside them .
8. Doom Painting	A painting in Medieval churches which showed the joys of heaven and the horrors of hell.
9. Barber Surgeon	Performed simple surgery and cut peoples hair!
10. Apothecaries	People who made and sold medicines made from plants and herbs.
11. Blood-letting	The practice of making someone bleed to help cure illness.
12. Flagellants	People who whipped themselves in order to ask God to forgive their sins. Seen as a prevention for the Black Death.
13. Four Humours	A theory on the cause of illness first proposed by Hippocrates.
14. Astronomy	The study of the planets and stars
15. Symptoms	Signs of an illness or disease

Year 7 Computing All Saints' Absolutes: Introduction to Computing

- 1 Main Fan: Draws in cool air to prevent the computer from overheating
- 2 Ports: HDMI, USB, Audio, Video, Monitor
- 3 (CPU): Central Processing Unit: - the brain of the computer, handles all instructions it receives from hardware and software running on the computer.
- 4 Heat sink: pictured is directly over the Central Processing Unit (CPU) to prevent overheating.
- 5 Motherboard: enables all computer hardware components to communicate with each other



- 8 DVD ROM: Digital Versatile Disk-Read Only Memory
- 9 Power cables: otherwise known as an electrical cables are used to transmit electricity or power to the computer
- 6 RAM is the temporary memory bank which goes away when the power is turned off it's ideal for things the computer is actively working on such as if you're browsing the internet, using PowerPoint or even typing a document in Word.
- 7 Hard drive: - where your documents or files are stored, it's long term storage which means that your saved files will be still available even if you turn the computer off.
- 10 Power supply unit: is the hardware component that provides electricity to power the computers components

INPUT AND OUTPUT DEVICES



Scanner **Input**
Takes a digital image of a document so that it can be saved on the computer.



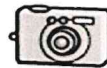
Mouse **Input**
A handheld device that controls a computer screen's cursor or pointer.



Monitor **Output**
A device that displays information in pictorial or text form.



Keyboard **Input**
A device that enables a user to input text into a computer.



Digital Camera **Input**
A device that takes photographs and stores the image as data on a memory card.



Printer **Output**
A device that accepts text and graphic from a computer and transfers the information to paper.



Webcam **Input**
A device commonly built into a computer. Its main function is to transmit pictures over the Internet.

POWERPOINT PRESENTATION SKILLS

Add text
adds a text description on a slide

Add images
adds an image on a slide

Animations
makes powerpoint information more memorable

Triggers
causes an animation to occur on a slide

Transitions
adds visual effect from one slide to the next

Hyperlinks
Allows you to jump back and forth between slides

Year 7 Computing All Saints' Absolutes: E-Safety

Keywords for types of e-safety :

Cyberbullying	The bullying of another person using the internet, mobile phones and other digital devices, with the intent to deliberately upset them.
Netiquette	Correct or acceptable way of communication on the internet.
Cyberstalking	Repeated use of electronic communication to harass or frighten someone.
Online Grooming	Deliberate act taken to befriend and create an emotional connection with a child, resulting in not good intentions.
Cyberpal	A friend who you only communicate with through the internet or cyberspace.
Password	A secret word or phrases that must be used to gain access to something.
Emoji	Small digital image or icon used to express an idea, emotion, etc.
Hacking	Gaining access to a computer, with the intention of stealing data or causing damage.
Download	Copying data from one computer system to another, typically over the internet.
Chat room	A website, or part of a website which allows people to communicate via a computer network in real time.
Spam	An email that is sent to a large number of people and mostly consists of advertising.
SNS	An online platform that allows users to create a public profile and interact with others.

IM	Instant messaging.
Block	Action taken to stop interactions from certain people via online communication.
Social network	An online platform that allows users to create a public profile and interact with other users on the website.
Online profile	A social identity that an Internet user establishes in online communities and on websites.
Privacy settings	The part of a social networking website, internet browser, piece of software, etc. that allows you to control who sees information about you.
Virus	A program or piece of code that is loaded onto your computer without your knowledge and runs against your wishes and has a detrimental effect.
Phishing	Trying to get you to follow a link and provide information to the sender, like a password or an account number.
Plagiarism	The act of presenting another's work or ideas as your own.

How do you stay safe on the Internet?

1. Create complex passwords
2. Boost your network security
3. Use a firewall
4. Click smart
5. Keep up to date

Three Laws to protect against computer crimes:
1. Sexual Offences Act 2003
2. Criminal Justice and Immigration Act 2008
3. Racial and Religious Hatred Act 2006

Protection from online bullying and harassment

Cyberbullying is an extremely unpleasant and upsetting experience. There are several authorised websites that offer advice on how to stay safe online and what to do if

Cyberbullying occurs:

BBC Webwise (www.bbc.co.uk/webwise)

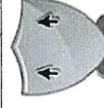
Childline (<http://www.childline.org.uk>)

ThinkUKnow run by the Child Exploitation and Online Protection centre (CEOP) (www.thinkuknow.co.uk)

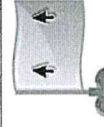
The Bullying UK helpline is available on 0808 800 2222, and Childline can be contacted on 0800 1111



ZIP IT
Keep your personal information private and don't talk about what you say and do online.



BLOCK IT
Block people who harass you and don't open unknown links and attachments.



FLAG IT
Flag up with someone who upsets you or if someone asks to meet you offline.

Digital footprint	is the trail of information we leave behind us when we do anything online- when we search, post, join groups or buy things.
Malware	is short for malicious software - software designed to disrupt or damage a computer system.
Types of Malware	Malware includes viruses, Trojan horses, worms and spyware. There are many different types of malware, each of which attacks computer systems in a different way.

Place Value

Integer – a whole number e.g. 6, -2, 25

Negative integer – whole number less than 0

Place Value – the value of each digit in a number e.g. in 9.35 the 3 is 3 tenths

Significant figures (sf) – the first non zero figure in a number e.g. the first 2 sfs in 456.7 are 4 (400) and 5 (50)

Rounding and Estimating

Approximately – means roughly or nearly

Estimate – round each part to make it easier to calculate

Rounding – expressing a number to a given degree of accuracy
5 or more, let it soar.
4 or less, let it rest.

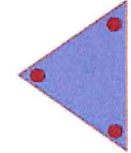
Inequalities

>	Is greater than
<	Is less than
≥	Is greater than or equal to
≤	Is less than or equal to

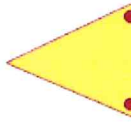
Properties of Shapes

Properties of Triangles

The angles in a triangle add up to 180°
 $W + X + Y = 180^\circ$



Equilateral - all three sides are equal, and all three equal angles are 60



Isosceles - two sides are equal, and their two base angles are equal.



Scalene - All sides and angles are different sizes.

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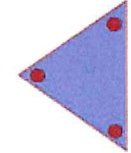
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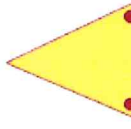
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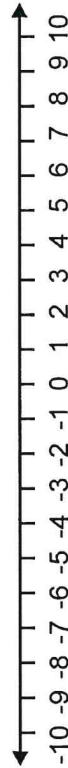
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Negative Numbers

Adding and Subtracting



To add a positive integer we move forwards up the number line →

To add a negative integer we move backwards down the number line ←

To subtract a positive integer we move backwards down the number line ←

To subtract a negative integer we move forwards up the number line →

Multiplying and Dividing

Same signs = Positive

(+) and (+) = (+)

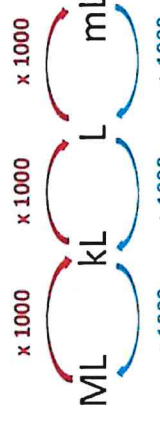
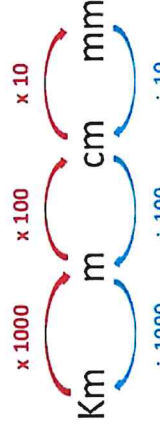
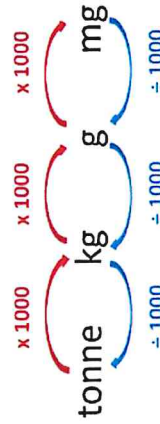
(-) and (-) = (+)

Different signs Negative

(+) and (-) = (-)

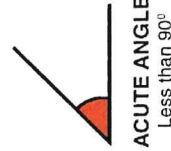
(-) and (+) = (-)

Conversion of Units

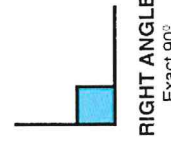


Angles

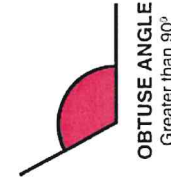
Types of angle



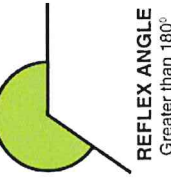
ACUTE ANGLE
Less than 90°



RIGHT ANGLE
Exact 90°



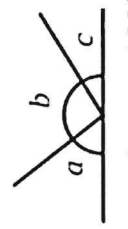
OBTUSE ANGLE
Greater than 90° and less than 180°



