KROWLEDGE ORGANISERS

YEAR 7





SCHOOL DAY

08:50am Tutor Time

09:25am Lesson 1

10.40am Break 1

11:10am Lesson 2

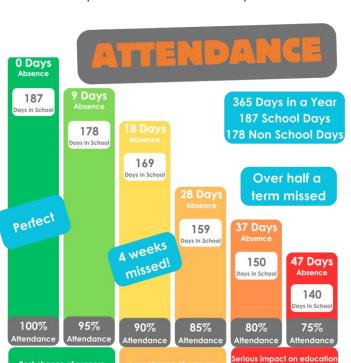
12:25pm Lesson 3

1.40pm Break 2

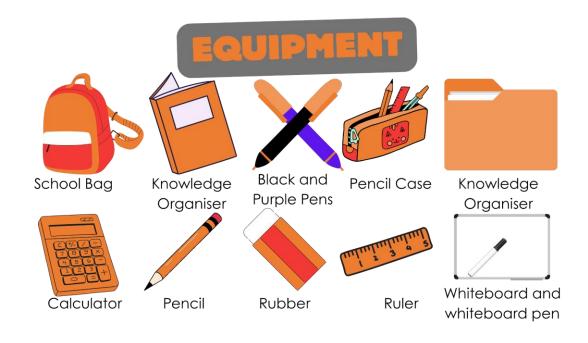
2.10pm Lesson 4

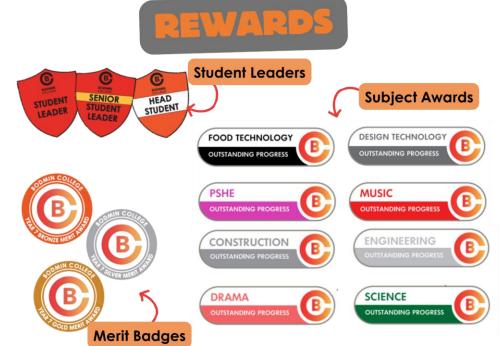
Best chance of success

3.25pm End of School Day

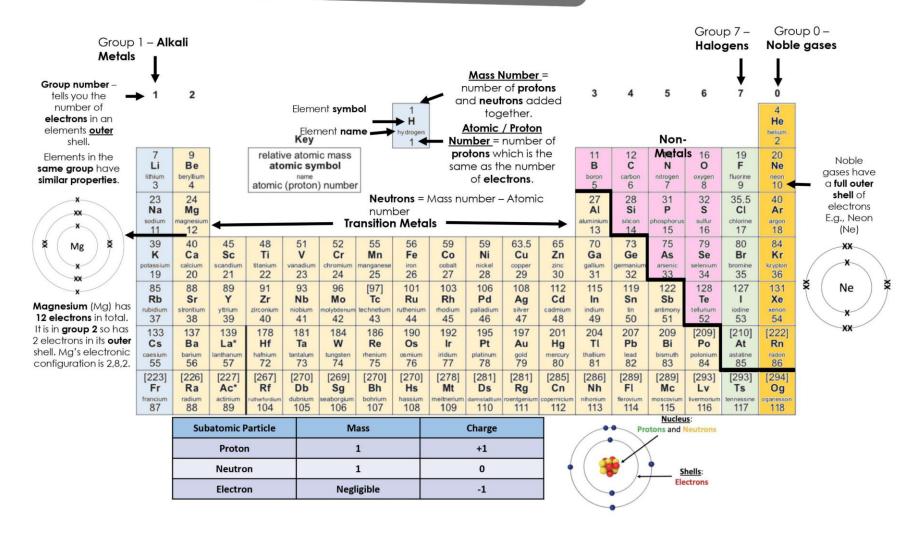


and reduced life chances





THE PERIODIC TABLE OF THE ELEMENTS







CONTINENTS AND OCEANS



CHARACTERISTICS







Sex



Disability



Sexual Orientation





Age



Reassignment Civil Partnership



and Maternity

Race



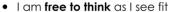
Religion or belief



Democracy

- I can influence the decisions that affect me in the school
- I can work **effectively** with others in the school





• I have the freedom to make choices that affect me but I recognise I am accountable for all my actions



Respect

- I recognise that everyone is entitled to their opinion as long as it does not promote extremism
- I understand that everyone is **entitled to a voice** within the classroom and I will listen to others

- I understand that the school rules are used to mirror society laws and must be respected
- I recognise that there will be consequences for my actions





Responsibility

- I recognise that I am as equally responsible for my learning as the teacher
- I take responsibility for my actions good or bad
- We all have a responsibility to promote and protect the wellbeing of others

Tolerance

- I recognise that it is unacceptable to dismiss the beliefs and opinions of anyone
- I understand that discussions about sensitive issues will be controlled and structured



STAYING SAFE AT SCHOOL

At Bodmin College we want to ensure that all of our students feel happy, safe and supported at all times. Everyone has a duty of care to safeguard your physical and mental health when at school.

During tutor and PSHE lessons you will be taught how to stay safe both in school, outside of school and online. There is always someone from the 'Safeguarding Team' to talk to during school hours, should you need to. However, you can talk to any member of staff that you feel comfortable talking to.



Bullying is not ok and we need to work together to stop it from happening. 'Full Stop' is our online bullying report form, that allows you to report any occurrences of bullying, either in school, out of school, or online. You can complete the form through the QR code. A member of the pastoral team will then investigate the incident and behaviour sanctions will be issued if bullying has happened.

LANYARDS



All staff, visitors and sixth form students where lanyards whilst on the college campus.

The purpose of lanyards are to keep our college campuses safe places to work and learn in. It is essential that all post-16 students, staff and visitors when on the college premises are easily identified and that we are aware of who everyone is on our campuses during all periods of the day. This is an important employability skill that you need to understand, as many sectors always require visible ID as a safeguarding requirement and a way of registering attendance.





Staying safe online is really important, especially now that we have smartphones and devices connected to the internet all of the time.

In school we use a system called **Smoothwall** so monitor the use of computers and devices connected to the internet. This helps us to keep you and our school community safe.

There are lots of tops to help you keep safe online. Checkout out the SMART Rules here.



Staying Safe Online

Follow the SMART Rules

S

Do not **SHARE or SEND**personal information, passwords,
images or videos of yourself. If anyone
asks you for images or videos tell an
adult straight away



Do not **MEET** anyone who you have only become friends with online. Even a friend of a friend is a stranger



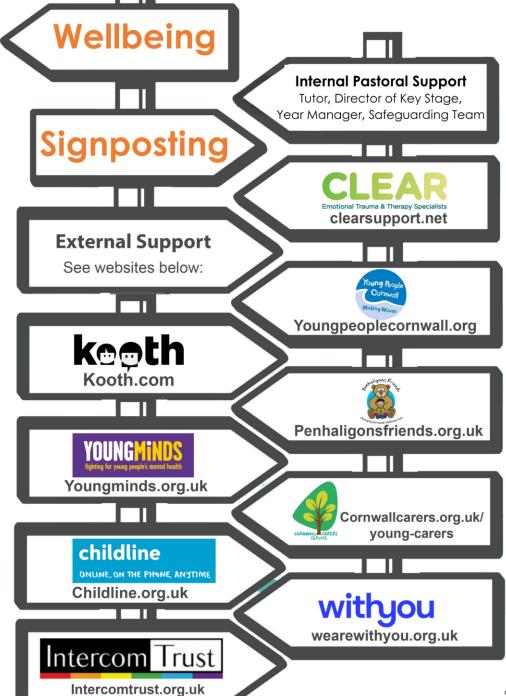
Do not **ACCEPT** messages, images, videos or friend requests from people you do not know



Not everything you see online is **RELIABLE**. Find at least 3 different sources to check information is correct



TELL a trusted adult if something happens online that makes you feel worried or uncomfortable







Get plenty of sleep

Teenagers need 8-10 hours of sleep per night



Maintain a healthy diet

Eating well - a balanced diet full of vegetables and nutrients - can improve your sense of well-being and mood





Exercise regularly

the block or to school - you'll feel better



Talking can provide stress relief, and can lighten the load of a concern you might be having. Talking about a problem can help to stop you from feeling so overwhelmed.

"Talk to someone"

Make time for yourself

Whether it's reading, watching a film or having a bath, making time for yourself is essential



Week 1 & 2 Weeks 3 & 4 Weeks 5 & 6

Recap common misconceptions from Cycle one.

- Shape A two-dimensional drawing of an enclosed area
- Proportion The relative size of an object when compared to other objects in the same image.
- Form The three-dimensional quality of a twodimensional image, created by shading.
- Tertiary Colour a colour created by mixing a primary and secondary colour adjacent on the colour wheel.
- Complementary Contrast Colours that are opposite to each other on the colour wheel e.g. red and green.

