THE BOURNE ACADEMY
KNOWLEDGE ORGANISER

everyone is a learner, everyone is a teacher

Ambitious
Self Confident
Physically Literate
Independent
Resilient
Emotionally Literate

Year 7
Autumn Term 2024 - 2025

Name: .....

House: .....

Contents

The Bourne Academy
Knowledge Organiser: Year 7 Autumn Term

Excellence at The Boume Academy: Using your Knowledge Organisers.'

'Don't just practise until you get it right practise until you can't get it *wrong.'* - Daniel Willingham

Routines for Excellence

- You will get out your TBA Knowledge Organiser Booklet at the start of every lesson along with your Knowledge Organiser practise exercise book
- Your teacher will set you sections of the Knowledge Organiser to learn, off by heart, in every lesson.
- Your teacher will set you quizzes to test your knowledge every lesson.
- Your teacher will regularly set you questions that require you to APPLY your knowledge
- Your TBA Knowledge Organisers are saved on Show My Homework and on TBA website

How to revise with your Knowledge Organisers'
Self-quizzing

Look/read, cover, write and then green pen check your answers to show you where your 'knowledge gaps' are. Repeat until you have mastered the knowledge...until you can't get the knowledge wrong

Low-stakes testing
Your teachers will always have a **'Do now'** activity on the board at the start of lesson. Do as much as you can from memory. Use your Knowledge Organiser to green-pen check what you have accurately remembered. Then green pen correct. Repeat, each time checking and correcting until you have mastered your knowledge gaps.

HOW DO WE REVISE WITH OUR KNOWLEDGE ORGANISERS?

RECORD IT

Record yourself on your phone or tablet reading out the information. These can be listened to as many times as you want.

TEACH IT

Teach someone your key facts and then get them to test you, or even test them.

FLASH CARDS

Write the keyword/date on one side and the explanation on the other. Ask someone to quiz you on either side.

BACK 2 FRONT

Write down the answers and then write what the questions the teacher may ask to get those answers.

HIDE AND SEEK

Read through your Knowledge Organiser, put it down and try to write out as much as you can remember. Then keep adding to it until it is full.

SKETCH IT

Draw pictures to represent the facts or dates. It could be a simple drawing or something that reminds you of the answer,

POST ITS

Using a pack of post it notes, write out as many of the keywords or dates as you can remember in 1 minute.

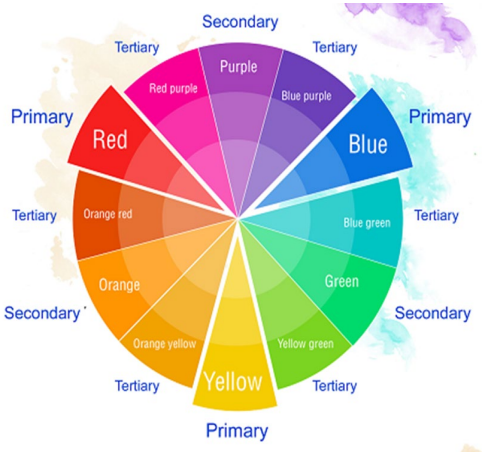
PRACTICE

Some will remember knowledge by simply writing the facts, over and over again.

READ ALOUD

Simply speak the facts and dates out loud as you're reading the Knowledge Organiser. Even try to act out some of the facts - it really helps you remember.

A. The Colour Wheel



The Colour Wheel is the tool to helping you understand colour theory. Artists use the wheel to see which colours are harmonious and which are complementary.

D. Key Words

The Colour Wheel: a simple Colour Wheel is made up of 12 colours, including 3 primary colours, 3 secondary colours and tertiary colours.

Hue: another term for colour. The pure colour.

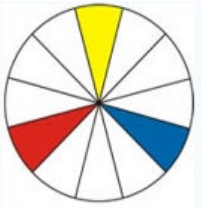
Tint: the pure colour, mixed with white.

Tone: the pure colour, mixed with grey.

Shade: the pure colour, mixed with black.

B. Colour Theory

Colour Theory is a set of rules for colour mixing and colour combinations to make an artwork eye catching.


Primary Colours

Primary Colours are a set of three colours that cannot be created by mixing other colours. They are red, blue, and yellow.


Secondary Colours

Secondary Colours are colours created by mixing two primary colours.


Tertiary Colours

Tertiary Colours are colours resulted by mixing a primary colour with a secondary colour.

C. Mixing Colours

When mixing secondary colours, equal amounts of primary colours should be added together.

When mixing tertiary colours, equal amounts of primary and secondary colours should be added together.

When all three primary colours are mixed, a **neutral** colour is made: a brown-grey colour.

Complementary colours are opposites on the 'Colour Wheel'; each primary colour is opposite a Secondary colour. These colours bring out the intensity in each other. They have high contrast and high impact together.

Harmonious colours sit beside each other on the 'Colour Wheel' and work well together.

E. Definitions

a) Line – a mark made using a drawing tool or brush. They can be thick or thin, horizontal, vertical, curved, etc.

b) Shape – an area that is enclosed by line(s); two-dimensional or flat.

c) Form – an area that is three-dimensional and includes height, width and depth (as in a cube, a sphere, a pyramid, or cylinder).

d) Texture – how something feels. There are two types of texture: actual (tactile) texture and visual texture (that can be created).

e) Pattern – a design in which lines, shapes, forms or colours are repeated. The part that is repeated is called a motif.

f) Tone – refers to the light and dark values used to make an object look realistic. Shading is used to create shadows and create 'form'.

g) Surface – the surface affects how a colour is reflected or scattered, depending upon its texture.

h) Composition – refers to the arrangement or placement of things within an artwork.

h) Media – the material and tools used by an artist to create an artwork, e.g. "pen and ink" where the pen is the tool and the ink is the material.

i) Expression – the ability to show emotion or create a mood or feeling within a piece of art.

j) Contrast – refers to the arrangement of opposite elements and effects, e.g. light and dark colours, smooth and rough textures.

k) Proportion – refers to the dimensions of a composition and relationships between height, width and depth. Proportion also describes how different parts of a piece of art relate to each other.

l) Perspective – refers to the representation of three-dimensional objects or spaces in two-dimensional artworks. Artists use perspective techniques to create an impression of depth.

m) Mark making – describes the different lines, dots, marks, patterns, and textures we create in an artwork. It can be loose and gestural or controlled and neat.

n) Vibrant – refers to the intensity of colour, they are bright and strong.

1. Why do Art in school?

Consider why we study Art.
Write a paragraph explaining why it is important and what the benefits are.
Consider the impact on your knowledge, skills, and understanding in a broad context.
Does all art have to be aesthetically pleasing?

2. Visual Elements in Art, Craft and Design:
What is a tonal drawing or painting?
Can you list 5 different methods of shading?
Can you name 3 famous contemporary artists that use graphite pencils?
What is the name of the method used to obtain surface texture through rubbing?
Collect rubbings of 5 different objects with different surface textures in your home.
Write a definition for 'pattern'.
What is Perspective in art?
What is the difference between one-point and two-point perspective?
Make a drawing of your room using one-point perspective.

3. Colour Theory:
What do you know about Complementary colours, and where are they found on the colour wheel?
Can you list different examples of where you have seen complementary colours used in advertising? Think about logos and packaging.
Make a series of developmental sketches before creating your own logo for a sports or clothing brand using only complementary colours.

4. Colours and their meanings:
We see colours in everything around us, every moment of the day, but do you ever stop to think about the impact each of those colours is having on you? Whether it's the calming effect of blue skies and fields of green, or the saliva-inducing red and yellow of your local fast-food chain, each colour has a meaning and taps into emotions. There's a whole science (and art) in the meanings of colours. It's essential to be aware of these colour meanings to help you choose your colours wisely and tap into the magical power of colour symbolism.
Create lists of meanings and emotions for each of the following colours: Black, Yellow, Red, Grey, White, Blue, Purple, Pink, Green, Brown, Orange.
e.g. Yellow = joy, White = purity.

5. Artists and their practice:
What is Sgraffito? Can you find a contemporary artist that uses this practice to create work that often contains 'heart' shapes?

Look at the work of Vincent Van Gogh.
What was Van Gogh trying to achieve with his use of line in his pen and ink drawings, and with his brush strokes and application of paint in his paintings?

Look at the work of Georges Seurat.
What was Seurat's unique style of applying paint called?
What was he trying to achieve through this style of painting?
What is Fauvism?
Who were the Impressionists and what were they trying to 'capture' in their work?

Who painted the 'Rouen Cathedral' series and why; can you name another famous series of paintings by this artist?

The Bourne Academy

Knowledge Organiser: Year 7 Autumn Term - Computing

1. Online Safety

a) Personal Information is something you should not give out (such as where you live)

b) Cyberbullying is taken very seriously and can be evidenced, even if posts/messages deleted

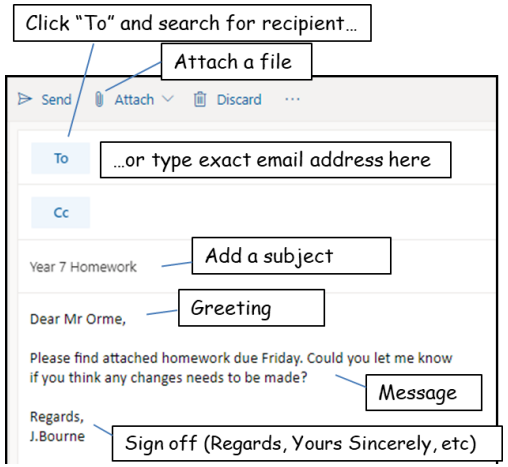
c) Password should be long and hard to guess

d) Malware can damage computer or files on it

e) Trustworthiness is how much you can trust information is correct and not biased

f) Digital Footprint is the information people can find about you on the web

g) Encryption scrambles data so it is unreadable



2. Digital Literacy

a) Microsoft Word

Word Processing software
e.g. for creating letters, essays

b) Microsoft PowerPoint

Presentation software
e.g. teacher lesson slides, business meetings

c) Microsoft Excel

A spreadsheet software used to calculate data
e.g. budgets, tracking grades

d) Microsoft Outlook

Emailing such as school emails
Email etiquette so are polite and professional

e) Web Browser

Software used to access the internet
e.g. Microsoft Edge, Google Chrome

f) Website

Set of web pages under a single domain name
e.g. https://www.youtube.com

3. Microsoft PowerPoint

a) Theme is a particular colour scheme, design or style consistent throughout all pages

b) Transitions change how the presentation goes from one slide to the next slide

c) Animations reveal or move text and images within a slide

d) User is the person using the program

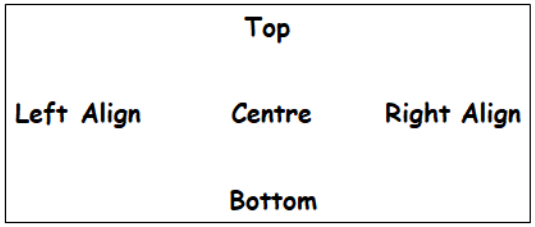
e) Automatic means performing without user input, e.g. the images automatically appear

f) Manual means it controlled by the user, e.g. mouse click to transition to the next slide

g) User Interface is how the user controls the program (such as an interactive menu)

h) Hyperlinks can be added to help the user navigate between pages or another website

i) Alignment is the position of the text or images on the page and how they are lined up



The Bourne Academy

Bourne Scholars Knowledge Organiser: Year 7 Autumn Term – Computing

1. Online Safety

a) Online Predators

Not everyone you encounter online will be who they say they are. Write down three pieces of advice to give someone to reduce the chances of them interacting with someone who is pretending to be someone else.

b) Social Media

List at least three tips you could suggest to a year 7 student just starting to use social media.

c) Identity Theft

What do scammers do in order to 'steal' someone's identity? Write down three ways a scammer could try and steal someone's identity.

d) Malware

For each of the following types of malware, write down a description of what it is, and one way to avoid it:

i) Virus

ii) Trojan

iii) Ransomware

iv) Spyware

2. Digital Literacy

a) Microsoft Word Challenge

Start a new document in Microsoft Word.

i) Add a title named 'Microsoft Word Challenge'. Format the title so it is centre aligned, bold, underlined, and font size is 16.

ii) Insert a header and add a date in the header which automatically puts in the right date.

iii) Insert a footer adding automatic page numbering, which is centre aligned.

iv) Pick one of the four topics in the left column (1. Online Safety) and type up your answer. Font should be size 12 and 'justify' aligned.

b) Microsoft PowerPoint Challenge:

Start a new presentation in Microsoft PowerPoint. Your challenge is to:

i) Add a title named 'Microsoft PowerPoint Challenge' (font size 40, choose any colour)

ii) Add three blank slides. In the 'view' tab, use the 'slide master' option to apply any theme across all slides.

iii) Insert hyperlinks so all the pages are linked together. Choosing an online safety topic create a presentation with your response.

3. History of Computing

a) Pioneers:

Below are four pioneers of computing. For each pioneer, answer the four questions listed below.

- Charles Babbage
- Alan Turing
- Ada Lovelace
- Tim Berner-Lee

i) When were they born?

ii) When did they die, or are they still alive?

iii) What are they famous for?

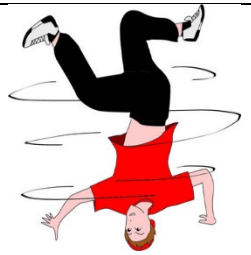
iv) What did they achieve or what was their influence on computing?

b) Computing Timeline:

Open: Student Resources → ! IT → Scholars Challenges → 'History of Computing Timeline'

The presentation contains some key events in the history of computing. They are deliberately scrambled up. Research online to find out what happened and what year it took place to create your timeline. Add your own ideas for key events from the history of computing.

Introduction to Dance

1.The Six Basic Dance Actions					
a. Gesture	b. Turn	c. Jump	d. Travel	e. Balance	f. Fall
					

2. Warm up and Cool down	
a. Warm up	A warmup is done at the start of every dance lesson to prepare both the body and mind for exercise and prevent injuries. The warm up usually consist of pulse raisers, mobilisation and stretches.
b. Cool down	A cool down is done at the end of a dance lesson to prevent injury and allow the heart rate to slow down to pre-exercise rate. The cool down usually consists of walking and stretches.