REFLEX ANGLE
Greater than 180°

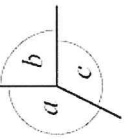
Angle Facts

Angles on a straight line add up to 180°



$$a + b + c = 180^\circ$$

Angles round a point add up to 360°



$$a + b + c = 360^\circ$$

Properties of Quadrilaterals

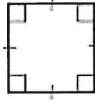
Rectangle

4 right angles and opposite sides equal



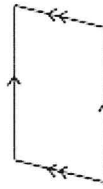
Square

4 right angles and 4 equal sides



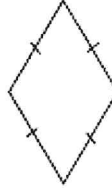
Parallelogram

Two pairs of parallel sides and opposite sides equal



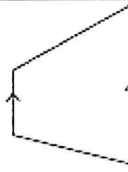
Rhombus

Parallelogram with 4 equal sides



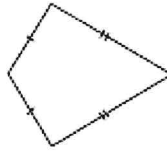
Trapezium

Two sides are parallel



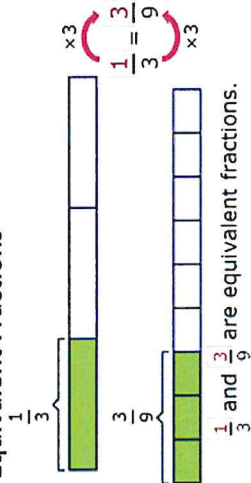
Kite

Two pairs of adjacent sides of the same length

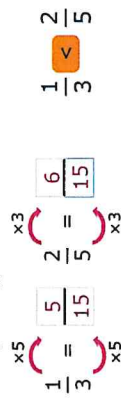


Fractions

Equivalent Fractions



Comparing Fractions



Adding and subtracting fractions

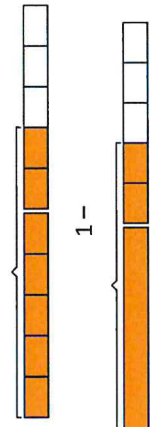
$$\frac{2}{5} + \frac{3}{7} = \frac{14}{35} + \frac{15}{35} = \frac{29}{35}$$

To add and subtract unlike fractions convert both of them to have the same denominator as the other.

$$\frac{21}{4} - \frac{8}{3}$$

$$\frac{63}{12} - \frac{32}{12} = \frac{31}{12}$$

Improper fractions and mixed numbers

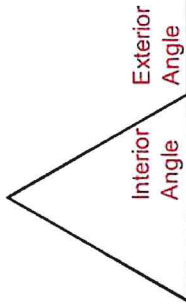


Angles in polygons

Polygon – a 2D shape with three or more straight sides

Regular polygon – all sides and angles are equal.

Irregular polygon – sides and angles are not equal



Sum of interior angles

$$(n - 2) \times 180^\circ$$

Interior angle of a regular polygon

$$\frac{(n - 2) \times 180^\circ}{n}$$

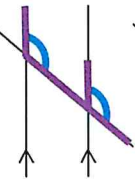
Sum of the exterior angles is 360°

Exterior angle of a regular polygon

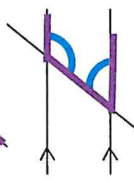
$$360^\circ \div n \quad n = \text{number of sides}$$

Angles in parallel lines

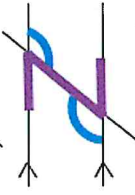
Parallel lines are always the same distance apart.



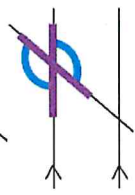
Corresponding angles are equal.
F Shape



Co-interior angles add up to 180°
C Shape



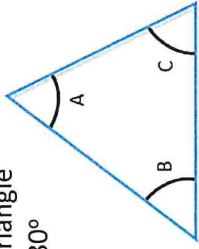
Alternate angles are equal.
Z shape



Vertically opposite angles are equal

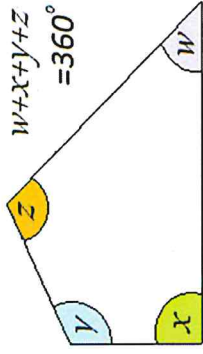
Angles

Angles in a triangle add up to 180°



$$A + B + C = 180^\circ$$

Angles in a quadrilateral add up to 360°



$$w + x + y + z = 360^\circ$$

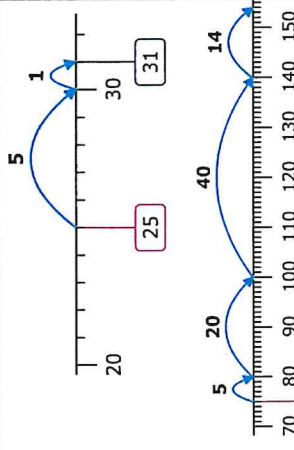
Addition and Subtraction

Work out $25 + 6$

$$25 + 6 = 31$$

Work out $154 - 75$

$$154 - 75 = 79$$



Work out $625 + 199 =$

$$\begin{array}{r} \text{H T O} \\ 625 \\ + 199 \\ \hline 824 \\ \underline{11} \\ 824 \end{array}$$

Add the ones...
then the tens...
then the hundreds.

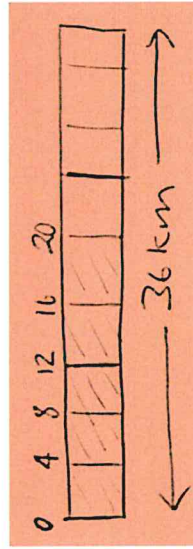
Work out $729 - 655 =$

$$\begin{array}{r} \text{H T O} \\ 729 \\ - 655 \\ \hline 074 \end{array}$$

Subtract the ones,
then the tens,
then the hundreds.

DF: K8-10

Finding fractions of amounts



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

Divide by the denominator then multiply by the numerator

$$36 \div 4 = 9 \times 3 = 27$$

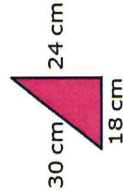
($\frac{3}{4}$ of $36 = 27$)

Perimeter

Perimeter – the distance around a two-dimensional shape. The perimeter is calculated by adding all the edges together.

e.g. $30 \text{ cm} + 24 \text{ cm} + 18 \text{ cm} = 72 \text{ cm}$.

The perimeter is 72cm.



Type the key skill "K186" that you would like to practice into the Dr Frost Maths search box at the top of the screen. There are videos to watch and questions to practice for each key skill to help you be successful in Maths. Your username is your student email address. If you have any questions, please see your maths teacher.

Place Value

- K3a Know the place value of digits in whole numbers.
 K3b Multiply integers by 10, 100 or 1000.
 K3c Divide integers by 10, 100 or 1000.
 K3d Partition 3-digit numbers into hundreds, tens and units using a part-whole model.
- K18a Place a decimal number on a number line.
 K18b Write down a decimal number placed on an number line.
 K18c Compare two decimal numbers using $||=||$, $||\backslash\neq||$, $||<||$ or $||>||$.
 K18d Order decimals.
- K38a Round a number to the nearest whole, ten, hundred or thousand.
 K39a Round a number to a given number of decimal places.
 K62a Convert metric units of length from smaller units to bigger units.
 K62b Convert metric units of length from bigger units to smaller units.
 K62c Convert units of mass by multiplying.
 K62d Convert units of mass by dividing.
 K62e Convert units of capacity by multiplying.
 K62f Convert units of capacity by dividing.
- K62g Calculate with metric measures of length.
- K122a Round a number to a given number of significant figures.
 K123a Estimate the answer of a simple calculation.
 K123b Estimate the result of a division.
 K216a Calculate bounds of a number rounded to the nearest 1, 10, 100, 1000.
 K216b Calculate bounds of a number rounded to a given number of decimal places.
 K216c Calculate bounds of a number rounded to a given number of significant figures.
 K216d Calculate bounds of a number truncated to a given number of decimal places.
 K216e Find the error interval of a rounded number.

Perimeter

- K69a Find the perimeter of a 2D shape by adding lengths.
 K69b Find the perimeter of a rectangle.
 K69c Find a side of a rectangle given its perimeter.
 K72a Determine the perimeter of a shape by counting unit lengths.
 K72b Find the perimeter of a composite rectilinear shape.
 K72c Find the perimeter of shapes made of several congruent rectangles.

Directed Numbers

- K45a Compare two integers that are possibly negative.
 K45b Order a mixture of positive and negative numbers.
 K45c Read negative values off a scale.
 K46a Find the difference between two temperatures.
 K46b Determine a new temperature after a change.
 K46c Add a positive number to any negative number.
 K46d Subtract a positive number from a negative number.
 K92a Add a negative number to any number.
 K92b Subtract a negative number from any number.
 K93a Multiply a mixture of positive and negative numbers.
 K93b Division with a mixture of positive and negative numbers.
 K93c Calculate an integer power of an integer which is possibly negative.
 K93d Calculate an integer power of a fraction which is possibly negative.

Properties of Shapes

- K59a Know the names of polygons.
 K59b Understand the definition of different 2D shapes and their properties.
 K59c Know the names of different types of triangle.
 K59d Know the names of quadrilaterals.
 K63a Compare and order angles up to two right angles by size.
 K63b Drawing an angle with a protractor.
 K63c Estimate the size of an angle.
 K63d Measuring a non-reflex angle with a protractor.
 K64a Identify the type of different angles.
 K66a Angles on a line.
 K66b Angles about a point.
 K68a Angles in a triangle.
 K68b Angles in a triangle where one side is extended.
 K151a Use the three-letter angle notation.
 K152a Angles in an isosceles triangle.
 K152b Determine an angle in a diagram involving an isosceles triangle with an extended side.
 K153a Angles in a quadrilateral.
 K154a Alternate angles on parallel lines.
 K154b Corresponding angles on parallel lines.
 K154c Cointerior (allied) angles on parallel lines.
 K154d Recognise alternate, corresponding and cointerior (allied) angles.
 K154e Find an angle in an isosceles triangle using angles on parallel lines.

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Angle Facts

- K65a Identify pairs of perpendicular and parallel lines.
- K67a Vertically opposite angles.
- K154a Alternate angles on parallel lines.
- K154b Corresponding angles on parallel lines.
- K154c Cointerior (allied) angles on parallel lines.
- K154d Recognise alternate, corresponding and cointerior (allied) angles.
- K154e Find an angle in an isosceles triangle using angles on parallel lines.
- K227a Find the angles sum of a polygon given its number of sides.
- K227b Find missing angles in a non-regular polygon.
- K227c Find the size of the exterior angles of a regular polygon.
- K227d Find the size of the interior angles of a regular polygon.
- K227e Find the number of sides of a regular polygon given the size of its exterior angles.
- K227F Find the number of sides of a regular polygon given the size of its interior angles.
- K227g Find angles in polygons within regular polygons.

