KNOWLEDGE ORGANISERS

YEAR 9

BODMIN COLLEGE

Contents

SCHOOL DAY

08:45am Start of the School Day

08:45am Tutor Time

09:15am Lesson 1

10:30am Break 1

11:00am Lesson 2

12:15pm Lesson 3

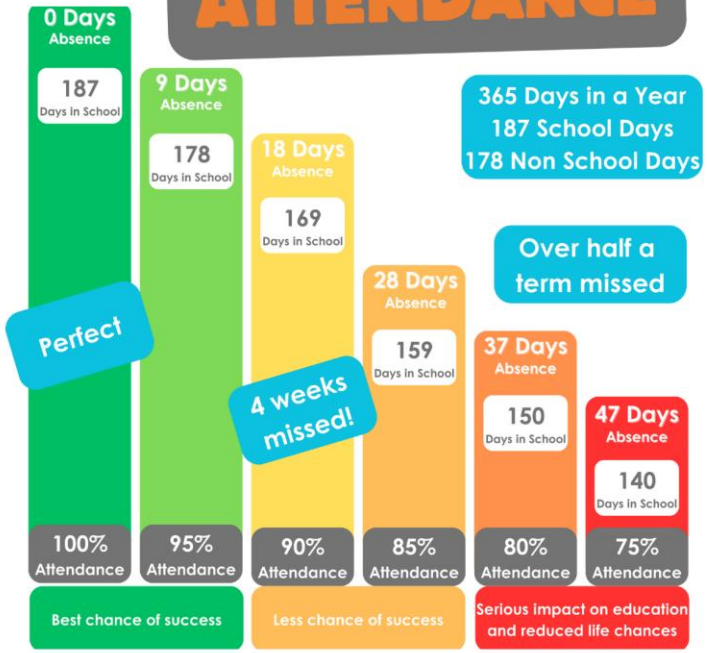
1.30pm Break 2

2:00pm Lesson 4

3.15pm End of the School Day

3:30pm Bodmin+

ATTENDANCE



EQUIPMENT


School Bag


Knowledge Organiser


Black and Purple Pens


Pencil Case


Knowledge Organiser


Calculator

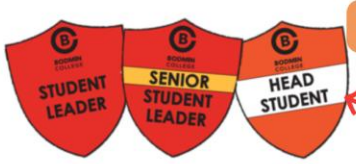

Pencil


Rubber


Ruler


Whiteboard and whiteboard pen

REWARDS



Student Leaders

Subject Awards

Merit Badges

TIMETABLE

	A Mon	A Tue	A Wed	A Thu	A Fri
T					
1					
2					
3					
4					

	B Mon	B Tue	B Wed	B Thu	B Fri
T					
1					
2					
3					
4					

THE PERIODIC TABLE OF THE ELEMENTS

Group 1 – **Alkali Metals**

Group 7 – **Halogens**

Group 0 – **Noble gases**

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

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

Element **symbol**

Element **name**

Key

relative atomic mass
atomic symbol
name
atomic (proton) number

Mass Number = number of **protons** and **neutrons** added together.

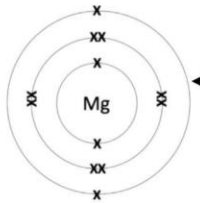
Atomic / Proton Number = number of **protons** which is the same as the number of **electrons**.

Neutrons = Mass number – Atomic number

Transition Metals

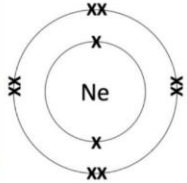
Non-Metals

1	2											3	4	5	6	7	0
																	4 He helium 2
7 Li lithium 3	9 Be beryllium 4											11 B boron 5	12 C carbon 6	14 N nitrogen 7	16 O oxygen 8	19 F fluorine 9	20 Ne neon 10
23 Na sodium 11	24 Mg magnesium 12											27 Al aluminium 13	28 Si silicon 14	31 P phosphorus 15	32 S sulfur 16	35.5 Cl chlorine 17	40 Ar argon 18
39 K potassium 19	40 Ca calcium 20	45 Sc scandium 21	48 Ti titanium 22	51 V vanadium 23	52 Cr chromium 24	55 Mn manganese 25	56 Fe iron 26	59 Co cobalt 27	59 Ni nickel 28	63.5 Cu copper 29	65 Zn zinc 30	70 Ga gallium 31	73 Ge germanium 32	75 As arsenic 33	79 Se selenium 34	80 Br bromine 35	84 Kr krypton 36
85 Rb rubidium 37	88 Sr strontium 38	89 Y yttrium 39	91 Zr zirconium 40	93 Nb niobium 41	96 Mo molybdenum 42	[97] Tc technetium 43	101 Ru ruthenium 44	103 Rh rhodium 45	106 Pd palladium 46	108 Ag silver 47	112 Cd cadmium 48	115 In indium 49	119 Sn tin 50	122 Sb antimony 51	128 Te tellurium 52	127 I iodine 53	131 Xe xenon 54
133 Cs caesium 55	137 Ba barium 56	139 La* lanthanum 57	178 Hf hafnium 72	181 Ta tantalum 73	184 W tungsten 74	186 Re rhenium 75	190 Os osmium 76	192 Ir iridium 77	195 Pt platinum 78	197 Au gold 79	201 Hg mercury 80	204 Tl thallium 81	207 Pb lead 82	209 Bi bismuth 83	[209] Po polonium 84	[210] At astatine 85	[222] Rn radon 86
[223] Fr francium 87	[226] Ra radium 88	[227] Ac* actinium 89	[267] Rf rutherfordium 104	[270] Db dubnium 105	[269] Sg seaborgium 106	[270] Bh bohrium 107	[270] Hs hassium 108	[278] Mt meitnerium 109	[281] Ds darmstadtium 110	[281] Rg roentgenium 111	[285] Cn copernicium 112	[286] Nh nihonium 113	[289] Fl flerovium 114	[289] Mc moscovium 115	[293] Lv livermorium 116	[293] Ts tennessine 117	[294] Og oganesson 118

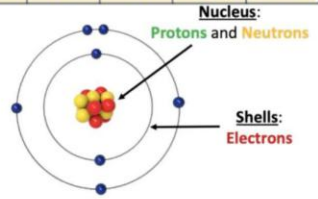


Magnesium (Mg) has **12 electrons** in total. It is in **group 2** so has 2 electrons in its **outer** shell. Mg's electronic configuration is 2,8,2.

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



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



HOW CAN I USE THE PHYSICS EQUATION SHEET?

HT = Higher Tier only equations

Triple only equations

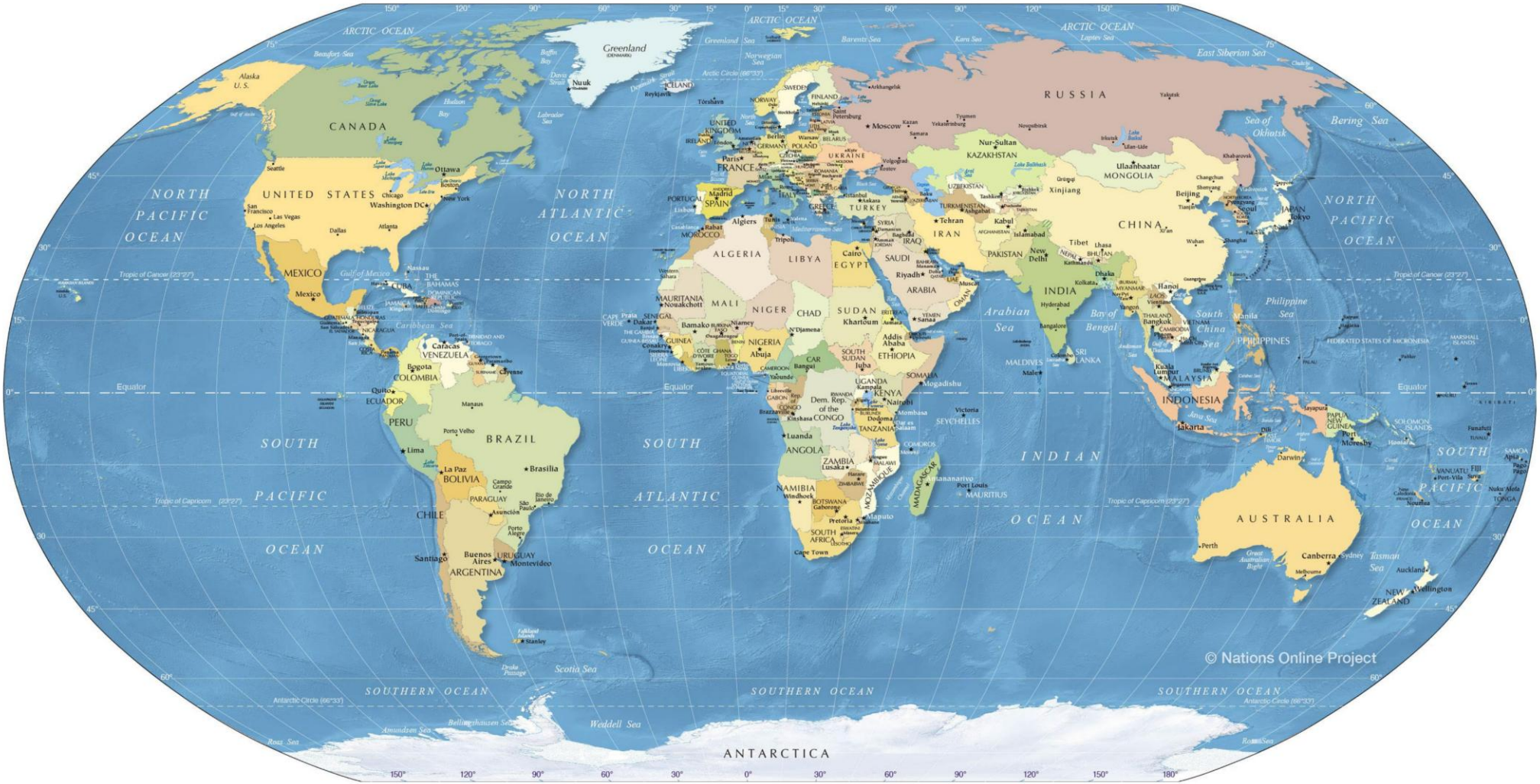
kinetic energy = 0.5 × mass × (speed)^2	$E_k = \frac{1}{2} m v^2$
elastic potential energy = 0.5 × spring constant × (extension)^2	$E_e = \frac{1}{2} k e^2$
gravitational potential energy = mass × gravitational field strength × height	$E_p = m g h$
change in thermal energy = mass × specific heat capacity × temperature change	$\Delta E = m c \Delta\theta$
power = $\frac{\text{energy transferred}}{\text{time}}$	$P = \frac{E}{t}$
power = $\frac{\text{work done}}{\text{time}}$	$P = \frac{W}{t}$
efficiency = $\frac{\text{useful output energy transfer}}{\text{total input energy transfer}}$	
efficiency = $\frac{\text{useful power output}}{\text{total power input}}$	
charge flow = current × time	$Q = I t$
potential difference = current × resistance	$V = I R$
power = potential difference × current	$P = V I$
power = (current)^2 × resistance	$P = I^2 R$
energy transferred = power × time	$E = P t$
energy transferred = charge flow × potential difference	$E = Q V$
density = $\frac{\text{mass}}{\text{volume}}$	$\rho = \frac{m}{V}$

	thermal energy for a change of state = mass × specific latent heat	$E = m L$
	For gases: pressure × volume = constant	$p V = \text{constant}$
	weight = mass × gravitational field strength	$W = m g$
	work done = force × distance (along the line of action of the force)	$W = F s$
	force = spring constant × extension	$F = k e$
	moment of a force = force × distance (normal to direction of force)	$M = F d$
	pressure = $\frac{\text{force normal to a surface}}{\text{area of that surface}}$	$p = \frac{F}{A}$
HT	**pressure due to a column of liquid = height of column × density of liquid × gravitational field strength**	$p = h \rho g$
	distance travelled = speed × time	$s = v t$
	acceleration = $\frac{\text{change in velocity}}{\text{time taken}}$	$a = \frac{\Delta v}{t}$
	(final velocity)^2 – (initial velocity)^2 = 2 × acceleration × distance	$v^2 - u^2 = 2 a s$
	resultant force = mass × acceleration	$F = m a$
HT	**momentum = mass × velocity**	$p = m v$
HT	**force = $\frac{\text{change in momentum}}{\text{time taken}}$**	$F = \frac{m \Delta v}{\Delta t}$
	period = $\frac{1}{\text{frequency}}$	$T = \frac{1}{f}$
	wave speed = frequency × wavelength	$v = f \lambda$
	magnification = $\frac{\text{image height}}{\text{object height}}$	
HT	**force on a conductor (at right angles to a magnetic field) carrying a current = magnetic flux density × current × length**	$F = B I l$
HT	**$\frac{\text{potential difference across primary coil}}{\text{potential difference across secondary coil}} = \frac{\text{number of turns in primary coil}}{\text{number of turns in secondary coil}}$**	$\frac{V_p}{V_s} = \frac{n_p}{n_s}$
HT	**potential difference across primary coil × current in primary coil = potential difference across secondary coil × current in secondary coil**	$V_p I_p = V_s I_s$

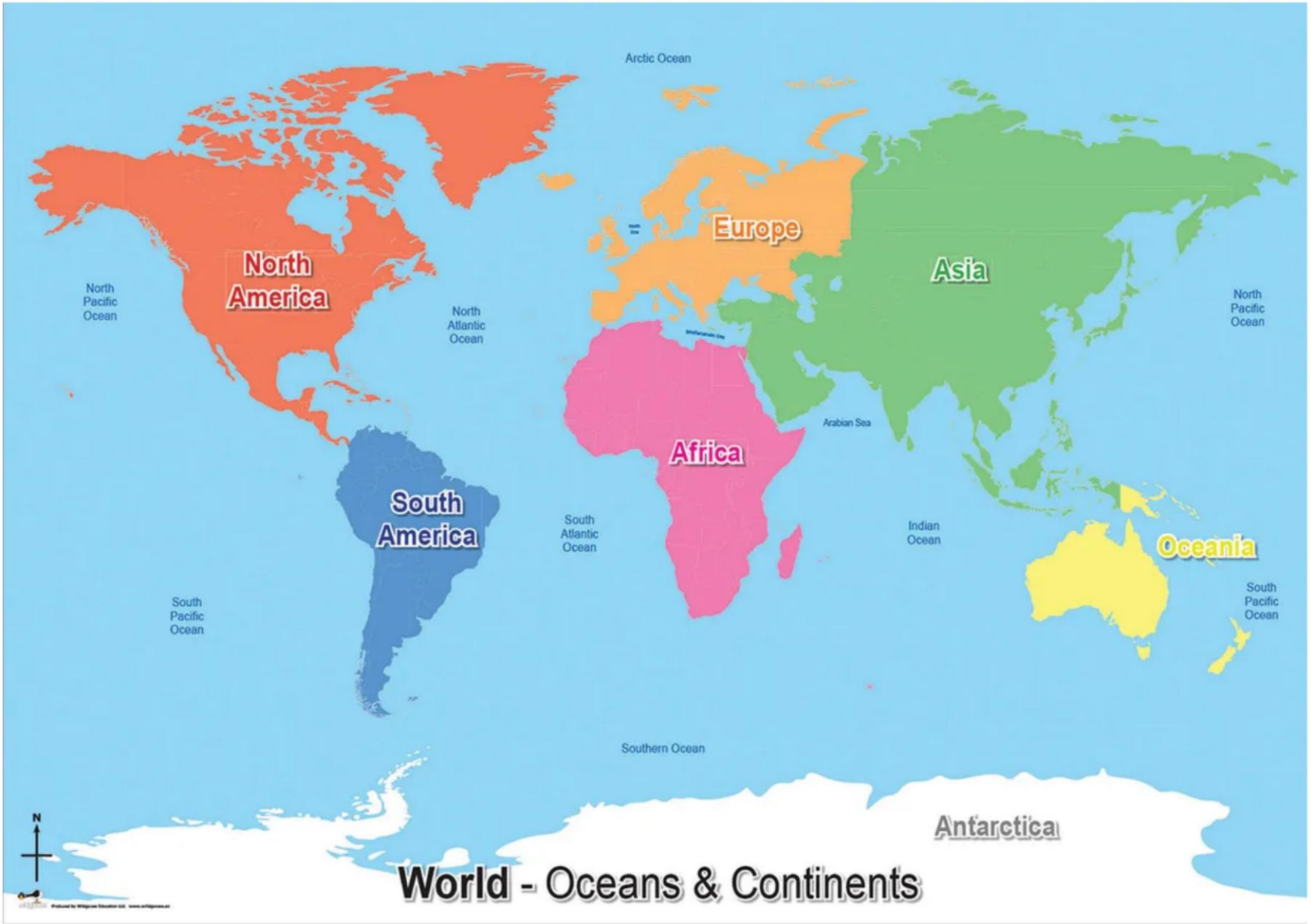
Give
Give
Want

1. What does it give you? What does it want you to calculate?
2. Do you need to rearrange?
3. Do you need to convert?
4. Include the figures
5. Do you need to put it into standard form?
6. Do you need to include the unit?
7. Do you need to give the answer in significant figures?

WORLD MAP


ARCTIC OCEAN
Greenland
RUSSIA
CANADA
UNITED STATES
NORTH PACIFIC OCEAN
NORTH ATLANTIC OCEAN
EUROPE
ASIA
CHINA
INDIA
AUSTRALIA
MEXICO
BRAZIL
ARGENTINA
PERU
CHILE
COLOMBIA
VENEZUELA
ALGERIA
LIBYA
EGYPT
SAUDI ARABIA
IRAN
IRAQ
TURKEY
FRANCE
SPAIN
GERMANY
POLAND
UKRAINE
SWEDEN
FINLAND
NORWAY
ICELAND
MONGOLIA
KAZAKHSTAN
JAPAN
INDONESIA
PHILIPPINES
MALAYSIA
SOUTH AFRICA
NIGERIA
ETHIOPIA
KENYA
SUDAN
CONGO
ANGOLA
NEW ZEALAND
SOUTHERN OCEAN
ANTARCTICA
INDIAN OCEAN
SOUTH PACIFIC OCEAN
Equator
Tropic of Cancer (23°27')
Tropic of Capricorn (23°27')
© Nations Online Project

CONTINENTS AND OCEANS



PROTECTED CHARACTERISTICS

Sex

Sexual Orientation

Age

Disability

Gender Reassignment

Marriage and Civil Partnership

Pregnancy and Maternity

Race

Religion or belief

BRITISH VALUES

Democracy

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

Liberty

- I am **free to think** as I see fit
- 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**

Law

- 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.

FULL STOP

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 via the school website. 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.

ONLINE SAFETY

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.

Wellbeing

Internal Pastoral Support
Tutor, Director of Key Stage, Year Manager, Safeguarding Team

Signposting

CLEAR
Emotional Trauma & Therapy Specialists
clearsupport.net

External Support
See websites below:

Young People Cornwall – Making Waves
Youngpeoplecornwall.org

kooth
Kooth.com

Penhaligon's Friends
Penhaligonsfriends.org.uk

YOUNGMiNDS
fighting for young people's mental health
Youngminds.org.uk

Cornwall Carers Service
Cornwallcarers.org.uk/young-carers

childline
ONLINE, ON THE PHONE, ANYTIME
Childline.org.uk

withyou
wearewithyou.org.uk

Intercom Trust
Intercomtrust.org.uk

MENTAL HEALTH & WELLBEING

Five self care tips

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
Even if it's just a walk around the block or to school - you'll feel better

"Talk to someone"
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.

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

Art

Weeks 1 & 2

Key term recap:

- **Proportion -** The relative size of an object when compared to other objects in the same image.
- **Depth -** Making objects appear closer or farther away and making a two-dimensional image seem three-dimensional
- **Form** – The three-dimensional quality of a two-dimensional image, created by shading.
- **Tonal shading –** Refers to the lightness or darkness of an object, created when using pencil/coloured pencil.

Weeks 3 & 4

Drawing face features:
When drawing facial features in biro, accuracy, **proportion**, and careful observation are essential.

Using light pressure and controlled lines helps build detail and form. Shading is created using tone, **hatching**, and line direction. Careful drawing improves realism, confidence, and understanding of facial structure.

Weeks 5 & 6

Artist:
Fiona Morley is a contemporary artist known for her expressive wire portraits and sculptural drawings. Her work explores line, **form**, and **identity**. She uses wire to create flowing, **continuous outlines** that suggest movement, emotion, and personality, turning drawing into three-dimensional sculpture.

Weeks 7 & 8

Working in wire:
Wire drawing uses **continuous line** to create portraits and shapes in three dimensions. By bending, twisting, and shaping wire, artists explore form, movement, and expression.

Experimental approaches encourage creativity, problem-solving, and risk-taking, helping develop confidence and originality in sculptural drawing.

Weeks 9 & 10

Artist research page:
A successful artist research page combines drawing, annotation, and design.

Images, text, and creative responses are carefully arranged to show understanding of the artist's work. Strong **layout,** clear presentation, and thoughtful organisation help communicate ideas, analysis, and creative development effectively.

Annotation – Short written notes explaining ideas, observations, and artistic choices.

Weeks 11 & 12

Printing portraits:
Monoprinting creates a single unique print using ink and pressure. A photographic self-portrait is transferred using careful line, tone, and layering.

This process explores contrast, texture, and expressive mark making, helping develop printing skills and understanding of light and shadow.

Printmaking - method that produces one original image.

Vocabulary

Proportion – The correct size relationship between different parts of the face.
Hatching – Using repeated lines to create tone, texture, and shading.
Expressive – Showing emotion, feeling, or personal style in artwork.
Identity – The qualities, personality, and characteristics that make a person unique.
Form – The three-dimensional shape and structure of an artwork.
Continuous Line – A drawing technique using one unbroken line to create an image.
Layout – The arrangement of images, text, and drawings on a page.
Contrast – The difference between light and dark areas in an artwork.

Art

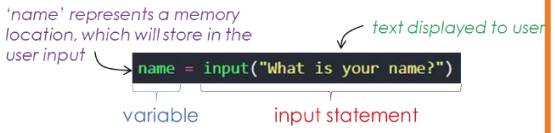
Weeks 13 & 14	Weeks 15 & 16	Weeks 17 & 18	Vocabulary
Drawing: Observational drawing focuses on careful looking, accurate proportion, and controlled mark making. Tone, shading, and line quality help create realistic form and depth. Strong drawing skills develop accuracy, confidence, and visual understanding, supporting success across all areas of art.	**Key Success Points for Working with Wire in Art** • Use **continuous lines** to create smooth, flowing shapes. • Bend wire slowly and carefully to avoid snapping or sharp kinks. • Keep forms simple and clear to improve strength and structure. • Secure joins tightly by twisting and wrapping wire. • Check balance and stability so your sculpture stands securely. • Work gradually, adjusting and refining shapes as you go. • Use observation to improve proportion, expression, and detail.	**Refining and improving:** Finishing artwork involves **refining** detail, improving accuracy, and enhancing presentation. **Evaluation** is a thoughtful reflection on strengths, challenges, and progress. Reviewing techniques, ideas, and outcomes helps identify improvements and supports artistic development and personal growth.	**Refinement** – Improving detail, quality, and accuracy. **Evaluation** – Reflecting on work to judge success and identify improvements.