- **Watercolour** A dry pigment is mixed with water to create a translucent paint.
- Wax resist Coloured wax crayons/oil pastel or wax candle is used to repel water/paint.
- Sgraffito –
 An Italian word
 meaning 'scratch',
 to scratch through a
 surface to reveal a
 contrasting colour
 underneath.



- Narrative A story, in art this is told using imagery to depict a meaning.
- **Symbolism** The use of symbols and images to depict an idea.

Who is Jean Michel Basquiat?

Complete visual and written research about the artist on a double page in your sketchbook. Include your own copies of the artist's work, their name as the title and some printed imagery of their work. Present in a create imaginative way to best represent the artist's style.



Weeks 7 & 8

- Tonal shading Refers to the lightness or darkness of an object, created when using pencil/coloured pencil.
- Mark-making The creation of patterns, lines.
 Textures and shapes to show texture and movement.
- Pigment A colour created synthetically or naturally.
- Saturation Is the level or intensity of a colour.
- What is a 'Natural Form'? Is an object in nature in its original form, e.g. shells, bones, fossils, leaves, flowers, insects, seedpods, pinecones etc.

Weeks 9 & 10

 Fibonacci Sequence – A mathematical equation used to create a spiral, that occurs naturally in pinecones and sunflowers and is often used by artists in design.

https://kristenoneillart.com/how-artists-can-use-the-fibonacci-sequence/

- **Pattern** Is a design in which lines, shapes, forms or colours are repeated. Patterns can be regular or irregular.
- Repetition Repetition in art refers to the act of repeating an element, such as a line or colour, throughout a work. It can be used to create rhythm and structure.
- Illustration a type of drawing made for a specific purpose, often to accompany text or tell a story

Weeks 11 & 12

Who is Jennifer Judd-McGee?

Complete visual and written research about the artist on a double page in your sketchbook. Include your own copies of the artist's work, their name as the title and some printed imagery of their work. Present in a create imaginative way to best represent the artist's style.







Computer Science

Week 1 & 2 Weeks 3 & 4 Weeks 5 & 6

Input and Output Devices

All the devices shown below (Mouse, keyboard, controller etc) are input devices. They all send data/instructions to the computer system. For example, the games controller will send directional data/instructions, the scanner will send image data and the microphone will send sound data to the system.

All of the devices below (Printer, monitor, Speakers and headphones) are output devices. They all output information (processed data) from the computer system to the user. For example, the monitor will display images and the speakers will output sound.

CPU – Heat sink and Fan

Known as the Brain of the computer

- Responsible for processing data & instructions
- Gets hot very quickly and so often comes with a heat sink and fan to extract the excess heat

Ram – Random Access memory

- The computer's short-term memory.
- Stores programs that are currently in use.
- Fast data access speeds
- · Needs electricity in order to store data

Hard Drive – Long term storage

- The computer's long-term memory.
- All programs and user files are stored there.
- Does not require electricity to store data.

Motherboard

 Large circuit board which connects all of the other components together, allowing them to communicate with one another.

How does a computer actually work?

- 1. An (input device) sends an instruction (input) to the CPU requesting that the program is loaded.
- 2. The CPU will decode this instruction and then execute it. Now, because all programs and files are stored in the hard drive, it sends a signal to the hard drive requesting that the program files are copied over to the RAM.
- 3. The hard drive accepts this request and loads the program onto the RAM.
- 4. The CPU can now directly access and process the program files, at speed, and as a result the program is open and ready to use by the computer user.

Weeks 7 & 8 Weeks 9 & 10 Weeks 11 & 12

The CPU

- It is known as the brain of the computer.
- Its job is to process data, by carrying out calculations, performing logic and coordinating input and output signals.
- It is located on the motherboard and will often have a heat sink and fan positioned on top of it, to keep it cool, as it gets very hot, when in use!

Clock Speed

- The CPU's speed is determined by its clock speed
- This is the number of instructions the CPU can process in one second.
- It is measured in Hertz (cycles per second).

Denary (Our number system) to 8 Bit Binary

Binary Conversion

Find the largest value that fits into your number then subtract. Repeat. The number 42 in binary

128	64	32	16	8	4	2	1
0	0	1	0	1	0	1	0

For each number with a "1" beneath you add them together to get your overall number.

• 32 + 8 + 2 = 42.

You can also go from denary to binary using this table.

8 Bit Binary to Denary

To make the number 5, place a 1 under the numbers that you need and a 0 under the numbers that you don't...

128	64	32	16	8	4	2	1
0	0	0	0	0	1	0	1

Remember to use the table to support conversion between binary and denary.

The highest number you can make is 255 and the lowest number is 0.

Design & Technology

Weeks 1 & 2 Weeks 3 & 4 Weeks 5 & 6

Why is Sustainable **Design Important?**

The conservation of natural resources and ecosystems to support life and health for future generations. It includes practices like reducing pollution, conserving biodiversity, managing waste, and promoting renewable energy sources.

The 6 r's of **Sustainability**





Reduce



Recycle

Protects Nature: It helps keep forests, oceans, and animals safe and healthy.

Saves Resources: It ensures we don't use up all our water, energy, and materials, so there's enough for everyone in the future.

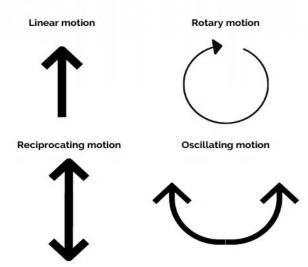
Healthy Living: It helps us live in clean, safe environments, with less pollution and waste.

- •Typeface: The design of a set of characters, including letters, numbers, and symbols, which share a common style.
- Font: A specific weight, style, and size of a typeface.
- •Serif: Small decorative lines or strokes added to the ends of characters in some typefaces. Examples of serif typefaces include Times New Roman and Georgia.
- •Sans-Serif: Typefaces without serifs. These are often seen as more modern and cleaner. Examples include Arial and Helvetica.



What is Mechanical Motion?

Mechanical motion refers to the movement of objects or parts of machines. It involves changes in the position of an object over time and can be described by parameters like speed. velocity, acceleration, and direction.



Key Concepts in Mechanical Motion

Force: A push or pull that causes an object to move, stop, or change direction.

Friction: The resistance that one surface or object encounters when moving over another.

Velocity: The speed of an object in a given

direction.

Acceleration: The rate at which an object changes its velocity.

Design & Technology

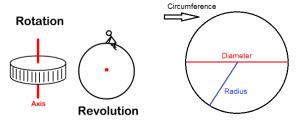
Weeks 7 & 8 Weeks 9 & 10 Weeks 11 & 12

What is Rotary Motion?

Circular movement around a central point or axis. Examples include the spinning of a wheel or a ceiling fan.

Key Characteristics of Rotary Motion

- Axis of Rotation: The line around which the object rotates. It can be internal (like the axle of a wheel) or external.
- Angular Velocity: The rate at which an object rotates around the axis, typically measured in degrees per second or radians per second.
- Radius: The distance from the axis of rotation to any point on the rotating object.
- **Circumference:** The distance around the edge of the rotating object.



Key Concept in Rotary Motion

Torque: A measure of the force that causes an object to rotate. It's the rotational equivalent of linear force.

Assessment week:

Identify key equipment and technical skills Recognise H&S rules Recall 'Mechanical Motions' Consider environmental issues

What is Oscillating Motion?

Oscillating motion refers to the repetitive backand-forth movement of an object around a central point or equilibrium position. This motion is characterised by a regular and periodic fluctuation, where the object moves from one extreme position to another and then returns.



What is Reciprocating Motion?

Reciprocating motion is a repetitive back-andforth or up-and-down linear movement of an object. This type of motion is characterised by the object moving in one direction, stopping, and then reversing to move in the opposite direction.



