KNOWLEDGE ORGANISERS

YEAR 10

BODMIN COLLEGE

HOMEWORK EXPECTATIONS

YEAR 10

Homework is an essential part of the learning process. It reinforces what you've learned in class, helps you develop good study habits, and teaches you to work independently. Valuing homework and creating a positive homework culture is essential for academic success. By following a schedule, staying organised, seeking help if needed, and maintaining a positive attitude, you can make homework a productive and rewarding part of your education.

On the next page is a homework schedule which outlines which subjects you will self-quizzing on each night and how much time you should spend on this. We are trialling this schedule for Learning Cycle 1, and will be taking feedback from students to inform Learning Cycle 2. This is a two week timetable for Weeks A and B. You can expect the key knowledge each week to be assessed during your Do Now activities the following week. Advice about self-quizzing can be found after your schedule.

We also recognise the importance of having time to spend with friends and family, and for pursuing your own hobbies and interests, which is why we have deliberately kept Fridays lighter.

- We expect you to spend 1 hour on English, Maths and Science and 30 minutes on your Options subjects.
- In addition, your teacher may set you further tasks to complete at home as you prepare for GCSE, but not exceeding the time allocated for each subject.
- For Sparx Maths, this will always be set on a Tuesday and you should spend an hour on this homework. You will need to login to Sparx Maths to access this.

YEAR 10
HOMEWORK SCHEDULE

Between 30 and 90 minutes per night = 5 hours per week

Week A	60 minutes	30 minutes
Monday	English	Option W
Tuesday	Sparx Maths	Option X
Wednesday		Option Y
Thursday	Science	Option Z
Friday		

Sparx Maths

Week B	60 minutes	30 minutes
Monday	English	Option W
Tuesday	Sparx Maths	Option X
Wednesday		Option Y
Thursday	Science	Option Z
Friday		

MEM RiSE

LONG-TERM MEMORY

Your memory is split into two parts:

1. **the working memory**
2. **the long-term memory**

Everybody's working-memory is limited, and can therefore become easily overwhelmed. Your long-term memory, on the other hand, is effectively limitless.

You can support your working memory by storing key facts and processes in long-term memory. These facts and processes can then be **retrieved**, to stop your working memory becoming overloaded.

Knowledge Organisers (KOs) are a key way to help you learn. Each KO has the key information that needs to be memorised to help you master your subject and be successful in lessons.

There is strong scientific evidence from cognitive psychology that shows the benefits of **self-quizzing** in promoting **retrieval strength**. This is your ability to recall facts related to your subject or topic.

SELF-QUIZ

There are lots of different ways to **learn** the material in your knowledge organiser. Use the QR codes to find out more.

1. Make **flashcards** based on the knowledge organiser and ask someone to quiz you.
2. Create a **revision clock**. Draw a clock and add the topic in the middle. Break the clock face into 10-minute sections. Add notes from the knowledge organiser in each section. Cover the clock face and recite the information aloud.
3. **Look - Cover - Write - Check**. Cover up one section of the knowledge organiser and try to write out as much information as you can from memory.
4. Draw a **mind map**, jotting down everything that you can remember from the knowledge organiser.
5. Make up **mnemonics** to help you remember key facts, then write these out from memory.