Computer Science

Week 1 & 2

Input and Variables
When we code, we often need our programs to receive and store **inputs** from the user. For example, if our program is to add two numbers provided by the user, we need our program to request these numbers and store them, so it can later find their sum. In python, this is achieved using the **input**() script, assigned to a **variable**.

The **input**() script is set up like this:



Week 3 & 4

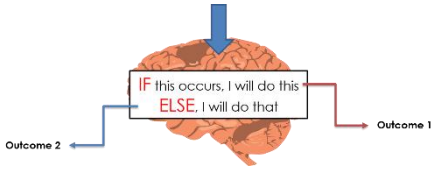
Data Types and Maths
Data comes in different forms and in order for computers to store data efficiently and process data correctly, it must be made aware of the type of data that it is storing/processing at any given time.

Data Type	Description
String	Combination of different keyboard characters
Integer	Whole number
Real / Float	Decimal number
Boolean	True / False
Character	Single keyboard character

Week 5 & 6

Selection
Selection is a programming construct which allows programs to take different pathways (execute different lines of code), depending on a condition. In other words, it allows programs to make decisions.

This is achieved using IF statements.



Vocabulary

Input
Data entered into a program by the user.

Variable
A named storage location that holds data in a program.

Data type
The kind of data being stored (e.g. number, text).

String
Data made up of characters or text.
Integer - A whole number with no decimal.

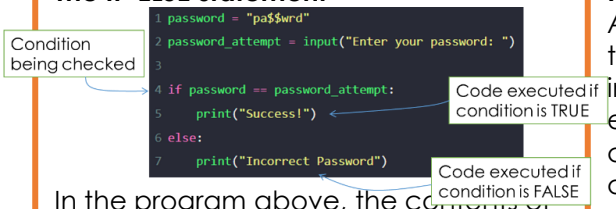
Float (Real)
A number that includes a decimal point.

Boolean
A **data type** that can only be true or false.

Selection
A programming structure that makes decisions.

Week 7 & 8

The IF-ELSE statement




```
password = "pa$$wrd"
password_attempt = input("Enter your password: ")

if password == password_attempt:
    print("Success!")
else:
    print("Incorrect Password")
```

In the program above, the contents of the two **variables** (password and password_attempt) are being compared.

- If they match, the program will run the code under the if statement.
- If they do not match, the program will run the code under the else statement.

Week 9 & 10

Remembering HTML and CSS
As we've seen before, HTML allows us to write webpages. Using tags, we can inform the browser how different page elements can be arranged and displayed on the screen. HTML is known as the structural layer of webpages.

In the Week 11 and 12 example , you can see how each HTML element has been styled via the CSS code above. For example, the <body> has been styled with a background colour, the <h1> and <p> elements have been styled with different fonts and the <img> has been resized with a border.

Week 11& 12

```
<html>
    <head>
        <style>
            body {background-color: aqua;}
            h1 {font-size: 20pt;
                color: yellow;
                font-family: Goudy Stout;}
            p {font-size: 15pt;
               font-family: Kristen ITC;}
            img {border-radius: 50%;
                 height:200px;}
        </style>
    </head>

    <body>
        <h1>Cheese</h1>
        <p>This page is all about cheese</p>
        <img src="https://images.everydayhealth.com/images/all-
                  about-cheese-alt-1440x810.jpg">
    </body>
</html>
```

Computer Science

Week 13 & 14

JavaScript <script> tags

JavaScript is yet another web language. Unlike HTML (which is a Mark-Up language, providing page structure), **JavaScript** is a programming language, allowing webpages to be interactive and dynamic.

For JavaScript to be read by the browser, it is inserted between <**script**> tags.

```
3    <head>
4        <script>
5            <!--JavaScript goes here!...-->
6        </script>
7    </head>
```

Week 15 & 16

HTML Buttons and Javascript Functions

Therefore, we will often want to write our **JavaScript** inside a **function**, so that the code only executes, when the function is called (e.g. when a button is clicked).

```
4        <script>
5            function run()
6                {
7                    alert("Hello Class!");
8                }
9        </script>
10   </head>
11
12   <body>
13       <input type="button" value="Submit" onclick="run()">
14   </body>
```

Week 17 & 18

HTML Core Knowledge for assessment

Input	Values which get sent from the user into the computer
Variable	The place where inputs get stored by the program
Output	The values which get sent from the computer to the user
Decision	Deciding what to do depending on certain conditions.
IF Statement	A programming construct which enables a program to take different pathways depending on conditions.

Vocabulary

JavaScript
A programming language used to make webpages interactive.

<script> tag
HTML tag used to contain JavaScript code.

Function
A named block of code that runs when called.

Design & Technology

Weeks 1 & 2

General Workshop Conduct

- Always follow verbal and written instructions given by the teacher or technician.
- Move around the workshop calmly and with awareness of others; running and pushing are strictly prohibited.
- Only operate tools, equipment or machinery when you have been authorised and trained to do so.
- Wear appropriate PPE (e.g., safety goggles, apron, ear protection) depending on the task.
- Maintain a clean, organised workspace to reduce hazards and improve efficiency.
- Report accidents, hazards, or damaged equipment immediately—do not attempt to repair tools yourself.
- Tie back long hair, secure loose clothing and remove jewellery to avoid entanglement risks.
- No food or drink is allowed in the workshop due to contamination and safety concerns.

Marking-Out Tools and Their Uses

Marking out is an essential stage in manufacturing to ensure accuracy and precision.

- **Try Square / Engineers' Square:** Checks and marks 90° angles.
- **Steel Rule:** Measures lengths accurately in millimetres.
- **Marking Gauge:** Marks parallel lines to an edge, useful for wood.
- **Centre Punch:** Creates small indentations for drilling accuracy.

Weeks 3 & 4

Power Tools: Scroll Saw

A scroll saw is a small, electrically powered saw used to cut intricate shapes and internal patterns in thin materials, mainly wood, plastic and thin metal. It is operated by moving the workpiece by hand while the blade moves up and down.

Power Tools: Belt Sander

A belt sander is an electric machine used to shape, smooth and finish wood by using a fast-moving abrasive belt. It removes material quickly and makes edges smooth and even.

Power Tools: Pillar Drill

A pillar drill is a fixed, vertical drilling machine used to drill accurate, straight holes in materials like wood, plastic, and metal.

Do	Do not:
Wear PPE and tie up hair.	Remove the guard.
Clamp work. Hold securely.	Hold the materials by hand.
Stand with good balance and keep workspace tidy.	Share the tool with another person (one person at time).
Wait for the tool to stop moving before removing your work.	Don't touch the cutting tools when moving.
Listen to and follow instructions.	Do not force the tool—let it do the work

Weeks 5 & 6

Applying Fixings

Fixings are methods or components used to join materials together. They can be temporary or permanent and are essential in construction, woodwork, metalwork, and plastics.

Types of Fixings

Mechanical Fixings

- **Screws:** Spiral threads; permanent/semi-permanent; used in wood, metal, plastics.
- **Nails:** Thin metal pins; usually permanent; wood joints.
- **Bolts & Nuts:** Used with a washer; strong, removable; metal and wood.
- Rivets: Permanent; metal sheets; cannot be removed without damage.
- **Pins**: Temporary or permanent; wood, metal, or fabrics.
- **Staples:** Temporary or permanent; often for wood, cardboard, or upholstery.

Adhesive Fixings

- **Glue:** Wood glue, PVA, epoxy; permanent; wood, plastics, composites.
- **Tape:** Masking, duct, or double-sided; usually temporary.
- **Hot Melt Glue (Glue Gun):** Quick bonding; temporary or semi-permanent.

Other Fixings

- **Brackets / Plates / Clips:** Provide extra support for joints.
- **Velcro / Hook & Loop:** Temporary and adjustable fastening.
- **Magnets:** Non-permanent, reusable joining.

Vocabulary

Pilot hole: A small hole used to guide the drill bit and improve accuracy.

Entanglement: When fibers or threads get twisted or interlocked with each other.

Bonding: Joining two or more materials together using methods like glue, welding, soldering, or tape to make a single, stable structure.

Adhesive: A substance (like glue, tape, or epoxy) used to stick materials together permanently or temporarily.

Operate: To use or control a tool or machine safely to carry out a task.

Component: A part of a product or system that can be joined with other parts to make a complete item.

Design & Technology

Weeks 7 & 8

Applying a Finish

A finish is a coating you apply to wood to:

- Protect it from damage
- Improve its appearance
- Make it smooth, shiny, or colourful
- Help it last longer

Types of wood finishes include paint, varnish, wax, stain, oil and lacquer, which are used to protect and decorate wooden products.

If wood is not prepared first, the finish will:

- Look patchy
- Feel rough
- Soak in unevenly
- Peel or flake off

Steps to prepare wood for a finish

Check the surface

1. Look for rough areas, splinters, glue marks, or pencil lines.
2. Sand the wood: Start with coarse sandpaper (e.g. 80–100 grit)Then use medium sandpaper (e.g. 120–180 grit)Finish with fine sandpaper (e.g. 220–240 grit)
3. Always sand with the grain.
4. Remove dust: Use a brush or slightly damp cloth to remove all dust.
5. Check the surface again: The wood should now feel smooth and even.

Health and Safety

- Work in a well-ventilated area
- Wear an apron, gloves, and a mask if needed
- Keep lids closed on finish containers
- Clean brushes safely when finished
- Never put your face close to chemicals

Weeks 9 & 10

Product Testing

Product testing is the process of checking a product to see if it works as intended and meets design requirements. For a soapbox racer, this could include testing:

- Speed and acceleration
- Stability and balance
- Durability of components

Types of Testing

Functional Testing
Checks if the racer moves properly and wheels/axles work smoothly
Performance Testing
Measures speed, distance travelled, and handling.
Durability / Stress Testing
Tests how well the racer withstands bumps, crashes, or repeated use.
User Testing / Feedback
Other students or teachers try the racer and give opinions on usability, design, and safety.

Responding to Feedback

Step 1: Collect Feedback
Record what testers say about performance, stability, and design. Use questionnaires, observations, or discussions.
Step 2: Analyse Feedback
Identify common issues or areas for improvement. Decide which suggestions are practical to implement.
Step 3: Make Modifications
Adjust the design, such as changing wheel alignment, adjusting weight distribution, reinforcing weak parts, Improving aerodynamics.
Step 4: Retest
Test the updated product to see if the changes improve performance.

Weeks 11 & 12

Evaluating Final Outcome

What is Product Evaluation?

Product evaluation is the process of assessing a finished product to see how well it meets the original design specification, works in practice, and satisfies the user.

Purpose of Evaluation

Check functionality:
Does it work as intended?
Assess performance:
How well does it perform (speed, stability, durability)?
Measure user satisfaction:
Do users like the product and find it safe and easy to use?
Identify improvements:
What could be changed for next time?
Reflect on the design process:
What went well and what challenges were faced?

Steps for Evaluation

1. **Compare** the final product with the design specification.
2. **Test** the product under real-life conditions.
3. **Collect** feedback from users.
4. **Record** strengths and weaknesses.
5. **Suggest** modifications for improvement.

Testing and Evaluating are part of the iterative design process because it allows designers to identify problems, weaknesses, or areas for improvement in a product before the final version is made.

Vocabulary

Specification:
A detailed description of what the product should do and its requirements

Functionality:
How well the product works.

Aesthetics:
How the product looks

User satisfaction:
How happy the user is with the product

Iterative:
A process that repeats steps multiple times, improving a product each time based on testing, feedback, and evaluation.

Iterative improvements:
Changes made to improve the product based on evaluation

Durability:
The ability of a product or material to withstand wear, pressure, or damage over time without breaking or failing.

Design & Technology

Weeks 13 & 14

Requirements of an F1 Racing Suit

An F1 racing suit is a specialised piece of clothing worn by Formula 1 drivers to protect them from heat, fire, and injury while allowing mobility and comfort.

1. Fire Resistance / Safety
Must be made from flame-retardant materials (e.g., Nomex) .Provides protection against heat and fire for a few seconds during accidents.
2. Durability
Strong enough to withstand wear and tear during racing. Resistant to abrasion and tearing in accidents.
3. Comfort & Fit
Lightweight and flexible to allow full range of movement. Proper fit to prevent distraction or restriction.
4. Thermal Protection
Protects the driver from high cockpit temperatures. Helps prevent overheating and burns.
5. Breathability & Moisture Control
Material allows airflow to reduce sweat accumulation. Helps maintain driver focus and comfort during long races.
6. Visibility & Identification
Often bright colours or sponsor logos for visibility and branding. Includes name and team identification.
7. Compliance with FIA Regulations
Must meet FIA (Fédération Internationale de l'Automobile) safety standards. Includes multi-layer construction and fireproof gloves, balaclava, and shoes.

Weeks 15 & 16

Using a Sewing Machine

A sewing machine is a tool used to stitch fabrics together quickly and accurately, using a needle and thread. It can create strong, neat, and consistent seams for textiles and garments.

Safety Rules
- Always tie back long hair and remove jewellery.
- Keep fingers away from the needle.
- Switch off before changing the needle, threading, or cleaning.
- Do not force fabric through the machine.
- Keep the area around the machine clear and tidy

Main Parts of a Sewing Machine
- **Spool Pin:** Holds the upper thread spool.
- **Bobbin:** Supplies the lower thread.
- **Needle:** Pierces the fabric to create stitches.
- **Presser Foot:** Holds fabric flat while sewing.
- **Feed Dogs:** Move the fabric through the machine.
- **Hand Wheel:** Manually moves the needle.
- **Stitch Selector:** Chooses stitch type (straight, zigzag, etc.).
- **Thread Tension Dial:** Controls tightness of stitches.
- **Foot Pedal:** Controls sewing speed.
- **Reverse Lever:** Seams can be reinforced.

Weeks 17 & 18

Assessment Week

- Recall tool names and technical terms.
- Consider health and safety when using tools.
- Recall equipment and their uses.
- Describe manufacturing techniques.

How do I revise?

Mind maps: Create a mind map for each week. Try and represent theory with icons, use colours and minimise the amount of text.

Flash cards: Put the key information on a flash card, such as definitions or tools names. On the other side write a question. You can then quiz yourself or have a friend help you.

Follow the link for revision tips:
Top revision techniques for exams - BBC Bitesize

Goodluck!

Vocabulary

FIA Safety Standards: The suit must comply with FIA (Fédération Internationale de L 'Automobile) safety standards and regulations.

Durable: Able to withstand wear, pressure, or damage over time without breaking or failing.

Flexibility: The ability of a material or product to bend or move without breaking, allowing it to adapt to different shapes or uses.

Ergonomics (comfort): Designing a product so that it is comfortable, safe, and easy to use for the person using it.

Compliance: Meeting official rules, standards, or regulations to ensure safety, quality, or legal requirements are satisfied.

Drama

Weeks 1 & 2

Blackout is a play by Davey Anderson.

- It follows a 15-year-old boy who wakes up in a secure care unit not knowing how he got there.
- Over the course of the play he tries to remember and piece together the events in his life that have led to him being charged with attempted murder and being locked up.
- The story reveals his experiences with bullying, peer pressure, violence and bad choices, showing how his life spiralled out of control and the consequences he now faces.

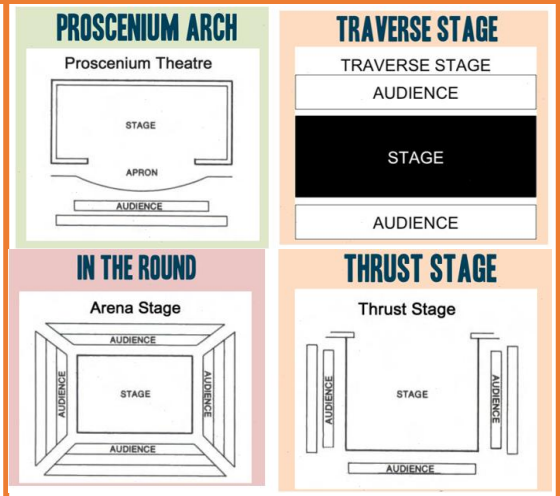
The play deals with issues like bullying, peer pressure, violence, consequences and trying to find your way again after making bad choices.

Weeks 3 & 4

Characters:

- **The 15-year-old boy (James/unnamed protagonist)** - the central character who is trying to understand how his life led to the cell and crime charge.
- **Friends / "mates" and peers** - characters whose influence, pressure and bullying help push him towards violent behaviour.
- **Family members** - his **dad, mum and granddad** appear in memories that show his home life and struggles.
- **Authority figures (police/guards/teachers)** - people interacting with him in the secure unit or in flashbacks to his past choices.

Weeks 5 & 6



Weeks 7 & 8

Ensemble:
An ensemble in theatre works through collaboration and unity rather than individual focus. Performers support each other, listen closely, and respond to what is happening on stage. They move and act with shared timing, purpose, and energy, often using techniques such as unison, canon, and group movement.

Ensemble Top Tips:

1. Listen and respond – stay focused and react to others on stage.
2. Work as a team – support each other; every role is equally important.
3. Commit fully – match energy, timing, and movement to create unity.

Weeks 9 & 10

Lighting Design – Purpose

1. Illuminating action on stage
2. Conveying setting and time of day
3. Creating mood and atmosphere
4. Focusing the audience's attention
5. Influencing pace
6. Communication themes or symbols
7. Supporting the style of the production

Different colours have different meanings

Cold **Envy / Nature** **Danger / Love**

Warm / Natural **Clinical**

Weeks 11 & 12

Sound Design – Purpose

1. Supporting the style of a production
2. Creating mood and atmosphere
3. Conveying the time period
4. Conveying setting
5. Conveying time of day
6. Communicating themes or symbols
7. Influencing pace
8. Communicating a character's personality

In sound design we have **diegetic** and **non-diegetic** sound.

Vocabulary

Protagonist: Main character who drives story and faces central conflict usually

Stage configuration: the way the audience is seated around the performance space

Proscenium arch: a staging configuration with the audience on one side

Traverse stage: a staging configuration with the audience on two sides

Thrust stage: a staging configuration with the audience on three sides

In-the-round: a staging configuration with the audience seated all the way around the performance space

Diegetic sound: sound that exists in the play that the characters can hear

Non-diegetic sound: sound added for atmosphere, only the audience can hear.

Drama

Weeks 13 & 14

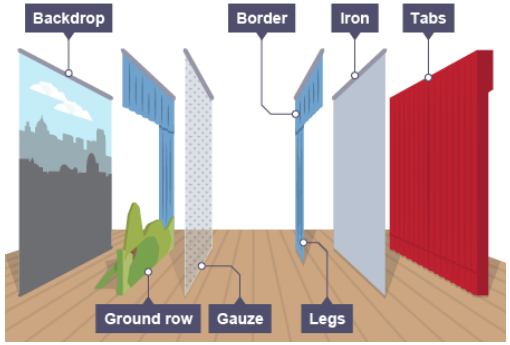
Assessment – Areas to focus on

1. **Participation and rehearsals:** I can take part in all lessons confidently, offering consistently excellent contributions.
2. **Audience Awareness:** I can engage my audience throughout because my characterisation has consistent flair.
3. **Vocal Skills:** I can demonstrate that my vocal characterisation works in conjunction with my physical characterisation.
4. **Movement Skills:** I can demonstrate that my physical characterisation works in conjunction with my vocal characterisation.
5. **Performance Techniques:** I can confidently and consistently use a variety of techniques when devising.

Weeks 15 & 16

Set Design – Purpose

1. Conveying setting
2. Conveying period
3. Communicating themes or symbols
4. Interacting with other design elements
5. Supporting the style of production



Weeks 17 & 18

Gait	How we walk
Body Language	How we use our body to express feelings
Gestures	The use of our hands
Facial Expressions	How we use our face to express feelings
Proxemics	The distance between people
Pitch	How **high** or **low** the voice is
Tone	The **mood** of the voice
Pace	How **fast** or **slow** the voice is
Projection	How **loud** or **quiet** the voice is
Pause	Intentional **wait**
Intonation	The **rise** and **fall** of the voice

Vocabulary

English

Week 1

'The Chimney Sweeper' and 'A Song: Men of England'

Context (The Chimney Sweeper):
- During the Industrial Revolution, child labour was common – like chimney sweepers were often sold by parents and lived in extreme poverty.
- Blake criticises how religion and society justify exploitation.
- Highlights the loss of childhood innocence.

Context (A Song: Men of England):
- Written after the French Revolution, which inspired radical political ideas.
- Shelley was a Romantic poet who opposed monarchy and class inequality.
- The poem encourages workers to recognise their exploitation.
- Presents protest as collective action against tyranny.

Key Quotation:
'The Chimney Sweeper'
"my father sold me while yet my tongue / Could scarcely cry 'weep!'"
"locked up in coffins of black"
'A Song: Men of England
"Sow seed—but let no tyrant reap"

Week 2

'Not My Business' and 'Dulce et Decorum Est'

Context (Not My Business):
- Written under the Nigerian military dictatorship of General Abacha.
- Speaking out against the government was dangerous.
- The poem criticises public apathy towards injustice.
- Shows how oppression eventually affects everyone.

Context (Dulce et Decorum Est):
- Written during World War One by a soldier who experienced trench warfare.
- Challenges patriotic propaganda that glorified war.
- Title references a Latin phrase promoting honour in dying for one's country.
- Exposes the physical and psychological horror of combat.

Key Quotation:
'Dulce et Decorum Est'
"Bent double, like old beggars under sacks"
"The old Lie: Dulce et decorum est / Pro patria mori"
'Not My Business'
"What business of mine is it"

Week 3

'Strange Fruit'

Context:
- Written in response to the lynching of Black Americans in the Jim Crow South.
- Lynching was used as a tool of racial terror and control.
- Meeropol was a Jewish American who opposed racism and injustice.
- The poem was later performed by Billie Holiday, increasing its impact.
- Uses protest art to force audiences to confront racial violence.

Key Quotation:
'Strange Fruit'
"Blood on the leaves and blood at the root"
"Here is a strange and bitter crop"

Vocabulary

Exploitation - Taking unfair advantage of people or resources for personal or political gain.
Revolution - A forceful and significant change in power, systems, or ideas.
Establishment - The dominant political or social groups that hold power and influence.
Rhetorical Question - A question asked for effect rather than to receive an answer.
Patriotism - Strong support for one's country.
Indoctrination - Teaching ideas or beliefs uncritically so they are accepted without question.
Volta - A turning point in a poem, often marking a shift in tone or argument.
Dictatorship - A system of government where one person or group holds absolute power.
Apathy - A lack of interest, concern, or emotional response, especially toward injustice.
Message - The main idea or lesson the writer wants to communicate.
Resonates - To create a strong emotional response or lasting impact on the reader.
Lynching - The illegal killing of a person by a mob, historically linked to racial violence and terror.
Plosive - A harsh consonant sound (such as /p/, /b/, /t/) that creates impact or emphasis.