Written Methods

- K5a Add and subtract integers using number bonds.
- K5b Add integers with a written method.
- K5c Subtract integers with a written method.
- K5d Subtract integers with a written method with borrowing.
- K5e Add integers with a written method, up to 5-digit.
- K5f Subtract integers with a written method, up to 5-digit.
- K5g Add and subtract numbers mentally, up to 3 digits.
- K7a Multiply any integer by a single-digit integer.
- K7b Multiply any integer by a 2-digit integer.
- K7c Multiply a 2-digit by a 2-digit integer.
- K7d Multiply any integer by a 3-digit integer.
- K9a Divide any integer by a single-digit integer.
- K9b Divide any integer by a single digit integer with remainders as whole numbers
- K9c Divide any integer by a single digit integer with remainders as fractions
- K9d Divide any integer by a single digit integer with remainders as decimals
- K9e Divide any integer by a double-digit integer.
- K9f Divide any integer by a double digit integer with remainders as whole numbers
- K9g Divide any integer by a double digit integer with remainders as a fraction
- K9h Divide any integer by a double digit integer with remainders as decimals
- K9i Interpret remainders in context

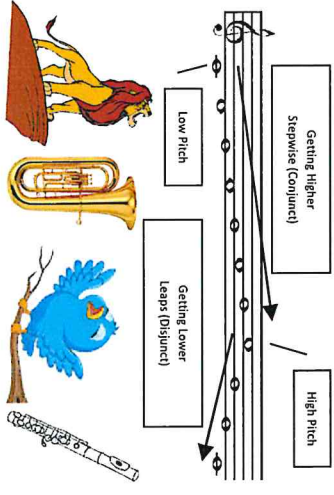


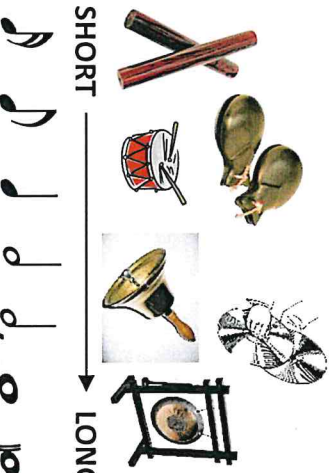



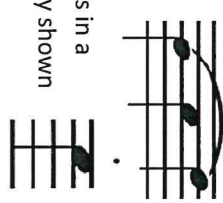
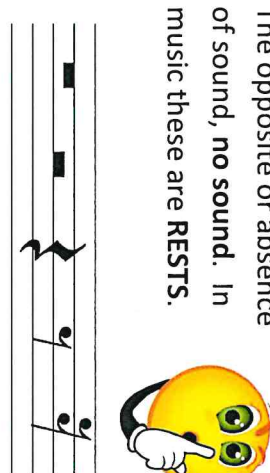
- K13a Solve an arithmetic worded problem involving addition or subtraction.
- K13b Solve an arithmetic worded problem involving multiplication or division.
- K20a Add two decimal numbers.
- K20b Subtract two decimal numbers.
- K103a Evaluate calculations with two operations.
- K103b Evaluate calculations with three operations.
- K103c Evaluate calculations with brackets.

Fractions

- K29a Write a proportion as a fraction in its simplest form.
- K29b Find equivalent fractions.
- K29c Write a fraction in its simplest form.
- K29d Compare two fractions.
- K29e Find what fraction a number is of another.
- K94a Add or subtract fractions with the same denominator.
- K94b Add or subtract fractions with different denominators where one fraction needs changing.
- K94c Add or subtract fractions with different denominators.
- K101a Find a unit fraction of an amount.
- K101b Find a fraction of an amount.
- K101c Determine an amount after a fractional increase or decrease.
- K101d Find the amount left given the fractions of an amount in other groups.
- K101e Combine a mixture of fractions of amounts with other amounts.
- K101f Determine a fraction of a fraction of an amount.
- K101g Combine fractions of amounts from multiple groups.
- K101h Find the total of a physical quantity where costs or weights are assigned to each group.
- K101i Problem solve with pay or cost, involving fractions of amounts.
- K102a Find an amount before a unit fraction of it was taken.
- K102b Find an amount before a fraction of it was taken.
- K102c Find a fraction of an amount given another fraction of that amount.
- K102d Determine the original amount before a fractional increase or decrease.
- K102e Determine a total amount when the amount of a remaining quantity is provided.
- K102f Determine the total number of items to subsequently calculate a dependent amount, e.g. cost or weight.
- K102g Determine the original amount where the difference between two fractions of an amount is given.
- K102h Solve problems where a single fraction of a quantity is taken combined with some other fixed quantity.
- K102i Solve problems where two fractions of amount are taken, when combined with some other fixed quantity.
- K102j Determine an original amount where a fraction of a fraction or a fraction of a remaining amount is involved.

Elements of Music

Year 7 - Term 1

A. Pitch	B. Tempo	C. Dynamics	D. Duration
<p>The highness or lowness of a sound.</p> 	<p>The speed of a sound or piece of music.</p> <p>FAST: <i>Allegro, Vivace, Presto</i></p> <p>SLOW: <i>Andante, Adagio, Lento</i></p> <p>GETTING FASTER – Accelerando (accel.)</p> <p>GETTING SLOWER – Ritardando (rit.) or Rallentando (rall.)</p> 	<p>The volume of a sound or piece of music.</p> <p>VERY LOUD: <i>Fortissimo (ff)</i></p> <p>LOUD: <i>Forte (f)</i></p> <p>QUITE LOUD: <i>Mezzo Forte (mf)</i></p> <p>QUITE SOFT: <i>Mezzo Piano (mp)</i></p> <p>SOFT: <i>Piano (p)</i></p> <p>VERY SOFT: <i>Pianissimo (pp)</i></p> <p>GETTING LOUDER: <i>Crescendo (cresc.)</i></p> <p>GETTING SOFTER: <i>Diminuendo (dim.)</i></p> 	<p>The length of a sound.</p>  <p>SHORT ————— LONG</p>
<p>E. Texture</p> <p>How much sound we hear.</p> <p>THIN TEXTURE: (<i>sparse/solo</i>) – small amount of instruments or melodies.</p>  <p>THICK TEXTURE: (<i>dense/layered</i>) – lots of instruments or melodies.</p> 	<p>F. Timbre or Sonority</p> <p>Describes the unique sound or tone quality of different instruments, voices or sounds.</p>  <p><i>Velvety, Screechy, Throaty, Rattling, Mellow, Chirpy, Brassy, Sharp, Heavy, Buzzing, Crisp, Metallic, Wooden etc.</i></p>	<p>G. Articulation</p> <p>How individual notes or sounds are played/techniques.</p> <p>LEGATO – playing notes in a long, smooth way shown by a SLUR.</p> <p>STACCATO – playing notes in a short, detached, spiky way shown by a DOT.</p> 	<p>H. Silence</p> <p>The opposite or absence of sound, no sound. In music these are RESTS.</p> 
I. Structure			
<p>The organisation of sounds - form</p> <p style="text-align: center;">Binary Form – Two contrasting sections</p> <p style="text-align: center;">A B</p> <p style="text-align: center;">Rondo Form – A returning section between contrasting sections</p> <p style="text-align: center;">A B A C A</p> <p style="text-align: center;">Ternary Form – Three sections with a contrasting middle</p> <p style="text-align: center;">A B A</p>			
J. How Music Works			
<p>Music can create an atmosphere or ambience e.g., <i>supermarkets and restaurants</i>.</p> <p>Music can create an image e.g., <i>in response to art, a story, a poem, a character, a situation</i> – this is called PROGRAMME MUSIC.</p> <p>Music can be calming e.g., <i>end of an evening in clubs and bars</i>.</p> <p>Music can be used for spiritual reasons e.g., <i>worship, meditation, reflection, hymns and chants, yoga, and spiritual reflection</i>.</p> <p>Music can be used for commercial purposes e.g., <i>advertising, TV themes</i>.</p>			

Y7 Biology 1 – Cells and Systems

1 MRS GREN (7 Life Processes): Movement, Respiration, Sensitivity, Growth, Reproduction, Excretion, Nutrition.

Excretion – The removal of waste substances from living organisms.

Species – A group of organisms that can breed with each other to form fertile offspring.

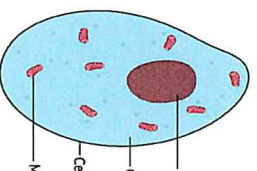
Kingdoms – Animal, Plant, Fungi, Prokaryotes and Protocists

Vertebrates - Animals with backbones.

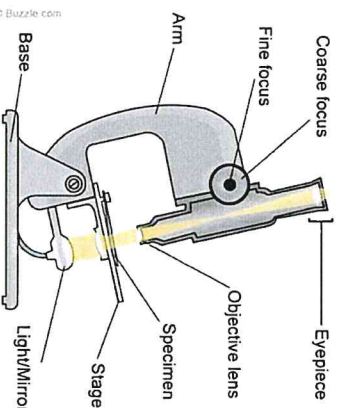
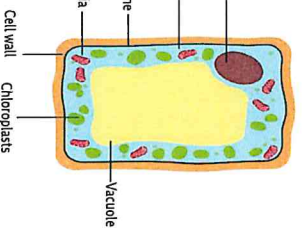
Invertebrates – Animal without backbones.