Drama

Weeks 1 & 2 Weeks 3 & 4 Weeks 5 & 6

Key Words

- Stock Characters-Hero, Villain, Damsel in Distress, Sidekick
- Melodrama- Drama and Melody
- Suspend and launch technique- Breathe in and lunge into first movement
- Stock gestures-actions in an exaggerated style
- Fixed points of focus- looking at audience in definite directions
- Exaggeration-Loud, expressive voice and huge gestures
- Pantomime-seasonal entertainment which has derived from Melodrama

Key Words

- Stock phrases-typical scripted words/short sentences each character would say.
- Re-cap Stock characters and stock gestures
- Proxemics- distance between actors on stage
- Exaggeration-'over the top' actions and voice

Recap:

- Vocal Expression Pitch, tone, pace, projection, pause, intonation, accent
- Physical Expression Facial expressions, Gesture, Posture, Gai

Key Words

- The Red Barn-a Victorian play based on true events
- William Corder and Maria Marten-main characters in The Red Barn
- Stage Directions- instructions given to actors by the script writer
- Costume- clothes worn by an actor on stage-e.g. Cloak and top hat for villain





Weeks 7 & 8 Weeks 9 & 10 Weeks 11 & 12

Key Words

- Slapstick: used to create a 'smacking' sound effect in a physical stage fight
- Slapstick Comedy-boisterous, exaggerated physical drama
- Improbable situations-not likely to happen
- Unrealistic Action-physically impossible
- Trips, Collisions and pratfalls
- Practical jokes and chases



Key Words

- Stage Combat-physical conflict without harm to the performers
- Timing and Accuracy
- Trust and Safety
- Face your partner and focus
- Attention to detail
- Concentrate on getting moves accurate
- **E**ye contact is key



Key Words

- · Rehearse-to practise for accuracy and timing
- Fight Sequence- a rehearsed scene
- Characters-clear roles, physically portrayed
- Storyline- the plot of the piece
- Illusion- it appears real but it is not
- Audience -they should sit end-on
- Knapp-the sound you make to create the sound of a punch or a slap



Week 1 Week 2 Week 3

The Bone Sparrow - Chapters One & Two

Discrimination – unfair or prejudicial treatment of different categories of people, especially on the grounds of ethnicity, age, sex, or disability.

Refugee – a person outside his/her country, fleeing danger and in danger if they return to their homeland.

Rohingya – The Rohingya people are a mostly Muslim ethnic minority group in Myanmar (Burma). They are not recognized as citizens within their own country.

Inference - a conclusion or guess we make based on the evidence we have in front of us and our own knowledge.

Naïve - too willing to believe that someone is telling the truth, that people's intentions in general are good, or that life is simple and fair. People are often naive because they are young and/or have not had much experience of life.

Human rights - the basic rights and freedoms that belong to every person in the world simply because they are human.

Context:

The story is about a 9-year-old boy, named Subhi who was born in a refugee detention centre in Australia. His family are from a country called Myanmar, which is located between India and Thailand. Subhi lives with his mum (Maa) and his sister (Queeny).

Key Quotations:

- "Sometimes at night the dirt outside turns into a beautiful ocean"
- "Today was one of her tired days"

The Bone Sparrow Chapter Three

Structure – the order in which plot events are told to the reader or audience.

Narrative Perspectives – the point of view a story is told from.

Human Rights:

- · the right to life
- · the right to a fair trial
- the right to privacy
- the right to vote
- the right to express your opinions and views
- freedom to have your own thoughts, beliefs or religion
- freedom to gather and meet, publicly or privately
- freedom from torture, inhuman or degrading treatment and slavery
- · the right to an adequate standard of living
- the right to the highest possible standard of medical care
- the right to education
- the right to work and to decent work conditions
- the right to social security (assistance for those unable to work due to sickness, disability, maternity, etc.)
- the right to participate in cultural life and to enjoy the benefits of scientific progress

Context:

The story also tells us of another character, Jimmie, who is an inquisitive Australian girl. Like Subhi, she has also lost a parent. She is curious about the people at the detention centre.

Key Quotations:

- "Today's food is only twelve days past its use by date"
- "The Jackets watching, take a step nearer, their hands on their sticks, just in case we didn't know already what happens if we cause a fuss"

The Bone Sparrow - Chapters Four & Five

- Pace the speed at which a story unfolds.
 Writers may increase the pace to create fastpaced action, or slow down the pace the
 build-up tension.
- Foreshadowing when a writer hints about future events within the story.
- Repetition when a word, phrase, object or idea is repeated within a text.
- Focal shift when the writer switches the focus from one thing to something else.
- Tension when the writer keeps the reader on the edge of their seat, feeling worried for a character.
- **Anticipation** feeling excited, hopeful or expecting something to happen.
- Suspense— feeling of excitement or nervousness

Context:

We learn more about the detention centre and the different areas within the detention centre. We also see how the 'Jackets' (guards) treat the refugees in the camp. In Chapter 5 we learn more about the cruel behaviour of a guard called Beaver.

Key Quotations:

- "When I was little, I had nightmares."
- "get a feeling like when I was little, and I'd wake from my nightmares."

Week 4 Week 5 Week 6

The Bone Sparrow - Chapter Five

Cyclical structure – when a writer ends a text in a similar way that they began.

Adjective – a describing word. Describes a noun. **Simile –** when a writer compares one thing to something else using: 'like' or 'as.'

Hyperbole – when a writer deliberately exaggerates something for effect.

Flashback – when a story goes back to a past event in the narrative.

Cliff-hanger – cliffhanger is when a narrative, or part of a narrative, ends in an unresolved and often sudden manner. They can be used in these ways:

- 1. Plot twist
- 2. unexpected revelation
- 3. elevated conflict
- 4. reader suspense and anticipation
- 5. sequel or serial

Context:

Subhi is running errands for Eli when he is caught by Beaver, the cruellest guard at the camp.

AllWrite 2: Re-read the first part of Chapter 5. How does Fraillon structure this section of the story to build tension for the reader? Write 3 paragraphs.

Key Quotation:

· 'And then everything changed.'

The Bone Sparrow - Chapter Six to Ten

Integrate – to closely link one thing to something else. Connecting two ideas.

Juxtapose/ juxtaposition – when the writer places 2 different things (characters/ places/ objects/events) side-by-side to highlight their differences.

Context

In Chapter 6 we learn about Jimmie and her relationship with her family. She also decides to sneak/ break-into the camp at night. Jimmie and Subhi meet for the first time. Subhi's best friend, Eli, is moved into a different part of the camp which upsets Subhi. Subhi and Jimmie's lives are juxtaposed by the writer.

Key Quotation:

 "every fence has a weak spot – It's only a matter of finding it."

<u>The Bone Sparrow - Chapters Eleven, Twelve & Thirteen</u>

Compare – when we explore the similarities and differences between to 2 things.

Contrast – to point out the differences between 2 things.

Connectives – words that help you to connect your sentences when comparing or contrasting are:

- Similarly...
- In the same way...
- Likewise...
- Equally...
- However
- On the other hand
- ...although...
- Despite this ...
- On the contrary...
- Instead...
- ...whereas...
- ...while...

Context:

In Chapters 11 and 12 we learn about Jimmie's mother's story. A story that is linked to Jimmie's heritage. Storytelling plays an important role within 'The Bone Sparrow,' as it is the only way both Subhi and Jimmie can learn about their family's pasts, their heritage and they help them to form their own identities.

Key Quotation:

"My fingers are tingling just thinking about touching those pages."

Week 7 Week 8 Week 9

The Bone Sparrow - Chapters Fourteen to Eighteen Freytag's pyramid - Freytag's Pyramid is a framework used to analyse and outline the plot structure of stories from beginning to end. It has 5

parts, these are:

- 1. **Exposition** the introduction to the story and a motivating incident or problem occurs that pushes the story forward.
- 2. **Rising action** the events that take place after the problem and build up to a highpoint.
- 3. Climax a turning point in the story.
- Falling action the tension in the story starts to decrease and move towards the story's conclusion.
- Denouement how the problems within the story are resolved. Leads to the end of the story.



Semantic fiel that are linked by meaning, for example words about: family or words linked to the supernatural.

Context:

Nature plays an important part within the story and is closely linked to both Subhi and Jimmie. Subhi sees Jimmie as being linked to the stars above.

Key Quotation:

"She laughs and smiles back at me, shining and beautiful. She's up there in those stars, the blackness going on forever all around her."

<u>The Bone Sparrow - Chapters Nineteen and </u> <u>Twenty</u>

Protest – an occasion when people show that they disagree with something by standing somewhere, voicing their disapproval, carrying signs, drawing attention to injustice.

Hunger strike – when people starve themselves in protest, to object against injustice.

Injustice – unfairness, unfair treatment or when rights are violated. When the law lets people down or doesn't treat people fairly.

D - Direct address

A - alliteration / anecdote

F – fact/ figurative language

O - Opinion

R – Rhetorical question/ repetition

E – Expert Opinion/Exaggeration/

S - Statistics

T – Triplets

I – Imperatives

Context:

A protest begins within the camp due to the unsanitary conditions and quality of food. Some of the men go on hunger strike, sewing their lips together.

Key Quotation:

 "...all of their lips stitched, so there's no food or water getting in."

<u>The Bone Sparrow - Chapters Twenty-One to</u> <u>Twenty-Seven</u>

Foreboding – a feeling that something bad will happen; fearful apprehension.

Anarchy – a state of disorder due to an absence or non-recognition of authority or rules.

Mob mentality – the idea that people will adjust their own personal views in order to fit the group they are in.

Pathetic fallacy – when a writer manipulates the description of weather to represent the mood in the story.

Context:

Jimmie brings Subhi hot chocolate and other food he has never seen before when she sneaks into the camp again. The hunger strike and protests are escalating. Eli and Queeny manage to get a camera in the camp. Subhi finds a knife buried near the fence under some hedging and hides it in the sewers. Jimmie accidently cuts her arm.