English

Week 4

‘Education for Leisure’ and ‘Mrs Schofield’s GCSE’

Context (Education for Leisure):
- Written in the late 20th century, reflecting fears about youth violence.
- Removed from GCSE syllabuses after real-life violent incidents.
- Explores censorship and the silencing of disturbing voices.
- Challenges who is allowed to speak in literature.

Context (Mrs Scholfield’s GCSE’s):
- Written as a response to the banning of *Education for Leisure*.
- Criticises censorship and moral panic in education.
- Uses humour and colloquial voice to mock authority.
- Defends poetry as a space for uncomfortable ideas.

Key Quotation:
‘Education for Leisure’
“Today I am going to kill something”
“I am going to change the world”
‘Mrs Schofield’s GCSE’
“Explain how poetry pursues the human like the smitten moon above the weeping, laughing earth; how we make prayers of it.”

Week 5

Poetry Comparison

Poetry Comparison Structure:
- Thesis
- Paragraph of layered analysis – Poem A
- Paragraph of layered analysis Poem B
- Conclusion

Layered Analysis Structure:
1. **Main argument – linked to question** *(*The poet* presents…)*
2. **Quote** *(This is clear when *the poet* … “……”)*
3. **What this literally means** *(In this quotation, *the poet* is literally illuminating…)*
4. **What this could mean** *(*The poet* could be implying that…)*
5. **Single word(s) and methods analysis** *(Through the use of the word/method “____”, *the poet* might be foregrounding the notion…)*
6. **Link to another poem** *(Similarly, *other poem* reflects the idea that…)*
7. **Why does the writer do this? Get out of the text** *(*The poet* does this in order to warn, illuminate, foreground, depict, suggest, resonate the idea that… [ALWAYS LINK TO CONTEXT]*

Week 6

Protest Poetry

Creating your own protest poem checklist – you must include:
- A clear issue or injustice that your poem is protesting
- A clear reason why this issue matters
- A chosen voice or perspective
- A deliberate structure (regular, irregular, or mixed)
- At least **three protest techniques** (e.g. repetition, symbolism, extended metaphor, enjambment, caesura)
- A clear progression of ideas (problem → impact → message)
- Powerful imagery and emotive language
- Language choices that support your protest message
- Evidence of editing and improvement for impact

Big ideas in protest poems:
- Injustice & Inequality
- Power & Authority
- Freedom & Resistance
- Empathy & Human Rights
- War & Violence
- Social Change
- Apathy & Responsibility
- Voice & Expression

Vocabulary

Censorship - The suppression or control of speech, writing, or ideas by authorities.
Riposte - quick, sharp reply or comeback, often used to challenge authority or opposing views.
Intertextuality - The relationship between texts, where one poem echoes or responds to another.
Colloquial - Informal, conversational language.
Contemporary - Relating to the present time or modern society.
Illuminates - To clarify, explain, or make a concept, relationship, or argument more understandable by revealing underlying meanings, patterns, or implications
Challenges - Questions or confronts ideas, beliefs, or authority.

English

Week 7

Stage Directions

Context:

- The play is set in 1912 to be performed in 1945 to a post-World War Two audience.
- 1912 was a time of rapid industrialisation, coming off the back of the Industrial Revolution during the Victorian era.
- The Birling's house becomes a microcosm of wider Edwardian society in which the Birling family hold all the power.
- **Mr Birling**, the bigoted head of the household, represents the capitalist mindset, along with his wife **Mrs Birling**.

Key Quotation:
*"The **dining room** is of a **fairly large suburban** house, belonging to a **prosperous manufacturer**."*

"The lighting should be pink and intimate until The Inspector arrives and then it should be brighter and harder."

Week 8

Act One

Context:

- **Welfare state** - a system whereby the state undertakes to protect the health and well-being of its citizens, especially those in financial or social need
- **Edwardian era** - "Edwardian" style broadly encompasses the years of 1901 through to 1919.
- The Birlings are celebrating the engagement of their daughter, **Sheila**, to **Gerald Croft**. Birling sees this as another opportunity for making more money, as Gerald Croft is another wealthy businessman.
- The General Strikes of 1910 and 1912 revealed the terrible conditions of factory workers in Britain.
- There was a huge disparity between rich and poor in industrialised society.

Key Quotation:
I'm talking as a **hard-headed**, **practical man** of **business**." *Mr Birling*
"Unsinkable, **absolutely** unsinkable." Mr Birling

Week 9

Act One

Context:

- The character of **Eva Smith** represents the labouring poor of Great Britain who are exploited by the capitalist factory owners who are trying to drive up profits.
- Eva is represented as powerless and trapped in a patriarchal society.
- Priestley is often viewed as a social and moral mouthpiece. He speaks on behalf of the labouring poor who are otherwise voiceless.

Key Quotation:
"Crofts and Birlings are no longer competing are working together – for **lower costs and higher prices**"

"as if we were all mixed up **together like bees** in a hive – **community and all that nonsense**"

"But **these girls** are **not cheap labour**, **they**'re **people**." *Sheila Birling*

Vocabulary

Collective responsibility – the idea the responsibility should be taken up by everyone and for everyone
Capitalism - an economic and political system in which a country's trade and industry are controlled by private owners for profit
Socialism - a political and economic theory of social organisation which advocates that the means of production, distribution, and exchange should be owned or regulated by the community
Microcosm - a community, place or situation regarded as encapsulating the characteristics of something larger than itself.
Social welfare - the many programs that are designed to help people in need of goods and services that they are unable to provide for themselves.
Industrialisation - the development of industries in a country or region on a wide scale
Dramatic irony – when the audience is aware of plot before characters
Misanthropic - having or showing a dislike of other people; unsociable.
Patriarchal - relating to or denoting a system of society or government controlled by men
Exploitation - the action or fact of treating someone unfairly so as to benefit from their work.
Social class - a division of a society based on social and economic status.

English

Week 10

Act Two

Context:

- Social responsibility: Edwardian society was heavily governed by a capitalist mindset that prioritised money, profit and wealth over social responsibility.
- This meant that the poor were marginalised and vulnerable as there was no welfare state to look after them.
- The labouring poor were at the mercy of their employer, meaning they heavily depended on them to survive.

Key Quotation:
"Miss Birling ought to be excused... she's had a long, exciting and tiring day" - *Gerald Croft*

"You see, we have to share something. If there's nothing else, we'll have to share our guilt." *Inspector*

"She looked **young** and **fresh** and **charming**"
Gerald Croft

"You mustn't try to build a kind of wall between us and that girl" - *Sheila Birling*

Week 11

Act Two

Context:

- Charity remained the only resource or refuge for the labouring poor.
- But, ironically, as we see in Act 2, this is also controlled by the corrupt, capitalist rich who bear little social responsibility.
- Oftentimes, the most vulnerable would not receive the help they needed because of the prejudice of the rich, such and Sybil Birling's prejudice of Eva Smith's pregnancy and unmarried status.

Key Quotation:
"I accept no blame for it at all" *Mrs Birling*

"Girls of that sort"//"Girls of that class" *Mrs Birling*

"He should be made an example of. If the girl's death is due to anybody, then it's due to him." *Mrs Birling*

"Don't worry Mrs Birling. I shall do my duty. (He looks at his watch.)" *Inspector*

Week 12

Act Three

Context:

- The obsession with capitalist status and greed results in the older generation's ignorance not only to the needs of the labouring poor, but also the needs of their own children.
- The audience of 1945 had experienced the horrors of World War and the impact that this had on the youth as they would have served during this time.
- As a result, Priestley is galvanising the older generation to guide and support the younger generation and face their social responsibility.

Key Quotation:
"– **my child** – **your** own grandchild – **you killed them both** – **damn you**, damn you-"
Eric Birling

"One Eva Smith has gone – but **there are millions and millions and millions** of Eva Smiths and John Smiths still left with us (…) all **intertwined** with **our** lives."
The Inspector

Vocabulary

Social class - a division of a society based on social and economic status.
Labouring poor - it was expected that the majority of the population would both work and be poor.
Naïve - showing a lack of experience, wisdom, or judgement
Philanthropic - seeking to promote the welfare of others; generous and benevolent.
Duplicitous – having two sides and therefore being deceitful.
Materialistic – motivated by material gain
Ignorant - lacking knowledge or awareness in general; uneducated or unsophisticated.
Charity - an organization set up to provide help and raise money for those in need. Usually voluntary.
Prejudice - preconceived opinion that is not based on reason or actual experience
Reputation - the beliefs or opinions that are generally held about someone or something.
Bigoted - unreasonably attached to a belief in particular prejudiced against a person or people on the basis of their membership of a particular group.
Impetuous - acting or done quickly and without thought or care.

English

Week 13

Act Three

Context:

- The capitalist mindset was intransigent and stubborn, and this is reflected in the adult Birlings and Gerald Croft's inability to reflect and change, who refuse to take responsibility for Eva's death.
- The Inspector's final teaching concludes the main message of the play: that we are all responsible for each other and a society that fails to recognise that responsibility is doomed.
- **Social and moral epiphany** – coming to terms with what is right in society and morally – what Sheila and Eric have by the end of the play.

Key Quotation:
"We are members of one body. We are responsible for each other" *The Inspector*

"if **men** will not learn that **lesson**, then they will be taught it in **fire and blood and anguish**. **Good night**." *The Inspector*

"Between **us we drove that girl** to commit **suicide**." *Sheila Birling*

Week 14

Rhetoric (Spoken Language)

What is rhetoric?
Rhetoric means the art of persuasion. The art of getting people to think and do what you want.

Why do we use rhetoric?
We use rhetoric to be able to articulate our thoughts in a formal manner in order to persuade, emote, manipulate, criticise and educate people.

The Aristotelian Triad

PATHOS
Emotions/Values

LOGOS
Logic/Reason

ETHOS
Credibility/Trust

Week 15

Rhetoric (Spoken Language)

The Structure:

- Anecdote
- Define it
- Historical perspective
- Scientific voice
- Counter argument
- Cyclical end that offers a solution

What is an anecdote? And why is it a powerful way to start a speech?
An anecdote is a short, real-life story that relates to your topic. It is a powerful way to open a speech because it engrosses your audience in the narrative of your argument, which makes you more likely to be persuasive.

What is a motif? And why is it effective?
A motif is a repeated image or idea that engages the audience and makes the subject more relatable.

What is juxtaposition?
The deliberate use of opposing and contrasting ideas, images or people to emphasise their difference.

What is hyperbole?
Hyperbole is the deliberate exaggeration of something to make it appear better or worse than it is in reality.

Vocabulary

Juvenile - childish; immature.
Ego - a person's sense of self-esteem or self-importance.
Revelation - a surprising and previously unknown fact that has been disclosed to others.
Conscience - a person's moral sense of right and wrong, viewed as acting as a guide to one's behaviour.
Metamorphosis - the process of transformation from an immature form to an adult form.
Retribution – punishment inflicted on someone as vengeance for a wrong or criminal act.
Intransigence - refusal to change one's views or to agree about something.
Social responsibility - an ethical concept in which a person works and cooperates with other people and organizations for the benefit of the community.
Rhetoric - the art of persuasion.
Rhetorical question - A rhetorical question is a question that does not require an answer from the audience. It used to provoke thinking and emotion within your audience.

English

Week 16

Rhetoric (Spoken Language)

What is a historical perspective?
A historical perspective is placing the subject of the argument in the context of history e.g. How transport has changed over time; how technology has changed over time etc.

What is a rhetorical question?
A rhetorical question is a question that does not require an answer from the audience. It used to provoke thinking and emotion within your audience.

What is extended metaphor?
An extended metaphor is a metaphor that is continued at length throughout a piece of writing. For example, you could use the metaphor of time in your historical perspective: "Let's turn the clocks back to a time where…"; "let's stop the clock on…"; "we must turn the clocks forward to a future where…"; "the alarm bells are ringing when…"

What is a scientific voice?
A scientific voice uses facts, statistics and reliable opinions in order to strengthen your argument.

What is an emotive voice?
An emotive voice is used to appeal to the empathetic side of your audience's conscience and motivate them into action.

Week 17

Rhetoric (Spoken Language)

What is a cyclical structure?
Sometimes called a circular narrative, this is a clever way of returning to the beginning at the end of a piece of writing. You could repeat the motif or offer a solution to the problem posed at the beginning.

What is the imperative voice?
The imperative voice commands the audience to think or do something at the end of the speech.

What is the conclusion?
This is called a resolution in narrative writing and offers the audience with a solution to the problems discussed in the speech.

Sentence starters:

Anecdotal

- *Imagine it…*
- *Picture this…*
- *Here I am…*
- *We've all been there…*
- *Only last week I found myself…*
- *Here, meet _____..*

Week 18

Rhetoric (Spoken Language)

Historical

- *For centuries we have…*
- *Since the beginning/dawn of time…*
- *Why have human beings always been obsessed with…*
- *This is nothing new…*

Scientific

- *Of course, the research leaves us in no doubt that…*
- *If you don't believe me, perhaps you'll believe…*
- *Shocking research from the University of Oxford…*
- *Recently, Dr Humphries from the University of West England produced a research study that states…*

Counter Argument

- *There will always be one…*
- *I know that some of you may believe…*
- *I'm not stupid to assume that…*

Cyclical end (solution)

- *So, here we are…*
- *But now, imagine this…*
- *And so, finally…*

Vocabulary

Anecdote - An anecdote is a short, real-life story that relates to your topic.
Authoritative voice – a voice that shows power.
Imperative voice – a voice that issues direct commands, requests and instructions.
Emotive language – language that evokes emotion in the audience.
Direct address – pronouns like 'you' and 'us' that include or directly address the audience.
Triplet – a list of three things, emotions, situations.
Cyclical structure -Sometimes called a circular narrative, this is a clever way of returning to the beginning at the end of a piece of writing.
Collective pronouns – pronouns that include the entire audience e.g. we, us, our
Motif - a recuring image, symbol or idea in a text.
Alliteration – repetition of the same letter or sound at the beginning of adjacent or connected words.
Assonance - resemblance of sound between syllables of nearby words, arising particularly from the rhyming of two or more stressed vowels, but not consonants
Cyclical structure – something that starts and ends in the same way.

Food

Weeks 1 & 2	Weeks 3 & 4	Weeks 5 & 6	Vocabulary
Practical – Lemon Posset Lemon posset is a classic British dessert made from cream, sugar, and lemon juice. Using the **acid** in lemon juice to set the mixture. The lemon juice causes the proteins in the cream to clump, while sugar adds viscosity and gives the posset a smooth, creamy texture. Cream, the main ingredient, comes from milk and is a high-fat dairy product. The **fat** content contributes to the richness of the dessert, so lemon posset should be enjoyed as a treat rather than a daily food. **Pasteurisation** ensures that the cream is safe to use, and the finished posset must be stored in the fridge to set and remain safe to eat. Practical skills include accurate hob control when heating the mixture, **grating** and **juicing** the lemons, and pouring the mixture into glasses or jars.	**Practical** – Chocolate Brownie (soya) Chocolate brownies can be made using soya milk as a **substitute** for regular milk. In this lesson, we are learning about soya milk so that we understand its role as a **high biological value (HBV)** protein source, containing all the essential amino acids, and how it works in baking. Nuts such as hazelnuts, pistachios, almonds, walnuts, Brazil nuts, macadamia, and pecans can be added for texture and flavour. Care must be taken to avoid cross-contamination when using nuts. Other milk **alternatives**, like almond, coconut, flax, or oat milk, can also be used depending on dietary needs. Practical skills include safe use of the hob and oven, slowly melting chocolate with fat to prevent burning, and combining ingredients without overworking the mixture. The finished brownie should have a fudgy consistency.	**Theory –** Allergies **Food allergies** occur when the body's immune system reacts to certain proteins in food. Checking **labels** helps prevent allergic reactions and ensures food safety for those with allergies. There are **14 major allergens** that must be declared by law: **celery, cereals containing gluten (wheat, barley, oats), crustaceans, eggs, fish, lupin, milk, molluscs, mustard, peanuts, sesame, soybeans, sulphur dioxide/sulphites, and tree nuts (such as almonds, hazelnuts, walnuts, Brazil nuts, cashews, pecans, pistachios, and macadamia nuts).** Allergens must be listed in bold on packaging so consumers can identify them easily. Proteins, both animal- and plant-based, are often the cause of allergic reactions. Seeds are an example of a plant-based protein, and it is important to know how they are used in recipes. Understanding **allergies** and recognising the symbols ensures food can be prepared safely for everyone.	**HBV – High biological value -** HBV protein foods contain all the essential amino acids. **Soya** – soya comes from a soya beans are a good source of fibre and vitamins **Gluten** - A protein in wheat flour that gives bread its structure and elasticity **Allergies symbols** - Consumers may be allergic or have intolerance to other ingredients, but only the 14 allergens are required to be declared as allergens by food law. **Pasteurisation** – the process of heating foods to a specific temperature of a certain amount of time, in order to kill any bacteria

Food

Weeks 7 & 8	Weeks 9 & 10	Weeks 11 & 12	Vocabulary
Practical – Risotto **Risotto** is an Italian dish made using rice, a cereal grain. Cooked rice is classed as a high-risk food because it can contain **Bacillus cereus** spores, which survive cooking and can produce toxins if the rice is left in the temperature "**danger zone**" (5°C–63°C). To stay safe, rice should be eaten immediately, kept hot above 63°C, or cooled rapidly and refrigerated. Practical skills include safe hob control, fine-dicing onions, preparing bacon or other ingredients while avoiding **cross-contamination,** and gradually adding stock so the rice absorbs it properly. **Gelatinisation** occurs during cooking, where starch granules in the rice swell and thicken the dish. Risotto requires frequent stirring to release the starch and create a creamy texture. Recall knife skills for chopping mushrooms and other vegetables, measure stock accurately, and monitor the rice to know when it is cooked.	**Practical** - Focaccia Bread **Focaccia** bread is a flat, leavened **Italian** bread made from wheat flour. Wheat is milled to produce flour, which is then used in bread making. The bread-making process involves **gluten formation**, where water and flour create a network of proteins that give the dough structure and elasticity. Yeast produces CO_2, creating air pockets that make the bread rise. Coeliac individuals cannot eat wheat-based products, so this recipe is unsuitable for them. The **Chorleywood process,** used in factories, allows bread to be made in bulk through efficient **fermentation**. Practical skills include **kneading** the dough correctly, pushing with the palm and pulling back with the fingertips, shaping the bread, leaving it to rise, and "dimpling" by pressing fingers into the dough to hold olive oil and salt.	**Assessment week** • Recall practical techniques. • Consider food safety and scientific terms. • Recognise dietary conditions and basic nutrition. • Recall equipment and there uses.	**Gluten formation** - Gluten is formed from flour when water is added. **Gelatinisation** - occurs when starch granules are heated in a liquid, causing them to swell and absorb the liquid. **Bacteria** – Bacteria are microscopic living organisms. Most bacteria aren't harmful, but certain types can make you sick. **Bacillus Cereu**s – a foodborne pathogen that can produce toxins which can make you ill

Food

Weeks 13 - 18

KS3 Food Design Project: Design, Make & Evaluate

Project Overview
After completing a range of practical dishes throughout the academic year, students will take part in a final design challenge during the last part of the summer term. This project is inspired by a real-world brief from a well-known food company, encouraging creativity, independence, and practical skill development.

Key Focus Areas

Design – developing ideas and planning

Make – applying practical cooking skills

Evaluate – reflecting and improving

Vocabulary

Design Brief - A set of instructions or requirements given by a company that explains what the product should be like and who it is for.
Design - The process of planning and creating ideas for a product before making it.
Target Market - The group of people a product is designed for, such as children, families, or teenagers.
Creativity - Using imagination to develop original and interesting ideas.
Function - What a product is meant to do or how it is used.
Ingredients - The foods used to make a product or dish.
Practical Skills - The hands-on cooking skills used when preparing and making food safely.
Make - The stage where the product is prepared and cooked following the design plan.
Evaluate - To review and judge how successful a product is after it has been made.
Strengths - The parts of the product that worked well or were successful.
Improvements - Changes that could be made to make the product better in the future.
Final Product - The completed food item that has been designed and made.
Presentation - How the food looks when it is served, including colour, shape, and finishing touches.
Feedback - Comments or opinions about the product that help identify what worked well and what could be improved.

French

The Twelve-Point Check

Make your work amazing by including as many features as possible from the Twelve-Point Check every time.

1. Time frame

straight away – tout de suite
every day – tous les jours
At half past eight – à huit heures et demie
once a week – une fois par semaine
twice a month – deux fois par mois
before + verb (going /doing) – avant de + infinitive verb
after + verb (going/doing) – après avoir + past participle

2. 'I' form of a verb

I am – je suis
I have – j'ai

I go / I am going – je vais
I get up - je me lève
I get dressed – je m'habille
I fight with – je me chamaille avec
I have fun – je m'amuse
I argue – je me dispute

I can – je peux
I want – je veux
I need – j'ai besoin de

3. we/ he/ she verb form

he / she is – il/elle est
we are – nous sommes

he / she has – il/elle a
we have – nous avons

he / she fights – il/elle se dispute
we fight – nous nous disputons

he/ she has fun – il/elle s'amuse
we have fun – nous nous amusons

you/we must + verb – on doit + inf

4. Negation

not / don't – ne pas
neither – non plus
neither..nor - ne..ni..ni.

Examples:
I can***'t either*** – je ne peux pas non plus

I recycle **neither** plastic **nor** glass – je ne recycle **ni** le plastique **ni** le verre

5. Conjunctions

furthermore – de plus
what's more – en plus
however – néanmoins
although – alors que
whereas – tandis que
therefore – par conséquent
because – étant donné que

6. Justified opinion

I am interested in – je m'intéresse à
I like – j'aime
I am bothered by – je m'inquiète de…
I hate – je hais

because – vu que
on the one hand – d'un côté/ d'une part…
on the other hand – d'un autre côté/ d'autre part
I believe that – je crois que

7. Contrasting opinion

Example:
I have fun with my brother **because** he is funny **but on the other hand** I don't get on with my sister **as** she is annoying.