FLASHCARDS

L-C-W-C

MIND MAPS

SCHOOL DAY

08:50am Tutor Time

09:25am Lesson 1

10.40am Break 1

11:10am Lesson 2

12:25pm Lesson 3

1.40pm Break 2

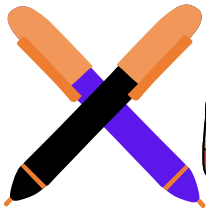
2.10pm Lesson 4

3.25pm End of School Day

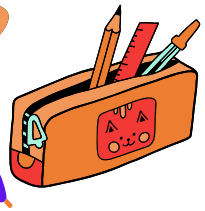
EQUIPMENT

School Bag

Knowledge Organiser



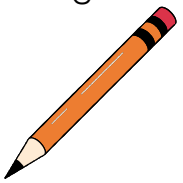
Black and Purple Pens



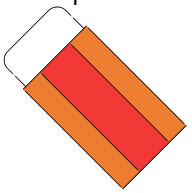
Pencil Case

Student Pack with whiteboard and pen

Calculator



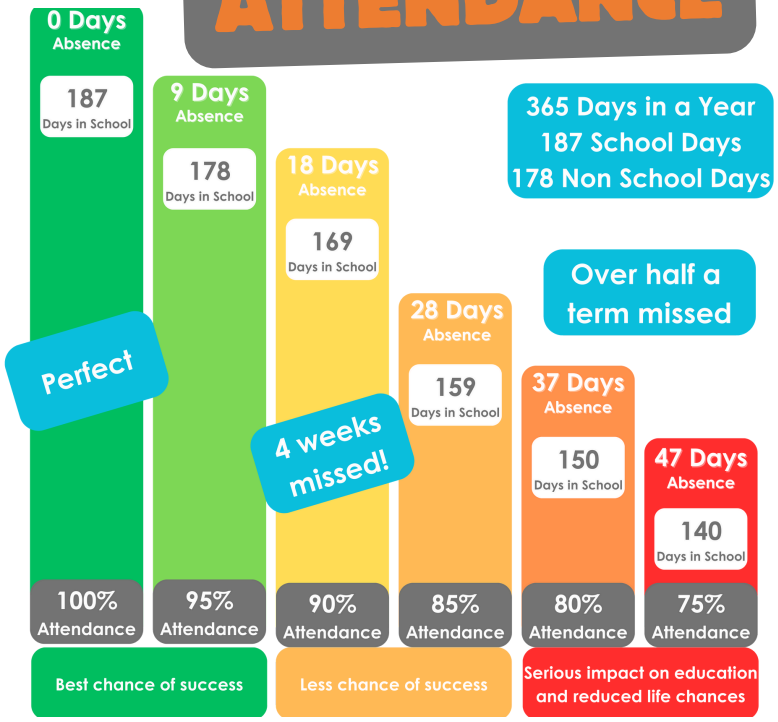
Pencil



Rubber

Ruler

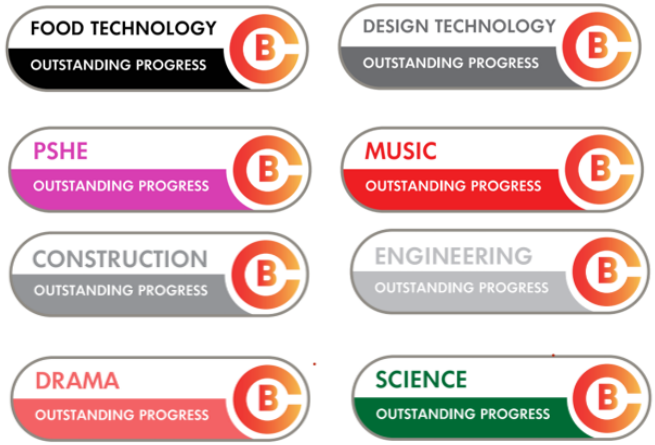
ATTENDANCE



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.

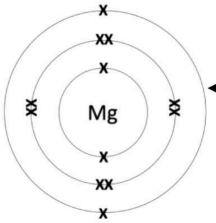
Atomic / Proton Number = number of **protons** which is the same as the number of **electrons**.

Neutrons = Mass number – Atomic number

Transition Metals

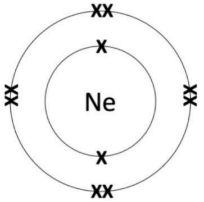
Non-Metals

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

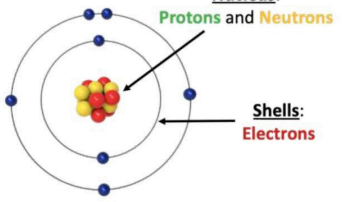


Magnesium (Mg) has **12 electrons** in total. It is in **group 2** so has 2 electrons in its **outer** shell. Mg's electronic configuration is 2,8,2.