3

Animal cell



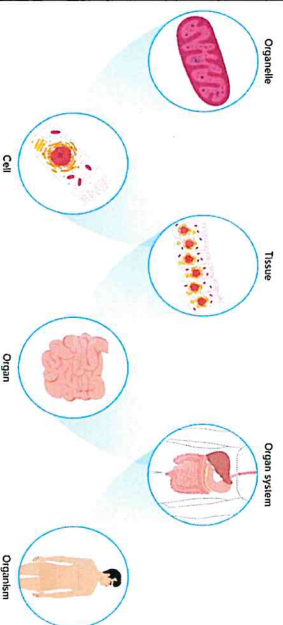
Plant cell



2 Cytoplasm	Where chemical reactions take place.
Nucleus	Contains genetic material and controls cell activities.
Cell membrane	Controls the movement of substances into and out of the cell.
Ribosome	Site of protein synthesis.

Mitochondrion	Site of respiration, where energy is released.
Permanent Vacuole	Contains cell sap, to keep the cell turgid.
Cell wall	Supports and strengthens the cell (made of cellulose).
Chloroplast	Site of photosynthesis. Contain chlorophyll, which absorbs sunlight.

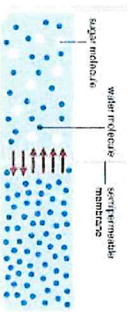
Organisational Hierarchy



4 Sperm cell	Carries the fathers' DNA in nucleus
Red blood cell	Carries oxygen around the body
Nerve cell	Carries electrical impulses around body
Root hair cell (plant cell)	Absorb water and minerals from the soil.
Egg cell	Carries the mothers' DNA in the nucleus
Palisade cell (plant cell)	Carry out photosynthesis. Found in leaves, contain chloroplasts.

5 Diffusion - Diffusion is the movement of a substance from an area of higher concentration to an area of lower concentration.

Osmosis - Movement of water particles from an area of higher water concentration to lower water concentration, across a partially permeable membrane.



6 Aerobic respiration requires oxygen.

Aerobic respiration occurs in the mitochondria.

The word equation is Glucose + Oxygen → Carbon dioxide + Water
Anaerobic respiration occurs when there is not enough oxygen. Anaerobic respiration is less efficient than aerobic respiration (releases less energy).
 In humans, the equation for anaerobic respiration is
 glucose → Lactic acid

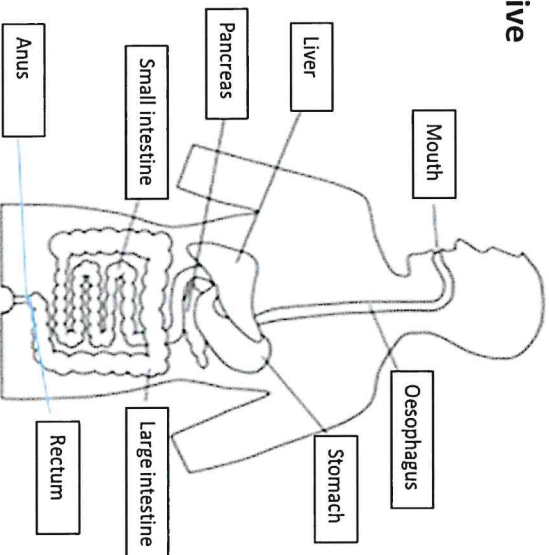
Lactic acid causes muscle cramp

Anaerobic respiration in plants and yeast produces ethanol and carbon dioxide which can be used for baking and brewing. The word equation in plants is Glucose → ethanol + carbon dioxide

Y7 Biology – Cells and Systems

7 Food group	Why do we need this food group in our diet?	8 Mouth	Teeth chew up food into smaller pieces. Saliva is added, which digests starch .
Carbohydrates	Gives us energy .	Oesophagus	Food moves down into the stomach, pushed along by the contractions of the muscular walls. (peristalsis)
Lipids (fats and oils)	stores energy in the body and insulates us against the cold.	Stomach	Stomach walls churn up food further and digestive juices and stomach acid are added.
Proteins	For growth and repair .	Liver	Bile is produced here. Bile helps to digest fats.
Vitamins and minerals	Needed in small amounts to maintain health .	Gall bladder	Bile , which is produced in the liver, is stored here.
Fibre	To provide roughage to help to keep the food moving through the digestive system.	Pancreas	Produces digestive enzymes .
Water	Needed for cells and body fluids.	Small intestine	Nutrients diffuse from the small intestine into the blood stream.
		Large intestine	Excess water is re-absorbed into the body. Left behind is waste which cannot be digested.
		Rectum	Stores faeces .
		Anus	Where faeces is released.

9 Digestive system	10 Enzyme:		11 Food group:	Food test:	Positive sample:
	Protease	Proteins into amino acids	Stomach, small intestine	Iodine solution	From brown to blue-black
	Lipase	Lipids into fatty acids and glycerol	Small intestine	Benedict's solution and heated in water bath	From blue to brick red
	Carbohydrase	Carbohydrates into sugars	Mouth, stomach, small intestine	Biuret solution	From blue to lilac(purple)
			fat	Ethanol	Goes cloudy



Year 7 C1 Matter

1 Hazard symbols and equipment

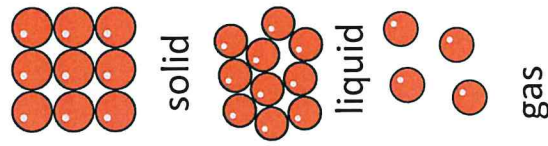
2. Independent variable – The factor you change in an investigation.
Dependent variable – The variable you measure and record.
Control variable – Factors you keep the same.
Melting changing from solid state to liquid
Freezing changing from liquid state to solid state
Condensing changing from gas state to liquid state
Boiling point the temperature at which all the particles have the energy to change from liquid to gas
Evaporation when some liquid particles change to gas.

3. Particles definitions
 State this word describes if matter is in the form of a solid liquid or gas.
 Particles we use small circular balls to describe simply what matter is made of.
The particle model. A way of describing the particles in a solid liquid or gas.

Particles in a solid:
 Vibrate about a fixed position, touch each other, and form a regular pattern. The particles in the solid state have the least energy

Particles in a liquid
 The particles touch each other But the pattern is random. They can move around each other.

Particles in the gas state..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.



4. Dissolving definitions
Solute – A substance that is dissolved in a solvent.
Solvent – a substance used to dissolve a solute.
Solution – A mixture of solvent and solute.
Soluble – A substance that can dissolve.
Insoluble – A substance that cannot dissolve.

A solute dissolved in a solvent forming a solution.

5. What are elements, mixtures and compounds?
Atom the simplest type of particle that matter is made of.
Element a substance that is made up of only one type of atom.
Mixture made up of different substances that are not joined together so can be easily separated.
Compound this is a substance made when two or more different elements are chemically joined.
Molecule this word describes a particle that is made up of two or more atoms joined together.

Atoms

Molecules

mixtures

compound

6. Naming Compounds and their formulae

If a compound is made up of a metal and a non-metal then the non-metal's name changes from "ine" to "ide" (E.g. calcium sulfide)

If a compound is made up of a metal, a non-metal and oxygen then the name of the compound ends in "ate" (E.g. calcium sulfate)

If a compound is made up of a metal, nitrogen and oxygen the name of the compound ends in nitrate (E.g. calcium nitrate)

If a compound is made up of a metal, oxygen and hydrogen, the name of the compound ends in hydroxide (E.g. calcium hydroxide)

The formula NaCl tells us there is 1 Sodium atom and 1 Chlorine atom present in sodium chloride

The formula CaSO_4 tells us there is 1 Calcium atom, 1 Sulphur atom and 4 Oxygen atoms present in calcium sulphate

The formula NaOH tells us there is 1 Sodium atom, 1 Oxygen atom and 1 Hydrogen atom in sodium hydroxide

8. Distillation

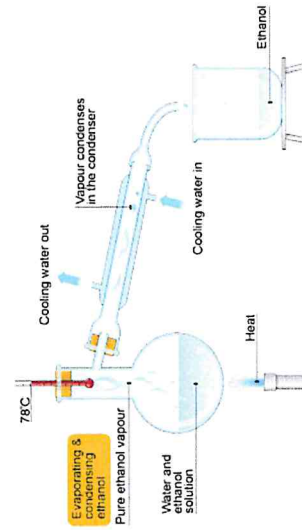
Distillation is a method for separating two liquids.

For example, water can be separated from ethanol due to them having two different boiling points. Water boils at 100°C and Ethanol boils at 78°C .

If you heat the mixture to 80°C the Ethanol will boil but the water will not.

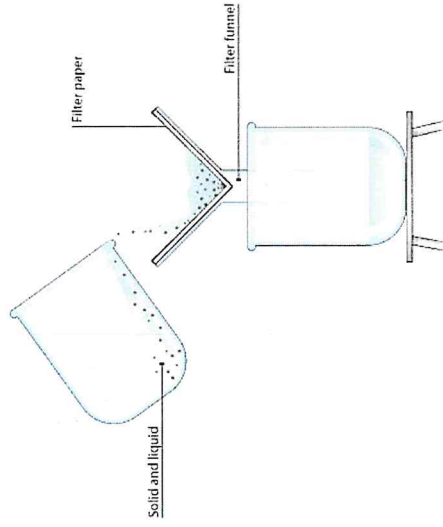
Therefore the ethanol will evaporate and travel up and along the condenser where it will cool down and condense turning it back into a liquid.

The Ethanol will then be collected and has been successfully separated. The water will remain in the boiling flask



7. Filtration

Filtration is a process used to separate insoluble solids from liquids. E.g. Sand and water. The apparatus you would use to filter is a funnel and filter paper. Filter paper contains really small holes that allow liquids to pass through but not large solid particles.