Je m'amuse avec mon frère **vu qu**'il est amusant **mais d'autre part**, je ne m'entends pas avec ma soeur **puisqu**'elle est agaçante

8. Comparative

less..than – moins…que
as..as – aussi….que
older than – plus vieux/vieille que
younger than – plus jeune que

Example:
Recycling is **more** important **than** going on foot– recycler est plus important que d'aller à pied

9. Superlative phrase

the best thing – le meilleur
the worst thing – le pire

Examples:
The best thing about my school is the pool – le meilleur de mon école c'est la piscine
The worst thing about my school is the uniform – le pire de mon école c'est l'uniforme

10. Additional tense

when I was younger – quand j'étais plus jeune
I used to get on well with - je m'entendais bien avec
I used to watch – je regardais
I used to play – je jouais
when I am older – quand je serai plus vieux/vieille
I will live – j'habiterai
I will work – je travaillerai
I would love to + verb – j'aimerais + inf

11. WOW-phrase

how cool – Quel pied!
how awful! – Quelle horreur!

if it were possible – Si c'était possible + conditional (I would)
I used to like.. – avant j'aimais…
I tend to..- j'ai tendance à+ any infinitive verb

12. Proofread for ….

- Repetition
- Missing accents(**SP**)
- Missing words (**^**)
- Spelling errors (**SP**)
- Adjective agreement (**A**)
- Syntax errors (**WO**)
- Verb agreement (**VP**)
- Tense agreement (**VT**)
- Tenses match time frame (**WW**)
- Vocabulary errors (**WW**)
- Included all the features of the twelve-point check

French

Classroom language	
Comment dit-on … en français/anglais?	How do you say… in French / English?
Comment ça s'écrit…?	How do you spell…?
Comment prononce-t-on …?	How do you pronounce (it)?
Passe-moi …. , s'il te plaît?	Can you give me…?
Tu peux répéter?	Can you repeat that?
Je suis désolé(e).	I'm sorry
J'ai (presque) fini.	I have (almost) finished
S'il te plaît	please
merci	thank you
Objets dans la classe	**Classroom objects**
un stylo	a pen
une règle	a ruler
un cahier	an exercise book

Describing the weather	
Aujourd'hui	Today ...
il y a du soleil	it's sunny
il fait froid	it's cold
il fait chaud	it's hot
il y a du vent	it's windy
il fait beau	it's good weather
il fait mauvais	it's bad weather
il pleut	it's raining
il neige	it's snowing
il y a des nuages	it's cloudy
Saying what the weather is like today: Aujourd'hui il fait beau et il y a du soleil. Mais il ne pleut pas.	

Days and dates	
Aujourd'hui c'est le…	Today is...
lundi	Monday
mardi	Tuesday
mercredi	Wednesday
jeudi	Thursday
vendredi	Friday
samedi	Saturday
dimanche	Sunday
janvier	January
février	February
mars	March
avril	April
mai	May
juin	June
juillet	July
août	August
septembre	September
octobre	October
novembre	November
décembre	December
Saying the date: **Aujourd'hui c'est lundi, six octobre deux mille vingt-cinq**	

Les numéros
1. un
2. deux
3. trois
4. quatre
5. cinq
6. six
7. sept
8. huit
9. neuf
11. dix
11. onze
12. douze
13. treize
14. quatorze
15. quinze
16. seize
17. dix-sept
18. dix-huit
19. dix-neuf
20. vingt
21. vingt-et-un
22. vingt-deux
23. vingt-trois
24. vingt-quatre
25. vingt-cinq
26. vingt-six
27. vingt-sept
28. vingt-huit
29. vingt-neuf
30. trente
31. trente-et-un

The alphabet	
letter	**Sounds like**
a	ah
b	bay
c	say
d	day
e	euh
f	eff
g	jay
h	ash
i	ee
j	gee
k	kah
l	el
m	em
n	en
o	oh
p	pay
q	koo
r	air
s	ess
t	tay
u	ew
v	vay
w	doubla vay
x	eeks
y	ee grec
z	zed

French

Weeks 1-2 – Revision

Words I need to revise for the test	
French	English

Week 3 – School Vocab

Au collège	At school
le collège / l'école	school
le cours	lesson
la matière	subject
le déjeuner	lunch
les devoirs	homework
le bâtiment	building
l'équipe	team
l'année	year
commencer	to start
finir	to finish
durer	to last
chanter	to sing
porter	to wear
scolaire	school (adjective)
le théâtre	drama / theatre
la musique	music
l'anglais	English
le français	French
l'histoire	history
les langues	languages
un élève/un étudiant	a pupil/student
les professeurs	the teachers
le directeur/la directrice	headteacher

Week 4 – Opinions

Key adjectives	
scolaire	school / academic
préféré	favourite
grand	big
fort	strong
faible	weak
facile	easy
difficile	difficult
utile	useful
inutile	useless
intéressant	interesting
ennuyeux	boring
amusant	fun
passionnant	exciting
sympa	nice
gentil	kind
bon	good
pratique	practical
meilleur	better
pire	worse
nul	rubbish

French

Week 5 – School Rules & Uniform

Les règles	Rules
il faut	you have to / one must
il ne faut pas	you must not
porter	to wear
faire	to do
respecter	to respect
manger	to eat
utiliser	to use
partager	to share
l'uniforme	**uniform**
un pantalon	trousers
un pull	jumper
une chemise	shirt
une cravate	tie
une jupe	skirt
une robe	dress
une veste	jacket
des baskets	trainers
des chaussures	shoes
des chaussettes	socks

Week 5 - Facilities

Qu'est-ce qu'il y a ?	What is there?
Dans mon collège il y a…	In my school there is…
Mon collège a…	My school has…
Comment est ton collège ?	What is your school like?
Il y a	There is / there are
Il n'y a pas de	There isn't / there aren't
ni…ni	neither…nor
non plus	neither / not either
le bâtiment	building
la salle de classe	classroom
la salle	room
le terrain de foot	football pitch
le gymnase	gym
la piscine	swimming pool
le terrain	pitch / field
le cour	playground
la bibliothèque	library
un bureau	office / desk

Dans mon école primaire	In my primary school
J'allais à l'école de…	I used to go to …school
c'était	it was/ they were
il y avait	there was / were

Week 6 – Imperfect Tense

Dans mon école primaire	In my primary school
Quand j'étais plus jeune	When I was younger
Dans le passé	In the past
Mon école primaire	My primary schools
Mon instituteur / institutrice	My teacher
Mon école s'appelait	My school was called
J'y allais	I used to go there
À pied	On foot
En bus	By bus
En voiture	By car
Je jouais	I used to play
Je mangeais	I used to eat
Je lisais	I used to read
Je portais	I used to wear
Un short	Shorts
Une robe d'été	A summer dress
Le garçon	Boy
La fille	Girl
Les comparaisons	
C'était plus….que maintenant	It used to be more….than now
Il y avait moins de….que maintenant	There was less … than now
Le meilleur c'était….	The best bit was…
Le pire c'était…	The worst bit was…

French

Week 7 – Future Plans

Projets Futurs	Future Projects
je vais	I am going
tu vas	you are going
il / elle / on / iel va	he/she/one/they is going
nous allons	we are going
vous allez	You all are going
ils / elles vont	they are going
travailler	to work
étudier	to study
voyager	to travel
aider	to help
apprendre	to learn
être	to be
avoir	to have
aller	to go
gagner	to win / to earn
habiter	to live (reside)
les gens	people
le travail	work / job
le monde	the world / people
en équipe	as a team / in a team
les réseaux sociaux	social networks
en ligne	online
je suis doué(e) pour	I am good at
le salaire	salary
une entreprise	a company
un bureau	an office
à l'avenir	in the future

Week 8 – School & Opinions

Les Avis	Opinions
j'aime	I like
je n'aime pas	I don't like
j'adore	I love
je déteste	I hate
je préfère	I prefer
parce que	because
c'est	it is
il y a	there is / there are
une école	a school
l'école primaire	primary school
au collège	at middle school
les enfants	the children
le travail	work / job
les profs	the teachers
en classe	in class
responsable	responsible
professionnel(le)	professional
indépendant(e)	independent
fiable	reliable
gentil(le)	kind / nice
sportif / sportive	sporty / athletic
les langues	languages
le français	French
quelle matière	which subject
pouvoir	can / to be able to
devoir	must / to have to

Week 9 – School & the Future

Le futur dans l'école	The future in school
demain	tomorrow
en septembre	in September
l'année prochaine	next year
après les examens	after the exams
à l'avenir	in the future
pour le futur	for the future
plus tard	later
ensuite	next / then
pour commencer	to start / to begin
ça va être	it is going to be
je voudrais	I would like
je voudrais aller	I would like to go
je voudrais voir	I would like to see
on y va	shall we go / let's go
en octobre	in October
aujourd'hui	today
où	where
les enfants	children
en plein air	outdoors
partout	everywhere

French

Week 10 – Conditional Tense

Le Conditionnel	Conditional Tense
si c'était possible	if it were possible
dans un monde idéal	in an ideal world
je changerais	I would change
je ferais	I would do / make
je ne ferais jamais	I would never do
je porterais	I would wear
j'irais	I would go
je serais	I would be
ce serait	it would be
il y aurait	there would be
on mangerait	we would eat
nous mangerions	we would eat
serait	would be
après	after
pendant	during
quand	when

Conditional Endings	
-ais	I would
-ais	You would
-ait	He/she/it would
-ions	We would
-iez	You all would
-aient	They would

Week 11 – Speaking Exam Preparation

L'examen oral	
Role play	
Je voudrais	I would like
Est-ce que je peux + inf	Can I…+ infinitive
Y a-t-il…?	Is there…?
réserver	to book
payer	to pay
C'est combien?	How much is it?
Picture description	
Sur la photo il y a	In the photo there is
Je vois	I see
quatre personnes	four people
un homme	a man
a woman	a woman
à gauche / à droite	on the left / right
au centre	in the middle
il / elle porte	he / she is wearing
Il (ne) sont (pas) contents	they are(n't) happy
ils sourient	they are smiling
ils sont en train de + inf	they are busy + verb
parler	to talk
s'amuser	to have fun
apprendre	to learn
manger	to eat
écouter	to listen
jouer	to play

Week 12 – Speaking Exam & Revision

Questions	
Quel est ton avis sur	What is your opinion on
Qu'est-ce que tu penses	What do you think
Qu'est-ce que tu fais	What do you do
Qu'est-ce que tu aimes faire	What do you like to do

Revision – What do you need to practice?	

French

Family

La Famille	Family
un (demi-)frère	a half/step brother
une (demi-)sœur	a half/step sister
un enfant	a child
une famille	a family
une fille	a daughter
un fils	a son
mes grands-parents	my grandparents
ma mère	my mother
mon oncle	my uncle
mon parent	my parent
mon père	my father
une relation	a relationship
ma tante	my aunt
jeune	young
un fils/une fille unique	only (child)
s'entendre	to get on with
AVOIR	**To have**
j'ai	I have
tu as	you have
il/elle/on/iel a	he/she/we have
nous avons	we have
vous avez	you pl have
ils/elles ont	they have
être	**to be**
je suis	I am
tu es	you are
il/elle est	he/she is
nous sommes	we are
vous êtes	you (pl) are
ils/elles sont	they are

Describing People

Déscriptions	Descriptions
j'ai les cheveux...	I have ... hair
il/elle a les cheveux..	He/she has …… hair
marron	brown
blonds	blond
noirs	black
roux	red
courts	short
longs	long
J'ai / il/elle a les yeux	I have/he/she has ... eyes
marron	brown
gris	grey
verts	green
bleus	blue
je ne porte pas de lunettes	I (don't) wear glasses
je (ne) suis (pas)	I am (not)...
il/elle (n')est(pas)	he/ she is(n't)
très	very
assez	quite
un peu	a little
grand(e)	tall
petit(e)	short
je (ne) suis (pas)	I am (not)...
Il/elle (n')est(pas)	He/she is (not)….
gentil(le)	kind
sympathique	nice
aimable	friendly
timide	Quiet/shy
heureux(euse)	happy

Relationships

un chef /une cheffe	a boss
un couple	a couple
une difficulté	a difficulty / problem / issue
une femme	a wife
un mari	a husband
un mariage	a marriage
un partenaire	a partner
une relation	a relationship
un voisin	a neighbour
social	social
compréhensif	understanding
comprendre	to understand
dépendre (de)	to depend on
écouter	to listen (to)
respecter	to respect
s'entendre	to get on with
se disputer	To argue
se confier à	To trust
respecter	To respect

French

Food & Drink

se lever	to get up
s'habiller	to get dressed
se préparer	to get ready
Je me lève	I get up
Je m'habille	I get dressed
Je me prépare	I get ready
À huit heures	at eight o'clock
À une heure	at one o'clock
À une heure cinq	at five past 1
À une heure et quart	at quarter past two
à ____ heures et demie	at half past____
à ___ heures moins le quart	at quarter to__
Premièrement / d'abord	first
puis	then
ensuite	next
après ça	after that
finalement	finally
plus tard	later
plus tôt	earlier

Food & Drink

de l'eau	water
du thé	tea
du lait	milk
du sucre	sugar
du fruit	fruit
des légumes	vegetables
des oeufs	eggs
de la viande	meat
du poisson	fish
du riz	rice
du fromage	cheese
des frites	chips
des pâtes	pasta
du gâteau	cake
le petit déjeuner	breakfast
le déjeuner	lunch
le dîner	dinner
(avoir) faim	(to be) hungry
(avoir) soif	(to be) thirsty
boire	to drink
manger	to eat
prendre	to have (food/drink)

Wellbeing

le cœur	the heart
le corps	the body
la gorge	the throat
la main	the hand
le pied	the foot
la tête	the head
le ventre	the belly / stomach
la jambe	the leg
le bras	the arm
les yeux	the eyes
la santé	health
(mal)sain	(un)healthy
l'exercice	exercise
physique	physical
végan(e)	vegan
végétarien(ne)	vegetarian
avoir mal à la / au / aux	to ache / hurt
être en forme	to be fit / healthy

Geography

Week 1

Map Skills
Scale shows real-world distances. **Latitude** and longitude locate places. Symbols and the compass rose help interpret maps. Grid references give precise locations. Contour lines, spot heights and gradients show height and land shape. Straight and curved distances measure routes.

Relief and Africa
Relief describes land height and shape. Africa contains major mountains (e.g., Kilimanjaro), river systems (Nile, Niger, Congo) and the Great Rift Valley.

Rainforest in Africa: Climate
Rainforests are hot, humid, and wet all year, with small temperature ranges and very high rainfall.

Biodiversity
Constant growing conditions create high **biodiversity**, supporting thousands of plant and animal species.

Global Atmospheric Circulation
The Hadley Cell creates low pressure and heavy rain at the equator (rainforests) and dry high-pressure zones at the tropics (deserts).

Plant Adaptations
Plants compete for light, developing lianas, buttress roots and other survival adaptations.

Week 2

Savannah Ecosystem
The savannah has a hot climate with distinct wet and dry seasons. Producers like grasses support herbivores and predators in complex **food webs.**

Big Five
Lion, elephant, buffalo, leopard and rhino—key consumers.

Soils & Nutrients
Nutrients come from rapidly decomposed litter; trees help maintain soil fertility.

Tourism
Provides income but can damage habitats.

Desertification is when fertile land becomes desert.

Causes
Drought, population growth, deforestation, overgrazing and farming without replacing nutrients.

Impacts
Famine, migration, soil erosion, habitat loss, crop failure and water stress.

Solutions
The Great Green Wall aims to restore land.

Week 3

Development Inequality
Development inequality refers to uneven quality of life and access to resources across African countries, influenced by colonial history, conflict, harsh climates, disease, limited food and water, and land-locked locations.

Development Indicators
GDP, GNI, literacy, life expectancy and birth/death rates help measure how developed a country is.

Spiral of Decline
Poor health, low income and weak infrastructure reinforce one another, trapping countries in long-term underdevelopment.

Ghana and Population Change
Ghana's social, economic and political context affects development and population patterns. Population pyramids show falling birth rates and a growing working-age population.

Challenges in Accra
Rapid urban growth leads to traffic congestion, housing shortages, waste and flooding issues, unemployment, crime and health concerns, requiring long-term infrastructure improvements and international support.

Vocabulary

Scale - how big or small something is compared to real life.

Latitude – the distance north or south of the Equator.

Desertification - when fertile land becomes desert, mainly on desert edges, due to drought and human pressures.

Biodiversity - the variety of different plants and animals in an environment.

Food web - the network of connected food chains that shows how energy passes between plants and animals in an ecosystem.

Birth rate - the number of babies born each year for every 1,000 people in a population.

Geography

Week 4

Health Indicators
Countries are compared using indicators like **life expectancy**, **death rate**, and doctors per person.

Inequality
HICs have more doctors, clean water, vaccinations, and modern hospitals. **LICs** often face poor sanitation, few doctors, and limited medicine.

Impacts of Poor Health
Poor health causes illness, loneliness, and lower **life expectancy**, and it reduces workforce and taxes, harming the economy.

The Informal Economy
The informal economy includes jobs without contracts, tax payments or benefits.

Benefits
Provides easy-to-access jobs, no need for qualifications, and supports recycling (e.g., scrap scavengers).

Negatives
Creates unsafe, low-paid work, increases crime (e.g., Area Boys), and reduces tax income, limiting funding for healthcare and education.

Week 5

Colonial Background
Africa was historically colonised by European countries, which controlled land and resources.

China's Investment
China builds **infrastructure** such as railways, roads, factories and government buildings. This can create jobs, skills and economic growth.

Benefits vs Negatives
Benefits include reduced poverty and better **infrastructure**. Negatives include low wages, unsafe jobs, resource extraction and political influence.

What is Globalisation?
Globalisation is the world becoming more connected through the movement of products, people and ideas.

How Trade Works
Countries **trade** goods like gold, oil, coffee and electronics, and values change depending on supply, demand and world events.

Why Globalisation Can Be Unfair
LICs can face tariffs, falling product values and environmental damage, while some countries are excluded from trade.

Week 6

What Are Transnational Corporations?
TNCs are large companies with HQs in **HICs** and factories in **LICs**/NICs.

Shell in Nigeria creates jobs and investment but also pollution and low wages.

Impacts of TNCs
TNCs can improve skills and **infrastructure,** yet profits often leave the country and environmental damage may occur.

Africa's Wealth & Economies
Africa has very unequal wealth; some nations appear rich, but people remain poor due to low wealth per capita.

Countries are shifting from farming to service and research jobs. South Africa has more tertiary work, while Somalia relies on primary jobs.

Aid
Aid provides food, water, money or skills.

Emergency aid helps after disasters; long-term, voluntary and tied aid support development.

Aid can save lives and create multiplier effects but may also cause dependence and harm local businesses.

Vocabulary

Life expectancy - the average number of years a person is expected to live from birth.

Death rate - the number of people who die per 1,000 population each year.

HIC – High Income Country

LIC – Low Income Country

Infrastructure - the basic facilities a place needs to function, such as roads, electricity, water supply and communication networks.

Trade - the buying and selling of goods and services between people or countries.

Geography

Week 7

UK Physical and Human Geography
The UK contains varied physical landscapes, including uplands, lowlands and extensive coastlines.

Population distribution is uneven, with most people living in lowland areas and near major cities where there is better access to jobs, transport and services.

Settlement Hierarchy
Settlements form a hierarchy from hamlets to villages, towns and cities.
Higher-order settlements offer more services, have larger populations and influence wider areas.

Patterns and Influence
Larger towns and cities, such as Plymouth, have broad **spheres of influence** because they provide specialised services.

Smaller places, such as villages in Cornwall, have limited services and therefore attract fewer people from surrounding areas.

This hierarchy helps explain the structure and organisation of settlements across the UK.

Week 8

Urban-rural Continuum
The **urban-rural continuum** describes how land use changes gradually from countryside to city.

Rural areas contain farmland and open space, suburban areas feature housing developments, and **urban** areas include shops, offices, transport hubs and dense development.

Settlement Growth
Settlements expand due to key factors such as transport links, job availability, natural resources, flat land and favourable locations.

These factors encourage people and businesses to concentrate in certain areas.

Cornwall Example
A journey from Bodmin towards Plymouth shows a clear transition from rural landscapes to suburban housing and then to a busy urban centre.

Bodmin grew historically because of its central location, transport routes and surrounding farmland, making it an important service centre within Cornwall.

Week 9

Sphere of Influence
A **sphere of influence** is the area from which a settlement draws people for services.

Larger settlements have bigger spheres because they offer more specialist facilities.

For example, Truro attracts people from a wide region, while smaller villages draw mainly local residents.

High Street Change
Many UK high streets have declined due to online shopping, increased car ownership and out-of-town retail parks.

This has reduced visitor numbers, leading to empty shops and lower spending in traditional centres.

Local Patterns
Bodmin's High Street reflects national trends, with some vacant units and limited service variety.

Vocabulary

Sphere of influence – a region within which an urban area provides an important economic and social influence.

Rural – an area of the countryside characterised by wide open spaces.

Urban – a built up environment where a lot of people live.

Urban–rural continum – a continuum along which all settlements are placed

Economic factors – factors that relate to cost and finance.

Social – factors that relate to people's lifestyles, communities, relationships and wellbeing.

Geography

Week 10

Understanding Town Centres
Environmental quality, land use distribution and building conditions reveal how a town centre functions. These indicators highlight strengths, weaknesses and changes over time.

Bodmin's Characteristics
Patterns in Bodmin include a mix of independent shops, some empty units and limited retail variety.

These reflect wider UK trends caused by shifting shopping habits and strong competition from larger towns.

Causes of Decline
Key reasons for decline include reduced **footfall**, the rise of **online shopping**, competition from bigger retail centres and limited modernisation.

These factors contribute to Bodmin's challenges in maintaining a vibrant and economically successful town centre.

Week 11

Regeneration Principles
Regeneration aims to improve the **economic, social and environmental** quality of an area.

Common strategies include pedestrianisation, adding green spaces, restoring heritage buildings, improving public areas and encouraging independent businesses.

Town Centre Improvement
Successful town centres usually have attractive public spaces, good accessibility, a clear identity and a balanced range of services.

These features encourage higher **footfall** and support economic activity.

Application to Bodmin
Bodmin could benefit from measures such as enhancing public areas, creating community spaces, improving signage and supporting local shops.

These improvements strengthen the town's role as a service centre and help increase its sphere of influence within mid-Cornwall.

Week 12

Tourism in the UK
Tourism is a major sector in the UK, supported by both domestic and international visitors.

Key attractions include **national parks,** beaches, historic sites and cultural landmarks.

Staycations have become more common, increasing visitor numbers in rural regions.

Rural Tourism
Rural areas offer open landscapes, wildlife, walking routes and peaceful environments. These attract visitors and provide economic support for local communities through spending on accommodation, food and services.

Cornwall Example
Cornwall demonstrates the importance of rural tourism, with landscapes such as Bodmin Moor, coastal cliffs and sandy beaches.

While tourism brings economic benefits, it can also cause traffic congestion, service pressure and seasonal economic dependence.

Vocabulary

Footfall - the number of people who visit or pass through a place such as a town centre or shopping area.

Online shopping - buying goods or services over the internet instead of in a physical shop.

National Parks – an area which is protected because of its beuatiful countryside, wildlife and cultural heritage.

Staycation - a holiday spent at home or within the local area instead of travelling far away.

Environemental factors - relate to the natural environment, including land, air, water, ecosystems and the impacts humans have on them.

Geography

Week 13

Honeypot Sites
A **honeypot** site attracts large numbers of visitors due to its scenery, attractions or unique features.

Heavy visitor pressure can cause footpath erosion, **traffic congestion**, litter and conflict between visitors and local residents.

Lake District and Cornwall Examples
The Lake District is a classic **honeypot site**, attracting millions each year.

Similarly, Cornish destinations such as St Ives and Tintagel experience intense peak-season pressure.

Management Needs
Overuse can damage the natural environment and reduce quality of life for local communities.

Management strategies such as footpath repair, zoning, visitor centres and traffic controls help protect the area while still allowing tourism to continue sustainably.

Week 14

Tourism Management
Sustainable tourism aims to protect landscapes and communities while supporting economic benefits.

Measures include limiting car access, repairing footpaths, providing public transport, zoning visitor areas and educating tourists about responsible behaviour.