Key Quotation:

 "There's a whole packet of strawberries, and those strawberries are the best thing I've ever tasted. They are the taste of happiness, pure and true."

Beaver (a Guard) attacks Eli and kills him.

Week 10 Week 11 Week 12 The Bone Sparrow - Chapters 28 to 31 **Non-Fiction Writing** The Bone Sparrow - Chapters Thirty-Two to Thirty-Seven **Atmosphere –** the mood or feeling that is created Context: **Motif** - a symbolic image or idea that appears by the writer. Newspapers are structured with headlines, frequently and is often used to emphasise an tag lines and paragraphs. underlying theme, in a story (it comes from the **Anticipation –** when we are looking forward to The purpose of newspapers is to report French word motif meaning "pattern"). something or expect something (good or bad) to information. happen soon. Headlines are short and catchy, often using **Theme –** an important idea that runs through a alliteration or a pun. story. **Assessment Week 1:** Tag lines are brief and offer a sentence or two giving an overview of the event/topic **Second-hand –** something borrowed or previously being reported. owned by someone else. Newspapers cover: who, what, when, where, how & why. **Ancestors** – people related to you that lived a Newspaper reports are structured into very long time ago. Context: paragraphs of information using TiP ToP. Jimmi is seriously ill and in danger of blood Newspapers use persuasive techniques to poisoning (infection) engage the reader: Context: Subhi has secretly left the camp / detention Direct Address 0 centre to help Jimmi. He calls an Alliteration 0 We hear of Eli's story about a whale again. The ambulance to help her. Facts & Statistics 0 camp is recovering from the fire and the death of A fire has broken out at the detention **Opinions** 0 Eli. The camp gets visitors from the government centre. Repetition 0 and human rights advocates. We learn more Subhi returns to the camp; it's in chaos. **Rhetorical Questions** 0

Exagaeration

Triplet

Emotive Language

Similes and Metaphors

0

0

about Subhi's dad (ba) and what happened to

him in Myanmar. Subhi figures out where his

treasures are from. Jimmie recovers from her

infection. Subhi's mum is recovering from her

grief.

Food

Weeks 1 & 2 Weeks 3 & 4 Weeks 5 & 6

Practical - Chow Mein

The Maillard reaction - the reaction between sugars and proteins from the impact of heat.

Basic equipment -

Saucepan – used for heating foods on the hob **Wooden spoon** – used for mixing items **Lemon Squeezer** - to extract the maximum amount of juice from lemons efficiently.

Stir-fry – A quick high heat way of cooking **Chow Mein** - A Chinese stir-fried noodle dish typically made with vegetables, meat, and noodle

Chinese Cuisine - The traditional cooking style and dishes originating from China.

Cross contamination - Cross-contamination is the transfer of harmful bacteria to food from other foods, cutting boards, and utensils if they are not handled properly.

Why meat is cooked – kills bacteria (pathogenic bacteria), looks better, texture changes, easier to digest.

Practical – Ham and Cheese Pinwheels

Basic equipment –

Baking tray - is a flat, rectangular metal pan placed in an oven and used for baking. **Greaseproof paper** – paper which is used to line

Greaseproof paper – paper which is used to line tins and baking trays with to prevent food items from sticking

Pastry brush – is used to spread a glaze or egg wash on the crust or surface of the food.

Where meat comes from -

Pork - pig

Beef - cow

Poultry – chicken, turkey, goose, guinea fowl, wood pigeon, quail, ostrich and pheasant

Lamb/Mutton – lamb/sheep

Venison - deer

Too little Protein - can lead to growth problems, a weakened immune system, and muscle wastage.

Too much protein - can place extra strain on the kidneys and liver as they have to break down the excess. As many high-protein foods are also high in saturated fats, too much protein could lead to high cholesterol levels or other health problems.

Practical – Muffins

Muffin – Small, individual-sized baked goods that are typically sweet and often contain fruits, nuts, or other flavourings.

Scoop and scrap – technique used to fill muffin/bun cases

Batter - A semi-liquid mixture of ingredients used as the base for muffins. It typically consists of flour, sugar, eggs, liquid (such as oil or milk), and flavourings.

Basic equipment –

Measuring jug – used for measuring liquids,
Wooden spoon – used for mixing items
Muffin tin – Muffin tins are used for holding batters
or mixes while they bake in the oven
Muffin cases – prevents the mixture from sticking

Muffin cases – prevents the mixture from sticking to the tin while cooking

Coagulation – the change in the structure of protein (from a liquid form to solid) brought about by heat

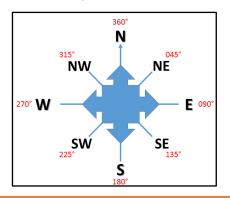
Food

Weeks 7 & 8 Weeks 9 & 10 Weeks 11 & 12 **Assessment Week Theory** Practical - Scones (Sweet/cheese) • Identity where food comes from and its Basic equipment – **Vitamin A** – healthy immune system and helps Measuring jug – used to measure liquids classification vision in dim light Baking tray - is a flat, rectangular metal pan Recall practical techniques placed in an oven and used for bakina. Consider food safety and scientific terms **Vitamin D** – helps to form strong bones and teeth Greaseproof paper – paper which is used to line • Recognise dietary conditions and basic and help absorb calcium tins and baking trays with to prevent food items nutrition Lactose - Lactose is the sugar of milk. It's found in from sticking **Cutter** – used to cut shapes which are equal from all dairy products, and in other foods that contain milk, such as ice cream and milk dough chocolate. **Rubbing in method** - A technique used in baking to combine fat (usually butter or margarine) with Yogurt - Yogurt is a dairy product created by the flour by rubbing them together with fingertips bacterial fermentation of milk or cream. It's most until the mixture resembles breadcrumbs. commonly made from cow's milk Vitamin A sources – dairy products like milk, Evaluation cheese and butter The quality of the products that you have made. Vitamin D sources – milk and yogurt The skills that you have developed. Equipment that you have learned how to **Lactose intolerance** is where you cannot properly digest lactose, a type of sugar found in milk and Skills or processes that you need to improve. How you could improve the way in which dairy products. you work in practical lessons. Melting cheese - Proteins are broken down, moisture is expelled, and solid fat globules Reflect - What went well? become liquified. Some of these changes are **React** - Even better if **Retain -** Imbedding knowledge reversible.

Geography

Week 1 Week 2 Week 3

Direction: The way in which one may face or travel; measured using a compass. **Bearing:** an angle measured from the north line in a clockwise direction. The angle of a bearing must always have three figures.



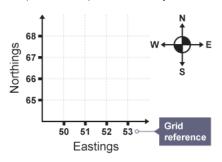
Four-figure grid reference: Used to locate a particular grid square on a map. This is important as it is a universal way for us to describe where things are on a map.

Six-figure grid reference: Allows you to accurately describe a location within (inside) a grid square.

Map symbols: Show important landmarks, places and areas. They are used because maps are usually too small to contain lots of writing.

The Ordnance Survey (OS) is the national mapping agency for Great Britain. This organisation produces maps of different areas of the country in detail and at different scales.

Six-figure grid references: Write the two figure eastings number but then add a third number to show how many tenths of the way across the grid square the place or object lies. Write the two figure northings number but then add a third number to show how many tenths of the way up the grid square the place or object lies.



Week 4 Week 5 Week 6

Relief: The height and shape of the land.

Spot height: A dot and number on a map, showing the height of that place above sea level, in metres.

Contour line: Line on a map joining places that are the same height above sea level.

Layer colouring: Areas of different height on a map are shown by using bands of different colours. There always needs to be a key.

Key: A guide which explains what the symbols or colours on a map mean. It is usually at the side of the map.

Distance: The amount of space between two places or things. You can measure distance on a map using the paper method or GIS.

GIS (geographic information system): Information arranged as 'layers' and used to describe a place or an area in varying amounts of detail.

Plan: A map of a small area (such as the school) drawn to scale. **Map:** A two-dimensional drawing of an area.

Scale: The ratio of the distance on a map to the real distance.

As the crow flies means the straight-line distance between two places.

Atlas: A book of maps.

Latitude: Parallel lines on an atlas map drawn north and south of the Equator.

Longitude: Lines on an atlas map drawn between the North Pole and South Pole.

Equator: An imaginary line around the middle of the Earth (0° latitude).

Prime Merdian: An imaginary line of 0° longitude; it is also called the Greenwich meridian because it passes through Greenwich in London.

The **Tropic of Cancer** is approximately 23.5°N of the Equator and the **Tropic of Capricorn** is approximately 23.5°S of the Equator.

Geography

Week 7 Week 8 Week 9

Wave: Ripples in the sea caused by the transfer of energy from the wind blowing over the surface of the sea.