3. Keywords	
a. Counts	A measure of beats in the music which typically total to 8.
b. Stimulus	Inspiration for an idea or dance.
c. Focus	Use of eyes to enhance a performance.
d. Choreography	The art of creating movement.
e. Movement Memory	The automatic recall of learned movement material, without conscious thought.

The Nutcracker

4. Key Information	
Choreographer	Matthew Bourne
Year of release	1992
Style of dance	Contemporary
Story	Nutcracker! follows Clara's bittersweet journey from a darkly comic Christmas Eve at Dr. Dross' Orphanage, through a shimmering, ice-skating winter wonderland to the scrumptious candy kingdom of Sweetieland, influenced by the lavish Hollywood musicals of the 1930's.

5. Keywords	
Dynamics	The quality or speed in which movement is performed.
Actions	What a dancer does.
Freeze Frame	A frozen or still position/picture.
Transition	Links between dance phrases or sections.

6. The Frozen Lake

We're suddenly transported to a crystalised kingdom of snow and ice, all blue skies and fluffy white clouds and winter chill. The music is lighter, brighter, more positive and upbeat and the stage is soon filled with pure-white costumes, including woolly hats and scarves. The only hint of pink comes from Princess Sugar in her candy-floss coloured dress and sparkling tiara.

7. Dynamics

Dynamics are used to reflect the idea and theme of choreography and the flow and speed of the music. They also make the dance more exciting when a variety of dynamics are used.

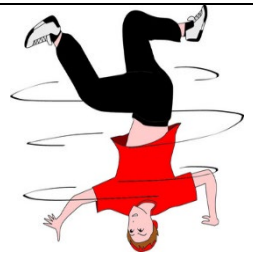
Examples of dynamics are:

- Fast
- Sharp
- Slow
- Smooth
- Fluid

In the Frozen Lake scene the dynamics are fluid, smooth and slow.

Introduction to Dance

1.The Six Basic Dance Actions

a. Gesture	b. Turn	c. Jump	d. Travel	e. Balance	f. Fall
					

2. Warm up and Cool down

a. Warm up	A warmup is done at the start of every dance lesson to prepare both the body and mind for exercise and prevent injuries. The warm up usually consist of pulse raisers, mobilisation and stretches.
b. Cool down	A cool down is done at the end of a dance lesson to prevent injury and allow the heart rate to slow down to pre-exercise rate.

3. Keywords

a. Counts	A measure of beats in the music which typically total to 8.
b. Stimulus	Inspiration for an idea or dance.
c. Focus	Use of eyes to enhance a performance.
d. Choreography	The art of creating movement.
e. Movement Memory	The automatic recall of learned movement material, without conscious thought.
f. Feedback	Feedback is a process used by teachers, rehearsal directors and choreographers to provide information and guide dancers in skill acquisition, technique and movement quality. It is a powerful and necessary tool.

4. Application

a. What is the physical benefit of warming up before a dance lesson?

b. How does warming up before a dance lesson prevent injuries?

c. Create your own warm up and cool down. Ensure the warm up includes pulse raiser, mobilisation and stretches and the ensure the cool down includes exercises to lower the heart rate and stretches of key muscles used.

The Nutcracker

5. Key Information	
a. Choreographer	Matthew Bourne
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6. Keywords	
a. Dynamics	The quality or speed in which movement is performed. Example: fast, slow, sharp.
b. Actions	What a dancer does. Example: Turn, jump, balance.
c. Freeze Frame	A frozen or still position/picture. Example: everyone holding a balance for at least 3 seconds.
d. Transition	Links between dance phrases or sections. Example: turn, walk, run.

7. The Frozen Lake

We're suddenly transported to a crystalised kingdom of snow and ice, all blue skies and fluffy white clouds and winter chill. The music is lighter, brighter, more positive and upbeat and the stage is soon filled with pure-white costumes, including woolly hats and scarves. The only hint of pink comes from Princess Sugar in her candy-floss coloured dress and sparkling tiara.

a. How does the Frozen Lake scene differ from the orphanage schene at the start?
b. How has the stage been transformed to become the Frozen Lake?
c. What are three actions used in the Frozen Lake section?
d. How does the choreography match the music in the Frozen Lake scene?

8. Dynamics

Dynamics are used to reflect the idea and theme of choreography and the flow and speed of the music. They also make the dance more exciting when a variety of dynamics are used.

Examples of dynamics are:

- Fast
- Sharp
- Rigid
- Sudden
- Strong
- Slow
- Soft
- Fluid
- Sustained
- Light

In the Frozen Lake scene the dynamics are fluid, smooth and slow.

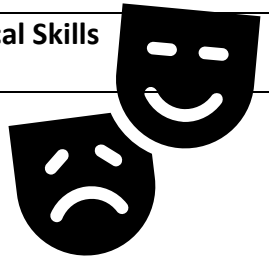
The Bourne Academy

Knowledge Organiser: Year 7 Autumn Term - Drama

Skills and Techniques

1. Drama Technique	Definition
Still image	Visual pictures created by performers to tell part of the story, illustrate narration, or emphasize a key moment in a play. Performers use facial expressions, body language and positioning onstage to show characters, relationships, and emotions.
Roleplay	Actors take on the role of a character within a scene/performance.
Thought tracking	The thoughts and feelings of a character being told directly to the audience during a still image.
Improvisation	Improvised drama is work that has not been scripted, the dialogue, characters and actions are made up as you go along. Spontaneous improvisation is created in the moment, a rehearsed role play is planned and prepared.
Physical Theatre	This is a style of theatre, where the cast make the scenery, set, and props out of their bodies to help tell the story on stage.
Narration	A character speaks directly to the audience to describe or narrate parts of his/her own story, or a narrator speaks objectively about the events happening onstage.
Direct Address	This narrative technique is when a character speaks directly to the audience about their thoughts and feelings. The other characters are unaware of what this character is saying.

2. Drama Skills	Definition
Facial Expressions	A facial expression **conveys an emotion that tells us about the character and the way they react to the situation.**
Body Language	Body language is **communication coming from movement or position, particularly facial expressions, gestures and the relative positions of a speaker and listener**. It may be the message being conveyed or it may add layers of meaning to the spoken words. Body language is also known as non-verbal communication.
Vocal Skills	There are a range of vocal skills and techniques for performers to utilise when performing. **Performers vocal skills convey an emotion that tells us more about the character and how they are feeling/react to certain situations.**



Skills and Techniques

3. Vocal Skills		
Pitch	**Pace**	**Tone**
High, Low, Squeaky, Husky, Deep, Whiny, Croaky, Brittle, Grating, Gravelly.	Fast, Slow, Halting, Abrupt, Stuttering, Stilted, Hesitant, Controlled.	Harsh, Gentle, Sarcastic, Forceful, Firm, Trusting, Derogatory, Cold, Angry, Persuasive, Authoritative, Proud, Assertive, Submissive, Sly, Abrasive, Quivery, Warm, Cheeky, Anxious, Seductive, Enthusiastic, Timid, Assured, Cautious, Fierce, Fond, Nervous, Joking, Sensitive.

4. Facial Expressions		
Emotion	**Eyes**	**Eyebrows**
Happy, Cheerful, Upset, Hurt, Rejected, Smug, Defiant, Distressed, Thoughtful, Sly, Seductive, Distraught, Spiteful, Aggressive, Friendly.	Wide, Glaring, Squinting, Teary, Hopeful, Suspicious, Tightly shut.	Raised, Lowered, Furrowed, Inquisitive, Frown.

5. Body Language		
Gesture	**Gait**	**Mannerisms**
Clenched Fists, Pointing, Open handed, Closed, Strong, Measured, Hesitant, Energetic.	Rapid, Sluggish, Gentle, Smooth, Direct, Rushed, Purposeful, Hasty.	Twitchy, Decisive, Indecisive, Formal, Jerky, Secretive, Wild, Controlled, Dismissive, Aggressive, Nervous, Informal.

6. Definitions for Key Drama Performance Skills:

Abrupt	Sudden and unexpected	**Seductive**	Tempting and attractive
Persuasive	Good at persuading someone to do or believe something	**Hesitant**	Tentative, unsure, or slow in acting or speaking
Authoritative	Gives an impression of power and importance and is likely to be obeyed	**Inquisitive**	Having or showing an interest in learning things; curious
Derogatory	showing a critical or disrespectful attitude.	**Hasty**	Done with excessive speed or urgency; hurried
Assertive	having or showing a confident and forceful personality.	**Furrowed**	(of the forehead or face) marked with lines or wrinkles.

1. Higher Order Thinking – How to devise from a stimulus.

Stimulus.

Pick a song, photograph or a poem that will be the starting point for a devised performance.

Research.

Research the themes which link to your chosen stimulus as well as the Social, Historical, Cultural and Ethical aspects.

What style will your piece be?

1. Naturalistic
2. Non-Naturalistic

Creative Intentions.

What are your creative intentions for the piece? What do you want your audience to feel? Is there a specific message?

Target Audience.

Who is your performance aimed at? What age group? Mixed gender? School children? Adults?

2. Problem Solving – The Design Aspect

What is your estimated budget to put on your performance? You will need to research average budgets in the industry to assist you with the planning of the next phase.

When in the planning/design phase of your performance, both lighting and sound are important aspects.

Lighting Design – Design 5-10 different lighting states that will enhance your performance. Do you have a spotlight? Any colours? Red, Blue, Green, or White?

Sound Design – Would any specific sounds or music help to support your creative intentions?

Costume – Design the costumes for your main characters. What is your rationale behind the costumes? Why did you choose certain items? How much would the costumes cost? Add this to your budget.

What is your estimated total cost? Are you within budget?

3. Describe and Explain

What? How? When? Why? Example?

Social

Historical

Cultural

Ethical

4. Analyse and Develop

Giving feedback to your actors as a director is a vital part of creating a performance.

How do you decide what is a good idea?

How do you select material that is of a high standard and how do you reject certain material?

1. Language terminology	Definition	Example
a) Simile	Comparison of one thing to another usually using 'like' or 'as'.	She was as quiet as a mouse.
b) Personification	Giving an object human characteristics.	The flowers were begging for water.
c) Zoomorphism	Giving animal-like qualities to something that is not an animal.	The sly boy slithered into the room with a devious look.

2. Structural terminology	Definition
a) Setting	The place where the events in a story happen.
b) Beginning, middle and end	The sections of a story.
c) Dialogue	A written conversation between two or more people.
d) Pathetic Fallacy	When human emotions are given to objects in nature including weather.
e) Tension	When the writer creates a sense of emotional strain or stress.

3. Subject-specific words	Definition
a) Genre	A type or category of text (e.g. romance, horror, adventure).
b) Theme	A key idea explored throughout a text (e.g. love, violence, religion, family).
c) Inference	A conclusion based on evidence.
d) Effect	The result of something.
e) Perspective	The point of view a text is written from (1st, 2nd, 3rd person)
f) Annotate	Add notes to a text.
g) Analyse	Separate information and consider it closely.
h) Quotation	A comment reported exactly as the speaker said it.

4. Punctuation	Symbol	Definition
a) Full stop	.	Used to show the end of a sentence.
b) Exclamation mark	!	Used at the end of a sentence to show shock or surprise.
c) Question mark	?	Used at the end of a sentence to show that something is being asked.
d) Apostrophe	’	Used to show contraction (eg. doesn’t) or possession (Jennifer’s pen)

5. Clauses and sentence types	Definition	Example
a) Main clause	A clause that can be a complete sentence of its own. Contains a subject and a verb.	She danced gracefully.
b) Simple sentence	One main clause which contains a verb and makes complete sense.	English is my favourite subject.
c) Compound sentence	Two or more main clauses joined by a coordinating conjunction.	Everyone was busy so I went for a walk on my own.
d) Coordinating conjunction	Words that link two main clauses together to form a compound sentence.	For, and, nor, but, or, yet, so.

6. Word Classes	Definition	Example
a) Noun	A word which names a person, place or thing.	Sam, teacher, park, cake, anger.
b) Verb	A doing or being word. Used to show an action.	They **jumped**. He **is** tired.
c) Adjective	A word that describes a noun.	A **blue** car. A **big** city. The **happy** couple.
d) Adverb	Describes a verb.	He is running **quickly.** They **always** wear a tie.
e) Preposition	A word that tells you where or when something is compared to something else.	**On** the desk, **before** lunch, **above** my head.

7. Short stories	Author	Year of publication
a) The Hitchhiker	Roald Dahl	1977
b) Lamb to the Slaughter	Roald Dahl	1953
c) The Monkey’s Paw	W.W. Jacobs	1902
d) The Darkness Under the Stairs	Lance Salway	1988

The Bourne Academy

Bourne Scholars Knowledge Organiser: Year 7 Autumn Term English

1. Extended vocabulary	Definition
a) Exposition	The first part of the plot which sets the scene and introduces characters
b) Anti-climax	A disappointing end after drama and tension has been built up.
c) Resolution	The point of the plot where any conflict is resolved and it becomes more stable.
d) Denouement	A conclusion where any loose ends are tied up
e) Entrapment	Noun – the state of being caught or being trapped
f) Lamentable	Adj – something being very bad or being full of sorrow or grief
g) Mournfully	Adj – expressing sorrow
h) Sinister	Adj – the impression that something harmful or evil is happening
i) Vengeful	Adj – seeking to harm someone in return for what they have done
j) Wretched	Adj – in an unhappy or miserable state
k) Ephemeral	Adj – lasting for a short time

2. Authors	Additional reading
a) Ray Badbury	A Sound of Thunder (1952)
b) Kate Chopin	The Story of an Hour (1894)
c) Charlotte Perkins-Gilman	The Yellow Wallpaper (1892)
d) Robert Louis Stevenson	The Body Snatcher (1884)
e) Charles Dickens	The Signalman (1866)
f) Chimamanda Ngozi Adichie	Cell One (2007)
g) Penelope Lively	The Darkness Out There (1984)

3. Extended writing	Tasks
a) Research	Research Freytag's Pyramid and think about how one of the short stories above meets the criteria for it.
b) Research	Research Aristotle and Greek tragedies – what was important about how they were structured?
c) Writing	Plan and write your own short story titled 'The Splintered Academy'.