Tourism and Inequality
Tourism can create economic opportunities but may also increase inequality.

Many tourism jobs are **seasonal** and lower-paid. Popular destinations may face rising house prices due to second homes and holiday accommodation.

Cornwall Example
Cornish locations such as St Ives experience strong visitor demand, bringing investment but also making housing less affordable for local residents.

Balancing economic benefits with community wellbeing is essential in managing tourism pressures.

Week 15

Inequality in the UK
Inequality refers to differences in income, access to services, health outcomes and employment opportunities.

These differences vary greatly between regions and even within the same county.

North–South Divide
The UK shows clear regional differences, often described as the North–South divide.

Many northern areas have lower incomes and poorer health, while parts of the south have stronger economies.

However, the south-west, including Cornwall, contains some of the UK's most **deprived** areas despite being geographically southern.

Geographical Patterns
Economic history, industrial development and transport links have shaped these patterns.

Vocabulary

Honey pot site – a place of special interest that attracts tourists.

Traffic congestion - when too many vehicles use the same road at once, causing slow movement and delays.

Sustainable – using resources in a way that meets present needs without harming the ability of future generations to meet theirs.

Seasonal - means something that happens only at certain times of the year, usually linked to changes in weather or tourism.

Deprivation – the lack of key features that are regarded as necessary for a reasonable standard of living.

Geography

Week 16

Reasons for Regional Inequality
The North–South divide developed due to industrial change, globalisation, differences in investment and variations in transport infrastructure.

Deindustrialisation hit northern cities particularly hard as factories closed and traditional industries declined.

Government and Economic Strategies
Reducing inequality involves improving transport, investing in new industries, supporting education and attracting businesses.

Regeneration projects aim to create jobs and improve services in disadvantaged regions.

Examples
Northern cities have developed science parks, cultural quarters and technology centres to replace older industries.

Rural regions such as Cornwall receive funding to tackle low wages, reduce isolation and improve economic opportunities.

Week 17

Local Inequality
Inequality exists within regions as well as between them.

Rural areas may suffer from poor transport, fewer services and limited job choices, while some urban neighbourhoods experience unemployment, poor housing and lower health outcomes.

Economic Sectors
The UK's economy has shifted over time from **primary and secondary** industries to **tertiary and quaternary** sectors.

Manufacturing has declined, while services such as retail, healthcare, finance and technology have grown.

Regional Examples
Cornwall contains many primary and service-based jobs, particularly in agriculture and tourism.

London and other major cities have a larger share of quaternary industries, including technology, research and financial services.

Week 18

Industrial Decline
Deindustrialisation describes the closure or shrinking of heavy industries such as coal, steel and shipbuilding.

Towns that relied on these sectors experienced significant job losses and falling incomes.

Impacts
Industrial decline affected population size, community identity and local services.

Many areas continue to experience lower employment and reduced economic opportunities as a long-term legacy.

Emerging Industries
The UK is developing new sectors including renewable energy, digital technology, creative industries and aerospace. These industries offer highly skilled jobs and support economic diversification.

Examples include offshore wind farms, Spaceport Cornwall and science and technology parks in major cities.

Vocabulary

Primary – jobs that involve getting raw materials from the environment, for example fishing, mining and farming.

Secondary – jobs that use raw materials to manufacture or build products, such as making cars, processing food or constructing buildings.

Tertiary – jobs that provide a service, for example teaching, medical and retail.

Quaternary - jobs that involve research, technology, information management and high-level knowledge, such as scientific research, software development and data analysis.

History

Week 1

How did the Civil Rights movement start in America?

The Civil Rights Movement in America began because African Americans continued to face racism and inequality long after slavery ended in 1865. Although slavery was abolished following the Civil War, freedom did not lead to equality. In the southern states, white authorities introduced Jim Crow laws, which enforced racial segregation in everyday life. This meant Black and white Americans had to use separate schools, buses, restaurants, toilets and waiting rooms. These facilities were supposed to be "separate but equal," but in reality services for African Americans were far worse and deliberately underfunded.
Segregation was supported by the courts. In 1896, the Supreme Court ruling Plessy v. Ferguson decided that segregation was legal as long as facilities were separate. This decision gave southern states the confidence to continue discriminatory laws for decades. African Americans also faced voting restrictions, such as literacy tests, poll taxes and intimidation, which prevented many from having a political voice. Violence, including lynching and attacks by white supremacist groups, was used to frighten Black communities into silence.

Week 2

What role did the NAACP have during the Civil Rights Movement?

The NAACP played an important role in the Civil Rights Movement by challenging racism mainly through the law rather than mass protest. Founded in 1909, it aimed to end racial discrimination and secure equal rights for African Americans.

One of the NAACP's key roles was using legal action to challenge segregation. It believed unfair laws could be overturned in the courts. Its most important success came in 1954 with the Supreme Court case Brown v. Board of Education, which ruled that segregation in schools was unconstitutional.

This decision weakened the idea of "separate but equal" and encouraged further challenges to segregation across the USA.
The NAACP also worked to protect voting rights. It campaigned against literacy tests, poll taxes and intimidation that prevented African Americans from voting.

In addition, the NAACP raised awareness of racism through newspapers, leaflets and local branches.

Week 3

What was the role of Martin Luther King Jr?

Martin Luther King Jr. was a key leader of the Civil Rights Movement because he believed in non-violent protest and had the ability to inspire large numbers of people. He argued that segregation and racism should be challenged peacefully, even when protesters faced violence or arrest. TKing first became well known during the Montgomery Bus Boycott (1955–56), where he helped organise a year-long peaceful protest against segregated buses. His calm leadership kept the boycott united and successful. After this, King became the national face of non-violent resistance.
As a leader, King was an excellent speaker and organiser. His speeches, especially "*I Have a Dream*", helped highlight the unfair treatment of African Americans and encouraged people to support civil rights. King's leadership helped influence major changes in law, including the Civil Rights Act (1964) and the Voting Rights Act (1965). Although some activists criticised him for being too cautious, his leadership achieved lasting change and made non-violence central to the Civil Rights Movement.

Vocabulary

Segregation – the enforced separation of people based on race in public places, schools and services.
Jim Crow – laws in southern states that enforced racial segregation and discrimination against African Americans.
Inequality – a lack of fairness where one group has fewer rights or opportunities than another.
Legal action – using the courts and judges to challenge and change unfair laws.
Civil rights – the basic rights and freedoms people are entitled to by law, such as voting and equal treatment.
Boycott – a form of protest where people refuse to use or buy something (such as buses, shops or services) in order to force change

History

Week 4

Why did attitudes to peaceful protest change after 1965?

After 1965, attitudes to peaceful protest changed because many African Americans felt that non-violent methods were too slow and had not improved everyday life enough. Although important laws had been passed, such as the Civil Rights Act (1964) and the Voting Rights Act (1965), many Black Americans still faced poverty, racism and police violence, especially in northern cities. This led to growing frustration, particularly among younger people.

Peaceful protests were often met with violence from police and white supremacist groups. Television images of protesters being attacked made some activists question whether non-violence really worked. In many cities, anger boiled over into riots.

Figures like Malcolm X criticised peaceful protest and argued that African Americans should defend themselves "by any means necessary." Groups such as the Black Panther Party focused on self-defence, Black pride and controlling Black communities rather than relying on the government.

The assassination of Martin Luther King Jr. in 1968 also caused many to lose faith in peaceful protest.

Week 5

Who was Malcolm X?

Malcolm X was a leading figure in the Civil Rights Movement who argued for Black pride, self-defence and a more militant approach to achieving equality. He believed African Americans should not rely on white politicians or peaceful protest alone to gain their rights.

In the 1950s and early 1960s, Malcolm X was a leading member of the Nation of Islam. Through powerful speeches, he criticised racism in America and argued that African Americans should control their own communities. He rejected non-violent protest, famously saying Black Americans should defend themselves "by any means necessary" if attacked.

Malcolm X appealed particularly to younger African Americans living in northern cities who felt peaceful protest had brought little change to their lives.

In 1964, Malcolm X left the Nation of Islam and changed some of his views after travelling abroad. He became more willing to work with other civil rights leaders and spoke about human rights on an international level. He was assassinated in 1965, but his ideas continued to influence radical groups and debates about how best to achieve equality in America.

Week 6

What was the Cold War?

The Cold War was a long period of tension between two groups of countries after the Second World War. On one side was the USA and its allies, who supported democracy and capitalism. On the other side was the Soviet Union and its allies, who supported communism. It lasted from about 1945 to 1991.

It was called a "cold" war because the two sides did not fight each other directly in a full war. Instead, they competed for power and influence in other ways. This included building up weapons, spying on each other, and supporting opposing sides in wars in other countries, such as Korea and Vietnam.

The Cold War affected many parts of life. Countries formed military alliances, like NATO and the Warsaw Pact, to protect themselves. There was also fear of nuclear war, which led to drills and shelters.

Vocabulary

Assassination – the deliberate killing of an important or well-known person, usually for political reasons.

Black Power – a movement that encouraged African Americans to take pride in their identity and control their own communities without relying on white authorities.

Militancy – a more aggressive or forceful approach to protest, rather than peaceful methods.

Communism – a system where the government controls land and businesses.

Domino Theory – the idea that if one country becomes communist, others nearby will too.

Cold War – tension and rivalry between the USA and the Soviet Union after World War Two.

History

Week 7

How did the Cold War develop?

The Cold War developed after the Second World War as tensions grew between the USA and the Soviet Union, especially over Germany and Berlin. After the war, Germany was split into two countries. West Germany was controlled by the USA and its allies, while East Germany was controlled by the Soviet Union. This division showed how Europe was being split into two sides with different beliefs.

Berlin, although inside East Germany, was also divided. West Berlin became a symbol of freedom and capitalism, while East Berlin represented communism. Tension over Berlin led to events such as the Berlin Wall, built in 1961 to stop people escaping from East to West. This deepened mistrust between the two sides.

Spying also increased tensions. Both sides used spies to gather secret information about weapons, plans and technology. This made each side more suspicious and fearful of the other. Governments believed spying was necessary to protect their own security.

Week 8

Why did America get involved in Vietnam?

America got involved in Vietnam because it was worried about communism spreading. After World War Two, the world was divided between the USA and the Soviet Union in a period called the Cold War. The USA believed communism was a threat and wanted to stop it spreading to other countries.
Vietnam was split into North Vietnam, which was communist, and South Vietnam, which was supported by the USA. American leaders believed that if Vietnam became communist, other countries in Asia might follow. This idea was called the Domino Theory. To prevent this, the USA sent money, weapons and advisers to help South Vietnam.
The USA believed it was protecting freedom and helping an ally. However, the war lasted a long time and became very unpopular at home as many soldiers were killed and victory seemed unlikely.

Week 9

What impact did the Vietnam War have on America?

The Vietnam War led to huge protests across the United States. Many Americans, especially young people and students, were angry about the war and the draft, which forced men to join the army. Peaceful marches, sit-ins and demonstrations took place on university campuses and in major cities. Some protests turned violent, showing how strongly people disagreed about the war.
The war also had a major impact on government spending. Billions of dollars were spent on weapons, troops and equipment in Vietnam. Many people argued that this money should have been spent at home instead, for example on schools, housing and healthcare. As a result, support for President Johnson's domestic programmes, such as the "Great Society," declined.
Protests and high spending increased public anger and reduced trust in the government. Many Americans began to believe the war was wasting lives and money. Overall, the Vietnam War caused widespread protest, financial pressure and lasting divisions in American society.

Vocabulary

Cold War – Tension without direct fighting
Capitalism – Economic system based on private ownership
Communism – State-controlled economy and one-party rule
Berlin Wall – Barrier dividing East and West Berlin
Containment – Policy stopping spread of communism
Domino Theory – Fear countries would turn communist
Protest – Public opposition to government actions

History

Week 10

How did the Cold War end?

The Cold War ended in the late 1980s and early 1990s because tensions between the USA and the Soviet Union reduced. A key reason was the leadership of Mikhail Gorbachev, who wanted to improve the Soviet economy and reduce conflict with the West. He introduced reforms called *glasnost* (openness) and *perestroika* (restructuring).
Gorbachev reduced spending on weapons and improved relations with the USA. Both sides agreed to limit nuclear weapons, which lowered fear of war. He also allowed Eastern European countries more freedom, meaning the Soviet Union stopped using force to control them.
In 1989, the Berlin Wall fell, showing that communism was losing control in Eastern Europe. Soon after, communist governments collapsed across the region. In 1991, the Soviet Union broke apart, officially ending the Cold War. Overall, the Cold War ended because of economic problems in the Soviet Union, new leadership and a move towards cooperation instead of conflict.

Week 11

What difference did the First World War make for the rights of women?

The First World War changed attitudes towards women in Britain. When millions of men went to fight, women took on jobs in factories, farming, transport and offices. Many also worked as nurses. This showed that women could do skilled and important work that had previously been reserved for men.
Women's contribution to the war effort helped challenge the idea that they were unsuited to public life or politics. Their hard work and loyalty made it more difficult for the government to deny them greater rights.

As a result, women made progress in gaining the vote. In 1918, the Representation of the People Act gave some women the right to vote for the first time. Women over 30 who met property qualifications were allowed to vote. Although this was not equal to men, it was a major step forward. Full equality in voting rights was achieved in 1928.

However, after the war many women lost their jobs. Even so, the war had permanently improved women's rights and status.

Week 12

How did the Great Depression affect Britain?

The Great Depression had a serious impact on Britain in the early 1930s. Industries such as coal, shipbuilding and steel suffered as demand fell. This led to high unemployment, especially in northern England, Scotland and Wales. Unemployment caused widespread poverty. Many families struggled to afford basic needs and relied on government support called the dole, which was often low. The government introduced means tests to decide who should receive help, which many people found humiliating.

The Depression also led to protest. One famous example was the Jarrow March in 1936, when unemployed men marched to London to demand jobs. However, the impact was uneven. Some areas in the south recovered more quickly due to new industries.

Vocabulary

Glasnost – Policy encouraging openness and free discussion
Perestroika – Economic restructuring of Soviet system
Disarmament – Reduction of nuclear weapons
Suffrage – Right to vote in elections
Unemployment – Lack of paid work
Dole – Government unemployment benefit
Protest – Public action demanding change

History

Week 13

How did World War Two affect the Home Front?

The Second World War had a major impact on everyday life on the Home Front in Britain. Food and goods were limited, so the government introduced rationing to make sure supplies were shared fairly. Items such as meat, sugar and clothing were restricted, and people had to make do with less.

Air raids were a constant threat. Many cities were bombed during the Blitz, forcing families to use air-raid shelters or evacuate children to the countryside for safety. This caused fear and disruption but also encouraged communities to support each other.

The war changed work and family life. Women took on new jobs in factories, farming and civil defence, while children and the elderly helped with war work. The government used propaganda to encourage cooperation and maintain morale.

Week 14

'Let's be frank about it,' declared Harold Macmillan in July 1957: 'most of our people have never had it so good.' Is this an accurate description of 1950's Britain?

Reasons to agree:

- **Rising wages and employment** – Full employment and rising real wages meant most families had more money and security than before the war.
- **Growth of consumer goods** – Many households could now afford items like televisions, cars and holidays, showing improved living standards.
- **Welfare state support** – The NHS and welfare benefits reduced fear of illness, unemployment and poverty for many people.

Reasons to disagree:

- **Poverty still existed** – Some groups, especially the elderly and unemployed, continued to live in poverty despite economic growth.
- **Poor housing conditions** – Slums and overcrowded housing remained common in many towns and cities during the 1950s.
- **Inequality and discrimination** – Women and immigrants often faced lower pay and discrimination, limiting their share in prosperity.

Week 15

Did the 1960s swing for everyone?

The 1960s Swing brought major cultural change in Britain, especially in music, fashion and youth culture, but it did not benefit everyone equally. Young people, particularly in cities like London, enjoyed greater freedom, new styles of clothing and music, and more relaxed attitudes towards relationships. Rising wages and more free time allowed many young people to enjoy this new culture.
However, many groups were left out. Older people often felt uncomfortable with these changes and continued to live traditional lives. People in poorer areas or industrial towns did not always have the money or opportunities to enjoy the "Swinging Sixties." For them, daily life changed very little.

Women experienced some improvements, such as more job opportunities and greater independence, but inequality remained. Many women were still expected to focus on family life and were paid less than men. Ethnic minorities also faced racism and discrimination, limiting how much they benefited from the new freedoms.

Vocabulary

Rationing – Government limits on food and goods
Blitz – German bombing of British cities
Evacuation – Children moved to countryside for safety
Prosperity – Rising wealth and living standards
Inequality – Unequal experiences between social groups
Youth culture – New music, fashion and attitudes
Propaganda – Messages encouraging support for war
Employment – Paid work available for most people
Discrimination – Unfair treatment of certain groups

History

Week 16

What was the Bristol Bus Boycott?

The Bristol Bus Boycott was a protest in Britain in 1963 against racial discrimination. At the time, the Bristol Omnibus Company refused to employ Black or Asian bus drivers and conductors. Non-white people were banned from certain jobs.

The boycott began after Paul Stephenson and local activists challenged the company's policy. Supporters refused to use Bristol buses and organised peaceful protests. The campaign gained national attention and was supported by Members of Parliament, including Tony Benn, and by the media.

After four months of protest, the bus company ended the ban and agreed to employ Black and Asian workers. The boycott was a success and showed that peaceful protest could bring change in Britain, just as it had in the United States.

The Bristol Bus Boycott helped raise awareness of racism in Britain and encouraged the government to pass new laws. It influenced the Race Relations Act (1965), which made some forms of racial discrimination illegal.

Week 17

Why are there differing opinions on Margaret Thatcher?

There are differing opinions on Margaret Thatcher because her policies helped some people but harmed others. Supporters believe she improved the economy, reduced the power of trade unions and encouraged people to buy their own homes. Many admired her strong leadership and for being the first female Prime Minister. However, critics argue her policies caused high unemployment when traditional industries closed. In places like Cornwall, the decline of tin mining led to job losses and long-term hardship for local communities. Similar problems affected coal and steel areas across Britain. Her handling of the Miners' Strike (1984–85) also divided the country.
Because her decisions affected regions and communities differently, opinions about Margaret Thatcher remain strongly divided.

Week 18

Topic Review: The Britain of the year 2000 was unimaginable at the end of the Victorian era in 1901. How far do you agree?

Reasons to agree:

- Technology – In 1901 there was little electricity and no TVs, computers or mobile phones. By 2000, technology had transformed everyday life.
- Rights – In 1901 most women could not vote. By 2000, women had equal voting rights and more legal protection.
- Social attitudes – Victorian society was strict and class-based. By 2000, attitudes to race, gender and lifestyle were much more open.

Reasons to disagree:

- Industry and cities – Britain was already industrial and urban in 1901, and cities remained important in 2000.
- Global role – Victorians saw Britain as influential in the world, and Britain still had international influence in 2000.
- Gradual change – Many changes happened slowly and could be predicted by some Victorians.

Vocabulary

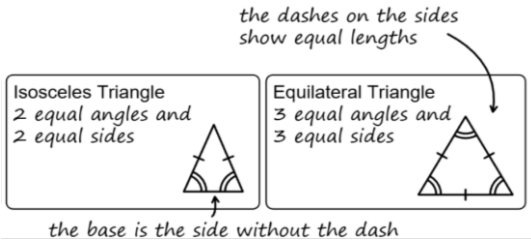
Boycott – Refusing to use services to protest
Discrimination – Unfair treatment based on race
Equality – Same rights and opportunities for all
Prosperity – Increased wealth and living standards
Inequality – Unequal benefits across society
Continuity – Things staying largely the same
Trade union – Organisation protecting workers' rights
Strike – Workers stop work in protest

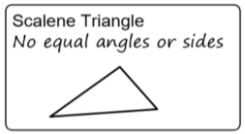
Maths

Week 1

Angles in Triangles

Angles in a triangle add to 180°

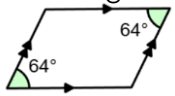




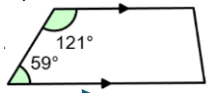
Angles in a **quadrilateral**

Angles in a quadrilateral add to 360°

Opposite angles in a parallelogram are equal



Co-interior angles in a trapezium add to 180°



Arrows on the edges of a shape show that the two lines are **parallel.** The line connecting/intersecting the parallel lines is known as the **transversal line**.

Week 2

Polygons

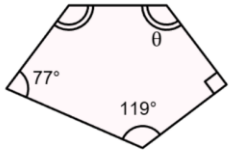
A regular **polygon** is a **polygon** where all angles and side lengths are equal

Shape Name	Sides
Quadrilateral	4
Pentagon	5
Hexagon	6
Heptagon	7
Octagon	8
Nonagon	9
Decagon	10

Interior Angles of **Polygons**

The **sum** of the **interior** angles in a polygon is (n – 2) x 180°, where n is the number of sides.

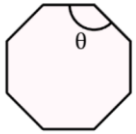
Work out the size of angle θ



Angles in a pentagon add up to:
(5-2) × 180 = 540°

540-90-77-119 = 254°
254 ÷ 2 = 127°

The diagram shows a regular octagon.
Work out the size of angle θ

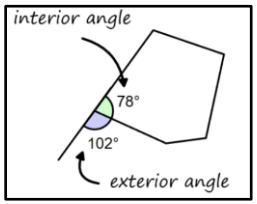


Angle sum =
6 × 180
=1080°
1080÷8=135°

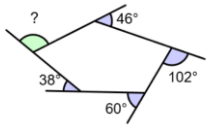
Week 3

Exterior Angles in **Polygons**

The **exterior** angle + the **interior** angle of any **polygon** = 180°



Exterior angles in a **polygon** sum to 360°.



46 + 102 + 60 + 38 = 246

? = 360 - 246 = 114°

Vocabulary

Quadrilateral: A 4-sided shape with straight edges.

Co-interior: two angles inside two **parallel** lines, on the same side as the **transversal** line, and they add up to 180°.

Parallel: two lines which stay the same distance apart (they never meet).

Transversal line : A straight line that intersects two or more parallel lines

Polygon: a closed 2D shape with straight sides.

Interior: lies inside of something

Sum: the result of adding two or more values together.

Exterior: lies outside of something

Maths

Week 4

Rules of **Indices**

Write $5^6 \times 5$ as a power of 5

$= 5^{6+1} = 5^7$

Write $5^8 \div 5^2$ as a power of 5

$= 5^{8-2} = 5^6$

$(2^3)^5 = 2^{15}$

Evaluate 7^0

$= 1$

Evaluate $(5)^{-2}$

$= \left(\frac{1}{5}\right)^2 = \frac{1}{25}$

Evaluate $(3)^{-3}$

$3^3 = 27$, so $3^{-3} = \frac{1}{27}$

$$a^{\frac{x}{n}} = (\sqrt[n]{a})^x$$

Week 5

Standard Form

When measuring very large or very small quantities, it is helpful to write numbers in standard from, which is: $a \times 10^b$ where a must be between 1 and 10

Standard Form for large numbers

Write 8,742.6 in standard form.

$= 8.7426 \times 10^3$

Write 4.6×10^3 in ordinary form.