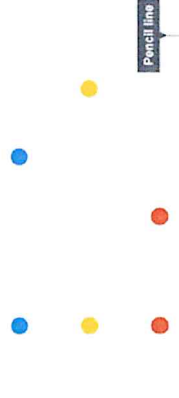


9. Chromatography

Chromatography is a method for separating dissolved substances from one another e.g. inks and food colourings. Chromatography works because some of the coloured substances dissolve in the solvent better than others and travel further up the paper.

The most soluble chemicals travel further up the paper, whereas the less soluble substances do not travel up the paper as much.

Pure substances will only separate into one dot. A mixture will separate into two or more dots

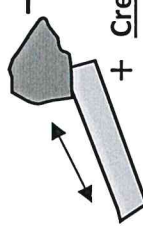
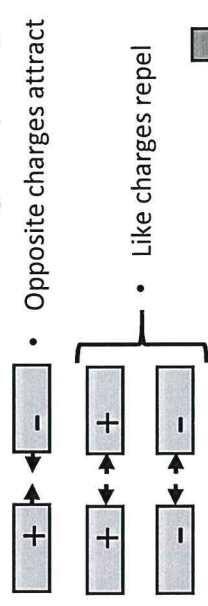
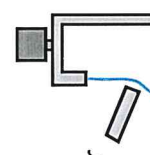


Year 7 – Forces and Motion

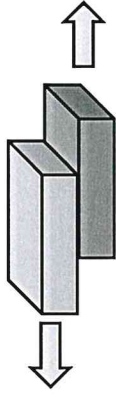
1 – Forces

- Forces are:- pushes, pulls and twists
- measured in **Newtons (N)**
 - measured using a **Newtonmeter**
- Contact Forces :- Objects must be touching:**
- **Friction** – Between objects rubbing together
 - **Tension** – Pull from a tight rope or string
 - **Normal Contact** – 90° to a surface
 - **Air Resistance** – frictional force on object moving through *air*
 - **Thrust** – Force from an engine
 - **Upthrust** – buoyancy force in a liquid & gas
- Non-Contact Forces :- Objects do not need to be touching (can act from a distance)**
- **Gravitational** – Force from objects having a mass
 - **Weight** – Force due to gravity
 - **Magnetic** – Attraction / repulsion in magnetic objects
 - **Electrostatic** – Attraction or repulsion of charges

2 – Electrostatic Force

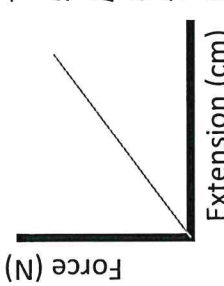
- 
- Insulator** – Electric charge can't move through it.
- Creating Static Charge**
- Rub insulators together
 - One becomes positively charged
 - The other becomes negatively charged
- 
- Opposite charges attract
 - Like charges repel
- Tests for static:**
- Pick up small pieces of paper
 - Bend a stream of water
- 

3 – Friction

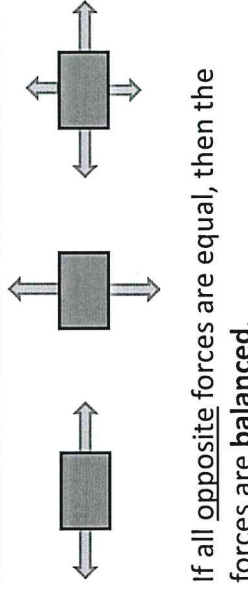



- Frictional forces **always** act in the opposite direction to motion
- Reducing friction:**
- Move at a lower speed
 - Smoother surface
 - Lubrication (E.g. Oil)
- Friction Problems**
- Objects heat up
 - Objects get worn down
- Useful friction:** Getting a grip on things
- Air resistance** and **drag** are both frictional forces

4 – Springs

- Springs are **elastic** :- They return to their original shape when the force is removed.
- 
- The extension of a spring is *directly proportional* to the force applied to it :- If the force doubles, the extension doubles.
- When a spring is stretched, it stores **energy** which can later be released, causing objects to move.
- Newtonmeters are **calibrated** springs.

5 – Balanced and Unbalanced Forces

- 
- If all **opposite** forces are equal, then the forces are **balanced**.
- Unbalanced forces will cause a change in **speed** and / or **direction**
- 
- To find the **RESULTANT** force, find the difference between opposite forces.
E.g. 15 N – 10 N = 5 N to the left

6 – Know Your Scientists!






Sir Isaac Newton (1643-1727)

- Newton was a great mathematician and physicist. His discoveries included:
- The 3 Laws of Motion
 - The Law of Gravity
 - Splitting white light into the spectrum

Year 7 – Forces and Motion

1 – Speed

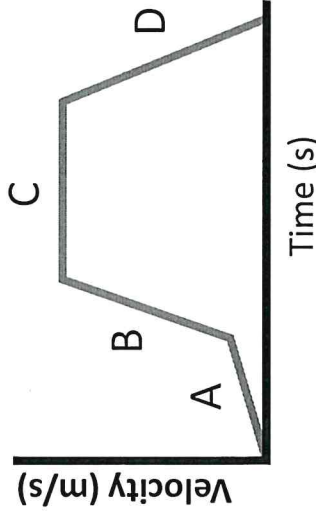
Speed tells us how far something can travel in a certain time – The number of metres per second, (m/s)

	Walking 1.5 m/s
	Running 3 m/s
	Cycling 6 m/s

Average Speed, s (m/s) = $\frac{\text{Distance travelled, } d \text{ (m)}}{\text{Time taken, } t \text{ (s)}}$

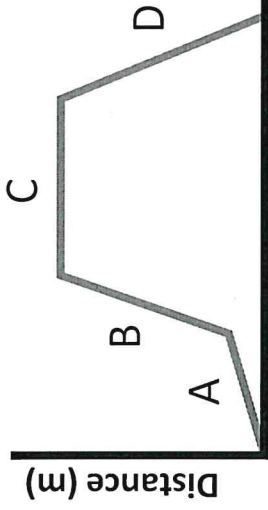
$$s = \frac{d}{t} \Rightarrow d = s \times t$$

4 – Velocity-Time Graphs



A	Constant acceleration
B	Greater acceleration
C	Constant velocity
D	Deceleration

2 – Distance-Time Graphs



A	Constant speed, away from start
B	Greater speed
C	Stationary
D	Returning towards starting point

3 – Acceleration

Acceleration tells us how much something's speed changes in a certain time – The number of metres per second per second, or metres per second squared, (m/s²).

Slowing down is called deceleration.

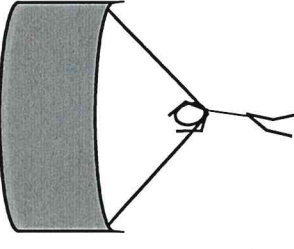
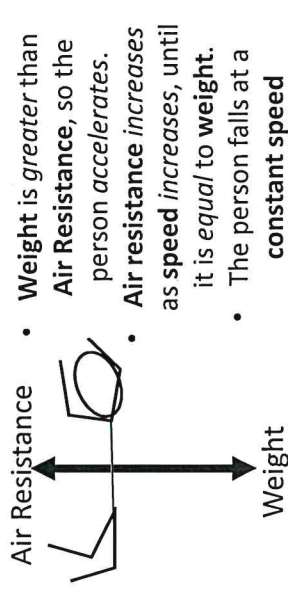
Acceleration, a = $\frac{\text{Change in Velocity, } v-u \text{ (m/s)}}{\text{Time taken, } t \text{ (s)}}$

$$a = \frac{v-u}{t} \Rightarrow a \times t = v-u$$

u = initial (start) velocity (m/s)
v = final velocity (m/s)

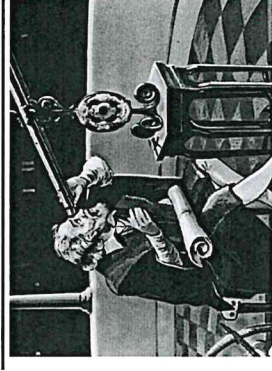
Note: The word 'rest' or 'stationary' in a question means the velocity = 0 m/s

5 – Parachutes



- Parachutes have a LARGE SURFACE AREA.
- This produces more air resistance than weight, so the person DECELERATES to a lower constant speed.

6 – Know Your Scientists!

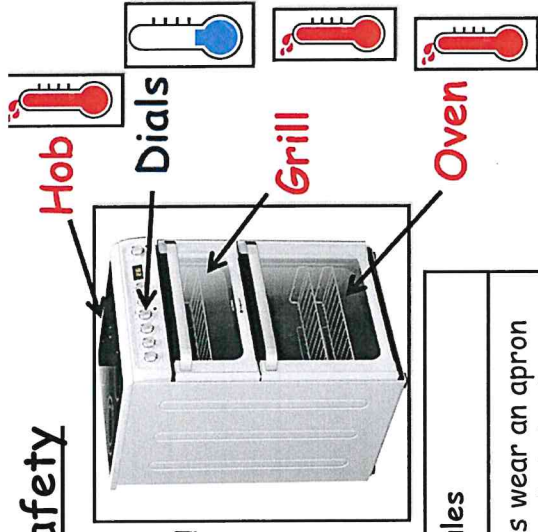


Galileo Galilei (1564-1642)

- Galileo was an Italian astronomer and engineer. His discoveries included:
- The sun as the centre of the solar system
 - The physics of falling objects
 - Saturn's rings

Y7 Food Preparation and Nutrition - Knowledge Absolute

Cooker Safety



Always use oven gloves!