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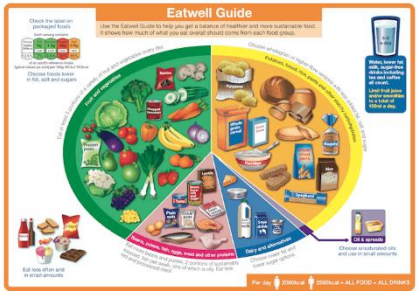
Knowledge Organiser: Year 7 Autumn Term - Food

1.The Eatwell Guide

The government guide lines to eating a healthy diet.



1a. Fruits & Vegetables. (Green section) Provides fibre, vitamins and minerals for healthy body functions and immune system.

1b. Potatoes, bread, rice, and pasta (Yellow section) Provides carbohydrates for energy and fibre.

1c. Beans, pulses, eggs, meat, and fish (Pink section) Provides protein for growth, repair and maintenance of body cells.

1d. Dairy Foods (Blue section) Provides calcium for healthy bones, teeth and nails

1e. Oils & Spreads (Purple section) Provides fat soluble vitamins A,D,E & K

1f. Fatty, salty, and sugary foods (Not included on plate) These are not part of a healthy diet.

2.World Foods

There are lots of reasons why our diet differs across the world, these include, climate, religious diets, poverty, and different cultures. In the UK our diets are influenced from many different countries across the world.

2a. Staple foods

Staple foods are eaten regularly and supply energy. The staple food in a country is often the food that grows easiest there. Some staple foods include rice, pasta, potatoes, and corn.

2b. Food provenance

This means where ingredients/foods are originally produced. Our food is grow, reared, or caught all over the world

2c. Seasonal foods

When food (mostly plants) are naturally ready to be harvested. This is when they will have their best flavour, colour and texture and are often cheaper to buy.

2d. Celebrations

Food is an important part of any celebration all over the world. Often these occasions are linked to different cultures or religions. Celebrations include Christmas, New Year, weddings, and birthdays.

3. Kitchen hygiene

When cooking and preparing food it is important to follow certain rules to stay safe and prevent food poisoning.

3a. Practical lesson rules

Blazers and jumpers off, and aprons on.
Hair up, jewellery off, and hands washed.
No running or silly behaviour
Listen carefully to instructions.

3b. The 4 Cs

Cleaning: Keeping hands, surfaces, and equipment clean will prevent spreading bacteria.
Cooking: If food is not cooked properly it can cause food poisoning.
Chilling: Some foods need to be chilled to stop harmful bacteria from growing.
Cross Contamination: This is when bacteria is transferred from one surface to another.

3c. Chopping boards

Using the correct chopping board will help prevent cross contamination

Red: Raw meat
Green: Salad vegetables and fruit
Brown: Root vegetables
Yellow: Cooked meat
Blue: Raw fish
White: Dairy

1.The Eatwell Guide
Having a healthy diet is easier said than done. There are many reasons why we may not be able to, or choose to, eat a balanced diet. Look at the list below. Think about how these points may affect our food choices. Write a paragraph for each, explaining why you think they might affect what we eat.

- Budget,
- Personal choice,
- Moral values,
- Health,
- Age.

1a. Deficiencies and excesses
Look at the nutrition provided from each food group on the eat well guide.

- Fruit and vegetables,
- Potatoes, bread, rice, and pasta,
- Beans, pulses, eggs, meat, and fish,
- Dairy Foods,
- Oils & Spreads,
- Fatty, salty, and sugary foods.

Thinking about why we need each group, write a paragraph for each group about what you think might happen if you have a deficiency (not enough) or an excess (too much). How could this affect your health?

2. World food
There are lots of reasons we eat the food we eat. Some of these reasons impact our diets more than others. Explain how the following could affect food availability and food choice in different countries:

- Climate,
- Religious diets,
- Poverty.

2a. Staple foods
What nutrients do staple foods often provide? Why do staple foods make up a large part of our diets?

2b. Food provenance
Why might foods grown and sourced locally be more environmentally friendly than foods grown in another country?

2c. Seasonal foods
Think about the fruit and vegetables we eat throughout the year. Research different fruits and vegetables and create a calendar showing when they are in season.

2b. Celebrations
What do you celebrate each year? Write about the food you eat at these occasions. Why are these foods eaten during this time?

3. Kitchen hygiene
Write a set of 4 food hygiene rules and explain why they are an important rule when it comes to avoiding food poisoning.

3a. Practical lesson rules
Think about the different rules you must follow in a practical lesson. Write down a list of risks (what could happen) if these rules are not followed. Now add how you can prevent (stop from happening) these risks.

3b. The 4Cs
Cleaning: Describe how you would wash up at the end of a practical lesson.
Cooking: Give an example of a high-risk food that could cause food poisoning if not cooked thoroughly
Chilling: What is the temperature that a fridge should be at to ensure that chilled food stays at the correct temperature and bacteria does not grow?
Cross contamination: When cooking raw meat, why is it important to wash your hands after?

3c. Cross Contamination
We have different coloured chopping boards for different food to avoid bacteria from spreading and causing food poisoning.
Describe how else you could avoid cross contamination when cooking and storing food.

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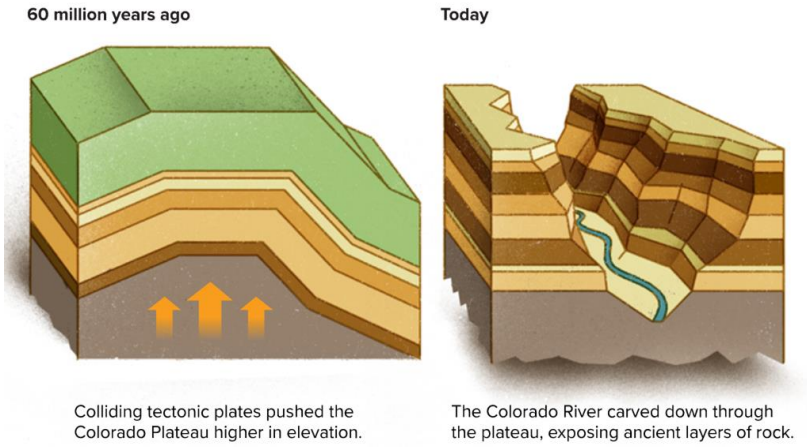
Knowledge Organiser: Year 7 Autumn Term - Geography

1: Key Vocabulary	
Biodiversity	the variety of species on Earth, including plants, animals, and fungi.
Physical features	Features on the land which appear naturally e.g. mountains and lakes.
Human features	Features in the land made by human beings e.g. buildings and bridges.
Hualapai Tribe	A Native American tribe in Arizona with about 2300 members.
Dam	A barrier across a river which holds back water. It also generates power.
Irrigation	Applying water to crops to help crops grow.
Navigation	The passage of ships.
Hemisphere	One half of earth – either the half above or below the equator.



2: Formation of the Grand Canyon

1. Millions of years ago, oceans deposited of sediment.

2. Between 70 and 30 million years ago, plate tectonics caused uplift, creating the relatively flat Colorado Plateau.

3. 5-6 million years ago, the Colorado River. began to carve its way downward.

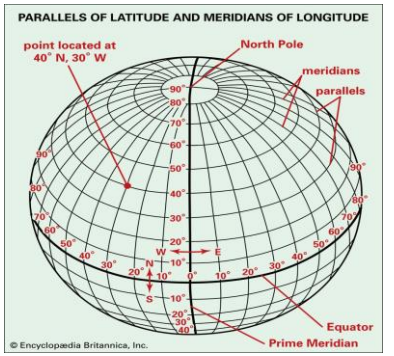
4. Further erosion by tributary streams led to the canyon's widening.

3: Continents

These are regions of the world that contain countries.

4: The Earth's Grid

Latitude lines are run east to west, longitude lines run north to south.



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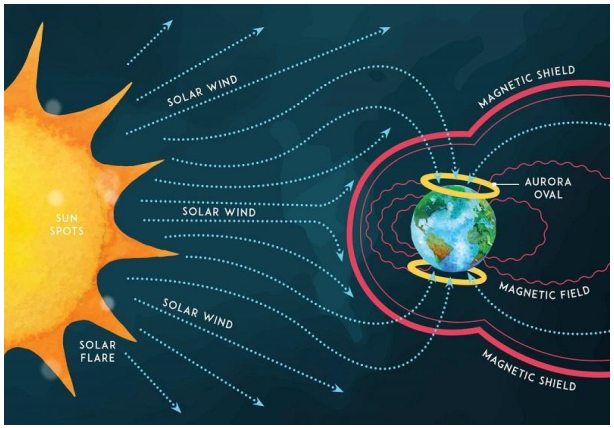
Knowledge Organiser: Year 7 Autumn Term - Geography

5: Key Vocabulary	
Antarctica Treaty	An agreement between countries to preserve Antarctica from development.
Prohibition	The act of forbidding something
Greenpeace	A group of people who are passionate about preventing destruction of the natural world
British Antarctic Survey	The UK's polar research team
Mining	The process of extracting materials from the earth

7: Where is Angkor Wat?

8: Key Vocabulary	
Drought	Long period of time with no rain.
Monsoon	Very heavy rain that happens seasonally in some parts of the world.
Khmer Empire	A powerful state in Southeast Asia, formed by people of the same name, lasting from 802 CE to 1431 CE.
Demise	Downfall or collapse.
Insufficient	Not good enough.



6: How are northern lights formed?

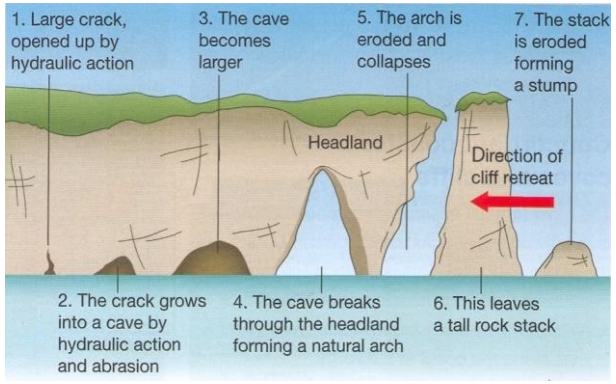
1. The energy coming from the sun is called the solar wind.

2. Particles of the solar wind are deflected by Earth's magnetic field.

3. During a high energy event like a solar flare some particles are absorbed at the north and south poles.

4. When particles of energy collide with gases in Earth's atmosphere – this creates colour.

9: Formation of a stack



Place - when you locate a place you need to discuss its **relationship to other places.** **Task:** Complete a CLOCC description of a city using the map in your planner.

C - Continent - Angkor Wat is located in SE Asia.

L - Latitude - It exists at 10 degrees north of the equator.

O - Surrounding oceans include the Indian Ocean and Arabian Sea.

C - Country Angkor Wat is located in Cambodia

C - Capital The Capital of Cambodia is Phnom

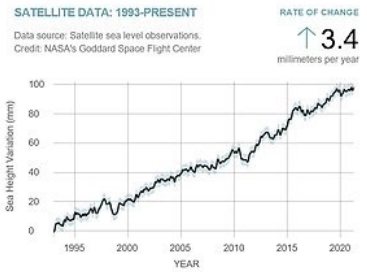
Inequality - this is experienced in Favelas. **Question:** How would the following changes alter people's quality of life?

1. Clean water supply
2. Access to a free health centre
3. Affordable public transport
4. Democracy
5. Non corrupt police
6. Access to secondary education

Time - when you look at any: graph, chart or the formation of a feature you need to consider how a factor has **changed over time.**

Month	Temperature
January	14 degrees
February	19 degrees

Task: create a dataset and draw a graph to



Enquiry - there will be opportunities for you to carry out **enquiry**. This means to **make a decision.** **Task:** Choose a debate and back it up with evidence

A. The Canyon Skywalk, a beauty spot or a crime?
B. Why doesn't everyone see the effects of sea level rise
C. Can you commit a crime against the environment?
D. What is the relationship between development and environmental damage?
E. What is your place in the world?
F .The needs of the many outweigh the needs of the few, discuss.

Scale - we will be looking at things at a **small scale** and a **large scale** and sometimes both. **Task**: choose a feature/concept that we have studied and describe it on a **small scale** and a **large scale**

On a **smaller scale,** Lake Baikal keeps the **surrounding area's** climate milder in the winter.

If we consider a **larger scale,** Lake Baikal stores 374 Gt of methane. If this was released it would have catastrophic effects for **worldwide global warming**

Sustainability - "meeting our needs, without compromising needs of the future generations" **Question:** Consider the sustainability of dams in the rainforest

Advantages

>Crops are irrigated using water stored behind dams
>Dams produce renewable electricity
>Dams prevent the loss of life caused by flooding
Crops are irrigated [watered] using water stored behind dams

Disadvantages

>Animals that migrate up and downstream to breed/feed can no longer pass
>Displaces thousands of people who live in the land that will be flooded
>There is a loss of biodiversity along the river

What is History and The Norman Conquest

1. What is History Keywords

A. **Chronological** - organised in the order in which they occurred

B. **BC -** Before Christ. Used to indicate the year counting backwards from the birth of Jesus Christ.

C. **AD -** Anno Domini (Latin meaning 'the year of the Lord). Used to indicate the year counting forwards from the birth of Jesus Christ.

D. **Period** - A label used by historians to identify the time between two dates in History.

E. **Primary source** is a historical object from the time period being studied or information from somebody who saw what happened

F. **Secondary source** is historical information produced after the time period.

2: Key Skills

A. **Chronology and knowledge** – Putting events in correct order and recalling facts.

B. **Change and Continuity –** Arguing how some things evolved and became new and how other things stayed the same.

C. **Cause and Consequence –** Arguing the reasons or factors for why things occurred and their impact or effect long and short term.