$= 4600$

Standard Form for small numbers

Remember:

$10^0 = 1$

$10^{-1} = \frac{1}{10} = 0.1$

$10^{-2} = \frac{1}{100} = 0.01$

Write 0.052 in standard form

$= 5.2 \times 10^{-2}$

Write 4.2×10^{-3} in ordinary form

$= 0.0042$

Week 6

Calculating with **Standard Form**

When **adding or subtracting** numbers in standard form, convert to ordinary form.

$(6 \times 10^3) + (3 \times 10^2)$

$= 6000 + 300$

$= 6300$

$= 6.3 \times 10^3$

Work out $6 \times 10^4 \times 3 \times 10^5$

Give your answer in standard form.

$6 \times 10^4 \times 3 \times 10^5$

$= 6 \times 3 \times 10^4 \times 10^5$

$= 18 \times 10^9$

$= 1.8 \times 10^{10}$

An adjustment to standard form is required if the number is not between 1 and 10

Work out $(6 \times 10^4) \div (3 \times 10^5)$

Give your answer in standard form.

$\frac{6 \times 10^4}{3 \times 10^5}$

$= \frac{6}{3} \times \frac{10^4}{10^5}$

$= 2 \times 10^{-1}$

Vocabulary

Index/Indices: tells us how many times to multiply the base by itself.

Standard Form: writing very large or very small quantities in the form $a \times 10^b$ where a must be between 1 and 10.

Maths

Week 7

Listing Outcomes

To list all outcomes or possible **combinations**, this must be done **systematically**.

Using the digits 3, 4 and 5, how many different numbers can be made? You can only use each digit once and you do not have to use them all.

3, 4, 5, 34, 35, 43, 45, 53, 54, 345, 354, 453, 435, 534, 543 (= 15)

A restaurant offers 3 courses:

Starter	Main	Dessert
Tomato Soup Samosas	Pizza Cheeseburger Salad	Ice Cream Tiramisu

List all the different 3 course meal combinations.

TPI	TCI	TSI	SPI	SCI	SSI
TPT	TCT	TST	SPT	SCT	SST

Sample Space Diagrams

Sample space diagrams are a way of listing all the **equally likely** outcomes.

A coin is flipped and a die is rolled.
The sample space diagram shows the twelve equally-likely combinations of outcomes.

		outcome from die					
		1	2	3	4	5	6
outcome from coin	Heads	H1	H2	H3	H4	H5	H6
	Tails	T1	T2	T3	T4	T5	T6

Week 8

Probability

Theoretical Probability:
is the expected probability, worked out by:

$$\frac{\text{number of successful outcomes}}{\text{total equally likely outcomes}}$$

Experimental Probability or Relative Frequency : is the probability in practice, *estimated* by conducting an experiment with a number of trials and calculating

$$\frac{\text{number of OBSERVED successful outcomes}}{\text{total number of trials}}$$

	Number of 5s observed	Total spins
Anna	18	120
Sarah	6	50

a) Use Anna's results to estimate the probability it lands on a 5

$\frac{18}{120} = 0.15 = 15\%$

b) Who's data will give a more reliable estimate?

Anna's because she has more trials

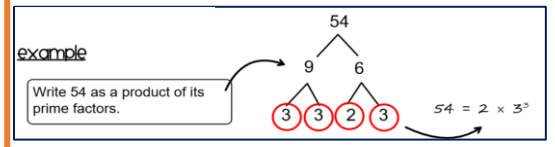
Week 9

Prime **Factorisation**

Prime numbers are positive **integers** that have exactly 2 factors; 1 and itself. For example: 2, 3, 5, 7, 11, …

Composite Numbers are positive **integers** with more than 2 factors. For example: 4, 6, 9, 10, …

To write a number as a **product** of its prime **factors**, find two **integers** that multiply to make this number. If the integers are prime, circle them. If the **integers** are not prime, repeat the step. When all integers are circled, write them out as a **product**.



Vocabulary

Combinations: number of ways

Systematic: done in a particular order or following a particular method.

Equally likely: all outcomes have the same chance of happening.

Probability: the chance of an event occurring.

Factorise: to write an expression as the product of its factors

Integer: a whole number (not a fraction or decimal) that can be positive, negative or 0.

Product: the result of multiplying numbers together.

Factor: positive integers that divide a number with no remainder.

Maths

Week 10

HCF and LCM with prime **factorisation**

HCF: Write out the numbers as a **product** of their prime **factors**. Multiply the common prime **factors**.

Given: $72 = 2^3 \times 3^2$ $270 = 2 \times 3^3 \times 5$

Work out the highest common factor of 72 and 270

$72 = 2 \times 2 \times 2 \times 3 \times 3$

$270 = 2 \times 3 \times 3 \times 3 \times 5$

$HCF = 2 \times 3 \times 3$

The HCF of 72 and 270 is $2 \times 3 \times 3 = \mathbf{18}$

LCM: Write out the numbers as a **product** of their prime **factors**. Multiply the prime **factors** without repeating those that are common to both numbers.

Given: $72 = 2^3 \times 3^2$ $270 = 2 \times 3^3 \times 5$

Work out the lowest common multiple of 72 and 270

$72 = 2 \times 2 \times 2 \times 3 \times 3$

$270 = 2 \times 3 \times 3 \times 3 \times 5$

$LCM = 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 5$

The LCM of 72 and 270 is **1080**

Week 11

Surds

A surd is a type of **irrational** number involving a **square root**.

Surds are **square roots** that cannot be simplified to an integer, so $\sqrt{7}$ is a surd but $\sqrt{16}$ is not a surd because it simplifies to 4.

Multiplying and Dividing Surds

$$\sqrt{a} \times \sqrt{b} = \sqrt{ab} \qquad \frac{\sqrt{a}}{\sqrt{b}} = \sqrt{\frac{a}{b}}$$

Simplify fully: $5\sqrt{90}$

$= 5 \times \sqrt{9} \times \sqrt{10}$

$= 5 \times 3 \times \sqrt{10}$

$= \mathbf{15\sqrt{10}}$

$\sqrt{12} \div \sqrt{3}$

$= \sqrt{\frac{12}{3}}$

$= \sqrt{4} = \mathbf{2}$

Simplifying Surds

To fully simplify a surd means to make the number under the square root sign as small as possible, with no square **factors** other than 1.

Simplify fully $\sqrt{44}$

$\sqrt{44} = \sqrt{4 \times 11}$

$= \sqrt{4} \times \sqrt{11}$

$= 2 \times \sqrt{11}$

$= \mathbf{2\sqrt{11}}$

Simplify fully $\sqrt{75}$

$\sqrt{75} = \sqrt{25 \times 3}$

$= \sqrt{25} \times \sqrt{3}$

$= 5 \times \sqrt{3}$

$= \mathbf{5\sqrt{3}}$

Can $\sqrt{26}$ be simplified?

No, because 26 doesn't have any square factors (other than 1).

Week 12

Adding and Subtracting Fractions

Convert the fractions to the same **denominator**, then add or subtract the **numerators.** Put your answer in its simplest form.

$\frac{2}{3} + \frac{1}{5}$

Convert both fractions to the same denominator

$\frac{10}{15} + \frac{3}{15} = \frac{13}{15}$

Multiplying Fractions

Multiply the **numerators** together and multiply the **denominators** together. Put your answer in its simplest form.

Evaluate $\frac{1}{2} \times \frac{3}{5}$

$= \frac{3}{10}$

Evaluate $5 \times \frac{3}{4}$

$= \frac{5}{1} \times \frac{3}{4} = \frac{15}{4}$

Dividing Fractions

To divide by a fraction, multiply by its **reciprocal**. Put your answer in its simplest form.

Evaluate $\frac{4}{3} \div \frac{2}{5}$

$= \frac{4}{3} \times \frac{5}{2} = \frac{20}{6}$

Evaluate $3 \div \frac{2}{5}$

$= 3 \times \frac{5}{2} = \frac{15}{2}$

Evaluate $\frac{2}{5} \div 6$

$= \frac{2}{5} \times \frac{1}{6} = \frac{2}{30}$

Vocabulary

Factorise: to write an expression as the product of its factors

Product: the result of multiplying numbers together.

Factor: positive integers that divide a number with no remainder.

Irrational: a number that has an infinitely long decimal with no repeating pattern

Square Root: the inverse of squaring a number

Denominator: the bottom number in a fraction.

Numerator: the top number in a fraction.

Reciprocal: To find the reciprocal of a fraction, swap the numerator and the denominator.

Maths

Week 13

Simplifying Algebraic Fractions

To simplify an algebraic fraction, first **factorise** the **numerator** and **denominator** separately, then cancel any common **factors**.

Simplify fully: $\frac{8(n-3)^2}{4n-12}$

$\frac{8(n-3)^2}{4n-12} = \frac{8(n-3)^2}{4(n-3)}$

$= \frac{4 \times 2 \times (n-3) \times (n-3)}{4 \times (n-3)}$

$= \frac{2 \times (n-3)}{1}$

$= 2(n-3)$

Multiplying and Dividing Algebraic Fractions

To multiply, multiply the **numerators** and **denominators** separately, then simplify.

To divide is to multiply by its **reciprocal**, then simplify.

Simplify fully $\frac{2ab}{b^2} \div \frac{6b^3}{10a}$

$\frac{2ab}{b^2} \div \frac{6b^3}{10a} = \frac{2ab}{b^2} \times \frac{10a}{6b^3}$

$= \frac{20a^2b}{6b^5}$

$= \frac{10a^2}{3b^4}$

Week 14

Adding and Subtracting Algebraic Fractions

To add or subtract, first write with a common **denominator**, perform the operation, then simplify.

Write $\frac{3}{2x-5} + \frac{x}{5} + 3x$ as a single fraction.

$\frac{3}{2x-5} + \frac{x}{5} + \frac{3x}{1}$ ← 5(2x - 5) is a common multiple of all denominators

$= \frac{15}{5(2x-5)} + \frac{x(2x-5)}{5(2x-5)} + \frac{3x \times 5(2x-5)}{5(2x-5)}$

$= \frac{15 + 2x^2 - 5x + 30x^2 - 75x}{5(2x-5)}$

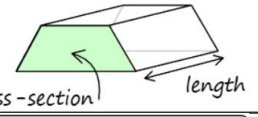
$= \frac{32x^2 - 80x + 15}{10x - 25}$

Week 15

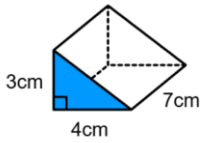
Volume of **Prisms**

To work out the volume of a **prism**, calculate the area of the **cross-section** then multiply by the height.

The volume of a prism is
cross-section area × length



Work out the volume:



Triangle area $= \frac{1}{2} \times 4 \times 3$
$= 6$

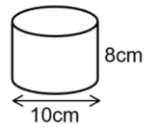
Volume $= 6 \times 7$
$= 42cm^3$

Volume of Cylinders

To work out the volume of a cylinder, calculate the area of the **cross-section** (circle) then multiply by the height.

The volume of a cylinder is $\pi r^2 h$

Work out the volume of this cylinder, correct to 3 significant figures.



Base area $= \pi \times 5^2$
Volume $= \pi \times 5^2 \times 8 = 628cm^3$

Vocabulary

Factorise: to write an expression as the product of its factors

Numerator: the top number in a fraction.

Denominator: the bottom number in a fraction.

Factors: numbers or expressions that multiply together to make the product,

Reciprocals: pairs of numbers that multiply to make 1.

Volume: the amount of space inside a 3D shape.

Prism: a 3D shape that has a constant cross-section.

Cross-section: the same shape which goes all the way through the 3D shape.

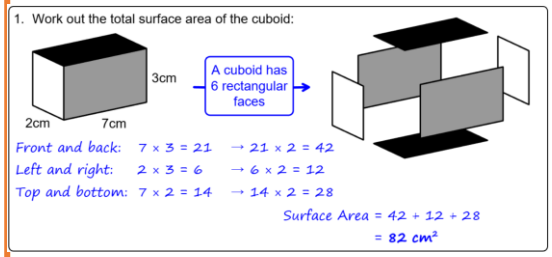
Maths

Week 16

Surface Area

The surface area is the **sum** of the areas of all the **faces** of a 3D shape.

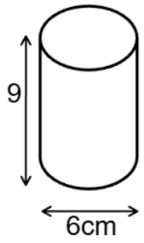
1. Work out the total surface area of the cuboid:



Front and back: 7 × 3 = 21 → 21 × 2 = 42
Left and right: 2 × 3 = 6 → 6 × 2 = 12
Top and bottom: 7 × 2 = 14 → 14 × 2 = 28

Surface Area = 42 + 12 + 28
= 82 cm²

Work out the surface area.
Give your answer to 1d.p.



Top Circle = π × 3²
Bottom Circle = π × 3²
Curved Area = π × 6 × 9

Total = 226.2cm²

Week 17

Direct Proportion

When two **quantities** are in direct proportion, it means that one is a constant **multiple** of the other – as one increases, the other increases at the same rate

The ingredients for making 10 pancakes are shown.

Work out the amount of each ingredient needed to make 15 pancakes.

	Eggs	Flour	Milk
10 pancakes	2	150g	250ml
5 pancakes	1	75g	125ml
15 pancakes	3	225g	375ml

(÷2, ×3 between 10 and 5 pancakes; ÷2, ×3 between 10 and 15 pancakes)

A 50g carton of yoghurt contains 40 calories.
How many calories are there in 250g of the yoghurt?

50g has 40 calories
×5 ↓ ↓ ×5
250g has 200 calories

40 × 5 = 200 calories

Jenny buys 6 apples. The total cost is £1.50
Work out the cost of 5 apples.

6 apples cost £1.50
÷6 ↓ ↓ ÷6
1 apple costs £ 0.25
×5 ↓ ↓ ×5
5 apples cost £ 1.25

Week 18

Inverse Proportion

If two quantities are inversely proportional, when one of the **quantities** is multiplied by a value, the other is divide by the same value.
When the two **quantities** are multiplied, the **product** is always the same **constant**.

1. Machines in a factory are being used to make an order of scarves.
With 5 identical machines working, the order will be completed in 30 minutes.

a) How long would it take to complete the order if 10 machines were used?

5 machines would take 30 minutes
×2 ↓ ↓ ÷2
10 machines would take 15 minutes

b) How long would it take to complete the order if 2 machines were used?

5 machines would take 30 minutes
÷5 ↓ ↓ ×5
1 machine would take 150 minutes
×2 ↓ ↓ ÷2
2 machines would take 75 minutes

75 minutes (1¼ hours)

y is inversely proportional to x.
Work out the missing values in the table.

Two inversely proportional quantities always multiply to the same constant.

Here you can work out that the constant is **30** from the first pair of values.

x	5	2	
y	6		10

↓

x	5	2	3
y	6	15	10

Vocabulary

Sum: the result of adding two or more values together.

Face: flat surface on a 3D shape.

Quantity: amount or number of.

Multiple: the result of multiplying a number by a positive integer.

Product: the result of multiplying numbers together.

Constant: a value that does not change.

Music

Weeks 1 & 2

The Beatles were an English rock band formed in Liverpool in 1960.

Beatlemania was the intense popularity of the English rock band The Beatles from 1963 to 1966.

Notable songs include *She Loves You* (1963), *I Want To Hold Your Hand* (1964), *Yellow Submarine* (1968), and *Let It Be* (1970).

Weeks 3 & 4

The British Invasion refers to UK bands becoming globally popular in the 1960s (e.g., The Beatles, The Rolling Stones, The Kinks).

Key characteristics:

- Strong use of electric guitar and backbeat
- Catchy melodies and vocal harmonies
- Simple but effective chord progressions
- Songs often built around memorable riffs

Influenced by American rock 'n' roll, blues, and R&B.

Weeks 5 & 6

Britpop: British pop music of the mid 1990s that was typically influenced by the Beatles and other British groups of the 1960s.

Key bands of the Britpop movement include Oasis, Blue, Suede and Pulp.

Many British Invasion songs use simple, repetitive chord progressions.

Common patterns include:I–IV–V (e.g., G–C–D)I–vi–IV–V (typical 1960s pop)

Progressions create musical structure and support the melody.

Vocabulary

Chromatic: a chromatic scale includes all twelve notes within an octave.

Chorus: a part of a song which is repeated after each verse.

Refrain: a repeated line or number of lines

Chord Progression: a sequence of chords played one after another

Riff: A short, memorable melodic pattern that repeats throughout a song.

Weeks 7 & 8

Riff: A short, memorable melodic pattern that repeats throughout a song.

British Invasion riffs are often:

- Guitar-led
- Rhythmically strong
- Built from scale patterns and chord tones

Melodies often use:

- Major scales
- Simple, singable phrases
- Call-and-response ideas

Weeks 9 & 10

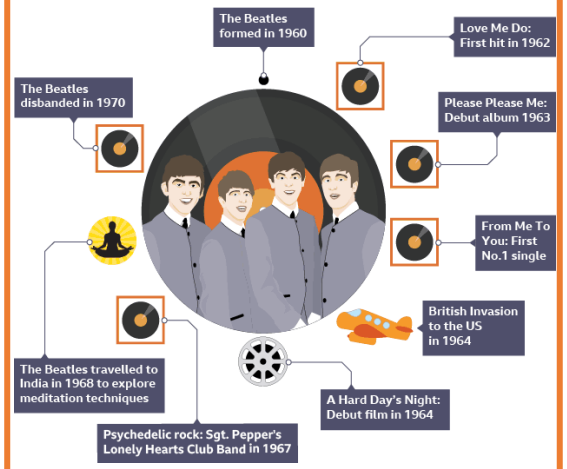
Core Components:

- Chord Progression – played by guitar or keys to form the harmonic foundation.
- Bassline – reinforces chord roots and adds movement; locks with the drums.
- Riff – a memorable repeated idea, often on guitar or keys, giving the piece identity.
- Melody – the main tune, usually sung or played by the lead instrument.

Practical ensemble focus:

- Rehearse building the song layer by layer: drums → bass → chords → riff → melody.
- Practise holding your part even when other layers are added.

Weeks 11 & 12



Music

Weeks 13 & 14	Weeks 15 & 16	Weeks 17 & 18	Vocabulary

Assessment Fortnight
 	
Demonstrate:
• Writing song lyrics – think about your melody and the structure of a song
• Focus on Britpop as your influence
	Improvement Week
	
	• Check your lyrics – Britpop does not need to be overly complex
	
	• Check your understanding of the difference between lyrics and melody:
	  • Lyrics: the words in the song
	  • Melody: the tune of the song.
		A full band arrangement is created by layering four key musical elements:
		1. Chords - Played by guitar or keyboard. Provide the harmony and support the melody.
		2. Basslines - Played by the bass guitar or keyboard. Outline the root notes of the chord progression.
		3. Riffs - Short, memorable patterns often played on electric guitar or keys. Usually repeat and give the song its identity.
		4. Melodies - Sung by the vocalist or played by a lead instrument.Carries the lyrics or central musical idea.
		
		Each plays a different musical role but must fit together to create a cohesive sound.	

PSHE

Weeks 1-3

Where to get help about... Alcohol and Drugs
FRANK
talktofrank.com
03001236600
Information, help and advice about drugs

NHS Smokefree
nhs.uk/smokefree
NHS smoking cessation support service

NACOA
nacoa.org.uk 08003583456
Information and support for anyone affected by a parent's drinking

Weeks 4-6

Where to get help about... Mental Health
Shout: the UK's free, confidential and 24/7 mental health text service for crisis support
Text 85258

www.youngminds.org.uk A charity designed to support young people with their mental health

www.childline.org.uk A charity designed to help young people with all sorts of issues, including mental health. You can phone for free on 0800 1111

If you need help with your mental health, you can also speak to our safeguarding team

Weeks 7-9

Where to get help about... Peer Pressure

- **Know Your Values**: Be clear about what matters to you and what you believe in. This helps you stay firm in your decisions, even when others try to influence you.
- **Practice Saying No**: It can be helpful to have a simple, assertive response ready, like "No, thanks" or "I'm not interested."
- **Find Supportive Friends**: Surround yourself with people who respect your choices and share similar values.
- **Avoid Tempting Situations**: If you know something is likely to lead to pressure, try to avoid it or leave before you feel uncomfortable.

Weeks 10-12

Where to get help about... Relationships
www.actonitnow.org.uk A website to support young people in their relationships

www.brook.org.uk Sexual Health and wellbeing website

www.youngminds.org.uk Has a really good section on developing relationships you could read

If you need help with any of your relationships, you can also speak to our safeguarding team

Weeks 13-16

Where to get help about... Stress

- **Take Deep Breaths**: Slow, deep breathing helps calm your nervous system and reduce immediate stress.
- **Take Breaks**: Step away from stressful situations for a few minutes.
- **Exercise**: Physical activity, even a short walk, can help release built-up tension and improve your mood.
- **Talk to Someone**: Sharing your thoughts r can help you feel supported and understood.

Weeks 17-18

Where to get help about... Bullying

www.youngminds.org.uk/young-person/coping-with-life/bullying

www.childline.org.uk A charity designed to help young people with all sorts of issues, including mental health. You can phone for free on 0800 1111

Remember you can report bullying on the Bodmin College website under the tab "Parents and Students".
You can also speak to any member of staff.

Vocabulary

Key Words linked to First Aid

DR ABC – A safety check: **Danger, Response, Airway, Breathing, Circulation** used to assess an emergency situation.
CPR (Cardiopulmonary Resuscitation) – Chest compressions and rescue breaths used to keep blood and oxygen flowing when someone is not breathing normally.
Defibrillator (AED) – A machine that gives an electric shock to help restart a person's heart during cardiac arrest.
Recovery Position – A safe position used for someone who is breathing but unconscious to keep their airway clear.
Shock – A life-threatening condition where the body is not getting enough blood flow, often caused by injury, blood loss or severe illness.

RE

Week 1&2	Week 3&4	Week 5&6	Vocabulary
Dukkha In Buddhism, **dukkha** is the teaching that suffering is an unavoidable part of human existence. It includes not only obvious pain and hardship but also dissatisfaction, frustration, and the sense that life never fully satisfies. The Buddha taught that dukkha arises because everything is impermanent and because humans cling to desires and expectations. Understanding dukkha helps Buddhists recognise the true nature of life and motivates them to follow the Eightfold Path in order to reduce suffering and ultimately reach enlightenment.	**Letting Go of Attachments** In Buddhism, attachment (*tanha* or *upadana*) is the craving for pleasure, possessions, people, or fixed ideas that leads to suffering. The Buddha taught that attachment arises because humans wrongly believe things are permanent, when in reality everything is impermanent (*anicca*). This clinging causes frustration, anxiety, and disappointment. Buddhists overcome attachment by developing wisdom, ethical behaviour, and mental discipline, especially through meditation, mindfulness, and following the Eightfold Path. Letting go of attachment helps reduce suffering and move closer to enlightenment and nirvana.	**Karuna** In Buddhism, **karuna** means compassion and refers to the deep desire to reduce the suffering of others. It arises from understanding *dukkha*, the reality that all beings experience suffering. Practising karuna involves showing kindness, empathy, and practical help to others, without attachment or expectation of reward. By developing compassion through meditation, ethical behaviour, and right intention, Buddhists aim not only to help others but also to reduce their own ego and progress towards enlightenment.	**Anicca** – The Buddhist teaching that everything is impermanent; misunderstanding this leads to suffering. **Samsara** – The cycle of birth, death, and rebirth that beings remain trapped in due to ignorance and unwholesome actions. **Tanha** – Craving or desire that drives dissatisfaction and keeps individuals trapped in suffering. **Upadana** – Clinging or grasping, especially to ideas, possessions, or identity, which intensifies suffering. **Metta** – Loving-kindness towards all beings, closely linked to compassion and central to reducing suffering in oneself and others.
Key Quote: The centrality of dukkha in the Buddha's teaching is expressed by Siddhartha Gautama: *"Birth is suffering, ageing is suffering, sickness is suffering, death is suffering."*	**Key Quote:** The Buddha explains the link between attachment and suffering when he says: *"From craving comes grief; from craving comes fear."*	**Key Quote:** *"If you want others to be happy, practise compassion. If you want to be happy, practise compassion." Dalai Lama* This quote supports the role of *karuna* by showing that compassion is central to overcoming suffering for both oneself and others.	