Food Science term	Definition
Dextrinisation	The browning of starch
Shortening	Stopping the gluten strands from stretching
Denaturation	When the structure of a food containing protein is altered by heat, chemical or mechanical action
Caramelisation	When sugar turns brown

Safety Rules

- Always walk
- Carry a knife by the handle, pointing down at the side of your leg
- Turn pan handles in
- Use oven gloves and wooden triangles

8 tips for healthier eating

These eight practical tips cover the basics of healthy eating, and can help you make healthier choices.

1. Base your meals on starchy carbohydrates.
2. Eat lots of fruit and veg.
3. Eat more fish – including a portion of oily fish.
4. Cut down on saturated fat and sugar.
5. Eat less salt (max. 6g a day for adults).
6. Get active and be a healthy weight.
7. Don't get thirsty.
8. Don't skip breakfast.

Ingredient Function

Flour	Bulk out products like muffins and scones. To dextrinise in scones and muffins
Egg	To bind ingredients together in muffins and scones.
Butter	To shorten scones and biscuits
Sugar	To sweeten sweet products. To caramelise in biscuits and cakes

Image

 <p>Name: Spatula Use: Scraping bowls</p>	 <p>Name: Sharp knife Use: Cutting vegetables</p>	 <p>Name: Saucepan Use: Boil or simmer food</p>	<p>Key Terms Combine: To mix 2 or more things together Hygiene: Cleanliness Bacteria: germs Organoleptic: involving the use of sense organs Function: what something does Provenance: where food comes from Nutrient: Provides nourishment for the body Dextrinisation: Browning of starch by dry heat Coagulation: When a mixture sets Sensory test: using sense organs to evaluate food Enzymic: Action of enzymes Carbon Footprint: Amount of carbon dioxide something releases into the environment Greenhouse Gas: emissions that are harmful to the planet Bridge and claw: knife holds Quality Control: measures put into place to ensure uniformity</p>
 <p>Name: Tablespoon Use: For measuring</p>	 <p>Name: Mixing Bowl Use: Mixing ingredients together</p>	 <p>Name: Teaspoon Use: Measuring ingredients</p>	
 <p>Name: Measuring jug Use: To measure liquids</p>	 <p>Name: Fish slice Use: To lift products off baking trays</p>	 <p>Name: Spatula Use: To scrape mixture out of bowls</p>	

Bridge



Always use the correct knife techniques.

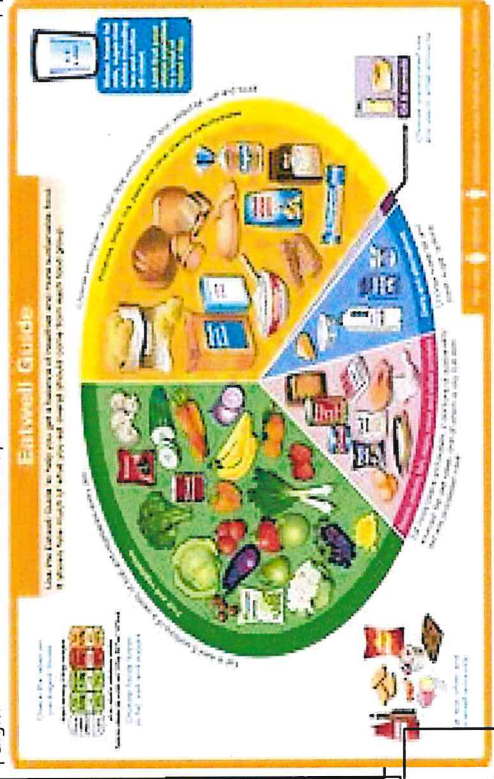
Claw



Rubbing in= incorporating butter into flour using fingertips

Method of Heat Transfer and explanation	Example of food cooked using this method
<p>Conduction – Transfer of heat through the vibration of the particles. When the particles collide they pass on some energy.</p>	<p>Pasta Roast Beef Pizza</p>
<p>Radiation – Transfer of heat energy through waves of radiation. No direct contact between the food and heat source. When the waves of radiation reach food they are absorbed and heat up the food.</p>	<p>Toast Grill meat or fish</p>
<p>Convection – Transfer of heat energy through gases or liquids. When you heat the liquid the part near the heat source heats up first. The warmer liquid rises and cooler liquid falls. This circulation continues until all the liquid is heated. Convection also happens in ovens.</p>	<p>Pasta Rice Boiling vegetables</p>

APPEARANCE	FLAVOUR	TEXTURE	AROMA
Attractive	Acidic	Brittle	Acrid
Appetising	Aftertaste	Bubbly	Aromatic
Bright	Balanced	Chewy	Burnt
Burnt	Bitter	Clammy	Cheesy
Colourful	Bland	Close	Fishy
Colourless	Buttery	Creamy	Floral
Crumbly	Cheesy	Crisp	Fragrant
Crystalline	Citrus	Crumbly	Fruity
Cuboid	Cool	Crunchy	Light
Dark	Delicate	Dry	Meaty
Dull	Delicious	Flaky	Musty
Evenly baked	Fizzy	Fluffy	Perfume
Firm	Greasy	Greasy	Pungent
Fizzy	Herby	Gritty	Rancid
Flaky	Hot	Hard	Roasted
Flat	Light	Juicy	Rotten
Fragile	Mature	Lumpy	Savoury
Glossy	Mild	Moist	Scented
Golden	Peppery	Mushy	Sour
Golden brown	Refreshing	Open	Spicy
Greyish	Rich	Rubbery	Strong
Heavy	Salty	Runny	Zesty
Interesting	Savoury	Sandy	
Light	Scrumptious	Short	



Nutrients
Macronutrients - needed in large amounts e.g. fat, protein and carbohydrate
Micronutrients - Needed in small amounts e.g. vitamins and minerals
Food groups - Starchy foods, meat, fish and alternatives, dairy foods, oils and spreads, fruit and vegetables.

How to write a hypothesis
 ✓ A hypothesis is what you think you will prove e.g. I think that the best sauce will be contain plain flour .
 ✓ It is clear and to the point
 ✓ No more than two sentences

How to conduct a fair test
 ✓ Always have a control to compare the samples to
 ✓ Only change one thing in each sample so you know what is effecting the sample
 ✓ Always use sample codes to prevent bias
 ✓ Use a variety of testers

Why do we choose the foods we eat?
 ✓ Cost
 ✓ Culture/religion
 ✓ Seasons
 ✓ Medical issues
 ✓ Marketing/advertising
 ✓ Ethics

Seasonal food
 ✓ Reduces food miles and environmental impact
 ✓ Costs less
 ✓ Supports local producers
 ✓ Taste and looks better/fresher

Organic food
 ✓ Can be of a higher quality
 ✓ Can taste better
 ✓ More ethical
 ✓ Less environmental impact
 ✓ More sustainable
 ✓ Can be expensive

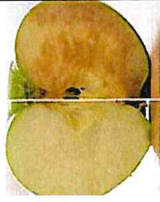
Fairtrade - Supports farmers in developing countries by offering better prices and better working conditions. Products such as: bananas,

How to save money when buying food
 ✓ Compare prices
 ✓ Buy food seasonally/locally
 ✓ Use coupons or offers
 ✓ Plan your meals
 ✓ Only buy what you need

Four C	Description	Examples
Cleaning	Ensuring you clean yourself and your work area to prevent bacteria growth.	Wash your hands Wipe surfaces Wash all equipment
Cooking	Ensure food is cooked thoroughly to at least 72c in the centre.	Cooking meat until juices run clear
Chilling	Keep all food stored correctly, if it needs to be chilled keep in a fridge.	Keep chilled food in a fridge like cheese, milk and chicken.
Cross-Contamination	Ensure raw and cooked food are kept apart.	Use separate chopping boards and utensils for raw and cooked food. Keep raw food at the bottom of the fridge

Bacteria	Source	Symptoms
Salmonella	Raw meat, poultry, eggs, milk, dairy products	Diarrhoea, vomiting, fever & headache, abdominal pain
Listeria	Pasteurised and raw milk, cheese, soft ice cream, raw vegetables, raw meat	Flu like symptoms, nausea, vomiting, diarrhoea, may cause abortion, still birth, meningitis, septicemia.
Staphylococcus Aureus	Meat, meat products, poultry, nose and throat of humans	Vomiting, abdominal pain, diarrhoea
E-Coli	Sewage, soft cheese, minced beef and chicken	Diarrhoea, abdominal pain, nausea
Campylobacter	Meat, poultry, raw milk, untreated water, chickens	Diarrhoea, flu like symptoms, headache, fever, abdominal pain
Bacillus Cerus	Rice, cereal products and starchy foods i.e. potatoes.	Diarrhoea, abdominal pain, nausea

Enzymatic Browning
 When fruits containing polyphenol oxidase are exposed to oxygen they go brown. This includes fruits like apples and bananas. This is enzymatic browning.
 Grating or bruising the fruit speeds this up and adding acid like lemon juice or blanching the food slows it down.