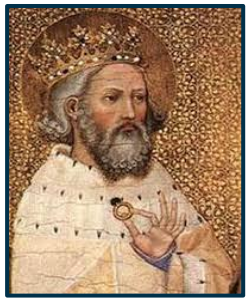
D. **Evidence and sources –** Using pieces of history and facts to support or challenge an argument.

E. **Interpretations and Representations –** Explaining how and why people see the past in different ways.

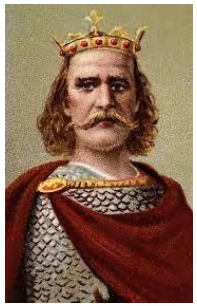
F. **Structuring and organising –** Writing clearly and orderly with purpose.

3. Why did the Norman Conquest happen?

Jan 1066 Edward the Confessor dies without an heir.



Jan 1066 Harold Godwinson crowned king of England.



Sept 1066 Harald Hardrada from Norway invades the north of England but loses at the Battle of Stamford Bridge to Harold Godwinson.

Oct 1066 William of Normandy, believing he should be king, leads an invasion of England and defeated Harold Godwinson at the Battle of Hastings.

William becomes king of England and the **Norman Conquest** of England begins

4. KEY INDIVIDUALS		
A	**Edward the Confessor**	Saxon King of England for 24 years who had no children to take over the throne when he died in 1066.
B	**Harold Godwinson**	An English Nobleman, Earl of Wessex, who served as a powerful leader of England. Brother in law to Edward, he claimed the throne after he died.
C	**William of Normandy**	A Norman and Duke of Normandy in France. Experienced leader and fighter. Cousin of Edward who also claimed the throne after he died.
D	**Harald Hardrada**	A Viking. King of Norway. One of the most feared warriors in Europe. He claimed the throne based on an agreement in 1038.

5. KEYWORDS		
A	**Norman Conquest**	A period between 1066-1088, where William of Normandy and his Normans invade, conquer and rule England.
B	**Anglo-Saxons**	People who settled in Britain after the Romans left and lived in England when the Normans invaded.
C	**Homage or Oath**	To promise to give allegiance to someone (e.g. King) publicly.
D	**Feudal System**	Social structure of Medieval England that William used to keep control and loyalty of his people.
E	**Noble**	Barons, Earls or other rich landowners who pledge their loyalty to William in the Feudal System.
F	**Cavalry**	A soldier mounted on a horse.
G	**Motte and Bailey**	The first castle created by William. It was made out of wood and had a higher Motte part and a low Bailey part.
H	**Heir**	The next in line to the throne.

6. KEY EVENTS

A. The Battle of Stamford Bridge – 25 September 1066
300 Viking longboats carried Harold Hardrada's army from Norway to England. Godwinson's army marched quickly north to meet the Viking threat and after marching 210 miles in 5 days, caught Hardrada by surprise and defeated him.

B. The Battle of Hastings – 14 October 1066
William of Normandy's army of 10,000 soldiers arrived at Pevensey on 29 September. Godwinson marched south and placed his army at the top of **Senlac Hill**. During the battle, William faked a retreat which encouraged the Saxons to run down the hill exposing Godwinson's army. Godwinson was killed and William of Normandy is crowned King of England on 25th December 1066.

C. The Harrying of the North 1069-70
Rebellions in the North of England lead to the Harrying of the North where William devastates the North in an effort to stop rebellions, over 10,000 die and large areas of land are destroyed.

D. The Domesday Book – 1085
The Domesday Book was a complete written record of property ownership across England and was completed in less than a year. At the time it was called the Winchester Book, but later became better known as the Domesday book.

AO1: Demonstrate knowledge and understanding of the key features of the periods studied.

1.1 Chronology
- Create an A3 timeline of Britain that spans from the fall of the Roman Empire c500AD until the Reformation in 1517 to include 10 major events and all the kings of England.

1.2 Historical Terminology
- Define the following words: Apprentice, Baron, Bishop, Chivalry, Feudal System, Guild, Magna Carta, Monastery, Serf, Squire

1.3 Key Features (Historical Knowledge)
- Identify FIVE turning points (important events) in during the Middle Ages in Britain.

AO2: Explain and analyse historical events and periods studied using historical concepts.

2.1 Change & Continuity
- Make a list of FIVE things that changed and FIVE things that essentially stayed the same from the Medieval period of 500 to 1500 AD in England.

2.2 Cause and Consequence
- Explain THREE reasons why the Vikings invaded and colonised England from 789 to 1042 AD.

2.3 Significance
- Research and evaluate the impacts of Alfred the Great and Richard the Lionheart. Who had the most significant impact on England?

AO3: Analyse, evaluate and use primary sources to make judgements.

3.1 Valid inferences
- What can you infer from this this scene from the Bayeux Tapestry created in 1077 about the Battle of Hastings?

3.2 Nature, Origin, Audience, Purpose
- What is the nature, origin, audience and purpose of the Bayeux Tapestry?

3.3 Usefulness
- What would the strengths and limitations of the Bayeux Tapestry to a historian studying Norman Conquest be?

AO4: Analyse, evaluate and make judgements about interpretations.

4.1 Identifying views
- Explain the view given by John D Clare about life in Middle Ages England?

4.2 Analysing interpretations
- What evidence can you use to counter this interpretation?

4.3 Evaluating Interpretations
- How far is his interpretation a valid view considering its origins and agenda?

Even in the summer, people did not work all the time in the medieval times. In fact, they had many holy days – more than one hundred a year!

From a textbook, The Middle Ages, by John D Clare

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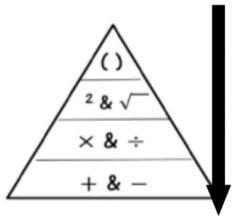
Knowledge Organiser: Year 7 Autumn Term Mathematics- Order of Operations

1. Order of Operations			**2. Worked Examples**	
Keyword	**Definition**	**Example**	**a. Brackets & Multiplication**	Calculate $\mathbf{3 \times (7 - 3)}$ $= 3 \times 4$ $= 12$
a. Equal	Having the same value	$3 + 2 = 5 \times 1$		
b. Priority	Something that is done before another thing.	Indices have priority over adding	**b. Multiplication, Division & Subtraction**	Calculate $\mathbf{4 \times 6 - 8 \div 2}$ $= 24 - 8 \div 2$ $= 24 - 4$ $= 20$
c. Indices	A small, raised number next to a normal letter or number to show how many times it has been multiplied by itself.	$4^2 = 4 \times 4$ $h^3 = h \times h \times h$	**c. Multiplication, Addition & Subtraction**	Calculate $\mathbf{2 + 3 \times 5 - 4}$ $= 2 + 15 - 4$ $= 17 - 4$ $= 13$
d. Subtract	Taking away one number from another	$6 - 5 = 1$	**d. Indices, Multiplication & Subtraction**	Calculate $\mathbf{6^2 - 2 \times 5}$ $= 36 - 2 \times 5$ $= 36 - 10$ $= 26$
e. Brackets	A pair of symbols used to group calculations together	$(9 - 1) \div 2$	**Sparx independent practice codes:**	M521 M135 M928 M347 M187 M354
f. Negative	A value less than zero.	-3		
g. Square Root	A value that, when multiplied by itself 2 times, gives that number	$\sqrt{9} = 3$		
h. Order of operations	The order of operations should be completed in the following order of **priority:** First work out anything in **brackets.** Then calculate any **indices or roots.** Next, **multiplication or division,** complete left to right. Finally, **addition or subtraction,** complete left to right.			

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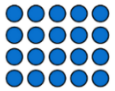
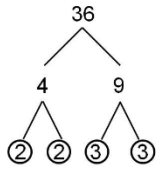
Knowledge Organiser: Year 7 Autumn Term Mathematics Axioms and Arrays, Factors and Multiples

1. Axioms and Arrays		
Keywords	**Definition**	**Example**
a. Arrays	An ordered arrangement	The array shows 5 equal groups of 4, or 4 equal groups of 5 
b. Inverse	An opposite function or operation	The inverse of multiplying is dividing $7 \times 2 = 14$ $14 \div 7 = 2$
c. Commutativity	Giving the same answer whichever way round the calculation is written	$5 \times 2 = 2 \times 5$ $6 + 3 = 3 + 6$
d. Associativity	Giving the same answer when grouping the numbers in different ways	$(2 \times 4) \times 3 = 2 \times (4 \times 3)$ $8 \times 3 = 2 \times 12$
e. Distributivity	Multiplying a number by a group of numbers added together	$3 \times (2 + 4)$ $= 3 \times 6$ $= 18$ $3 \times 2 + 3 \times 4$ $= 6 + 12$ $= 18$
Sparx independent practice codes:		M952, M409, M637

2. Factors and Multiples		
Keywords	**Definition**	**Example**
a. Integer	A whole number	10 is an integer
b. Factor	A number multiplied by another to make the desired number	5 is a factor of 30 because $5 \times 6 = 30$
c. Multiple	The result of multiplying a number by an integer	The first four multiples of 4 are: 4, 8, 12, 16
d. Prime number	An integer with exactly two factors: 1 and itself	5 is a prime number because it can only be divided by 5 and 1
e. Lowest Common Multiple (LCM)	The smallest number that is a multiple of each number	The LCM of 3 and 4 is 12 3, 6, 9, 12 4, 8, 12, 16
f. Highest Common Factor (HCF)	The largest number that divides exactly into each number	The HCF of 6 and 15 is 3 Factors of 6: 1, 2, 3, 6 Factors of 15: 1, 3, 5, 15
g. Product of Prime Factors	Find which prime numbers multiply together to make a number	$36 = 2 \times 2 \times 3 \times 3$ 
Sparx independent practice codes:		M823, M227, M698, M322, M108, M365

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Knowledge Organiser: Year 7 Autumn Term Mathematics Positive and Negative Numbers

1. Postive and Negative Numbers

Keyword	Definition	Example
a. Negative number	A number less than zero	-8 or (-8)
b. Difference	How many numbers are between two numbers. To find the difference, subtract the smaller number from the larger number	The difference between 5 and -2 is 7 $5 - -2 = 7$
c. Ascending order	Sorting by size, starting with the smallest.	$-8, -4, 1, 7$
d. Descending order	Sorting by size, starting with the biggest.	$6, 2, -3, -7, -9$
e. Absolute value	The distance a number is away from 0.	The absolute value of -5 is 5

2. Worked Examples

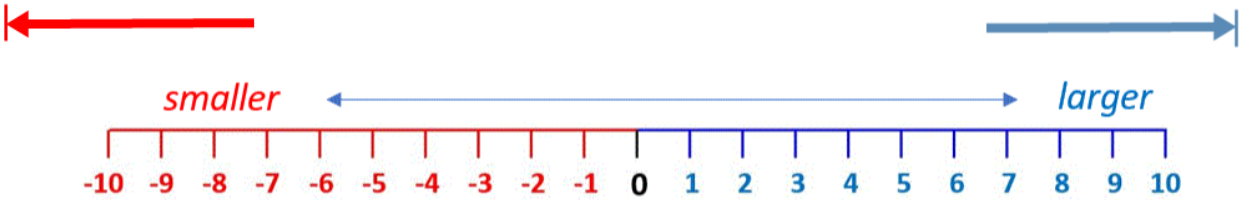
Operation	Rules	Examples
a. Addition	When adding a positive number, go up When adding a negative number, go down	$2 + 5 = 7$ $-2 + 5 = 3$ $2 + -5 = 2 - 5$ $= -3$ $-2 + -5 = -2 - 5$ $= -7$
b. Subtraction	When subtracting a positive number, go down When subtracting a negative number, go up	$4 - 3 = 1$ $-4 - 3 = -7$ $4 - -3 = 4 + 3$ $= 7$ $-4 - -3 = -4 + 3$ $= -1$
c. Multiplication	Positive × positive = positive Positive × negative = negative Negative × positive = negative Negative × negative = positive	$2 \times 4 = 8$ $2 \times -4 = -8$ $-2 \times 4 = -8$ $-2 \times -4 = 8$
d. Division	Positive ÷ positive = positive Positive ÷ negative = negative Negative ÷positive = negative Negative ÷ negative = positive	$30 \div 6 = 5$ $30 \div -6 = -5$ $-30 \div 6 = -5$ $-30 \div -6 = 5$
Sparx independent practice codes:		M527, M106, M228

3. Using a number Line

A number line can be used to position numbers and perform calculations.

When subtracting, move to the left

When adding, move to the right



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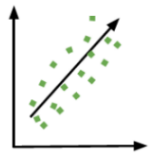
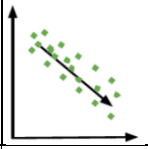
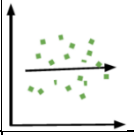
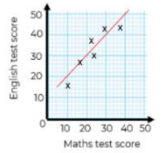
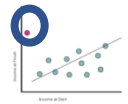
Knowledge Organiser: Year 7 Autumn Term Mathematics Univariate and Bivariate data

1. Univariate Data			2. Bivariate Data		
Keywords	**Definition**	**Example**	**Keywords**	**Definition**	**Example**
a. Quantitative data	Numerical data	Number of pets Distance travelled in miles	**a. Variable**	A value that can be measured and changed	The number of ice creams sold is a variable The temperature outside is a variable
b. Qualitative data	Text-based data that describes something	Eye colour Country of birth	**b. Positive Correlation**	As one variable increases (goes up), the other variable increases (goes up)	 As the temperature outside increases, the number of ice creams sold increases
c. Discrete data	Numerical data that can only take certain values.	Shoe size Number of siblings	**c. Negative Correlation**	As one variable increases (goes up), the other variable decreases (goes down)	 As the age of the car increases, the value of the car decreases
d. Continuous data	Numerical data that can take any value within a given range.	Height Mass Time	**d. No correlation**	One variable has no impact on the other variable	 A score in a maths test does not impact a score in an art test
e. Mean	The mathematical average of two or more numbers	Find the mean of 2, 7, 9 2 + 7 + 9 = 18 18 ÷ 3 = 6	**e. Line of best fit**	A straight line showing the general direction of points on a scatter graph	 You can use the line of best fit to make estimates.
f. Mode	The mode is the value that occurs most often.	Find the mode of 5, 6, 5, 5, 4 The mode 5	**f. Outlier**	A point on the graph that does not fit with the trend of the data.	 The point circled is an outlier
g. Median	The "middle" of an ordered list of numbers.	Find the median of 10, 11, 13, 15, 16 Answer: 13	**Sparx independent practice codes:**	Univariate data M769, M596, M648, M210, M493, M945, M450	
h. Range	The difference between the highest and lowest number	The range of 2, 6, 7,13, 25 25 – 2 = 23		Bivariate Data M328, M934, M841, M940, M127, M287, M440, M899, M597, M644, M460, M738, M574, M165, M140, M183	

The Bourne Academy

Bourne Scholars Knowledge Organiser: Year 7 Autumn Term Mathematics

1. Mathematical vocabulary

Define each of the following words.
Give an example of each.

a. Ordinal Number
b. Cardinal Number
c. Monomial

2. Mathematician Research

Who are they?
What are they famous for?
What contributions have they made to maths?