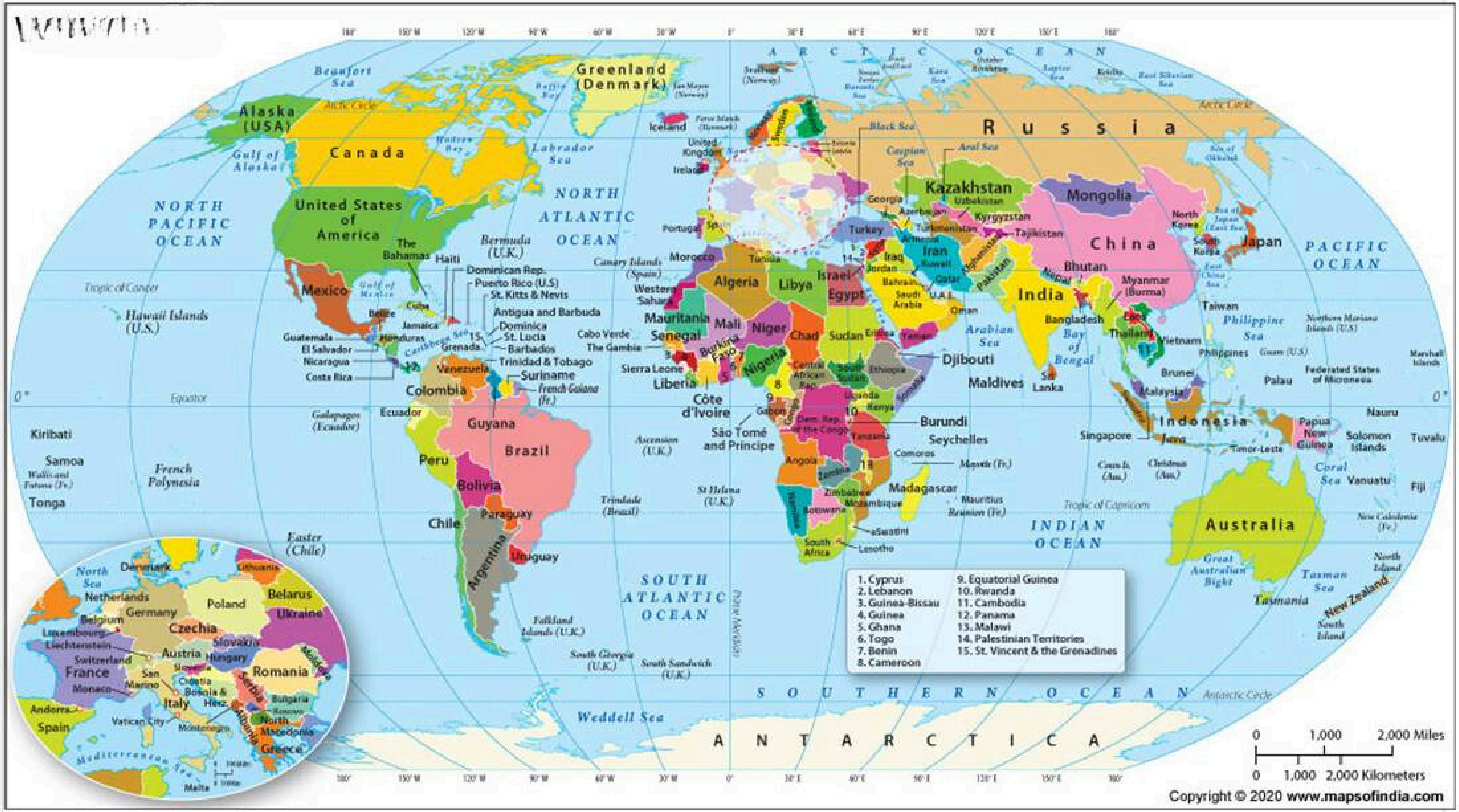
Noble gases have a **full outer shell** of electrons E.g., Neon (Ne)