Fetch: The distance the wind has travelled across the sea.

Swash: The movement of a wave up a beach.

Backwash: The movement of a wave back down a beach.

Prevailing wind: The most common direction the wind comes from in any one place.

Freeze-thaw weathering: Where water continually freezes in the cracks of rock, making them bigger, and eventually breaks the rock apart.

Chemical weathering: When water reacts with minerals in rocks and the structure of the rock is changed.

Abrasion: The scraping of the coastline by stones and sand in the sea.

Attrition: The wearing down of rocks and stones by banging against each other.

Hydraulic Power: The action of water pressure in breaking up cliffs; water is forces into cracks making them larger.

Headlands and Bays: When the coastline is made up of different types of rock, the erosion takes place at different speeds. The less resistant rock is eroded faster, forming a bay. The more resistant rock at each side of the bay is eroded slowly, forming headlands at either side of the bay.

Learn this sequence:

Crack > Cave > Arch > Stack > Stump

Refer to week 8 and embed the weathering and erosion processes. How do the processes link with the formation of coastal landforms?

Week 10 Week 11

Transportation: The movement of sand and pebbles from an area of erosion to an area of deposition.

Deposition: The dropping of pebbles and sand.

Longshore drift: The movement of sediment (e.g. sand and pebbles) along the beach in the direction of the wind.

Spit: A depositional landform formed when a finger of sediment extends from the shore out to sea.

Bar: A depositional landform where a spit grows across a bay eventually closing the bay to create a lagoon.

Hard Engineering: Using concrete or large artificial structures to defend against the sea.

Soft Engineering: Managing erosion by working with natural processes to help restore beaches and coastal ecosystems.

Sea wall: A concrete wall that aims to prevent erosion of the coast by reflecting wave energy. **Groynes:** A wooden barrier built out into the sea to stop the longshore drift of sand.

Riprap/rock armour: Large boulders deliberately dumped on a beach.

Beach nourishment: Adding new material to a beach (dumping sand).

Dune stabilisation: Building up dunes and increasing vegetation to prevent coastal erosion.

What is a command word? A command is an instruction to do something. Command words are used in questions to instruct you on what you need to do.

Week 12

State: Write a short, factual answer.

Identify: Select, find or highlight a particular feature.

Suggest: Give what you think is a possible reason or solution.

Describe: Write about what you see.

Explain: Give reasons. You should try to include the word 'because' in your answer.

History

Week 1 Week 2 Week 3

What were the Wars of the Roses?

Members of England's royal family, the *Plantagenets*, were in conflict in the 1400s. The conflict was between two sides of the Plantagenet family - the **House of York** and the **House of Lancaster**. Both sides felt that they had a good **claim to the throne** and that they should rule. At the time they were referred to as **civil wars**. The red rose was associated with the *Lancastrians* and a white rose with the *Yorkists*. This conflict became known as the Wars of the Roses after the conflict had finished. The Wars of the Roses ended in 1485, following **Henry Tudor's** victory over **Richard III** at Bosworth and his marriage to **Elizabeth of York**, which united the two families.

Who was Martin Luther?

In 1517 Martin Luther questioned the teachings of the Catholic Church in his '95 **Theses'. A theses is an idea of what should change.**

Luther challenged Church practices that did not appear in the Bible, such as people paying the Church for prayers that would send them to heaven when they died.

Luther's ideas challenged the power of the Church, leading to him being accused of heresy and being **excommunicated**. This means he was removed from the Catholic Church.

Luther's ideas led to widespread religious and political reform over the next few centuries. People who agreed with his ideas were known as **Protestants.**

Why did Henry VIII break from Rome?

Henry VIII had been a Catholic in his younger years. He had defended the Pope against the Protestant ideas published by Martin Luther, a German priest.

In 1534, Henry declared that he, not the Pope, was the head of the Church in England. This sparked the English **Reformation**. This was the name given to the changes in the Church. The break with Rome eventually triggered England's transition to being a Protestant country.

The Reformation had major repercussions, including the Dissolution of the Monasteries and many rebellions.

Week 4 Week 5 Week 6



The Tudors and Religion

Edward VI built on the changes that his father had started, and became a devout Protestant. **Mary I** restored Catholicism to England, attempting to make the country's religion the same as it had been at the beginning of Henry's reign.

At first, **Elizabeth I** attempted to forge a 'middle way' for religion in England. She wanted to create an inclusive Protestant Church that allowed her to be in a position of authority, while enabling former Catholics to feel that they could follow the new approach to religious worship. Later in her reign, however, she persecuted Catholics, and by the time she died England was a Protestant country.

The Spanish Armada

Alliance - an alliance is a connection or friendship between different countries

Privateer - a privateer is a person or armed ship allowed by a government to attack and steal from other ships at sea

Fleet - a fleet is a group of ships sailing together **Navy** - the navy is the branch of the armed forces which operates at sea

Spanish Armada - the Spanish Armada was a large group of warships

History

Week 7 Week 8 Week 9

The Elizabethan Poor

The Tudor period saw great advances which were not equally enjoyed by the rich and poor.

Poverty became a greater political issue in the late 16th century.

The 1590s saw a series of bad harvests which accelerated levels of poverty.

The Elizabethan elite were worried that rebellions fuelled by poverty might spring up.

Poverty - poverty is the state of being extremely poor

Monasteries - monasteries are buildings occupied by a community of monks living under religious vows

Rebellion - a rebellion is an act of armed resistance against a government or leader

The lives of Black Tudors

Historians can trace the lives of over 200 people of African origin who lived in England during the Tudor period. These individuals did a variety of jobs and lived in different places, from cities to country villages. Some even lived at the courts of King Henry VIII and Queen Elizabeth I.

John Blanke was a Tudor musician. Historians believe that he may have come to England alongside Catherine of Aragon, as part of her household staff. Records tell us that John was employed by Henry VII and Henry VIII; there is evidence to show that he performed at both the funeral of Henry VII and the coronation of Henry VIII. People of African origin came to be in England via a range of routes. Some came as traders and ambassadors, some directly from the continent of Africa, while others arrived via the Spanish and Portuguese empires.

What happened in Roanoke?

American colonies were a great source of wealth for the Spanish who founded gold and silver mines.

Sir Walter Raleigh tried to persuade Elizabeth I in growing an empire to be able to compete with the Spanish. New ships and maps allowed the English to travel further than ever.

Elizabeth gave permission for colonies in North America such as Roanoke, Virginia.

Poor relations between colonists and Indigenous Peoples contributed to Roanoke's failure.
Indigenous means the people who originally live

Indigenous means the people who originally live in an area.

The colony of Roanoke disappeared and to this day historians do not know exactly what happened.

Week 10 Week 11 Week 12

Clever Connectives to use in your writing

To Add Information: To Compare:

Furthermore Similarly
Moreover Likewise
In addition Just as
Additionally In the same way
Also Compared to
Besides As opposed to

As well as

Not only... but also

To Show Cause and Effect:

Therefore As a result Consequently
Because of Thus Hence
Due to For this reason So

What are primary sources?

Primary sources give you direct access to the subject that you're researching or learning about. They contain raw information. They can provide you with a first-hand account of an event or timeperiod, represent original thinking and give you new information. They're usually the centre of a piece of research.

Examples of primary sources include:

- diaries
- biographies and autobiographies
- interviews
- speeches and oral histories
- government data

What are secondary sources?

Secondary sources provide second-hand information and often offer explanations for primary sources. They were made after the event.

Examples of secondary sources include:

- textbooks
- dictionaries and encyclopaedias
- biographies
- Films or songs made about the event after it happened
- A documentary about the history of an event or a person

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Maths

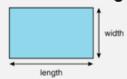
- 1) Go to sparxmaths.uk
- 2) Login using your username and password
- 3) Complete your compulsory homework as follows:
- · Write the bookwork code
- · Write the question and then your workings and your answer
- Mark your answer in a different colour
- · If you are struggling, watch the video
- Your homework is complete when you have answered every question correctly.
- If you are really struggling with one question, complete the other questions and ask your Maths teacher for help the next day or attend the Sparx Clinic.