Emmy Noether

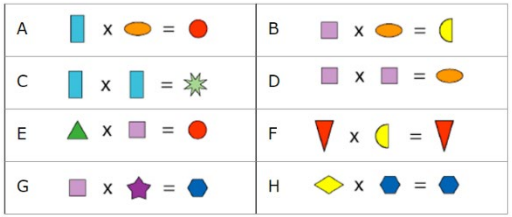
3. Watch

a. BBC. The Story of Maths. The Language of the Universe - YouTube (56 mins, 15 secs)

4. Thinking Mathematically

a. Shapes and products

The coloured shapes stand for eleven of the numbers from 0 to 12. Each shape is a different number.



i. Can you work out what they are from the multiplications below?
ii. Can you create your own version of coloured shapes and products?
iii. Will it work for division? Addition? Subtraction?

b. Frequency Analysis

In any language some letters tend to appear more often than others.
Which letters do you think are the most common in the English language?

i. Is the frequency of letters in the following sentence representative?

The quick brown fox jumps over the lazy dog.

ii. Conduct a mini-investigation comparing different texts to draw a conclusion about this.

c. Forwards add Backwards

The number 747 can be formed by adding a 3-digit number with its reversal: 621+126=747, for example.

i. Can you find the other two ways of making 747 in this way?
ii. Which other numbers between 700 and 800 can be formed?
iii. Can you explain how you know you have found all the possible numbers?
iv. How many numbers can be formed between 300 and 400? 800 and 900?...
v. The number 1251 can be formed by adding a 3-digit number with its reversal.
vi. Which other numbers between 1200 and 1300 can be formed from a number plus its reversal? And between 1900 and 2000?...

5. Short Problems

a. A quiz has twenty questions with 7 points awarded for each correct answer, 2 points deducted for each wrong answer and 0 for each question omitted. Jack scored 87 points. How many questions did he omit?

b. In how many whole numbers between 100 and 999 is the middle digit equal to the sum of the other two digits?

c. On Brian's 14th birthday, his father was 41. Brian noticed that his age was the reverse of his father's age. How old will Brian be the next time his age is the reverse of his father's age?

d. Using each of the number cards 1 to 9 once and once only, find two whole numbers, one of which is double the other. How many solutions can you find?

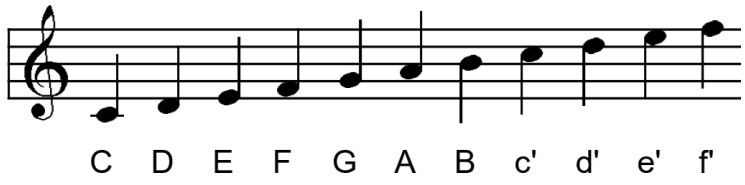
1. Keywords and Definitions

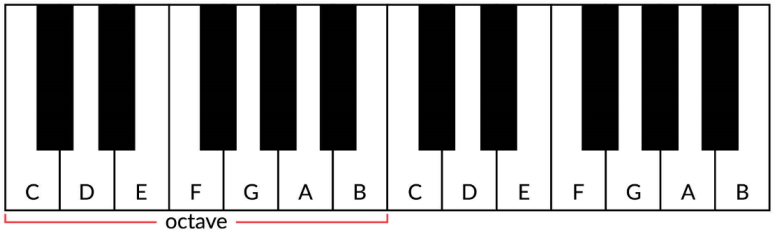
a) Note	A symbol/shape that indicates a musical sound. (Example: The notes of the scale are C, D, E, F, G, A, B).
b) Stave	5 horizontal lines on which music is written.
c) Clef	A symbol at the start of music that tells you if the music is high or low pitched.
d) Pitch	How high or low a note is. (Example: The piano played a high-pitched note).
e) Beats	A measure of time in music. (Example: Count 4 beats then start playing the song).
f) Tempo	The speed of the music (Example: The tempo of the music was fast).
g) Dynamics	How loud or soft the notes are played. (Example: Make sure the dynamics for this melody are played softly).
h) Duration	How long a pitched note is played for. (Example: The duration of that note is 2 beats long).

2. Note Durations.

Note Name	Sound	Symbol	Note Duration
Semibreve	TA ///		4 beats
Minim	Two /		2 beats
Crotchet	Ta		1 beat
Quaver	Te		½ a beat
Pair of Quavers	Te-Te		2x½ beat = 1 beat

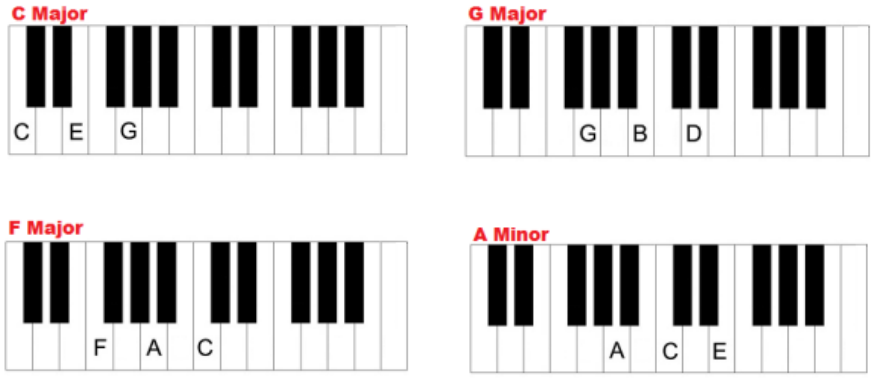
3. Notes on the stave and keyboard





4. Chords

Chords are 3 notes played at the same time.
Play one – Miss one – Play one – Miss one – Play one.



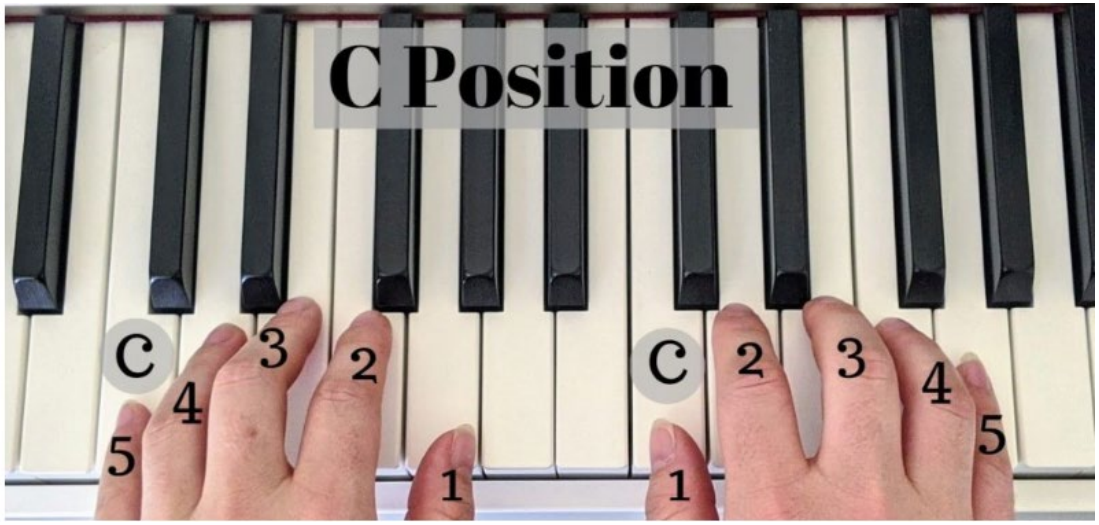
5. Chord Charts

A chord chart tells you the name of the chord (i.e. C) and then the number of beats it plays for using the / symbol.
Each of these chords is played for 4 beats:

1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4

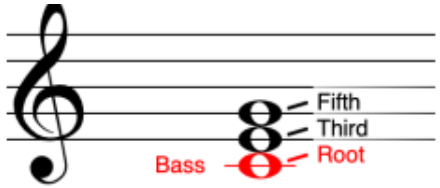
C/// | G/// | F/// |Am///

3. Finger Positions on the Keyboard

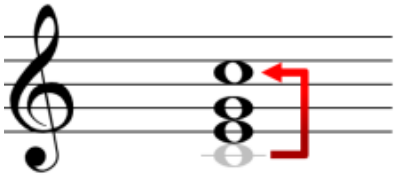


1. Inverted Chords – When you shuffle the order of a chords notes around.

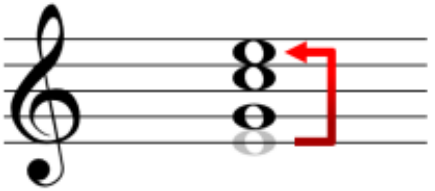
C Major in root position is called this because the note of C is at the bottom of the chord



C Major in 1st position is called this because the note of C is at the top of the chord

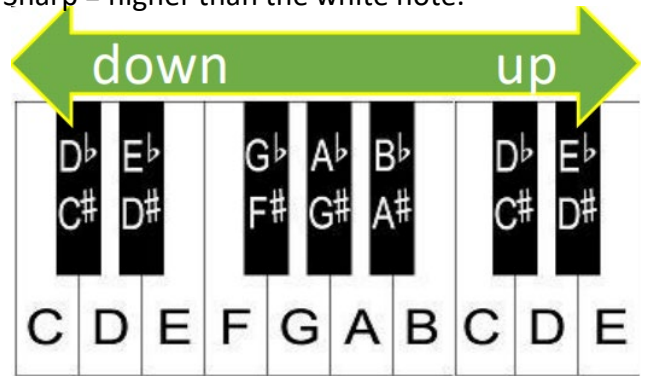


C Major in 2nd position is called this because the note of C is in the middle of the chord



2. Sharps and Flats

Every black note has two names: sharp # and flat b
Flat = lower than the white note.
Sharp = higher than the white note.



3. Chord Construction.

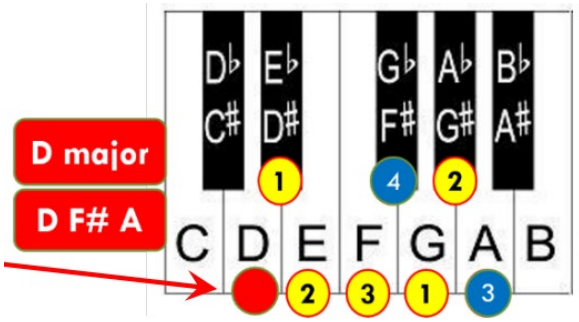
You can have Major chords and Minor chords.
To create a chord, you need 3 notes.

Major chord= Happy
4 then 3 semitones

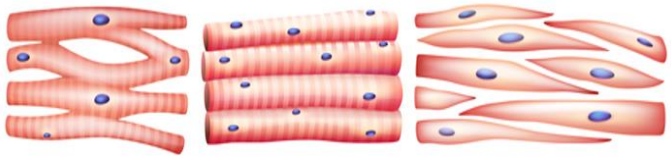
Minor chord = Sad
3 then 4 semitones

Semitone = the next note, counting white AND black

The bottom note of the chord = the root. The root gives its name to the chord.



[1] Types of Muscle



Cardiac (Heart)

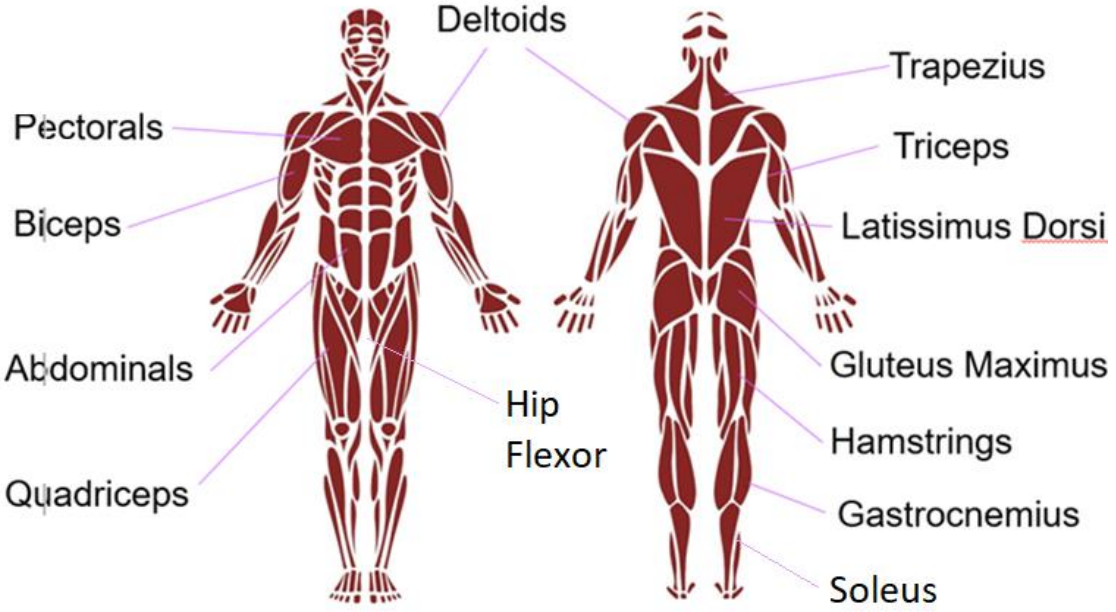
Skeletal (Movement)

Smooth (Organs)

[2] Types of Muscle Contractions

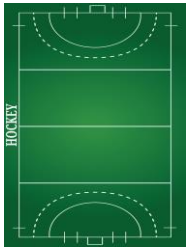
- **Concentric** – muscle shortens and develops tension
- **Eccentric** - muscle lengthens to develop tension
- **Isometric** – muscle provides tension but stays the same length

[3]



Invasion sports are team games in which the purpose is to invade the opponents' territory while trying to score points and minimise the opposition's scoring.