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



WORLD MAP



IMPORTANT DATES

September

October

November

December

January

February

March

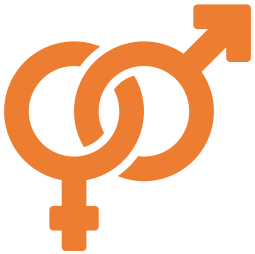
April

May

June

July

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 through the QR code. A member of the pastoral team will then investigate the incident and behaviour sanctions will be issued if bullying has happened.

LANYARDS

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

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

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.

Staying Safe Online

Follow the SMART Rules

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

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

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

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

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

Wellbeing

Signposting

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

External Support
See websites below:

CLEAR
Emotional Trauma & Therapy Specialists
clearsupport.net

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

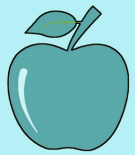
Five self care tips

Get plenty of sleep

zzz

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

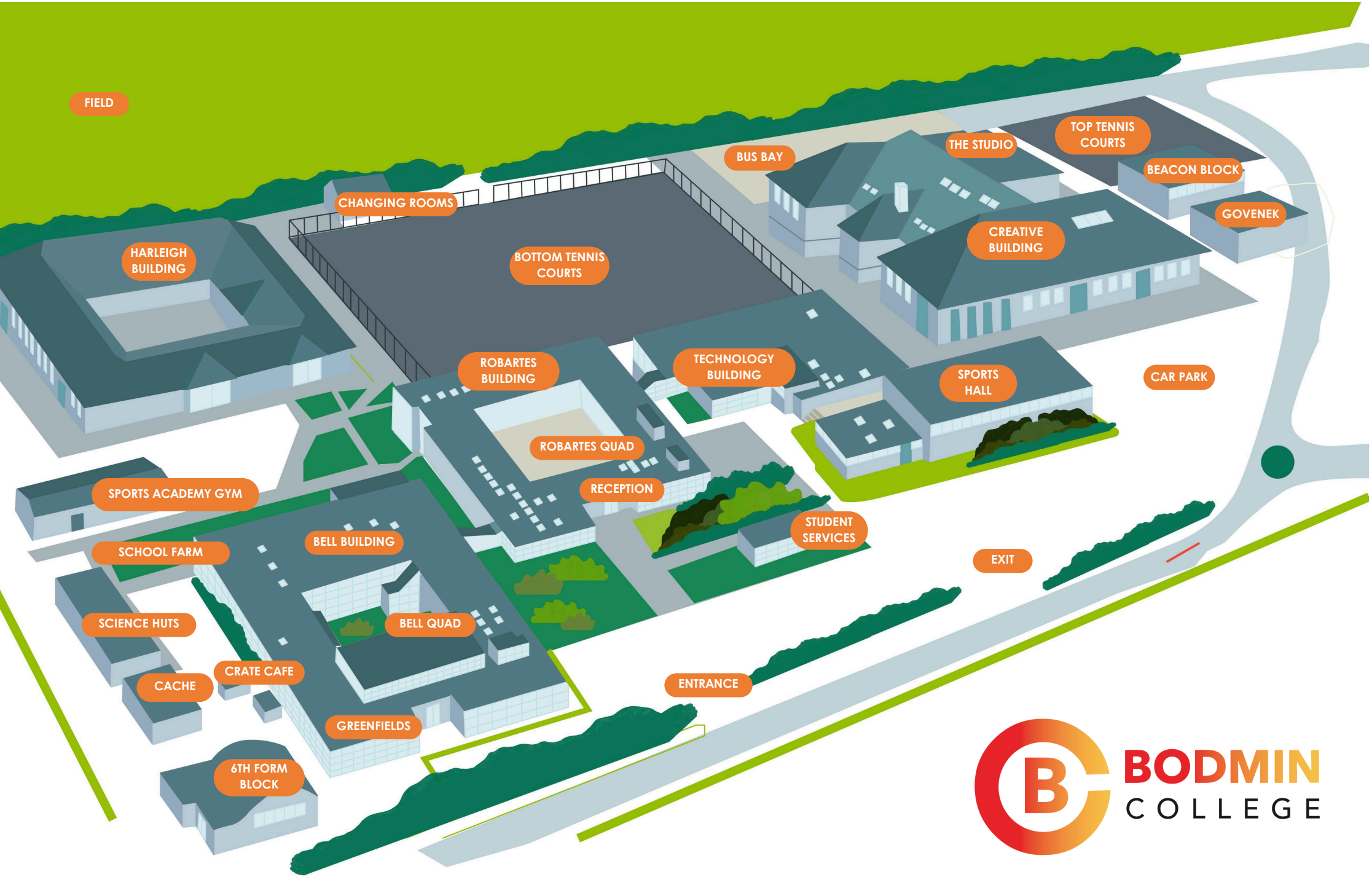
Even if it's just a walk around the block or to school - you'll feel better