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1	1	2	3	4	5	6	7	8	9	10	11	12
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5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144



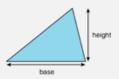
Maths – Point of reference

Area of a Rectangle



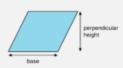
 $length \times width = l \times w$

Area of a Triangle



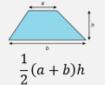
 $\frac{1}{2}$ × base × perpendicular height

Area of Parallelogram



base × perpendicular height

Area of Trapezium



Circumference of a circle



 $C = \pi \times d$

Area of a circle

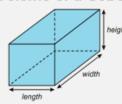


 $A = \pi \times r^2$

Parts of a circle

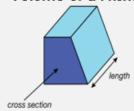


Volume of a Cuboid



Length × width × height $V = l \times w \times h$

Volume of a Prism



Area of cross section × length

Square Numbers 12 = 1

 $2^2 = 4$

32 = 9

 $4^2 = 16$

 $5^2 = 25$

 $6^2 = 36$

72 = 49

 $8^2 = 64$

 $9^2 = 81$

 $10^2 = 100$

112 = 121 $12^2 = 144$

 $13^2 = 169$

 $14^2 = 196$

 $15^2 = 225$

 $2^3 = 8$ $3^3 = 27$

Cube Numbers

13 = 1

 $4^3 = 64$

 $5^3 = 125$

 $6^3 = 216$

 $7^3 = 343$

 $8^3 = 512$

 $9^3 = 729$

 $10^3 = 1000$

Prime Numbers

2,3,5,7,11,13,17,

19, 23, 29, 31,

37,...

HCF: Highest Common Factor LCM: Lowest Common Multiple

Index Rules

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

$$\frac{x^a}{x^b} = x^{a-b}$$

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

$$x^0 = 1$$

$$x^{-a} = \frac{1}{x^a}$$

$$\chi^{\frac{1}{a}} = \sqrt[a]{\chi}$$

Maths – Point of reference

Angle Rules

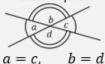
Angles of straight line add up to 180°



Angles at a point add up to 360°

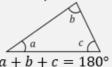


Vertically opposite angles are equal



Angle Rules

Angles in a triangle add up to 180°



Angles in a quadrilateral add up to 360°



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

Angle Rules

Corresponding angles are equal



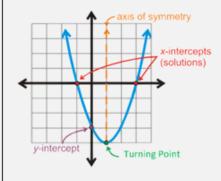
Co-interior angles add to 180°



Alternate Angles are equal



Quadratic Graphs



Speed, Distance, Time



Gradient

$$= \frac{change\ in\ y}{change\ in\ x}$$

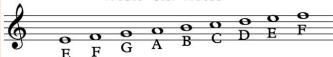
Music

Weeks 1 & 2 Weeks 3 & 4 Weeks 5 & 6

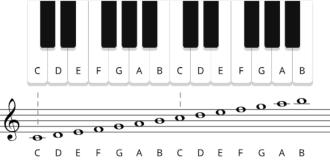
Treble Clef: A symbol that is printed at the start of a line of sheet music to assign the lines and spaces of the staff to specific note pitches.







Identifying the positions of notes on the keyboard:



C Major Scale: a series of seven musical notes that go from C to the next C, using only the white keys on a piano: C, D, E, F, G, A, B.

Lugwig van Beethover: Ludwig van Beethoven was a famous composer from the Classical and Romantic eras of music, known for creating powerful symphonies, concertos, and sonatas.

Ode to Joy: the final movement of Beethoven's *Symphony No.* 9, composed between 1822 and 1824.

The music is based on a poem by Friedrich Schiller called "An die Freude" (To Joy), which celebrates human unity, peace, and brotherhood.

Weeks 7 & 8

Keyboard: keyboard is a device with keys that you press play music.

Scale: a series of notes played in a specific order, usually starting and ending on the same note, like a ladder of sounds you can climb up or down.

Refinement: Refinement in music means making small improvements to a song or performance to make it sound better and more polished.

Articulation: Articulation in music refers to how you play or sing each note, like whether it's smooth and connected or short and sharp.

Weeks 9 & 10

Remix: altering or recombining elements of a song to create a new version.

Arranging: adapting a piece of music for different instruments or voices.

Comparing music: identifying similarities and differences between original and adapted versions.

Weeks 11 & 12

Improvement Week: Steps to Success

Learn the Notes: Memorise the lines (EGBDF) and spaces (FACE) on the treble clef using mnemonics like "Every Good Boy Does Fine" and "FACE in the space."

Staff Positioning: Understand how each line and space on the treble clef corresponds to a specific pitch.

Key Signatures: Learn how sharps and flats appear on the treble clef and their effect on notes.

Weeks 1 & 2

Weeks 3 & 4

Weeks 5 & 6

Skill Component = Speed

Definition	The ability to move all or part of the body as quickly as possible
Test The 30m time sprint	



Confidence | Confidence means feeling sure of yourself and your abilities. Confidence isn't about feeling superior to others. It's an inner knowledge that you're capable.

Skill Component = Reaction

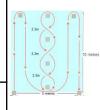
Definition	The ability to perform strength performances quickly
Test	The vertical jump



Attitudes | Attitudes are feelings or opinions that we have about something. Attitudes are evaluative, they can direct behaviour positively or negatively.

Skill Component = Agility

Definition	The ability to change the position of the body quickly and control the movement
Test	The Illinois test



Positivity | Having a positive attitude means being optimistic about situations, interactions, and yourself. People with positive attitudes remain hopeful and see the best even in difficult situations.

Weeks 7 & 8

Skill Component = Balance

Definition	The ability to maintain the body's centre of mass above the base of support
Test Standing stork test	



Comfort Zones | The comfort zone is where what you do is routine and familiar. In learning zone is where you experiment, develop your skills, and stretch your abilities.

Weeks 9 & 10

Skill Component = Co-ordination and Reaction Time

Definition	The ability to use two or more body parts together				
Test	The vertical jump				
Definition	The time taken to respond to a stimulus				
Test	Ruler Drop				





Weeks 11 & 12

SKILL-RELATED FITNESS COMPONENTS SPEED The ability to perform actions or cover distance quickly. POWER The ability to combine both speed and force in movements and actions. AGILITY The ability to quickly change direction without losing speed or power. BALANCE The ability to stabilize the body both in movement and when maintaining stillness. COORDINATION The ability to use your senses in combination with your actions when in movement. REACTION TIME The ability to respond quickly to what you feel, see or hear.

Growth Mindset | A growth mindset is about the attitude with which a person faces challenges, how they process failures, and how they adapt and evolve as a result.

Week 1 & 2 Week 3 & 4 Week 5 & 6

Staying Safe Online-Important Reminders

Be careful when sharing personal information online. Only use websites you trust. Personal information includes:

- full name
- date of birth
- address

This information can be used to steal your identity or to find you in the real world. Identity theft is where someone pretends to be you. They might shop online spending your money, or take out loans in your name.

Checking your sources

The internet is a great source of information but some of it is incorrect, out of date or biased (only tells one side). Always check multiple sources, ie other websites or written material, to confirm what you've read is correct.

No one is in charge of the internet so anyone can post or publish anything to it. Some content may be unsuitable. Websites that you can trust include those from:

- the Government if the address has 'gov.uk' in it, it's a UK Government website
- the National Health Service (NHS) if the address has 'nhs.uk' in it, it's an NHS website
- the Police the official website is <u>www.police.uk</u>
- the BBC all of the BBC's websites have 'bbc.co.uk' in their address

Cyberbullying

Using technology to bully someone is called cyberbullying. Cyberbullying can involve one or more of the following:

- sending offensive texts or emails
- posting lies or insults on social networking sites
- sharing embarrassing videos or photos online If you're being bullied, tell someone.

You can do this through school by speaking to any member of staff. You could also visit www.childline.org.uk

www.childnet.com/help-and-advice/online-bullying/

for more help and information.

Week 7 & 8 Week 9 & 10 Week 11 & 12

Democracy Key Words

Canvassing Persuading others to vote for you **Constituency** The area represented by an MP **Constituents** The people in a constituency that an MP represents

General election An election for a new government

House of Commons The more powerful, elected, of British government

Prime Minister Leader of government (majority party)

Opposition Political parties that are not in power **Suffrage** The right to vote in political elections

Democracy Key Words

Suffragette A woman seeking the right to vote through organized protest

Act of Parliament Law passed by government **Freedom of speech** Human Right allowing for people to state their opinion

Freedom of thought Human Right allowing for people to be free to think what they like Human Right Things that all humans should legally or morally have. The Universal Declaration of Human Rights is a document that describes 30 things that all humans should legally or morally have, rights that are universal.

What is the role of an MP?

There are 650 elected Members of Parliament (MPs) They have all been elected to represent a part of the country known as a constituency. MPs have two major roles:

- 1 Representing constituents in their local constituency by listening to their problems and trying to make the local area better.
- 2 –Working on UK law and policy in the House of Commons (London) Both jobs are equally important. There is an election at least every 5 years, MPs can remain in post if they continue to get lots of votes or they may lose their position if they don't get enough votes.