[4]



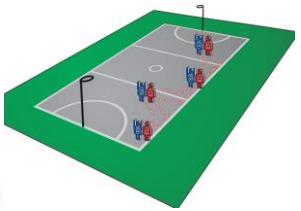
Field Hockey

Handball

Football

Basketball

Rugby



Netball

[5] Key Vocabulary	
Technique	Technique is linked to the learned movement of an individual. It describes the way in which they perform a specific skill.
Tactics	Tactics in sport can be individual or collective for a team. They consist of planning strategies to implement during a match.
Official	Also known as a referee or umpire. They are responsible for enforcing the rules in a sport. They bring control to chaos, understand fairness, promote safety and encourage good sportsmanship.
Warm up	A series of physical movements that prepare the body for exercise or competition. It can increase the temperature of the muscles, build up the heart rate, and improve oxygen consumption and blood flow. It can also decrease stiffness, enhance coordination, activate the core, and prevent or reduce injuries.
Cool down	A session of light exercise that follows demanding physical activity; the session will usually include gentle cardiovascular exercise and stretching activities. It can bring body temperature and heart rate down, help remove lactic acid and prevent injury.
Teamwork	Individuals working together to achieve a common goal. This requires all members of a sports team to have a shared and deeply imbedded understanding of: team identity, team philosophy, individual roles, and performance outcome goals.

1. Challenging Vocabulary:
Describe & explain

What? How? When? Who? Example?

a) Long bone
b) Short bone
c) Flat bone
d) Irregular bone
e) Sesamoid bone

2. Challenging Vocabulary:
Describe & explain

What? How? When? Who? Example?

a) Cardiac muscle
b) Skeletal muscle
c) Smooth muscle

3. Application of knowledge:
Explain your answer

- What does the skeletal system do?
- Describe its functions….

4. Apply and Analyse:
Higher order thinking

- Choose a position in any of the sports shown in the main knowledge organiser and describe the role of a player in that position.
- Why is teamwork important to a successful fielding team? Can you give an example from a sport you play or watch?

5. Application of knowledge within specific sporting contexts:

a) Mike is 46 year old man who takes part in lots of football. He is a midfield player. Explain muscles used when playing his sport?

b) Jamie is 31 year old lorry driver. He does not lead an active life and has a bad back, which core muscles can he train and make stronger to help?

c) Emma is a 30 year old women, she plays hockey on a Saturday. Emma is an attacking player. Explain how the skeletal system helps her play?

d) Jack is a 32 year old man who loves cycling long distances. Explain which are his main cycling muscles? What exercise could he do to train them?

e) Katy is a rounders umpire for a local under 16 team. Explain her role and the scoring system for rounders?

E. Key Words

1. **Siddhartha** – the first Buddha
2. **Meditate** – Buddhists sit silently or chant to think deeply or focus their minds
3. **Renounce** – give up something, e.g., chocolate
4. **Golden Mean** – striking the perfect balance in life
5. **Temple** – Buddhist Holy Building
6. **Sangha** – Buddhist community
7. **Tripitaka** – Holy Book
8. **Karma** - destiny or fate, following as effect from cause.
9. **Reincarnation –** Rebirth of a soul into a new body
10. **Enlightenmen**t – gaining spiritual knowledge or insight. The ultimate goal.

F. Siddhartha

- Siddhartha grew up in a luxurious palace and lived a life of indulgence
- A Monk predicted he would become a holy man, which worried his father
- Siddhartha married Yasdohara and they had a son
- He was not satisfied as he not seen outside the palace walls
- He convinced his servant Channa to help him escape from the palace
- Outside the place he saw suffering for the first time
- He saw four sightings: an old man, a sick man, a corpse (dead body) and a holy man
- He decided to renounce his life of luxury and wealth and focus on his spiritual side, so tried to give up food
- He realised that focusing too extremely on one area alone was not healthy, and needed to find a healthy balance, the golden mean.
- He sat in the shade of a Bodhi tree and mediate all night.
- Although he faced temptations whilst meditating, he fought them and after felt that he had recognised the causes of suffering.
- He was then known as the Buddha, the enlightened one.

G. How do Buddhist worship? Buddhists say you need to apply this approach to life. In order to live life to the full you need to be focused, calm and train your mind. This helps you be more aware of yourself and those around you.

For Buddhists, this is happens through worship, known as Puja. Worship is a way of showing respect and gratitude to the Buddha for his inspiration and his teachings. It is something to feel and enjoy. Puja is a way of sharing and celebrating together.

H. How do Buddhists reach Nirvana? Buddhists must act positively towards others in order to create good karma.

- Good karma will help them avoid the never-ending cycle of life involving greed, hatred and ignorance known as samsara. If they can strike up a balance of living a good and healthy life, which Buddhists recognise as the golden mean. They can have a chance to achieve enlightenment and reach nirvana.

The Bourne Academy

Knowledge Organiser: Year 7 Autumn Religious Studies

A. Key Words

1. **Monotheism** – one God
2. **Polytheism** – many Gods
3. **Torah** – Holy Jewish Book
4. **Synagogue** – Jewish Holy Building
5. **Shabbat** – Day of spiritual renewal and rest.
6. **Kosher** – means 'fit' or 'proper'. Foods that are permitted.
7. **Covenant** – an agreement or promise between two parties, e.g., God and Noah, Abraham & Moses

B. Key Figures – Abraham (Father of the People)

Genesis 12

As an older Abram was asked to leave his home and obey God. He believed in only one God, not many like everyone else.

As a result, he was promised this land and that his descendants would become a great nation.

He and his family settled in Canaan and were known as Hebrews.

At an older age his wife had a son, Isaac.

Abraham was asked to sacrifice Isaac but was stopped at the last minute.

C. Key Figures – Moses *Exodus 1:22-2:10*

Moses was a Hebrew and Hebrews were being treated terribly by the Egyptians.

He escaped being killed as he was saved the Princess, the Pharoah's daughter.

As he grew up, he disagreed with the poor treatment of the Hebrews and asked the Pharoah to free the Hebrews.

The Pharoah refused and 10 plagues were sent as a consequence.

Moses and the Hebrews escaped across the red sea.

Moses later received the 10 commandments

D. The Story of Hanukah

The festival of Hanukkah reminds Jews of a time 2500 years ago when Antiochus, a Syrian king, tried to make the Jewish people worship Greek gods.

A statue of Antiochus was erected in the Jewish temple and the Jews were ordered to bow down before him.

The Ten Commandments forbid Jews to worship statues or idols and so they refused. A small group of Jews called the Maccabees, (led by Judah Maccabee) rebelled.

After a three-year war they recaptured Jerusalem from the Syrians. But the temple was all but destroyed.

The Jews had to clean and repair the Temple, and when they were finished, they rededicated it to God.

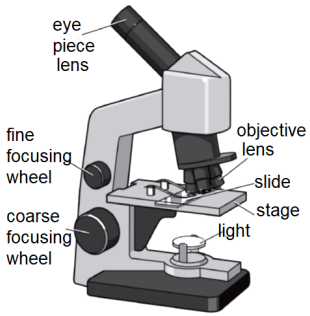
They did this by lighting the lamp (Menorah) - which was a symbol of God's presence.

Only one small jar of oil was found, enough for one day, but miraculously the lamp stayed alight for eight days.

Challenge Tasks	Research Challenge	Wider Links Challenge
1. Create 10 true or false statements on today's topic 2. Transform your learning into a series of images using up to 5 words 3. Plan an alternative lesson about what we have learnt today 4. Construct a timeline showing your learning through today's lesson 5. Produce a summary of today's lesson – then reduce the number of words used to a single sentence or three bullet points 6. Turn today's learning outcomes into questions 7. Select 5 key terms that you have used today and create a summary using all of the terms 8. Create 5 questions your teacher might ask about today's learning 9. Use a thesaurus to add more ambitious vocabulary into your work 10. If today's lesson were an album, what would it be called? What songs would be on it?	**Buddhism** A. Research the Dalai Lama (Buddhism) B. Research Thich Nhat Hanh (Buddhism) C. Research Mahaprajapati Gotam (Buddhism) D. Find out what the three Universal truths are E. Find out what the four noble truths are F. Find out what the eightfold path is **Judaism** G. Research Elie Wiesel (Judaism) H. Research Connie Ten Boom (Judaism) I. Research Eva Corr (Judaism) J. Find out what Shabbat is and what it involves K. What does a Bar mitzvah involve? L. What do KIDDUSHIN mean and what is involved?	I. Describe how today's learning relates to another of your subjects II. Describe the impact of today's learning on your wider outlook III. Explain how you might use today's learning outside of school IV. Use the internet to find any examples of Judaism or Jewish influence in the news V. Use the internet to find any examples of Buddhist influence in the news

Knowledge Organiser: Year 7 Autumn Term Science B1 Cells

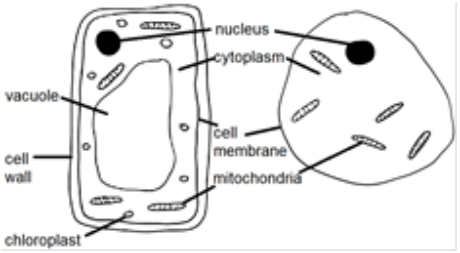
(1) Keyword	Definition
a) cell	The basic building block of life.
b) cell membrane	Controls the movement of substances in and out of the cell.
c) cell wall	Provides support to the cell and is made of a tough fibre called cellulose.
d) chloroplasts	Photosynthesis takes place in the chloroplast.
e) cytoplasm	Jelly-like substance where chemical reactions take place.
f) mitochondria	The site of aerobic respiration in the cell.
g) organ	Different groups of specialised cells working together – example heart.
h) nucleus	Carries genetic information and controls the cell.
i) specialised cell	A cell that is adapted to perform a particular function.
j) vacuole	Contains cell sap.
k) tissue	Something made from just one type of specialised cell.



(2) Microscope

A light microscope uses light and a series of lenses to produce a magnified image of an object.

Magnification is a measure of how much bigger an object appears under a microscope than in real life.



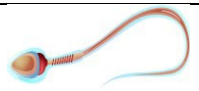
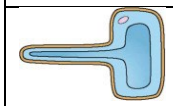
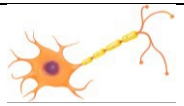
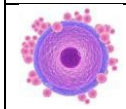
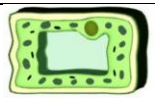
(3) Plant and animal cells

Plant and animal cells contain smaller structures called organelles which help it to carry out its function.

Some organelles are found in both animals and plants – but not all.

(4) Specialised cells

A specialised cell is a cell that is adapted to carry out a particular function.

 Red Blood Cell	Carries blood around the body. No nucleus.	 Sperm Cell	Long tail for swimming. Lots of mitochondria
 Root Hair Cell	Takes in water from the soil. Large surface area.	 Nerve Cell	Carries signals around the body. Very long and thin.
 Egg Cell	Lots of mitochondria.	 Palisade Cell	Contains lots of chloroplasts for photosynthesis.

(1) Key Word	Definition
a) Anomaly/ anomalous	A piece of data that doesn't fit the pattern.
b) Conclusion	Identifies what we have learned in the investigation.
c) Control variable	What you keep the same in an investigation.
d) Dependent variable	What you measure or observe in an investigation.
e) Independent variable	What you change in an investigation to see how it affects the dependent variable.
f) Method	A clear list of instructions that let you carry out an experiment
g) Observation	Information gathered by your senses
h) Prediction	A sensible guess as to what will happen in an experiment.
i) Risk	How likely something is to be harmful.

(2) How to write a method

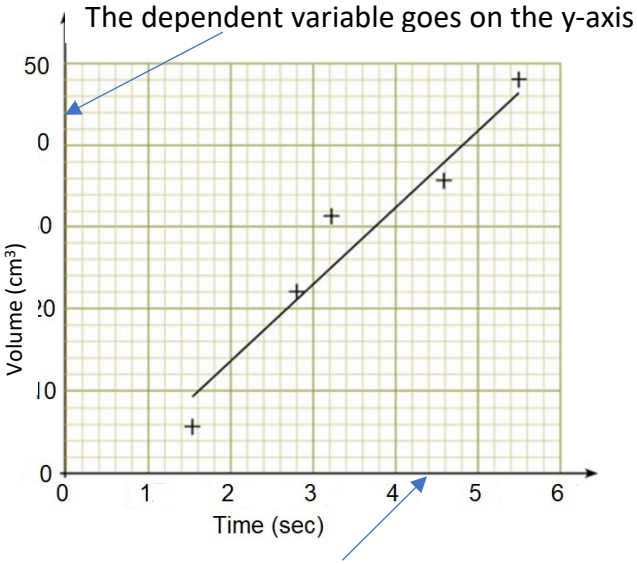
1. Write short, numbered sentences to describe each step.
2. Name each piece of equipment that you use.
3. Give the quantities (how much) of each chemical you use.