Year 7 Model 4

Design and technology – MoodLight

circuit	electronic circuit is composed of individual electronic components, such as resistors, transistors, capacitors and diodes, connected by conductive wires through which electrical current can flow.
Isometric drawing	Isometric drawing , also called isometric projection , method of graphic representation of three-dimensional objects, used by engineers, technical illustrators, and, occasionally, architects.
Millimetre	Unit of measurement (metric). There are ten millimetres in a centimetre.
Environment	Can you recycle the product, is it environmentally friendly. Which environment will your product be used or be displayed
Safety	How will you ensure that your product will be safe to use for everyone including children?
parallel	Parallel definition, extending in the same direction, equidistant at all points, and never converging or diverging; parallel rows of trees.
right angle	When two straight lines intersect each other at 90° or are perpendicular to each other at the intersection, they form the right angle
soldering	Soldering is a joining process used to join different types of metals together by melting solder. Solder is a metal alloy usually made of tin and lead which is melted using a hot iron.
softwood	Softwood refers to Timber that has been cut from a coniferous or an evergreen tree. Softwood trees are fast growing due to not losing their leaves.
hardwood	Hardwood is wood from deciduous trees. These are usually found in broad-leaved temperate and tropical forests
manufacture specification	A specification which contains all the information that is needed to make the product. It describes the stages of manufacture and the materials needed.
finishes	Finishes are added to a product's surface after production to improve its functionality and/or aesthetic. Such as: Change the colour of a product, Improving appearance/make the product look more attractive, Change the look and feel of a product Wood stains to enhance the colour of timber. Other finishes for wood are – Varnish, wax, paint or Danish oil.
Input/ output	The input-process-output (IPO) model, or input-process-output pattern, is a widely used approach in systems analysis and software engineering for describing the structure of an information processing program or other process.
L.E.D- Light Emitting Diode	Low voltage light output component used in electronic circuits.
Marking – out ;	Used to measure materials for cutting or joining.
Wood joint	Joints are used to build strength into products made from wood. They should fit accurately .

Specialist materials	Specialist equipment	Uses
M.D.F – medium density fibreboard		This is manufactured board that is made from wood dust and glue it is cheap but breaks easily when cutting. Used to make the insert for the lid.
Plywood		Manufactured board made from multiple layers of thin wood veneer rotated by 90 degrees to each other , cross grain reduces warping.
Specialist equipment		Uses
Tenon saw		Tenon saws are commonly used to make the Tenon's used in mortise and Tenon joints. The saw has a short straight blade .
Bench Hook		A bench hook is a workbench appliance used in woodworking to hold a workpiece in place while crosscutting with a hand saw.
Cross File		To reduce the surface imperfections and remove waste material
Vice		to hold the material whilst it is being worked on
Power drill		Power drill to make the holes in wood metal and polymers for the keyring
Strip Heater		Method of shaping plastic materials like acrylic. Used to heat and fold (bend) in a line to different angles.
Belt sander End Grain sander		A belt sander is designed for high speed sanding, quickly stripping a piece of wood with powerful force, with a rotating abrasive surface.
Materials		Meaning
P.V.A		PVA is a water-insoluble resin which is typically white at the point of application, but dries colourless and has a high bonding strength. Gluing woods to woods.
Acrylic		Tough but brittle polymer. Used for car lights, displays stands & textiles. Poly-methyl Methacrylate PMMA

Working Properties

Working properties relate to how a material responds to external forces and/or conditions.

Strength

The ability of a material to withstand force without breaking. Examples of forces include pressure, tension, compression, shear and torsion. Materials may be strong in one force but weak in another (e.g. concrete is strong in compression but weak in tension).

Hardness

The ability of a material to resist wear, abrasion, scratching or denting. Diamond is the hardest naturally occurring substance found on Earth.

Toughness

The ability of a material to absorb energy without fracturing

Malleability

The ability of a material to be bent and shaped without breaking

Ductility

The ability of a material to be stretched or pulled into a strand without breaking

Elasticity

The ability of a material to return to its original shape after being stretched, bent or compressed



Year 7 Wood

NATURAL TIMBERS

Hardwoods

Hardwood is from a **deciduous** tree, usually a broad-leaved variety that drops its leaves in the winter.

Ash



Properties: Flexible, tough, and shock resistant. Laminates well. Pale brown.
Uses: sports equipment & tool handles.

Mahogany



Properties: easily worked, durable & finishes well. Reddish brown.
Uses: high end furniture and joinery, veneers.

Oak



Properties: Tough, hard and durable, high quality finish possible. Light brown.
Uses: flooring, furniture, railway sleepers, veneers.

Beech



Properties: Fine finish, tough & durable. Beige with pink hue.
Uses: Children's toys and models, furniture, veneers.

Balsa



Properties: very soft and spongy, good strength to weight ratio, Pale cream/white.
Uses: prototyping and modelling.

1. Give **two** differences between hardwood and softwood [2]

Hardwood comes from **deciduous** trees.
Softwood comes from **coniferous** trees.
Deciduous trees are usually slower growing which makes the wood denser.⁽¹⁾

Softwoods

Softwood is from a **coniferous** tree, one that usually bears needles and has cones.

Pine



Properties: Lightweight, easy to work, can split and be resinous near knots. Pale yellowish brown.
Uses: interior construction and furniture.

Spruce



Properties: easily worked, high stiffness to weight ratio. Creamy white colour.
Uses: Construction, furniture and musical instruments.

Larch



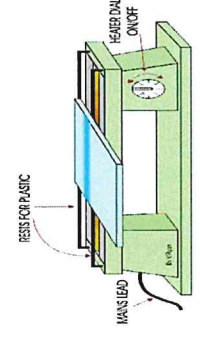
Properties: durable, tough, good water resistance, good surface finish. Pale reddish brown. Reddish brown.
Uses: exterior cladding, decking, machined mouldings, furniture and joinery, railway sleeper and veneers.

Strip Heater

Bending

Line bending enables thermoplastics to be folded. Acrylic sheets are suitable for this process.

A line bender heats a sheet of thermoplastic over a strip heater until it is soft. It can then be bent to a chosen angle. When the plastic cools, it retains the shape.



Design and Technology – Moodlight

Tenon saw

Uses: Cutting shallow lines into small pieces of wood. Wood joints.



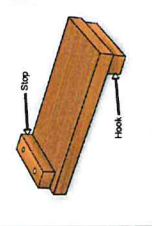
Tri – Square

Uses: to mark out line perpendicular to the edge of work piece. Check 90 degree angles.



Bench Hook

Uses: enables a piece of wood to be held firmly in position on a workbench while it is cut through.



MANUFACTURED TIMBERS

Manufactured boards are usually sheets of processed natural timber waste products or veneers combined with adhesives. They are made from waste wood, low-grade timber and recycled timber.

Chipboard



Properties: Good compressive strength, not water resistant unless treated, good value but prone to chipping on edges and corners.

Uses: Flooring, low-end furniture, kitchen units and worktops.

Medium density fibreboard (MDF)



Properties: Rigid and stable, with a smooth, easy to finish surface. Very absorbent so not good in high humidity or damp areas.

Uses: Good value, flat pack furniture, toys, kitchen units and internal construction.

Plywood



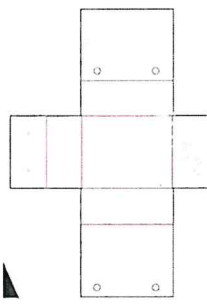
Properties: Very stable in all directions due to alternating layers at 90 degrees, with outside layers running in the same direction.

Uses: Furniture, shelving, toys and construction interior, exterior and marine grades available for greater water resistant.

Year 7 Model

Positive and negative impact - ecological footprint

How does sourcing our materials affect the environment?
Mining Digging the ground or dredging rivers The removal of minerals from the earth
 Mainly metal based - aluminium ore, gold, silver, iron ore. Mining land - digging huge holes and removing the sediment with huge holes causing stagnant ponds.
Deforestation, cutting down of trees for land or to use for timber / paper The act of cutting down trees in forests. Trees can be 'farmed' just like any other crop, planting the trees specifically to cut down for materials.
 Sometimes, deforestation is not responsible and trees are not replanted, animals are not re-homed.



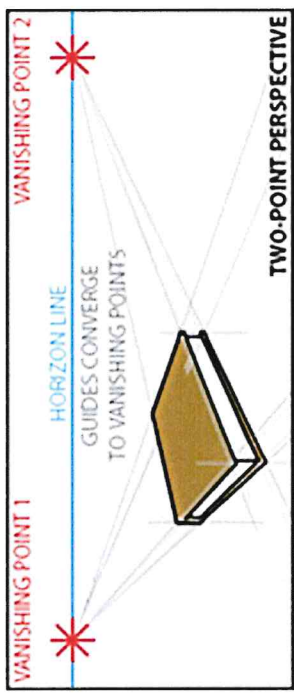
A net is a 2D plan for making a 3D object. You can use CAD to design a net and then use a machine to cut it out.

Mathematical modelling is another way to model. These models use data and information regarding variables to show how an object will behave in reality.



Two point perspective

Perspective Drawing tries to show what something actually looks like in 3D- smaller in the distance. Larger closer up. It does this by using lines that appear to meet at points called vanishing points.



TWO-POINT PERSPECTIVE

Advantages of CAD	Disadvantages of CAD
Ideas can be drawn and developed quickly	Expensive to set up
Designs can be viewed from all angles and with a range of materials	Needs a skilled workforce

KEYWORDS

1. **Techsoft** - A computer program used for drawing.
2. **Laser Cutter-CAM** machine for cutting accurate shapes .
3. **Deformation** Changing the shape of plastics / metals .
4. **Line bender-** A line bender has a heated element that provides heat, concentrated to just a few millimetres wide, along the length of the long machine. These are used to heat polymers along this line so that they can be bent. Once the polymer softens, it will bend easily into shape around a former before being left to cool.
5. **Two point perspective** - Perspective Drawing tries to show what something actually looks like in 3D- smaller in the distance. Larger closer up. It does this by using lines that appear to meet at points called vanishing points.
6. **Orthographic** They show a 3D object in a set of 2D drawings viewed from different angles. - A front view plan view and end view.
7. **Laser cutting** : Laser cutting uses a high-power laser to cut through materials like plywood, it is controlled through CAD which is then sent to the CAM (the laser cutter)
8. **CAD** - Computer Aided Design
9. **CAM** - Computer Aided Manufacture

Advantages of CAM	Disadvantages of CAM
Fast and accurate production	Expensive to set up
Machines can run constantly on repetitive tasks	Needs a skilled workforce of engineers

KEYWORDS

MATERIALS

The Absolutes

Y7 Textiles

1. Task Analysis
2. Design Brief
3. Primary Research
4. Secondary Research
5. Anthropometrics
6. Ergonomics
7. Design Fixation
8. User Centred Design
9. Iterative Design
10. Tie Dye
11. Resist Dye
12. Risk assessment
13. Sustainable
14. Organic
15. Natural fibre
16. Smart Material
17. Production Aid
18. Ferrous
19. Non Ferrous
20. Alloy
21. Mould
22. Casting
23. Pewter
24. Hack saw
25. Files
26. Abrading
27. Abrasive papers
28. Metal polish

- Cotton
- Poppers
- Tacking thread
- Dye
- Embroidery thread
- Pewter



- Marking out
- Adapting a pattern
- Pinning and tacking
- Threading a needle
- Setting up a sewing machine
- Using a sewing machine
- Embroidery stitching
- Application of colour
- Filing
- Sawing
- Polishing
- Sanding
- Drilling

Tools and Equipment

Paper Scissors - Used for cutting out paper patterns.