RE

Week 7&8	Week 9&10	Week 11&12	Vocabulary
What happens at Armageddon? In the Bible, Armageddon refers to the final, decisive conflict between the forces of good and evil at the end of time. Described in the Book of Revelation, it represents the moment when God brings ultimate judgement upon evil, defeats Satan, and establishes his eternal kingdom. Armageddon is not only a physical battle but also a spiritual one, symbolising the final triumph of God's justice, righteousness, and authority over the world.	**Heaven and Hell** Christians believe that heaven and hell are eternal destinations that reflect a person's relationship with God. Heaven is understood as eternal life in the presence of God, where there is peace, joy, and fulfilment for those who accept God's grace. Hell is understood as separation from God, resulting from the rejection of God's love and forgiveness. These beliefs emphasise moral responsibility, judgement, and the importance of living according to God's will.	**Extinguishing of consciousness** Secular beliefs about death are not based on religious teachings and often focus on scientific and philosophical understandings of human existence. Many secular thinkers believe that when a person dies, consciousness is extinguished and there is no afterlife. Death is therefore seen as the permanent end of personal awareness, meaning, and experience. Because life is viewed as finite, secular beliefs often emphasise making life meaningful in the present through relationships, achievement, and ethical behaviour rather than hope for life after death.	**Book of Revelation** – The final book of the Bible that describes Armageddon, judgement, and the end of the world. **Salvation** – The belief that people can be saved from sin and death through faith in God. **Resurrection** – The Christian belief that the dead will be raised to life by God at the end of time. **Materialism** – A secular worldview that explains reality in physical terms only, often rejecting the soul or afterlife. **Humanism** – A secular belief system that focuses on human reason, ethics, and making life meaningful without belief in God.
Key Quote: *"They gathered the kings together to the place that in Hebrew is called Armageddon."* (Revelation 16:16) This quote supports the idea of Armageddon as the climactic end-time event where God's final judgement and victory over evil take place.	**Key Quote:** Jesus describes the contrast between eternal outcomes when he says: *"Then they will go away to eternal punishment, but the righteous to eternal life."* (Matthew 25:46)	**Key Quote:** This idea of death as the end of consciousness is expressed by the ancient philosopher Epicurus: *"Death is nothing to us, since when we exist death is not present, and when death is present we no longer exist."*	

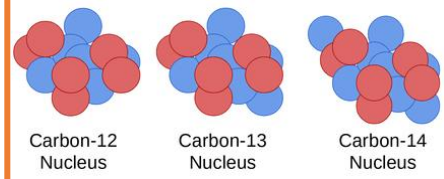
RE

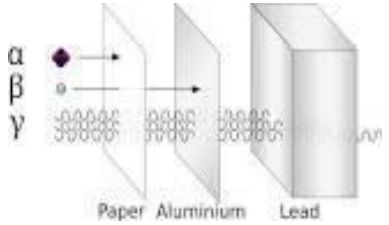
Week 13&14	Week 15&16	Week 17&18	Vocabulary
Hades Hades is the ancient Greek underworld, the realm where souls go after death. It is not primarily a place of punishment but a shadowy existence where most people live on without joy or suffering. The underworld is divided into different regions, such as the Asphodel Meadows for ordinary souls and darker areas for those who committed great crimes. In Greek belief, Hades reflects a bleak view of the afterlife, where life on earth is valued more highly than existence after death. Hades is ruled by the god Hades who is the brother of Zeus and Poseidon	**Valhalla** Valhalla is the Norse afterlife reserved for warriors who die bravely in battle. It is a great hall ruled by Odin, where fallen heroes are brought by the Valkyries. In Valhalla, warriors prepare for Ragnarök – the end of the world, by training and fighting each day, then feasting together each night. Unlike many other afterlife beliefs, Valhalla is not a place of rest but of honour, strength, and eternal readiness for battle. It reflects Norse values of courage, loyalty, and heroic death.	**Vodou** In Vodou belief, death is not an end but a transition. After death, the soul (*gros bon ange* and *ti bon ange*) separates, and the spirit is believed to return to Ginen, the ancestral spiritual homeland. From there, spirits may later be ritually reclaimed and honoured by the living. The afterlife in Vodou emphasises continuity between the living and the dead, with ancestors remaining active, respected, and involved in community life rather than judged or punished.	**Asphodel Meadows** – The region of Hades where ordinary souls exist without reward or punishment. **River Styx** – The river in Greek belief that separates the world of the living from Hades, crossed by souls after death. **Einherjar** – The warriors who live in Valhalla, training each day for Ragnarök. **Valkyries** – Supernatural female figures in Norse belief who choose warriors slain in battle and take them to Valhalla. **Loa** – Powerful spirits in Vodou who act as intermediaries between the supreme creator and humans,
Key Quote: *"I would rather be a servant in the house of a poor man than rule over all the dead." Homer's Odyssey* This quote demonstrates the idea that Hades was seen as a bleak and undesirable place, reinforcing the Greek belief that life after death lacked meaning and happiness.	**Key Quote:** The honour and purpose of **Valhalla** are described in the *Poetic Edda*: *"All the Einherjar fight in Odin's hall each day; they choose the slain and ride from battle."*	**Key Quote:** A traditional Vodou saying reflects this ongoing relationship between the living and the dead: *"The dead are not gone; they walk with us."*	

Science

Week 1 – Atomic structure and Radioactivity

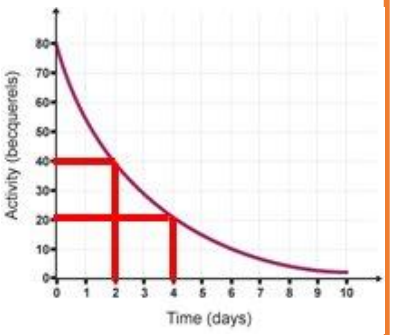
- **Atoms** are made up of a **nucleus of protons and neutrons** with **electrons orbiting** in **electron shells** of specific **energy levels.**
- **Isotopes** are atoms of an element which have the **same number of protons but different numbers of neutrons.** This means they have the **same atomic number** but **different mass numbers.**
- Some isotopes are **unstable**. They can undergo **radioactive decay, a random process** which emits **ionising radiation**.
- **Ionising radiation** emitted from an atom can **knock an electron off another atom, forming an ion.**
- **Alpha radiation** is the **most ionising** and therefore the **most damaging** but can only travel a **few cm in air** and is **stopped by a sheet of paper.**
- An **Alpha particle** is a **Helium nucleus, 2 protons and 2 electrons with a 2+ charge.**
- **Beta particles** are electrons **released from the nucleus** of an atom when a **neutron becomes a proton.** Beta particles are much **less damaging** but can travel much **further (a few metres in air)** and are **absorbed by 5mm of aluminium.**
- **Gamma radiation** has no mass or charge. It is **weakly ionising** because it tends to pass through materials **without hitting atoms.** It is only stopped by very thick lead or concrete.
- **Decay equations** are written to represent nuclear decay. Like balanced equations, the **atomic numbers and mass numbers** on each side of the equation **are equal.**





Week 2 – Atomic structure and Radioactivity

- A **Geiger-Muller** (GM) tube can be used to **measure radioactivity**, in **Becquerels (Bq).**
- **Half life** is the time taken for the **number of nuclei** in a radioactive sample to **halve.** It varies hugely – from less than a second for some materials to thousands of years for others.
- An **activity-time** graph can be used to find half life. The time taken for **activity to halve** will be consistent.



Background radiation is all around us and is contributed to by:

- Natural sources (eg isotopes in rocks).
- Radiation from space (eg cosmic rays).
- Radiation from human contamination (eg from nuclear weapons tests).
- Levels vary according to where you are and your occupation (eg a radiographer working with X ray machines).
- **Gloves** should be worn and **tongs** used to handle radioactive sources.
- **Alpha particles are** stopped by **skin** so are the **least dangerous** form **outside the body. Inside** the body they are the **most dangerous** as they are **extremely ionising** and in **close contact with internal cells.**

$$^{219}_{86}\mathrm{Rn} \rightarrow ^{215}_{84}\mathrm{Po} + ^{4}_{2}\mathrm{He}$$

Vocabulary

Atomic number – number of protons.
Mass number – number of protons + neutrons.
Isotopes – atoms of the same element (same number of protons) with different numbers of neutrons.
Radiation – particles or waves emitted from a decaying nucleus.
Ionising radiation – radiation that can remove electrons from atoms. This can mutate DNA in cells and cause cancer.
Irradiation – exposing an object to radiation.
Contamination – unwanted radioactive material on or inside an object.
Dose – amount of radiation absorbed (sievert, Sv).

Science

Week 3 – The Immune system and Bioenergetics

Disease	Pathogen	How it's spread	Symptoms
Rose black spot	**Fungus**	Water, wind	Black spots on leaves, reduced growth
Malaria	**Protists**	Mosquito vector	Fever, can be fatal
Salmonella food poisoning	**Bacterium**	Eating contaminated food	Fever, cramps, vomiting, diarrhoea
Gonorrhoea	**Bacterium**	Sexual contact	Pain when urinating, yellow discharge from vagina/penis
Measles	**Virus**	Airborne droplets	Fever, red skin rash, can be fatal
HIV	**Virus**	Sexual contact, bodily fluids	Flu-like Damages immune system
Tobacco mosaic virus (TMV)	**Virus**	Direct contact between plants	Mosaic pattern on leaves, reduces photosynthesis and growth

Week 4 – The Immune system and Bioenergetics

Non-specific defence system - General physical and chemical barriers that defend the body against lots of different types of pathogen.

1. **Skin** – acts as a barrier and scretes antimicrobial substances to kill pathogens
2. **Nose** – hairs and mucus traps particles containing pathogens
3. **Trachea and bronchi** – mucus traps pathogens, and cilia waft mucus up the throat so that is can be swallowed.
4. **Stomach** – hydrochloric acid kills pathogens

Specific immune response – acts to destroy any pathogens which pass through the non-specific immune response

1. **Phagocytes -** They are attracted to **pathogens** and **engulf** them, enzymes destroy the pathogen.

2. Lymphocytes (a type of white blood cell) - recognize **antigens** on the surface of a pathogen, detect that these are foreign and produce **specific antibodies** in response. The antibodies cause pathogens to stick together and make it easier for phagocytes to engulf them. Memory cells remain in the body.

<u>Vaccination and immunity</u>

Vaccines - a dead or altered form of the disease-causing pathogen to be introduced into the body, which contain a **specific antigen**. This causes the lymphocytes to produce **specific antibodies.**

Memory cells remain in the body.

Herd immunity - The protection given to a population against an outbreak of a specific disease when a very high percentage of the population have been vaccinated against it.

Vocabulary

Communicable disease - A disease that can be spread between individuals either directly or indirectly.

Non communicable disease – cannot be transmitted between organisms, may develop due to genetic disorders or mutatations.

Pathogen – microorganism which causes infectious disease.

Antigen – protein on the surface of a pathogen that triggers an immune response.

Lymphocyte – white blood cell that produces antibodies.

Antibody – protein that binds specifically to an antigen.

Phagocyte – white blood cell that engulfs and digests pathogens.

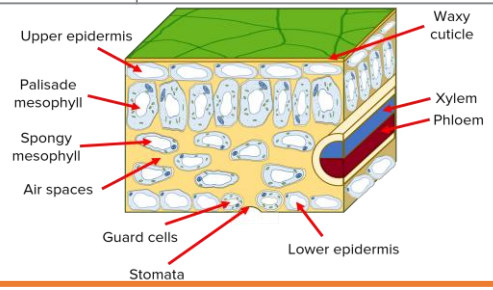
Memory cells – long-lasting lymphocytes that remain after infection.

Science

Week 5 – The Immune system and Bioenergetics

Leaves are adapted for *photosynthesis* and gaseous exchange.

Adaption	Purpose
Epidermis is thin and transparent	To allow more light to reach the palisade cells
Thin cuticle made of wax	To protect the leaf from infection and prevent water loss without blocking out light
Palisade cell layer at top of leaf	To absorb more light and increase the rate of photosynthesis
Spongy layer	Air spaces allow gases to diffuse through the leaf
Palisade cells contain many chloroplasts	To absorb all the available light



Week 6 – The Immune system and Bioenergetics

Photosynthesis and limiting factors

An **increase** in any of these four factors l**eads to an increase in the rate of photosynthesis:**

1. **Light intensity**
2. **Temperature**
3. **Carbon dioxide concentration**
4. **Amount of chlorophyll**

Any of these factors can become the **limiting factor** and **reduce the rate of photosynthesis.** These can be **controlled in a greenhouse.**

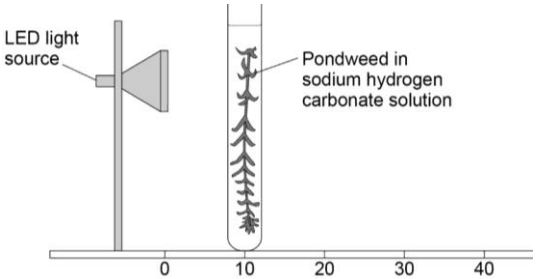
Required Practical: Light Intensity & Photosynthesis

Independent variable: light intensity (changed by moving the lamp closer or further away).

Dependent variable: rate of photosynthesis (number of oxygen bubbles per minute or volume of oxygen).

Control variables: temperature, carbon dioxide concentration, length/species of pondweed, volume of water.

- Place pondweed in water and shine a **lamp** at different distances.
- Measure oxygen produced at each distance, repeat and calculate a **mean**.
- Rate increases with light intensity until another factor becomes limiting.



Vocabulary

Chloroplast – organelle where photosynthesis occurs.

Chlorophyll – green pigment in the chloroplast that absorbs light energy.

Limiting factor – factor that restricts the rate of photosynthesis.

Enzymes – biological catalysts (proteins) that speed up chemical reactions without being used up.

Denaturation – enzyme active site changes shape at high temperature.

Stomata – holes on the underside of the leaf that allow gas exchange.

Guard cells – control opening and closing of stomata.

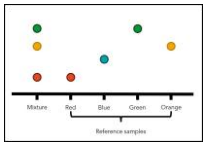
Transpiration – the process by which water moves into a plant through its roots, is transported to and evaporates from the leaves.

Science

Week 7 – Separating techniques

A **chemically pure substance** will have **specific melting and boiling points**.
Impurities in a substance will:
- Lower the melting point and increase the melting range
- Increase the boiling point

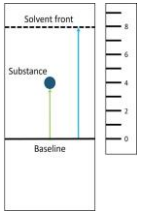
Chromatography
Used to separate soluble substances in a mixture and identify the substances in the mixture.



Chromatograms:
- a **pure substance** produces **one spot**
- an **impure substance** produces **two or more** spots

R_f values are used to **compare** to a reference samples. They are always the same for a particular substance if run in the same solvent.

$$R_f = \frac{\text{distance travelled by substance}}{\text{distance travelled by solvent}}$$



You need to know the following four gas tests AND the positive results.

Test	Observation	Inference
Glowing splint held in a test tube	Splint relights	Oxygen is present
Lighted splint held in a test tube	Pop sound heard	Hydrogen is present
Gas bubbled through limewater	Limewater turns milky or cloudy white	Carbon dioxide is present
Damp litmus paper held in a test tube	Paper turns white	Chlorine is present

Week 8 – The evolution of the atmosphere

Evolution of the Atmosphere
The early atmosphere consisted of a large amount of carbon dioxide, little or no oxygen and small amounts of other gases, such as ammonia and methane.

Overtime the atmosphere changed due to:
- water vapour condensing to form the oceans
- carbon dioxide dissolving into the oceans leading to the formation of sedimentary rocks
- evolution of photosynthetic algae using carbon dioxide and releasing oxygen during photosynthesis.

The Greenhouse Effect
There are three main Greenhouse gases:
- water vapour, carbon dioxide and methane

These greenhouse gases:
1. **absorb heat radiated** from the Earth
2. then **release energy** in all directions,

which keeps the Earth warm

Human activities enhance the greenhouse effect:
- **Farming (cattle and rice)** releases methane
- **burning fossil fuels** releases carbon dioxide
- **deforestation** means less carbon dioxide is removed by photosynthesis
- **decomposition** in landfill sites releases carbon dioxide and methane

The Carbon Footprint
The carbon footprint is how much carbon dioxide (and other greenhouse gases are emitted over the full life cycle of a product, service or event.

Vocabulary

Pure substance consists only of one element or one compound.
Mixture consists of two or more different substances, not chemically joined together.
A **formulation** is a mixture which has been designed as a useful product.
Stationary phase – the chromatography paper.
Mobile phase – solvent that moves through the paper carrying different substances.
Condensation- a physical change of state when a gas turns into a liquid when cooled below its' boiling point.
Climate change – the changes to global weather patterns, including rising temperatures, due to increasing greenhouse gases in the atmosphere.

Science

Week 9 – Water treatment and life cycle assessment

Waste Water Treatment

Type of Water	Source	Treatment
Ground	Undergrou nd rocks	Filtered to remove twigs and solids then sterilised using chlorine/ozone/UV.
Salt	Sea water	Desalinisation by distillation or reverse osmosis
Waste	Sewage treatment	Screening; sedimentation; aerobic digestion of organic matter; Anaerobic digestion of organic matter

Life Cycle Assessment

Life cycle assessment (LCA) is a method used to assess the **environmental impact** of a product **from raw material extraction → manufacture → use → disposal**. Used to **compare products** (e.g. plastic vs paper bags) by considering impacts like **energy use, resource depletion, pollution, and waste.**

Many questions will provide data for you to compare or evaluate. To do this you must:

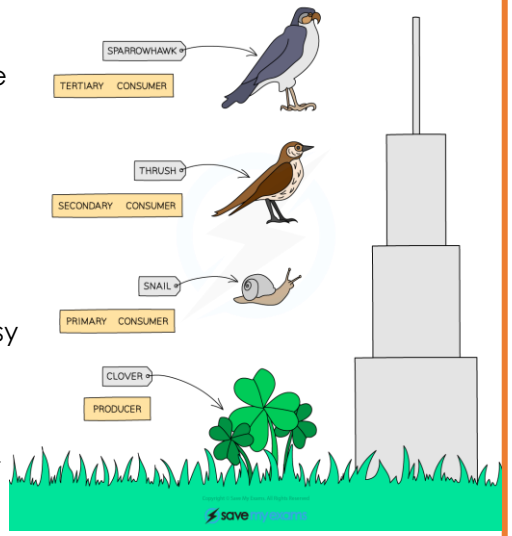
- Describe the differences between the products
- Describe the magnitude of difference
- Explain the environmental impact

- ***For example:***
- Paper bags produce twice as much CO_2 during manufacture than plastic bags. CO_2 is a greenhouse gas that contributes to global warming and climate change.

Week 10 – Ecology

- **Ecosystem-** The living organisms in a particular area, together with the non-living components of the environment.
- **Community-** All the organisms that live in a habitat (plants and animals).
- **Population-** All of the members of a single species that live within a geographical area.
- **Biomass-** The dry mass of an organism.
- **Interdependence** – organisms depending on each other for survival
- **Food chain** - show the flow of energy from one organism to another
- **Food webs** - A diagram which shows all the interlinked food chains in a habitat
- **Interdependence** – organisms depending on each other for survival
- **Trophic level-** The position of an organism in a food chain, food web or pyramid.
- **Prey** - Animals that are hunted and eaten
- **Producer** - The first organism in a food chain. Usually a green plant or alga which stores energy from sunlight as glucose during photosynthesis.
- **Primary consumer** – eats a producer
- **Secondary consumer**- eats a primary consumer

Pyramid of Biomass



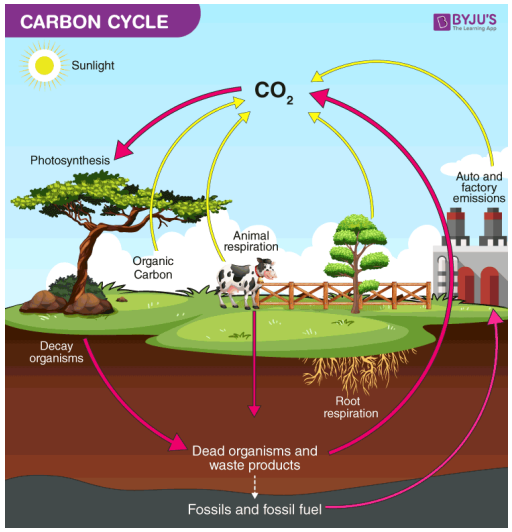
Vocabulary

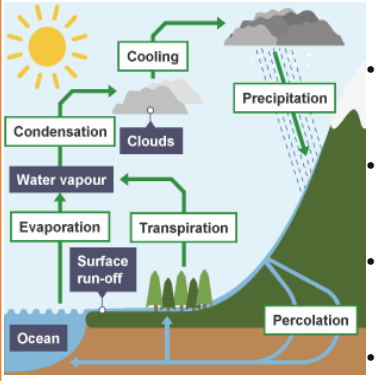
Finite resource: a natural resource that cannot be replaced at the same rate it is being used and will eventually run out.
Potable water: Water that is safe for human consumption (drinking or cooking). It is not pure, but must have low enough levels of dissolved salts and microbes.
Abiotic- Non-living elements of an ecosystem, such as climate, temperature, water, and soil type.
Biotic- Living elements of an ecosystem, such as plants and animals (food, competition, predation , pathogens)
Species- A type of organism that is the basic unit of classification. Individuals of different species are not able to interbreed to produce fertile offspring.

Science

Week 11 – Ecology

- **Intraspecific competition-** The competition between organisms within the same species.
- **Interspecific competition-** The competition which occurs between organisms of different species for a common resource.





- **<u>Water cycle</u>-** The continuous movement of water on, above and below the Earth.
- **Evaporation**- Water turns from a liquid to a gas when it evaporates.
- **Condensation**- After evaporation water can cool and convert from gas to liquid, often forming clouds.
- **Precipitation**- Precipitation occurs when rain, snow, hail and sleet fall from the sky.
- **Surface runoff**- excess water not absorbed by soil.