(3) How to draw a Table of Results

Temperature of water (°C)	Amount of Salt (g)	Amount of Salt (g)	Amount of Salt (g)	Average (g)
35	3	3	4	3.5
45	5	4	7	4.5

1. Always use a ruler and a pencil to draw the table.
2. The independent variable goes in the left-hand column and the dependent variable goes on the right-hand columns.
3. Do not include anomalies (values that don't fit the pattern) in the average.
4. To find the average, add all the values in horizontal line together and then divide by the number of values.

(4) How to draw a graph



Graph Check List

1. Use a sharp pencil
2. Use a ruler
3. Draw two axes
5. Label the axis
6. Add the units to the axis label
7. Draw a line of best fit if applicable
8. Add a title and underline it.

(1) Key Word	Definition
a) Balanced Forces	When the two forces acting on an object are equal in size but act in opposite directions.
b) Contact Force	A force acting between two objects that are touching.
c) Force	A push, a pull, or a twist on an object.
d) Mass	Mass is a measure of the amount of matter or 'stuff' in an object.
e) Newton (N)	We measure force in newtons (N).
f) Non-contact Force	A force acting between two objects that are **not** physically touching.
g) Normal Force	The force that supports the weight of an object on a surface. It stops us from falling through walls!
h) Resultant Force	Single force which can replace all the forces acting on an object and have the same effect. We find it by adding the forces together.
i) Speed	Speed is a measure of how fast an object moves.
j) Unbalanced Forces	When the two forces acting on an object are not the same size.
k) Velocity	Velocity is speed in a particular direction.
l) Weight	Weight is the force acting on an object due to gravity, measured in newtons (N).

(2) What is a force?

A force can be a push, a pull, or a twist. You can't see forces – you can only see the affect they have.

When a force is applied to an object it can lead to:

- A change in speed (acceleration).
- A change in the object's direction of movement.
- A change in the object's shape (squash or stretch the object).

Forces can also be divided into two types:

- **Contact Forces**, which act between two objects that are touching. Examples include friction and air resistance.
- **Non-contact Forces**, which act between objects that are not touching. Examples include gravity, weight and the magnetic force.

(3) Balanced and Unbalanced Forces

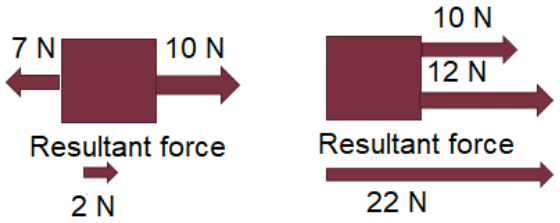
If the forces acting on an object are **equal**, we say that the forces are **balanced**. If the forces on an object are **balanced**, the object will either be stationary (not moving) or moving at a constant speed.

If the forces are **not equal**, we say they are **unbalanced.** If the forces on an object are **unbalanced**, the object will be speeding up (accelerating), slowing down (decelerating), or changing direction.

(4) Free Body Force Diagrams

Forces have a **size** and a **direction**. We can show the forces acting on an object by drawing a diagram called a **Free body force diagram**.

- The length of the arrows shows how large the force is.
- The direction the arrow points shows the direction of the force.



(5) Gravity

Gravity is a force that exists between any two objects with a mass. Gravity is not the same on all planets, as mass determines the force of gravity and the planets have different masses. Gravity on Earth is 9.8 N, but we usually round it up to 10 N.

An object which is on or close to a planet will experience a force of gravity which we call weight. We can calculate weight using the equation:

weight = mass x gravitational field strength

W = m x g

(6) Pressure

Pressure is a measure of the force that acts on a surface.
To calculate pressure, we use this equation:

pressure = force ÷ surface area

$$\textbf{pressure} = \frac{\textbf{force}}{\textbf{surface area}}$$

The units of pressure are N/m^2
A small surface area and a large force gives a higher pressure.

(7) Speed

Speed is a measure of how far an object can travel in a certain time.
We use this equation to calculate the speed of an object:

speed = distance ÷ time

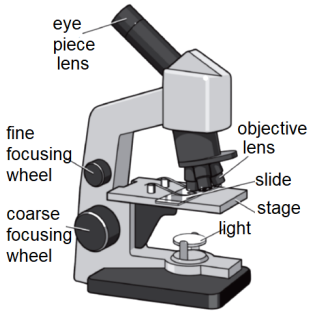
$$\textbf{speed} = \frac{\textbf{distance}}{\textbf{time}}$$

The units of speed can change. The most common units of speed are miles per hour, kilometres per hour (km/h) and metres per second (m/s)

(8) Acceleration

Acceleration is a measure of how quickly an object is speeding up or slowing down.

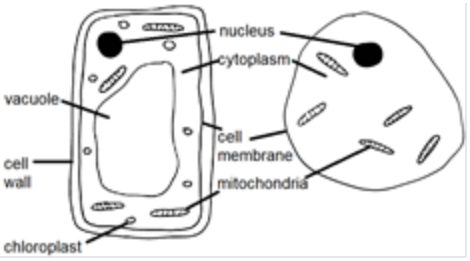
(1) Keyword	Match The Definitions to Key Words
a) cell	Contains cell sap.
b) cell membrane	Something made from just one type of specialised cell.
c) cell wall	A cell that is adapted to perform a particular function.
d) chloroplasts	The site of respiration in the cell.
e) cytoplasm	Provides support to the cell and is made of a tough fibre called cellulose.
f) mitochondria	Carries genetic information and controls the cell.
g) organ	Controls the movement of substances in and out of the cell.
h) nucleus	The basic building block of life.
i) specialised cell	Jelly-like substance where chemical reactions take place.
j) vacuole	Respiration takes place in the chloroplast.
k) tissue	Different groups of specialised cells working together – example heart.



(2) Microscope

a) Work out the total magnification of the microscope if the objective lens has a magnification of 300x and the eyepiece lens has a magnification of 10x.

b) Describe, in detail, how you would observe an object under a microscope.



(3) Plant and animal cells

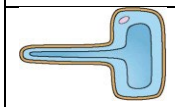
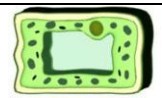
a) Describe the differences between animal and plant cells.

b) Describe the function of the mitochondria within both cells.

c) Describe the function of the chloroplast.

(4) Specialised cells

a) Research and state how cardiac, xylem and phloem cells are adapted to their function.

 Red Blood Cell	Carries blood around the body. No nucleus.	 Sperm Cell	Long tail for swimming. Lots of mitochondria
 Root Hair Cell	Takes in water from the soil. Large surface area.	 Nerve Cell	Carries signals around the body. Very long and thin.
 Egg Cell	Lots of mitochondria.	 Palisade Cell	Contains lots of chloroplasts for photosynthesis.

(1) Key Word	Match The Definitions
a) Anomaly/ anomalous	A clear list of instructions that let you carry out an experiment
b) Conclusion	What you measure or observe in an investigation.
c) Control variable	What you change in an investigation to see how it affects the dependent variable.
d) Dependent variable	A sensible guess as to what will happen in an experiment.
e) Independent variable	A piece of data that doesn't fit the pattern.
f) Method	Information gathered by your senses
g) Observation	How likely something is to be harmful.
h) Prediction	What you keep the same in an investigation.
i) Risk	Identifies what we have learned in the investigation.

(2) How to write a method

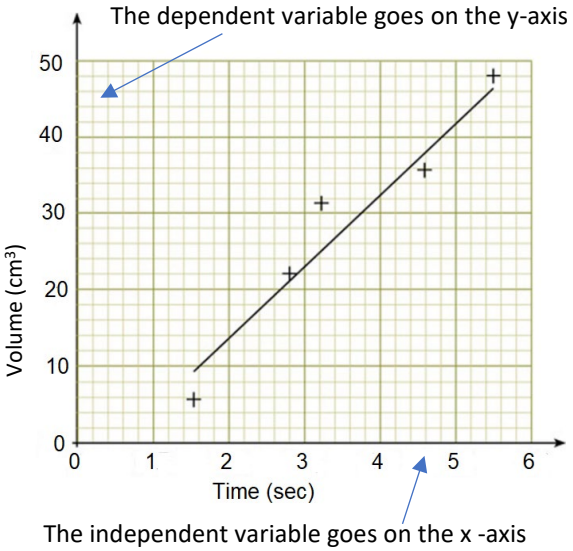
a) Write a method on how to make a cup of tea.
b) State the independent, dependent and control variables when making a cup of tea?
c) How would you ensure that the results collected are accurate and precise?

(3) How to draw a Table of Results

Temperature of water (°C)	Amount of Salt (g)	Amount of Salt (g)	Amount of Salt (g)	Average (g)
35	2	4	4	?
45	4	?	8	6

a) Redraw the table
b) Calculate the average of the results in the table above for 35^{O}C.
d) Calculate the missing value for the second value of 45^{O}C.
e) Add another row to the table for 55^{O}C. Insert the following results into the table and calculate a mean. 9 g, 10 g, 12 g.
f) Add another row to the table for 65^{O}C. Insert the following results into the table and calculate a mean. 14g, 16 g, 16 g.
g) Why do units not get inserted into the table?
h) What variable is placed in the first column of the table? Why?

(4) How to draw a graph



a) Using the data in section 3 (to the right), and the data you inserted into the table, draw a graph of results.
b) Draw a line of best fit of your results.
c) What is the dependent, independent and control variables in this investigation?
d) How much salt would you expect to dissolve in water of the following temperatures?
   i. 40^{O}C
   ii. 50^{O}C

Bourne Scholars Knowledge Organiser: Year 7 Autumn Term Science P1 Forces

(1) Key Word	Match the Definition with the Key Words.
a) Balanced Forces	The force acting on an object due to gravity, measured in newtons (N).
b) Contact Force	When the two forces acting on an object are equal in size but act in opposite directions
c) Force	A force acting between two objects that are **not** physically touching.
d) Mass	A measure of how fast an object moves.
e) Newton (N)	A measure of speed, but in a particular direction.
f) Non-contact Force	When the two forces acting on an object are not the same size.
g) Normal Force	A measure of the amount of matter or 'stuff' in an object.
h) Resultant Force	Single force which can replace all the forces acting on an object and have the same effect. We find it by adding the forces together.
i) Speed	A push, a pull, or a twist on an object.
j) Unbalanced Forces	The force that supports the weight of an object on a surface. It stops us from falling through walls!
k) Velocity	A force acting between two objects that are touching.
l) Weight	A unit used in Science as a measure of force.

(2) What is a force?

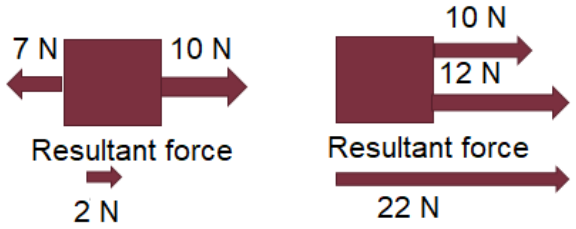
a) Give an example of:
   i. A push force
   ii. A pull force
   iii. A twist force
b) Give 3 examples of contact forces.
c) An object is sat on the desk. Describe all the forces acting on that object.
d) What would you need to do if you wanted a stationary object to accelerate?
e) Give 3 examples of non-contact forces.
f) The moon is held in orbit due to a non-contact force. What is that force, and why is that force greater on the sun?

(3) Balanced and Unbalanced Forces

a) Describe whether the forces acting on an object are balanced or unbalanced if the object is accelerating.
b) Describe whether the forces acting on an object are balanced or unbalanced if the object is decelerating.
c) Describe the changes in balanced an unbalanced forces for a skydiver as they jump out of a plane.

(4) Free Body Force Diagrams

a) Draw an accurate free body force diagram for an object experiencing a forward's force 26 N, a backwards force of 52 N, an upwards force of 23 N and a downwards force of 23 N, what is the resultant force?



(5) Gravity

a) Write the equation for weight, including the 2 ways in which you can rearrange the equation.
b) Calculate the weight of an object with a mass of 20 kg on Earth.
c) The force of gravity on Jupiter is 27 N/kg. Work out the weight of an object with a mass of 25 kg.
d) The wight of an object on earth is 5 KN. What is the mass of the object?

(6) Pressure

a) Which scenario would there be a greater force? Explain your answer. The heel of a stiletto shoe standing on a field or the sole of a trainer standing on the same field.
b) The surface area of the stiletto heel was 2 cm^2. The weight of the wearer was 850 N. Calculate the pressure.
c) The surface area of the trainer was 60 cm^2. The weight of the wearer was 850 N. Calculate the pressure.

(7) Speed

a) Write the equation for speed, including the 2 ways in which you can rearrange the equation.
b) An object covered a distance of 100 m in 14 s. Calculate the objects speed.
c) An object was travelling at a constant speed of 20 m/s over a period of 40 s. How far has the object travelled?
d) 2 objects have different masses. Both objects covered the same distance in the same time. Did the mass of either object affect the speed? Explain your answer.

(8) Acceleration

a) The moon travels around the earth at a constant speed. The acceleration of the object is constantly changing. Research why this is the case.