Iron -

Unpicker - Unpickers are also known as seam-rippers, quick-unpickers. You insert the unpicker between the stitches and pull up so the threads are cut by the small blade.

Dressmaking scissors - Also called fabric shears to cut fabric. These have long very sharp blades.

Pins - Hold the fabric together before stitching together. **Needles** - for hand stitching- there are several sizes for thickness of the thread/ beads being used.

Measuring Tape - flexible so it can follow curves

Tailors Chalk - for drawing on fabric

Sewing Machine - Strong stitches. Speeds up manufacture.

Research

Task Analysis- The designer should pick out all the key points in the brief- one way of doing this is through a spider diagram called a task analysis. It's a way of analysing the brief and deciding what research is needed. This helps the designer get ideas; checks people actually want the product; finds out what the target market likes/ dislikes about existing products; find out about materials, components, techniques, manufacturing processes and costs.

Design Brief

The starting point for any design is the design brief. The brief outlines what problem a design will solve. It should be referred to throughout the project to make sure what you are working on will solve this problem. The client gives the designer a design brief. It should include: What kind of product is needed, how the product will be used, who the product is for.

Primary Research

Primary research is one that involves the gathering of fresh data, i.e. when data about a particular subject is collected for the first time. Primary research is any type of research that you collect yourself. Examples include surveys, interviews and observations.

Secondary Research

Secondary research involves the summary, collation and/or synthesis of existing research. When conducting secondary research, authors may draw data from published academic papers, government documents, statistical databases, and historical records.

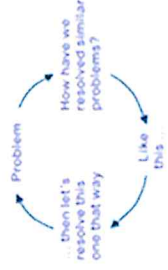
Questionnaire- Primary research. You can find out about your target markets and the information will help you design a suitable product to meet their needs.

Anthropometrics -human body measurement data.

Ergonomics- A product that is easy and comfortable for people to use.

Design Fixation- It is when a designer fails to break new ground, but follows existing solutions. It is when the designer follows conventional ideas.

User Centred design - Asking A sample of the target market for input in the design process. The aim is gain feedback from potential users on your designs and make improvements so its more appealing to your target market






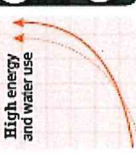

Iterative design- a design strategy that involves constantly evaluating and improving a products design.

Cotton- Comes from a plant. It is grown and the cotton is taken from the cotton boll.

Sustainable- A sustainable process or material is one that can be used without causing permanent damage to the environment or using up finite resources

Organic- production without the use of chemical fertilizers, pesticides, or other artificial chemicals

Positive and negative impact of the use of cotton.

ORGANIC	ON THE FARM NON-ORGANIC	
<p>Farmers are free to save seeds and choose what they grow</p> <p>Soil is nurtured, making it viable for the long term</p> <p>Organic cotton is grown alongside food which feeds the farmers</p>  <p>Hazardous pesticides are banned in organic cotton production, making it safer for growers</p> <p>Less energy and water use</p> <p>Farming methods lock CO₂ into the soil</p> <p>Growing organic cotton produces up to 94% less greenhouse gas emissions</p> 	<p>95% of cotton seed market is controlled by GM giant Monsanto</p> <p>Farmers are locked into costly contracts and have little control</p> <p>Cotton is usually grown as a mono-crop, destroying soil quality</p>  <p>16% of the world's insecticides and 10% of total pesticides are used, poisoning people and the environment</p> <p>77 million cotton workers suffer poisoning from pesticides each year</p> <p>83% of manufactured nitrogen fertilizers used on crops end up in the environment</p> <p>High energy and water use</p>  <p>Higher levels of CO₂ are released into the atmosphere</p> 	

Natural and Synthetic Fibres

Natural fibre A type of fibre that is harvested from natural sources e.g. plants and animals.

Natural fibres: cotton, wool, silk

Synthetic fibres: polyester, polyamide (nylon), elastane (lycra)

Natural fibres can come from plant or animal sources

Origins	Example	Properties	Uses
Cotton comes from the fine hairs on the seed pod of a cotton plant.		Soft and strong, absorbent, cool to wear and easily washable. Cotton fabrics can be given a brushed finish to increase their thermal properties	Most clothing, especially shirts, underwear and denim can be made from cotton. Also used for towels and bedsheets

Manufacturing Process- Tie Dye

Is typically brightly coloured, patterned textile or clothing which is made from ordinary cloth, usually cotton, through a resist dyeing process known as tie-dyeing. Methods are used to "resist" or prevent the dye from reaching all the cloth, thereby creating a pattern. Elastic bands resist the dye. A mordant fixes the dye and stops it from running. Salt is a mordant.

Scale of Production

One Off Production (Also known as: bespoke, made to measure, custom made.) A single product or unit is made.

Mass Production Large numbers of identical products are manufactured over a long period of time. Used for products constantly in demand.

Continuous Production differs from mass production as it runs non-stop, 24 hours a day, 7 days a week. manufacturing products to meet a constant demand

Batch Production A specific quantity of a product is made; this is called a batch. Batches can be repeated as many times as necessary.

Health and Safety of the Sewing Machine

Dangers when using an industrial sewing machine. - E.g. stitching fingers, electrocution, and inhalation of textile dust. Two dangers related to use of industrial sewing machines. You can reduce the dangers of using a sewing machine by - Training of staff, regular safety and maintenance checks, emergency stop buttons, regular breaks so concentration is not lost. One person per machine, tidy areas. Keep fingers away from the needle.

Risk Assessment

Is used to identify and minimise any risks when working. Think about the hazard and the precaution that could be taken to minimise the risk.

Hazard	Precaution
Clothing could get caught in the sanding machine.	Tuck clothes in and wear an apron.
Fine dust created when using a sanding machine.	Wear a mask and use a dust extractor.

Profit and Costing

When considering costings, you must consider- how many products you are making, the cost of materials, machinery and overheads.

Bulk buying

Raw materials can be bought in bulk because your buying so much it allows you to negotiate a discount with the supplier.

Metals.

1. **What is Ferrous metal?**
Ferrous metal contains Iron & is magnetic. Example : Steel.
2. **What is Non - Ferrous metal?**
Non ferrous does not contain iron & is not magnetic. Examples : aluminium, copper.
3. **What does Alloy mean?**
A metal made by combining two or more metallic elements, especially to give greater strength or resistance to corrosion. Examples : Brass, Bronze.





Positive and negative impact - ecological footprint

How does sourcing our materials affect the environment?

Mining Digging the ground or dredging rivers The removal of minerals from the earth Mainly metal based - aluminium ore, gold, silver, iron ore. Mining land - digging huge holes and removing the sediment with huge holes causing stagnant ponds.

Flowchart

It is beneficial as; The order of making is logical, to help meet schedules/deadlines. It simply/clearly communicates instructions for making so all the pieces are made in the same way. Flowcharts have inputs which is equipment, machinery material and components needed. A flowchart must include quality control checkpoints, these are decisions. Feedback is used as a form of quality control and should form a yes or no answer. A flowchart is a type of diagram that represents a workflow or process. These symbols represent stages in the flow.

	All flowcharts begin and end with the start/ finish symbol. This shape is called a terminator .
	A process box is used when there is an instruction that must be carried out.
	A diamond box is used when a decision needs to be made. The outcome of the decision must be either yes or no.
	Inputs to the system are represented by a parallelogram box

Commercial Process Casting

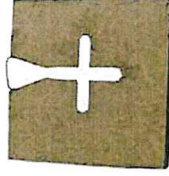
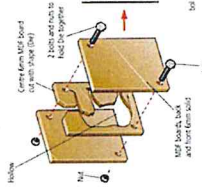
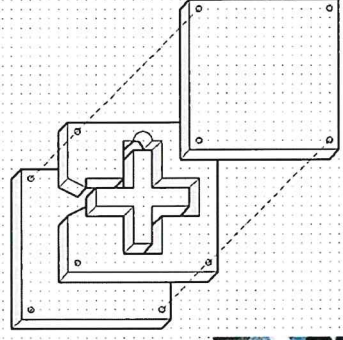
A mould can be made from any material, it is used to pour molten metal into, to create a shape we are using it to pour molten pewter into it.

Explain what is meant by casting.

When you heat metals (or polymers) and pour them into a mould this is called casting.

What is a sprue?

The funnel for pouring the pewter into.



Smart Materials

That materials can have one or more properties that can be significantly changed in a controlled fashion by external stimuli, such as stress, temperature, moisture, or PH e.g. shape memory alloys, thermochromic pigments and photochromic pigments

Thermochromic paints can be added to any surface like these mugs or a textiles or card based product to react to heat.