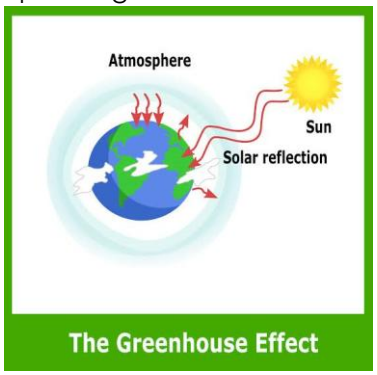
Week 12 – Ecology

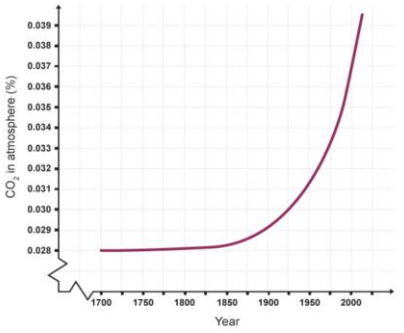
- **Biodiversity-** The range of animals and plants in a given area.
- **Interdependence** – organisms depending on each other for survival

Humans are **reducing biodiversity** by:

- **Global warming** because of the **greenhouse effect** from the use of **fossil fuels.**
- Cutting down trees - **deforestation** - for timber or to create farmland.
- Building bigger towns and cities with more roads - **urban development.**
- **Land pollution**- producing more waste and disposing it using **landfill sites**.
- The use of **chemical pesticides**.

The **Greenhouse effect** is linked to rising levels of carbon dioxide in the atmosphere as a result of burning fossil fuels.





<u>Humans can help **maintain biodiversity** by:</u>

- **Captive breeding programmes**- breed endangered or extinct animals in captivity with the aim to release them into the wild
- **Reforestation**- planting more trees
- **Protected areas**- ensuring areas of land are protected from deforestation and poachers
- Being **more sustainable**- reducing, reusing and **recycling**
- **Replanting hedgerows-** creates more biodiverse habitats.

Vocabulary

Adaptation- A feature of an organism's body which helps it to survive.
Evolution- The process of change in the inherited traits of a population of organisms from one generation to the next.
Photosynthesis - A reaction in the chloroplasts of plants, taking carbon dioxide out of the atmosphere.
Carbon cycle - The processes and events involved in recycling carbon in the environment.
Respiration – process carried out by all living things releasing energy from glucose, returning carbon dioxide to the atmosphere.
Combustion- burning fossil fuels, releasing carbon dioxide.
Decomposer- any organism that breaks down or eats decaying material for its energy source, recycling carbon.

Science

Week 13 – Assessment preparation

Preparing for end of cycle assessment

Scan the QR codes to visit BBC Bitesize – watch the videos, read the topic summaries and test yourself with the quizzes!

Then create revision resources as you have been doing for your homework - flashcards and mind maps for example.

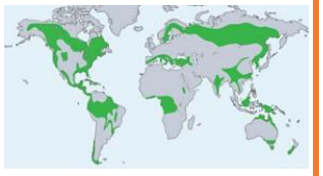
Ecology - GCSE Combined Science - BBC Bitesize

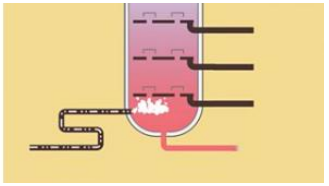
Organic chemistry - GCSE Combined Science - BBC Bitesize

Chemistry of the atmosphere - GCSE Combined Science - BBC Bitesize

Potable water - Water - AQA - GCSE Combined Science

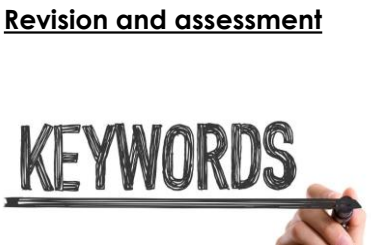
Revision - AQA Trilogy - BBC Bitesize





Week 14 – Cycle 2 assessment

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 quizzes.

BITESIZE

Vocabulary

CIDERR is an acronym used to help us remember and identify the key elements of any experiment.

(C)ontrol variables are factors that could affect the outcome of an experiment and make results unreliable. They are kept the same to minimise this.

(I)ndependent variable is the variable you are investigating and therefore changing in a series of experiments.

(D)ependent variableis the variable you measure to see the effect of changing the independent variable.

(E)quipment is specific to an experiment. You should specify what you are going to use to measure your variables, for instance a balance to measure mass.

(R)epeats – experiments should be repeated and anomalies identified and removed, before calculating a mean average.

Science

Week 15 – Cycle 2 assessment

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 quizzes.

BITESIZE

Week 16 – Sampling techniques

Distribution Sampling:
Shows how species distribution changes with distance across a habitat.

Method:

- A transect (tape measure) is placed across the sample area.
- A quadrat is placed at regular intervals along the same side of the transect.
- The number of organisms is counted in each quadrat.
- This is repeated at different positions across the habitat.

What organisms live on the school field?
What might live on the shore line?

Abundance Sampling :
Abundance is usually estimated, not counted exactly. This is generally done to save time.
Method:

- Place as many quadrats down as you can. This must be done randomly by using a random number generator.
- Count the number of organisms in each quadrat.
- Calculate a mean average number of organisms per quadrat.

Vocabulary

Distribution – how organisms are spread out.
Abundance – number of organisms present.
Random sampling – selecting locations using random numbers from a random number generator.
Systematic sampling – sampling at regular intervals.
Estimate- give an approximate value.
Belt transect - used to investigate the relationship between a population and an abiotic factor.
Quadrat – a grid used to provide a consistent boundary to count organisms in an area.

Science

Week 17 – assessment review

Planning an experiment

Scientists often plan experiments to investigate the relationship between one variable and another. In other words, to see what effect changing one variable has on the other variable.

To make sure any change in the dependent variable is only caused by the change made to the independent variable, all other possible variables should be kept the same. These are the *control variables.*

Brian is planning to investigate how giving plants different amounts of water affects their growth.

What is his independent variable?

What does he need to measure? (his dependent variable)

What should he keep the same (his control variables?)

Write a detailed method for Brian to include:

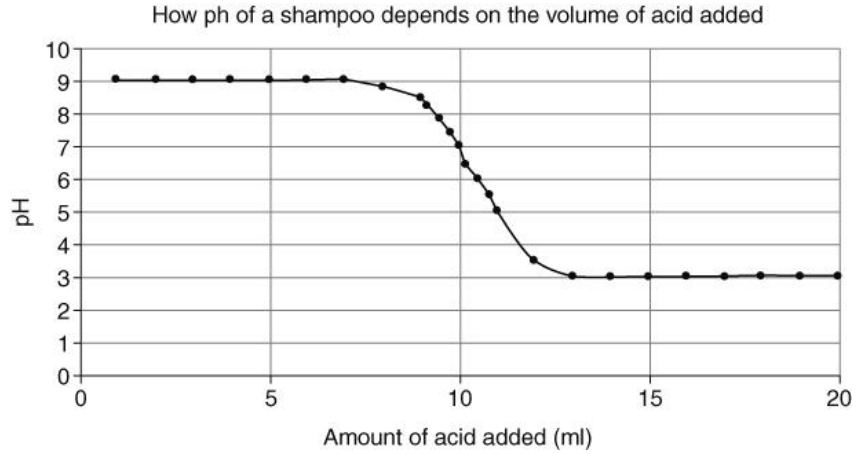
- Variables
- Equipment used
- How to use the equipment
- Any repeats he may do

Week 18 – assessment review

As a scientist working for the Gleam shampoo company, you have been asked to test the pH of a new shampoo.

You find that one shampoo has a pH of 9. You decide that the pH of the shampoo should be about the same as skin which has a pH between 5 and 7. You mix a sample of the shampoo with water and slowly add citric acid to it, measuring the pH as you does so.

The graph below shows the results.

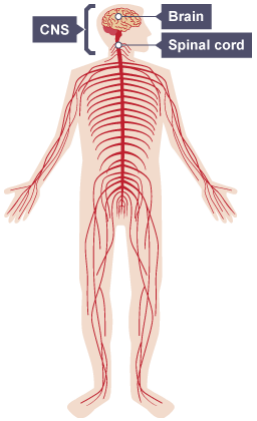


1. Describe how the pH changes as the acid is added to the shampoo sample.
2. Describe how the experiment to gather these results might have been carried out.
3. Explain how to work out the volume of acid needed to neutralise the alkali in the sample of shampoo.
4. Explain why it is important to work our exactly how much citric acid is needed to get the pH of a batch of shampoo correct.
5. Explain why it may be safer to use citric acid to pH balance the shampoo instead of hydrochloric acid.

Science

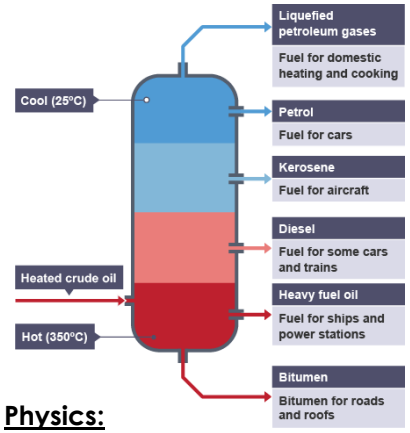
Week 19 – Getting ready for Year 10

What will you learn in Year 10?



Biology:

- The structure and function of the nervous and endocrine systems.
- How electrical and chemical messages are sent around the body and used to regulate blood glucose and temperature.
- The structure of DNA and how characteristics are inherited.
- Evolution, selective breeding and genetic engineering.

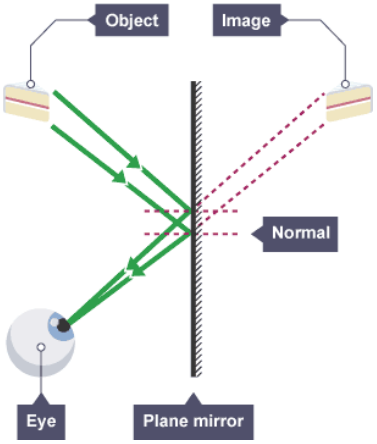


Chemistry:

- How metals are extracted and used.
- The reactions of acids with metals and bases, and the use of electrolysis.
- About the energy changes that accompany chemical reactions.
- How different factors affect the rate of chemical reactions.
- How fuels are extracted from oil and used.

Physics:

- How energy is transferred by electrical circuits.
- The relationship between potential difference, current and resistance.
- The electromagnetic spectrum and the reflection and refraction of light.
- How forces interact with objects.
- Newton's laws of motion, and the relationship between speed, acceleration and momentum.



Spanish

The Twelve-Point Check

Make your work amazing by including as many features as possible from the Twelve-Point Check every time.

1. Time frame

straight away – enseguida
every day – cada día
a las ocho y media – at half past eight
once a week – una vez a la semana
twice a month – dos veces al mes
before + verb (going /doing) – antes de + infinitive verb
after + verb (going/doing) – después de + infinitive verb

2. 'I' form of a verb

I am – soy
I am (+place / mood) – estoy
I have – tengo

I go / I am going – voy
I get up - me levanto
I get dressed – me visto
I fight with – me peleo
I have fun – me divierto
I argue – discuto

I can - puedo
I want – quiero
I need - necesito

3. we/ he/ she verb form

he / she is - Es
we are – Somos

he / she has - Tiene
we have - Tenemos

he / she fights – se pelea
we fight – nos peleamos

he/ she has fun – se divierte
we have fun – nos divertimos

you/we must + verb - Se debe + inf

4. Negation

not / don't – no
neither – tampoco
neither..nor - no..ni..ni.

Examples:
I can**'t *either*** – ***no*** puedo **tampoco**

I recycle **neither** plastic **nor** glass – ***no*** reciclo **ni** plástico **ni** vidrio

5. Conjunctions

furthermore – además
what's more – lo que es más
however – aun así
although – aunque
whereas – mientras (que)
therefore – así que
because – ya que
because – puesto que

6. Justified opinion

I am interested in – me interesa(n)
I like - Me gusta(n)
I am bothered by – no me molesta(n)
I hate - Odio

because – dado que

on the one hand – por un lado
on the other hand – por otro lado
I believe that – creo que

7. Contrasting opinion

Examples:
I have fun with my brother **because** he is funny **but on the other hand** I don't get on with my sister **as** she is annoying.

Me divierto con mi hermano **dado que** es gracioso **pero por otro lado** no me llevo bien con mi hermana **como** es molesta.

8. Comparative

less..than – menos…que
as..as – tan…como
older than – mayor que
younger than – menor que

Examples:
Recycling is **more** important **than** going on– Reciclar es **más** importante **que** ir a pie.

I am **older than** my brother – Soy **mayor que** mi hermano

9. Superlative phrase

the best thing – lo mejor
the worst thing – lo peor

Examples:
The best thing about my school is the pool – **lo mejor** de mi insti es la piscina

The worst thing about my school is the uniform – **lo peor** de mi insti es el uniforme.

10. Additional tense

when I was younger - cuando era joven
I used to get on well with - me llevaba bien con
I used to watch - veía
I used to play - jugaba

when I am older – cuando sea mayor
I will live – viviré
I will work – trabajaré

I would love to + verb - Me encantaría + any infinitive verb

11. WOW-phrase

How cool – ¡Qué guay!
How exciting! – ¡Qué emoción!
How awful! – ¡Qué horror!

if it were possible – si fuera posible + conditional (I would)
I used to like.. – me gustaba…
I tend to..- suelo + any infinitive verb

12. Proofread for ….

- repetition
- missing accents(**sp**)
- missing words (**^**)
- spelling errors (**sp**)
- adjective agreement (**A**)
- syntax errors (**wo**)
- verb agreement (**vp**)
- tense agreement (**vt**)
- tenses match time frame (**ww**)
- vocabulary errors (**ww**)
- included 12-point check criteria

Spanish

Classroom language	
Español	**Inglés**
¿Cómo se dice…. en español/inglés?	How do you say… in Spanish/ English?
¿Cómo se escribe…?	How do you spell…?
¿Cómo se pronuncia?	How do you pronounce (it)?
¿Me das …. ?	Can you give me…?
¿Puedes repetir?	Can you repeat that?
¿Puedo ir a mi clase de música?	Can I go to my music class?
(No) entiendo	I (don't) understand
Lo siento	I'm sorry
(Casi) he terminado	I have (almost) finished
por favor	please
gracias	thank you
Objetos en la clase	**Classroom objects**
un bolígrafo	a pen
una regla	a ruler
un rotulador florecente	a highlighter
un cuaderno	an exercise book

Describing the weather	
Hoy…	Today …
hace sol	it's sunny
hace frío	it's cold
hace calor	it's hot
hace viento	it's windy
hace buen tiempo	it's good weather
hace mal tiempo	it's bad weather
llueve	it's raining
nieva	it's snowing
hay nubes	it's cloudy

Saying what the weather is like today:
Hoy hace sol y no hace mal tiempo **pero** hay nubes.

Days and dates	
Hoy es…	Today is…
lunes	Monday
martes	Tuesday
miércoles	Wednesday
jueves	Thursday
viernes	Friday
sábado	Saturday
domingo	Sunday
enero	January
febrero	February
marzo	March
abril	April
mayo	May
junio	June
julio	July
agosto	August
septiembre	September
octubre	October
noviembre	November
diciembre	December

Saying the date:
Hoy es lunes, veintidós **de** septiembre **de** dos mil veinticinco.

Los números
1. uno
2. dos
3. tres
4. cuatro
5. cinco
6. seis
7. siete
8. ocho
9. nueve
10. diez
11. once
12. doce
13. trece
14. catorce
15. quince
16. dieciséis
17. diecisiete
18. dieciocho
19. diecinueve
20. veinte
21. veintiuno
22. veintidós
23. veintitrés
24. veinticuatro
25. veinticinco
26. veintiséis
27. veintisiete
28. veintiocho
29. veintinueve
30. treinta
31. treinta y uno

The alphabet	
letter	**Sounds like**
a	c**a**t
b	beh
c	theh
d	deh
e	eh like **e**gg
f	effeh
g	heh
h	atcheh
i	ee
j	hota
k	kah
l	eleh
m	emeh
n	eneh
ñ	enyeh
o	l**o**t
p	peh
q	koo
r	erreh
s	esseh
t	teh
u	oo
v	oobeh
w	oobeh dobleh
x	eh kis
y	ee gri egah
z	theta

Spanish

Weeks 1-2

Words I need to revise for the test	
Spanish	**English**

Week 3

En mi insti	In my school
instituto / insti	secondary school
colegio / cole	school
escuela primaria	primary school
comienza	starts
termina	finishes
los alumnos	the pupils
los estudiantes	the students
los profesores / profes	the teachers
asignatura	subject
el comercio	business studies
el dibujo	art
los idiomas	languages
la educación física	PE
un descanso	a break
la hora de comer	lunch hour
una camisa	a shirt
una corbata	a tie
una chaqueta	a jacket / blazer
una falda	a skirt
una camiseta	a t-shirt
un vestido	a dress
unos pantalones	trousers
unos zapatos	shoes
unas zapatillas de deporte	trainers
unos calcetines	socks

Week 4

¿Qué piensas de…?	What do you think about…?
Key adjectives	
aburrido	boring
divertido	fun
activo	active
animado	lively / animated
práctico	practial
inútil	useless / pointless
útil	useful
duro	hard / difficult
fácil	easy
emocionante	exciting
alegre	happy
estricto	strict
trabajador	hard working
amable	friendly
Key verbs	
trabajar	to work
recordar	ro remember
correr	to run
comprender	to understand
sacar buenas notas	to get good grades
tener éxito	to be successful
preguntar	to ask
aprobar	to pass (an exam)

Spanish

Week 5

el comportamiento	behaviour
las reglas	the rules
las normas	the rules
no se permite	it is not permitted
tenemos que	we have to
está prohibido	it is forbidden
(no) se debe	one must (not)
(no) se debería	one should (not)
usar el móvil	use a mobile phone
amenazar	threaten
salir	to leave
llevar	wear
ser	to be
correr	to run

¿Qué piensas?	What do you think?
cómodo	comfortable
incómodo	uncomfortable
práctico	practical
caro	expensive
barato	cheap
necesario	necessary
bonito	nice/ pretty
justo	fair
injusto	unfair

Weeks 6

¿Qué hay?	What is there?
en mi instituto hay	In my school there is
mi colegio tiene	My school has
un patio	a playground
un gimnasio	a gym
una piscina	a pool
la clase	the classroom
una biblioteca	a library
un campo de fútbol	a football field
un campo deportivo	a sports field
una oficina	an office
una sala de ordenadores	IT suite
el edificio	a building
nuevo	new
antiguo	old
moderno	modern
amplio	spacious
pequeño	small
grande	big
no es / son ni…ni..	it is neither…nor
tampoco	neither
una silla	a chair
una mesa	a table
una ventana	a window

mi escuela primaria	In my primary school
iba	I used to go / I went
era / eran	it was/ they were
había	there was / were

Weeks 7

En mi insti ideal	In my ideal school
si fuera posible	if it were possible
me gustaría	I would like
habría	there would be
tendría	it would have
podría	I could / it could

Tus planes	Your plans
el bachillerato	A Levels
la opción	choice
el éxito	success
el intercambio	exchange
la nota	grade / mark
las prácticas laborales	work experience
la prueba	test
el examen	exam
sacar buenas notas	to get good grades
aprobar	to pass (an exam)
tener éxito	to be successful
ir a la universidad	to go to uni

Spanish

Week 8

Tus sueños	Your dreams
la libertad	freedom
el trabajo	work
sacar buenas notas	to get good grades
aprobar	to pass (an exam)
tener éxito	to be successful
viajar	to travel
formar una familia	to start a family
tener hijos	to have children
ir a la universidad	to go to uni
trabajar	to work
con niños	with children
en el extranjero	abroad
como	as

Weeks 9-10

High-level connectives	
porque	because
dado que	because / as
puesto que	
ya que	
no obstante	however
asi que	so / therefore
además	furthermore
por un lado… por otro lado	on the one hand … on the other hand
según	according to
diría que	i would say that

Weeks 11-12

Describe la foto	Describe the photo
hay	there is / are
está / están	he/ she is / they are
dentro / fuera	inside / outside
en la ciudad / el campo	in the town / the country
hace calor / sol	it is hot / sunny
llueve	it is raining
nieva	it is snowing
un hombre	a man
una mujer	a woman
un chico/ una chica	a boy / girl
lleva / llevan	he/ she is / they are wearing
esta(n) sonriendo	they are talking
esta(n) hablando	they are talking

Preparing for the speaking assessment

Before the assessment:

Experiment with the following techniques to revise the vocabulary and structures in this knowledge Organiser

- Use the look-cover-write-check technique to test yourself
- Create flashcards with the English on one side and the Spanish on the other – test yourself and get a friend to test you
- Practise bringing the vocabulary together to create your own written and spoken answers
- Give the Knowledge Organiser to a friend and get them to test you
- Practise the vocabulary on This is School

During the test:

- Describe the people, location and activity
- Remember the rule of 3 – develop your answer
- Give an opinion, a reason and a contrasting opinion
- Be brave! Say something! More marks are awarded for communication than anything else – just go for it!

Spanish

Weeks 13 & 14 – Family Revision

Describing people (ser)	
(No) soy…	I am (not)…
(No) es	he/ she is(n't)
muy	very
bastante	quite
un poco	a little
alto	tall
bajo	short
amable	kind/ friendly
simpático	nice
fiel	faithful
callado	quiet
alegre	cheerful
molesto	annoying
feliz	happy
responsable	responsible
ser	**to be**
soy	I am
es	he/she is
somos	we are

Talking about relationships	
apoyar	**to support**
conocer	to meet/ know
dar consejos	to give advice
hacer reír	to make laugh
criticar	to criticize
juzgar	to judge
divertirse	to have fun
casarse	to get married
pelearse	to fight
parecerse	to seem
llevarse bien/mal	to get on well/ badly
me llevo	I get on
nos llevamos	we get on

Weeks 15 & 16 – Free Time Revision

Sports - Deportes	
los artes marciales	martial arts
el baloncesto	basketball
la bicicleta	bicycle
el ciclismo	cycling
el deporte	sport
el equipo	team
el fútbol	football
la natación	swimming
la piscina	swimming pool
el tenis	tennis
el vóleibol	volleyball
jugar	to play
hacer	To do
el gimansio	gym

Food – Comida	
el almuerzo	lunch
el arroz	rice
la carne	meat
la cena	dinner
el desayuno	breakfast
la fruta	fruit
la leche	milk
el pan	bread
el pescado	fish
las verduras	vegetables
beber	to drink
comer	to eat

Weeks 17 & 18 – Health & Wellbeing Revision

Health & Illness	
el brazo	arm
el corazón	heart
el cuerpo	body
la dieta	diet
el diente	tooth
el estómago	stomach
la cabeza	head
el problema	problem
la salud	health
la vida	life
el dolor	pain, ache
la fiebre	fever
la droga	drug
el ejercicio	exercise
el médico, la médica	doctor
la farmacia	pharmacy, chemist's
la medicina	medicine
activo	active
enfermo	ill, sick
en forma	fit, in shape
físico	physical
(mal)sano	(un)healthy
doler	to hurt
fumar	to smoke
cuidar (de)	to look after