Weeks 3 & 4	Weeks 5 & 6
Lesson 2 - The Ministry of Jesus	Lesson 3 - Holy Week
Nativity: Story of the birth of Jesus Christ John the Baptist: Follower of God who baptised Jesus Ministry of Jesus: Period of time where Jesus travelled around Judea (modern-day Israel) gathering followers and teaching about God. Miracles: Acts of divine intervention performed by Jesus Disciple: 12 of Jesus' close followers and friends	The week leading up to Easter Sunday and the most important week in the Christian calendar Palm Sunday: Jesus' triumphant return to the city of Jerusalem. His followers laid palm leaves on the road before him. The Last Supper: The final gathering of Jesus and his disciples on the Thursday evening. Here Jesus established the sacrament of Holy Communion. Good Friday: The trial and crucifixion of Jesus. Easter Sunday: The resurrection of Jesus.
Weeks 9 & 10	Weeks 11 & 12
Lesson 5 - The Afterlife	Lesson 6 - Denominations
Christian beliefs about what happens when we die. Judgement: Where God decides your fate based on your actions in life Heaven: A positive place where worthy souls go to be in the presence of God Purgatory: A place of challenge and reflection where souls go to prepare themselves for the beatific vision (meeting God) Hell: A place of punishment for the wicked and	Different types of Christianity throughout the world and history Catholic Tradition: Largest denomination that holds close to the teachings of Jesus and the Bible. It is run by the Pope from Vatican City Protestantism: A part of Christianity that rejects the influence of the Pope and establishes a different approach to Christianity Schism: A period of time where a religious group splits from an established denomination
	Nativity: Story of the birth of Jesus Christ John the Baptist: Follower of God who baptised Jesus Ministry of Jesus: Period of time where Jesus travelled around Judea (modern-day Israel) gathering followers and teaching about God. Miracles: Acts of divine intervention performed by Jesus Disciple: 12 of Jesus' close followers and friends Weeks 9 & 10 Lesson 5 - The Afterlife Christian beliefs about what happens when we die. Judgement: Where God decides your fate based on your actions in life Heaven: A positive place where worthy souls go to be in the presence of God Purgatory: A place of challenge and reflection where souls go to prepare themselves for the beatific vision (meeting God)

Week 1 Week 2

Healthy Diet

Food group - Foods that share similar nutritional properties will be in the same food group.

Balanced diet - A balanced diet is comprised of the right amount of each food group.

Nutrient - Nutrients are essential for a healthy body and mind:

- Carbohydrates provide energy. Found in bread, potatoes, rice and pasta.
- **Lipids (fats and oils)** provide energy. Lipid-rich foods include butter and chips.
- **Proteins** for growth and repair damaged tissues, such as muscles. Beans, eggs, fish, meat and milk are high in protein.
- **Vitamins** are vital in many processes. For example, vitamin K helps blood to clot and vitamin C prevents illness. Fruit and vegetables are vitamin-rich.
- Minerals include iron, used to transport oxygen in the blood, and calcium, used in making bones and teeth.
- Fibre Moves food through the digestive system
- Water For chemical reactions in cells
- Energy requirements = Total energy needed in a day = daily BER + extra energy for activities
- (BER = energy needed to maintain essential bodily functions)

The state of the s

Unbalanced diet

- Malnutrition a serious health problem. It happens when people do not eat the right amounts of nutrients
- **Obesity** caused by taking in more energy from food/drink than is used up leads to health problems e.g. heart disease, high blood pressure
- Starvation Lack of food leads to slow growth, greater risk of infection
- **Deficiency diseases** e.g. Scurvy caused by a lack of vitamin C leads to problems with skin, gums and joints.

Effects of smoking

- **Smoking** The action of inhaling and exhaling smoke from burning tobacco.
- **Nicotine** Highly addictive drug found in tobacco leaves raises blood pressure and heart rate.
- **Tobacco** Dried leaves of the tobacco plant.
- Gas exchange The process of oxygen diffusing from the lungs into the blood, and carbon dioxide diffusing from the blood to the lungs

Diseases linked with smoking:

cancer - damage to the DNA causes the cell to uncontrollably divide

COPD - permanent damage to the alveoli

bronchitis - lung infection asthma - a temporary narrowing of the airways heart disease - damage to

the heart and its blood vessel

Creates paler skin and more wrinkles

The effects of smoking

Increased risk of cancer

Raises blood pressure

Effects of drugs and alcohol

Drug - A drug is a medicine or other substances that has a physiological effect when introduced into the body.

Recreation - Something that is done for fun is recreational.

Legal - If something is legal it is allowed by the law.

Illegal - If something is illegal it is not allowed by the law.

Depressant - A depressant slows down the messages sent from the brain to the nerves. They slow down thinking and reaction times.

Alcohol is a legal depressant, but long-term alcohol use can damage the brain and liver.

Medicinal - a drug used to treat a disease

Week 3 Week 4

Forces and Pressure

Contact forces act between objects that are **touching**. Examples include friction and upthrust.

Non contact forces act between objects that are **not touching**. Examples magnetism and weight.

All forces are measured in **Newtons (N)**. If the forces on an object are **balanced** then it will remain **stationary** if it is **not moving**. If it is **moving**, it will continue moving at the **same speed and in the same direction**.

Upthrust is the **upward** force experienced by a **floating** object.

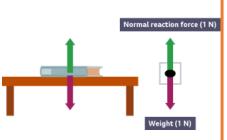
Friction is a contact force that acts between **moving objects**, in the **opposite direction** to movement.

Air and water resistance (drag) are examples of friction. They act on objects moving through the air or through water.

Resultant force is the sum of the forces acting on an object.

Normal reaction force acts when any two objects touch.

Force diagrams (free body diagrams) show the forces acting on an object. The arrows show the direction of the force and the size of the force.





Forces and Pressure

Mass is a measure of the amount of matter that an object is made of, measured in kilograms (Kg).

Weight is a **force** that acts on an object. The weight of an object depends on its **mass** and the strength of **gravity** acting on it.

The strength of gravity varies on different planets. On **Earth** it acts with a strength of **9.8N/Kg**.

Weight = mass x gravitational field strength

Objects can be stretched, increasing their length, or compressed, decreasing their length.

If a stretched or compressed object **returns to its original shape**, it is **elastic**. If it does not, it is **inelastic**. An object whose **shape has been changed** has been **deformed**.

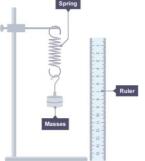
When a spring is stretched its **extension** is the amount its length has increased by.

The amount it stretches increases equally when equal amounts of force are applied. This known as **Hooke's law**.

However, if it is stretched too far it will **not** return to it's original shape. It has passed it's elastic limit.

Speed is the distance travelled by an object in a specified time. Its units are **m/s**.

Speed = distance/time



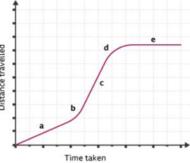
Week 5

Forces and Pressure

A distance-time graph shows the speed of an object throughout its journey.

The **steeper the line**, **the faster** the object is travelling.

A **horizonta**l line shows that the object is **stationary.**



Pressure is a force that acts over an **area**. Its units are N/m² Pressure is caused by the **particles** in a **fluid** (liquid or gas) hitting another object.

Pressure = force/area.

Atmospheric pressure decreases as you go higher. The **density** of the air **decreases** so there are **fewer particles** exerting a force.

At high temperatures particles move faster and cause greater force, so pressure increases.

Ocean pressure increases as you go deeper underwater.

The **weight** of the **column of water** above an object increases so the pressure increases.

The pressure on the **bottom** of an object is **greater** than on the top since it is **deeper**, causing **upthrust**.

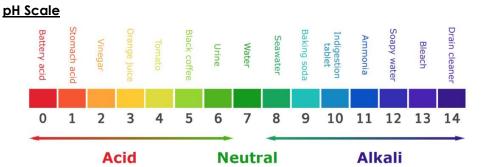
The **deepe**r the object, the greater the **upthrust**.

Density is a measure of the **mass per unit volume** of an object. Its units are usually kg/m³ or g/cm³

Density = mass/volume

Objects that **float** in water have a **lower density** than water.

Week 6 - pH



Acids and Alkalis

Strong acids (pH 1-2) include:

- Hydrochloric acid.
- Nitric acid.
- Sulfuric acid.

Weak acids (pH 3-6) include:

- Ethanoic acid.
- · Citric acid.

Strong alkalis (pH13-14) include:

- Sodium hydroxide.
 Weak alkalis include:
- Ammonia.



irritant



corrosive

Keywords

Indicators: Substances used to identify a solutions as acid or alkali.

Base: A substance that neutralises an acid.

Alkali: A base that dissolves in water.

Concentration: A measure of the number of particles in a given volume.

Week 7 - pH

Neutralisation

acid + alkali → salt + water

Salts are formed from neutralisation reactions. The name of the salt comes from the metal in the alkali and the acid used.