Unit 0: Introducing self and saying how I am		
a	¿Cómo te llamas?	*What is your name?*
b	¿Cómo estás hoy?	*How are you today*
c	¿Quétal?	*How's it going?*
d	Me llamo	*I am called*
e	Estoy bien gracias	*I am well thank you*
f	Hola	*Hello*
g	Buenos días	*Good morning*
h	Buenas tardes	*Good afternoon*
i	Buenas noches	*Good evening/night*
j	Adiós	*Goodbye*
k	De nada	*You're welcome*
l	Gracias	*Thank you*
m	Mucho gusto	*Nice to meet you*
n	vale	*OK*
o	hoy estoy	*today I am*
p	fenomenal	*great*
q	muy bien	*very well*
r	bien	*well*
s	regular	*so-so*
t	(muy) mal	*feeling (very) bad*
u	fatal	*feeling awful*
v	pero estoy	*but I am*
w	porque estoy	*because I am*
x	aburrido/a	*bored*
y	cansado/a	*tired*
z	emocionado/a	*excited*
aa	enfadado/a	*angry*
ab	enfermo/a	*ill/sick*
ac	estresado/a	*stressed*
ad	feliz	*happy*
ae	nervioso/a	*nervous*
af	tranquilo/a	*calm*
ag	triste	*sad*
ah	bastante	*quite*
ai	un poco	*a little*
aj	muy	*very*

Unit 1: Talking about my age		
a	¿Cuántos años tienes?	*How old are you?*
b	Tengo	*I have*
c	Tiene	*He/she has*
d	Mi hermano	*My brother*
e	Mi hermana	*My sister*
f	y	*and*
g	año	*year*
h	años	*years*
i	un(o)	*1*
j	dos	*2*
k	tres	*3*
l	cuatro	*4*
m	cinco	*5*
n	seis	*6*

o	siete	*7*
p	ocho	*8*
q	nueve	*9*
r	diez	*10*
s	once	*11*
t	doce	*12*
u	trece	*13*
v	catorce	*14*
w	quince	*15*
x	dieciséis	*16*
y	soy hijo único	*I am an only child (m)*
z	soy hija única	*I am an only child (f)*
Unit 2: Saying when your birthday is		
a	¿Cuándo es tu cumpleaños?	*When is your birthday?*
b	¿Cuándo es su cumpleaños?	*When is his/her birthday?*
c	soy de...	*I am from...*
d	Mi amigo	*My friend (m)*
e	Mi amiga	*My friend (f)*
f	se llama	*is called*
g	mi cumpleaños es el	*my birthday is the*
h	su cumpleaños es el	*his/her birthday is the*
i	primero	*first*
j	diecisiete	*17*
k	dieciocho	*18*
l	diecinueve	*19*
m	veinte	*20*
n	veintiuno	*21*

o	veintidós	*22*
p	veintitrés	*23*
q	veinticuatro	*24*
r	veinticinco	*25*
s	veintiséis	*26*
t	veintisiete	*27*
u	veintiocho	*28*
v	veintinueve	*29*
w	treinta	*30*
x	treinta y uno	*31*
y	enero	*January*
z	febrero	*February*
aa	marzo	*March*
ab	abríl	*April*
ac	mayo	*May*
ad	junio	*June*
ae	julio	*July*
af	agosto	*August*
ag	septiembre	*September*
ah	octubre	*October*
ai	noviembre	*November*
aj	diciembre	*December*
Unit 3: Saying were you live and where you are from		
a	¿Dónde vives?	*Where do you live?*
b	¿De dónde eres?	*Where are you from?*
c	vivo en	*I live in*
d	una casa	*a house*

e	un piso	*a flat*
f	bonito/a	*nice/pretty*
g	feo/a	*ugly*
h	grande	*big*
i	pequeño/a	*small*
j	en un eficicio antiguo	*in an old building*
k	en un edificio moderno	*in a modern building*
l	en el centro	*in the centre*
m	en las afueras	*on the outskirts*
n	en la costa	*on the coast*
o	soy de	*I am from*
Unit 4: Free time activities		
a	¿Qué te gusta hacer en tu tiempo libre?	*What do you do in your free time?*
b	Cuando tengo tiempo	*When I have time*
c	En mi tiempo libre	*In my free time*
d	Me encanta	*I love*
e	Me gusta	*I like*
f	No me gusta	*I don't like*
g	jugar	*to play*
h	a la Play	*Playstation*
i	a videojuegos	*videogames*
j	al ajedrez	*chess*
k	a las cartas	*cards*
l	al baloncesto	*basketball*
m	al fútbol	*football*
n	al tenis	*tennis*
o	en el ordenador	*on the computer*

p	hacer	*to do*
q	ciclismo	*cycling*
r	deporte	*sport*
s	equitación	*horse riding*
t	footing	*jogging*
u	natación	*swimming*
v	senderismo	*hiking*
w	ir	*to go*
x	a casa de mi amigo	*to my friend's house*
y	al centro comercial	*to the shopping centre*
z	al gimnasio	*to the gym*
aa	al parque	*to the park*
ab	al polideportivo	*to the sports centre*
ac	a la piscina	*to the swimming pool*
ad	de paseo	*for a walk*
ae	de pesca	*fishing*
af	con	*with*
ag	mis amigos	*my friends*
ah	porque	*because*
ai	es	*it is*
aj	no es	*it isn't*
ak	aburrido/a	*boring*
al	agotador/a	*tiring*
am	divertido/a	*fun*
an	emocionante	*exciting*
ao	interesante	*interesting*
ap	saludable	*healthy*

<table>
<tr><td colspan="2">1. Grammatical vocabulary</td><td colspan="3">2. Spanish Cultural Research</td></tr>
<tr><td colspan="2">i. Define what an infinitive.
ii. Find out how you recognise them in Spanish and what they look like in English.</td><td colspan="2">i.Who is she?
ii.What is she famous for?
iii.Where is she from?</td><td>Frida Khalo</td></tr>
<tr><td>3. Dictionary skills</td><td colspan="4">Find out the following information about a bilingual Spanish dictionary.
a. What is the difference between the two halves of the dictionary?
b. How does the dictionary tell us the different word types?
c. When looking up the Spanish version of a noun, how does the dictionary tell us the gender of the noun?</td></tr>
<tr><td>4. Key Verbs</td><td colspan="4">Look up the following verbs in the present tense – fill in the blanks</td></tr>
<tr><td></td><td>Personal pronoun

Yo (I)
Tu (you sing)
él/ella (he/she)
nosotros (we)
vosotros (you pl)
ellos/ellas (they)</td><td>Tener – to have

tengo I have
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____</td><td>Ser – to have

_____ _____
eres you are
_____ _____
_____ _____
_____ _____
_____ _____</td><td>Estar – to be

_____ _____
_____ _____
está he/she/it is
_____ _____
_____ _____
_____ _____</td></tr>
<tr><td>5. Understanding grammar</td><td colspan="4">Find the answers to the following questions
a. What is the difference between the two different forms of “to be” in Spanish?
b. Why are there two forms of “you” related to verbs in Spanish? What is the difference?
c. Which of the above verbs would you use to tell someone your age?</td></tr>
<tr><td>6. Translations</td><td colspan="4">Translate the following into Spanish.
a. Are you from Havana, in Cuba? _____
b. My parents are forty. _____
c. My friends are from Madrid and they are twelve years old. _____
d. Are you all eleven years old? _____</td></tr>
</table>

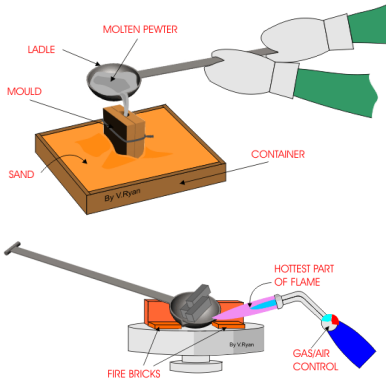
1. Pewter Casting

Casting is a **manufacturing process** used for making 3D shapes out of metal.

Metal is placed into a ladle and heated to its **melting point** using a gas torch.

When the metal reaches its melting point it becomes a liquid. Then it is poured into a **mould**: it goes through the **sprue** and into the **cavity**.

When the metal has cooled the mould is opened and the shape is released.



2. Metals

There are three main groups of metals:

Ferrous metals contain iron. They are magnetic and will rust (corrode). Types of ferrous metals include mild steel.

Non-ferrous metals do not contain iron. They are non-magnetic and will not rust (corrode). Types of non-ferrous metals include aluminium.

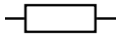
Alloys are a mix of metal. This means alloys have improved properties and are suitable for a range of different products. Types of alloys include **pewter,** which is used in casting.

3. Electronics

Different components have different functions:

Input Components : The input is what sets an electrical circuit in action. It allows the first signal to be sent.

Output components : The output is what the circuit results in and ultimately does.

Batteries		Store and release electrical energy.
Resistors		Reduced the flow of electrical current.
Switches		Makes or breaks a electrical circuit.
LED		Emits light when an electrical current in run up its Anode and down its Cathode.

4. Product Analysis

A product analysis looks at current products and assesses whether they are successful or require improving.

When carrying out a successful product analysis you always ask yourself the following questions in relation to the product you are looking at….

Medium

Hot

1. Who is the product designed for? How do you know this?
2. How has the designer made the product easy to use?
3. What features does the product have which makes it a good product?
4. What features does the product have which could make it hard to use?
5. What materials have been used and why?
6. How would you improve the product?

5. Timbers

Hardwoods are durable and often used in expensive furniture. Hardwoods tend to have a close grain so look aesthetically better. They grow slowly. Example= Oak, Mahogany, Teak and Beech.

Softwoods are cheaper than hardwoods. They grow quickly. IKEA use softwood from sustainable forests, meaning that for every tree cut down they plant one in its place, a softwood tree takes 2—30 years to grow. This is better for the environment. They have very visible grain. Examples= Pine and Spruce.

Manufactured boards are timber sheets which are produced by bonding wood layers or wood fibres together. They are manmade. Examples are Plywood and MDF.

6. Sustainability

R educe — Using less materials and energy. Reducing the amount of packaging in products.

R euse — Designing reusable products that do not need to be thrown away straight after use.

R ecycle — Recycling products into new materials to be used again. Choosing recyclable materials.

Sustainability is about designers and manufacturers working together to minimise the impact products have on the environment. It is about being environmentally friendly.

7. New and Digital Technologies

CAD stands for **Computer Aided Design**. CAD software allows designers and engineers to design and model their products on computers. Designs are more easily to edited.

CAM stands for **Computer Aided Manufacture**. CAM processes include Laser Cutting, 3D Printing and Robotics. It is quicker, more accurate and creates intricate items.

8. Quality Control

8. Quality Control is when engineers and designs make regular checks to ensure what they are doing is correct.

Quality control checking reduces mistakes, waste materials and wasted time.

9. Working safely

PPE stands for **Personal Protective Equipment.**

PPE you will wear:

- An apron
- Safety goggles
- Leather Gloves

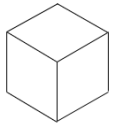
10. Design Communication

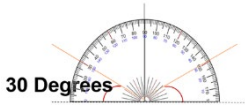
It is important all ideas are communicated clearly through drawings and annotation.

Annotation is the labelling of your work to fully explain it.

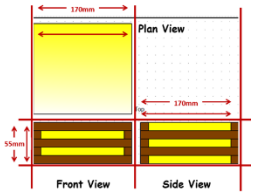
Types of drawing include:

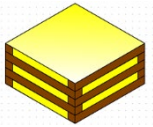
Isometric 3D drawing:



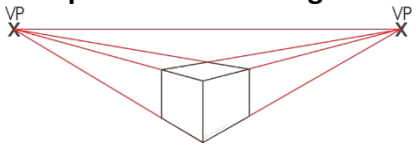


Orthographic 2D drawing:





Perspective 3D drawing:



Free hand sketching:

11. Project Tools and Equipment

Wire Cutters

Metal Vice

Soldering iron

Hacksaw

Soldering iron Holder

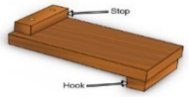
File

Wet sponge

Engineer's Square

Solder sucker

Bench Hook



Solder

Tenon Saw

12. Material Properties

Material properties are the characteristics of materials and the way they perform.

Durable: Withstands wear and tear over time.

Hard: Withstands scratching.

Tough: Withstands sudden impact.

Strength to Weight ratio: Strong but still lightweight.

Ductile: Can be stretched.

Conductor: Allows passage of heat or electricity.

Insulator: Does not conduct heat or electricity.

Corrosion resistance: Resistance to rust and UV light

Malleable: Can be shaped, pressed and moulded.

13. Engineering Sectors

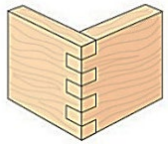
Sectors are different job areas within engineering. This includes:

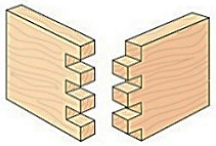
Electrical, Mechanical, Automotive, Aeronautical, Architectural and Design Engineering.

Each sector carries out different engineering tasks.

14. Joining Materials

Comb joints are used in furniture construction, especially when making drawers. They provide extra strength to the corner of wooden products. Comb Joints interlock to fit components together.





PVA adhesive is used to join timbers. The glue takes 24 hours to fully dry before joints are secured.

Soldered or welded joints are used for metal components. They heat two metal components and join them with a filler metal that hardens and holds them together.

15. Materials

Timbers: MDF, Pine, Ply, Oak

Polymers: Acrylic, Rubber, HIPS

Metals: Aluminium, Mild Steel, Pewter.

1. Knowledge and Understanding applied to the wider world.

Sustainability. Designers must try to make products environmentally friendly. Research how car and airline companies are trying to make their cars and planes be as environmentally friendly as possible.

Manufacturing. Rotational Moulding and Vacuum Forming are ways engineers manufacture polymer products. Create a poster which uses diagrams and labelling to explain each of the processes step by step.

Materials. Materials are chosen based on their properties and what makes them suitable for how the product will be used. Pick an item from home, research the material it's made from and explain 3 material properties it has that makes it suitable for the product.

Market Research. Designers speak to potential primary users to understand problems they have in their lives that products could solve. Identify a problem that a family member has in their day to day lives, ask them all about it and what they think a good solution would be. Create an annotated design of a product that solves the problem.

2. Iterate, Develop, Create

All designers develop and iterate (change and improve) ideas in order to find the best solutions to everyday problems and user needs. Create a page of different design developments for the following products (or pick your own). Your design pages must have at least 5 designs on and your solutions must be for different primary users who would use the items in different places or different designs that are improvements for the same user.



3. Models

Designers use cardboard to create scaled down models of products as part of the design process.

Use cardboard to create scaled down models of the following products:



4. CAD Skills

Use the following link to create 3D CAD (Sketch-up) models of the below components

https://www.sketchup.com/account-setup?formstate=primary




5. Visit, Watch, Do.

Visit this link to a sketch-a-day YouTube channel. Pick a video tutorial and develop your drawing skills by following the instructions and demos.

https://www.youtube.com/channel/UCBtSgEZk914z5InEs_U2J3w

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