- Hydrochloric acid makes chloride salts.
- Nitric acid makes nitrate salts.
- Sulfuric acid makes sulfate salts.

e.g.

hydrochloric acid + sodium hydroxide → sodium chloride + water
nitric acid + calcium hydroxide → calcium nitrate + water
sulfuric acid + potassium hydroxide → potassium sulfate + water

Indicators

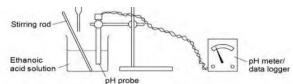
- Litmus turns red in acid and turns blue in alkali.
- Universal indicator used to identify the pH of a solution





Using a pH meter

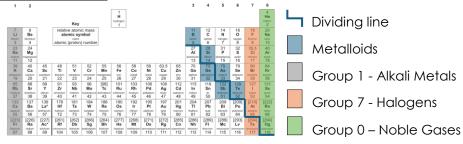
A pH meter gives a numerical value of the pH. As long as the pH meter has been looked after properly, the measurement should be accurate \odot . This means that the measurement is close to the true value.





Week 8 – Introduction to the Periodic Table

The Periodic Table



Elements on the periodic table are shown using **one-letter** or **two-letter symbols**; the first letter is always a capital.

Groups are the **columns** on the periodic table and contain elements that **react in similar ways**.

Periods are the **rows** on the periodic table and show **patterns in physical properties**.

Mendeleev's Periodic Table

- elements were **arranged** in order of **increasing atomic mass**.
- elements were grouped by similar properties.
- had **gaps** for elements yet to be discovered.

Metals and Non-metals

On the periodic table, **metals** are found to the **left** of the dividing line. Non-metals are on the **right** of the dividing line.

Metals:

- They have high melting and boiling points.
- They are good conductors of heat and electricity.
- They are shiny in their appearance.
- They are malleable.

Non-metals:

- Poor conductors of heat and electricity.
- Dull in their appearance.
- · Weak and brittle.



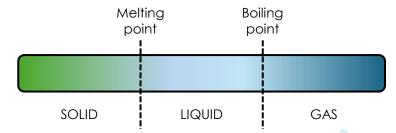
Week 9 - Introduction to the Periodic Table

<u>Alloys</u>

Alloys are a **metal element mixed with another element** to improve the properties of the metal element.

- Steel (iron and carbon) used in building.
- Brass (copper and zinc) decorative statues, instruments.

Melting and Boiling Points



Group 1 - Alkali Metals

Physical properties:

- Soft (compared to other metals.
- Dull but, shiny when cut.
- Less dense that water.
- Relatively low melting points that decrease down the group. Chemical properties:
- React with oxygen to produce a metal oxide.
- React with water to produce metal hydroxide and hydrogen.
- As you go down group 1, the metals become more reactive.

lithium + water → lithium hydroxide + hydrogen

Keywords

Physical properties: Features of a substance that can be observed without changing the substance itself.

Chemical properties: Features of the way a substance reacts with other substances.

Week 10 - Introduction to the Periodic Table

Group 0 - Noble Gases
Physical properties:

Ne

Ar

Kr Xe

Rn

Og

- Are all aasses at room temperature.
- Their density increases as you go down the group. Chemical Properties:
- Are very unreactive (inert).

Group 7 – Halogens
Physical properties:
Have relatively lo

- Have relatively low boiling points and melting points that points increase down the group.
- Chemical Properties:
- As you go down group 7, the nonmetals become less reactive.

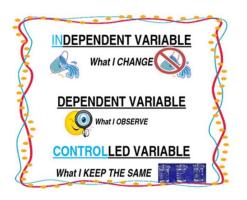


Halogen	State & appearance at room temperature	Characteristics	Colour in solution
Fluorine	Yellow gas	Very reactive, poisonous gas	-
Chlorine	Pale yellow-green gas	Reactive, poisonous and dense gas	Pale green
Bromine	Red-brown liquid	Dense red-brown volatile liquid	Orange
lodine	Grey solid	Shimmery, crystalline solid that sublimes to form a purple vapour	Dark brown

Fr

Week 11 - Assessment Week

Revision and assessment







Steps to success:

- Attempt all questions
- Write out calculations and give units
- Plot data with crosses
- 1 mark per minute
- Plan your 6 mark questions before you write
- Give, give, want when using mathematical formulae
- If it states tick one box, then only tick one box Guess if you are unsure
- HUG the question (Highlight the command words, underline keywords and glance at the number of marks)
- Keep writing until you see end of questions

Use BBC bitesize to make mind maps and test yourself using the auizzes



Week 12 - Science Careers







Science discovery websites:

- Spectacular Science (nationalgeographic.com)
- 2. KS3 Science BBC Bitesize
- 3. Science Experiments for Kids Science Experiments for Kids (science-sparks.com)



- 4. Discover | Natural History Museum (nhm.ac.uk)
- 5. Cornwall Wildlife Trust | Cornwall Wildlife Trust | Cornwall Wildlife Trust | Wildlife Trust
- 6. Eden at home | Eden Project | eden project



Spanish

- 1/4/	100	/ 1	- N	٨x	100	h	00	u
	CC	N I		Λ	/ 3 C	ш	JU	ш

¿Cómo es tu colegio?	What's your school like?
mi colegio es	my school is
(bastante) grande	(quite) big
(muy) pequeño	(very) small
antiguo	old
moderno	modern
mi instituto está en	my school is in
(cerca de) la costa	(near to) the coast
la montaña	the mountains
el campo	the countryside
en el centro de la ciudad	in the city centre
En mi cole (no) hay	there is (not)
un campo de deportes	a sports field
un campo de fútbol	a football pitch
una biblioteca	a library
alumnos	students

Week 2 – How I get to school

¿Cómo vas al instituto?	How do you get to school?
Voy al instituto	I go to school
en avión	by plane
en coche	by car
en barco	by boat
en tren	by train
en metro	by subway / tube
a pie	on foot
a caballo	on horseback

Week 3 – School subjects I study

¿Qué estudias?	What do you study?
estudio	I study
el español	Spanish
el baile	dance
las ciencias	science
la cocina	cooking
el comercio	business
el dibujo	art
la educación física	PE
el francés	French
la historia	history
el inglés	English
la música	music
la religion	RE
el teatro	drama
la tecnología	DT

Week 4 – Describing subjects

l love I like (a lot)
Llike (a lot)
TIRC (a lol)
I don't mind
l don't like (at all)
interesting
difficult
good
bad
useless
Easy
very
quite
too

Week 5 – Developing our opinions

Meek 3 Developing our opinions	
¿Qué piensas?	What do you think?
en mi opinión	in my opinion
pienso que	I think that
creo que	I believe that
pero	but
también	also
sin embargo	however
aunque	although
porque	because
ya que	as
dado que	given that
puesto que	since

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Week 6 – A typical day

¿Qué haces?	What do you do?
por la	in the
mañana/tarde	morning/afternoon
primero	first
luego	then
después	after
más tarde	later
finalmente	finally
normalmente	normally
a veces	sometimes
nunca	never
todos los días	every day
aprender	to learn
comer	to eat
beber	to drink
leer	to read
hablar	to talk
jugar - juego	to play – I play

Spanish

Week 7 – The right to education

¿Qué necesitan los niños en el colegio?	What do children in school need?
el derecho de los niños	children's rights
un lápiz	a pencil
un bloc de dibujo	a sketch book
una pizarra	a board
una mesa	a table
una silla	a chair
materiales para deportes	materials for sports
una tablet	a tablet
agua potable	drinking water
nuevo/a	new

Week 8 – Why learn languages

Las lenguas son importantes	
languages	
languages	
English	
Spanish	
a second language	
to speak	
to travel	
to meet new people	
to find a job	
to go to university	
to help	
to discover new cultures	
abroad	

Week 9 – Spanish celebrations

El Carnaval	
desfile	parade
calle	street
fuegos	fires
local	local
emocionante	exciting
el carnaval	the carnival
música	is music
color	color
historia	history
tradición	tradition
una fiesta divertida	a fun party
personajes	characters
animales	animals
un tema	a theme

Week 10 - Preparing for the assessment

Look back over the last unit of work, write in ten words that you keep forgetting and need to learn in preparation for the reading, listening and written translation assessment

assessment	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Week 11 - Describing a photo

Describing a photo	
En la foto hay	In the photo there
	is/are
mucha gente	lots of people
dos personas	two people
lleva(n)	he/she is wearing
ropa de deporte	sports clothing
está(n)	he is/ they are
dentro	inside
fuera	outside
hablando	talking
sonriendo	smiling
jugando	playing
General conversation questions	
¿Qué haces en tu	What is your school
tiempo libre?	like?
¿Qué hiciste el fin de	What did you do last
semana pasado?	weekend
39	

Week 12 – Easter in Spain

Pascua	Easter
la Semana Santa	Holy Week
la primavera	Spring
el chocolate	chocolate
un huevo	an egg
un conejo	a rabbit
una vela	a candle
un paso	a float (in a procession)
una cruz	a cross
un desfile	a parade
las flores	the flowers