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

"Talk to someone"

Make time for yourself

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



BODMIN COLLEGE

ANIMAL CARE

Week 1	Week 2	Week 3
Hazard: something that is a potential source of harm, for example a knife or a dog. **Risk**: something that may happen because of the hazard, for example being cut or getting bitten. **Risk Assessment**: a document you complete before doing any practical work to identify possible risks and work out how to reduce the chance of being injured.	**PPE** – Personal Protective Equipment – examples are overalls and boots. **C.O.S.H.H** - *Control of Substances Hazardous to Health Regulations – this law makes sure we use chemicals correctly to keep us safe.* ***R.I.D.D.O R*** - Reporting of Incidents, Diseases and Dangerous Occurrences Regulations. *This law makes sure accidents are looked into so they can be prevented.*  	**Fixtures** – items in an animal home that are fixed – for example heat lamps, water pumps and hay racks. **Fittings** – items in an animal home that enrich it for the animal – for example tunnels, toys, hamster wheel. **Enrichment** – items put into the animal enclosure to encourage animals to be active physically and mentally. This keeps the animal busy and active and encourages natural behaviour.

ANIMAL CARE

Week4	Week5	Week6
Compost heap – place where dirty bedding from animal housing is stored. **Double-bagging** – when animal waste is put in one bin bag and then placed in a second bin bag. **Substrate** – what the animal lies on in the accommodation, also called bedding. 	**Spot clean** – remove the dirty bedding, waste food and faeces, leaving the clean bedding in the hutch. **Full clean** – removing all the old bedding, waste food and faeces so the hutch is completely empty. **Recognise tools** – shovel, prong, muck bucket, yard scraper, yard broom, wheelbarrow. 	**The 5 Animal Welfare Needs** • Provide a suitable environment. • Feed a suitable diet. • Allow the animal to be able to exhibit normal behaviour patterns. • Allow any need it has to be housed with, or apart from, other animals. • Be protected from pain, suffering, injury and disease.

ANIMAL CARE

Week 7	Week 8	Week 9
Biosecurity – ensuring tools, equipment and PPE and clean to prevent the spread of disease, for example boot dips. 	**Neonatal** – newborn animal up to 28 days old. **Young** – animal that is young and not yet fully grown. **Adult** – a fully grown animal. **Senior** – an old animal. **Geriatric** – a very old animal.	**Venomous** – animals that bite or sting to deliver toxins for example snakes, scorpions. **Poisonous** – animals that deliver toxins when they are touched – for example fire bellied toads. **Aggressive** – an animal that is likely to bite, scratch or kite when handled.

ANIMAL CARE

Week 10	Week 11	Week 12
Catch pole – a solid handle with a loop at the end to catch stary dogs. **Crush cage** – a cage to hold large animals in place.  	TWO PRACTICAL LESSONS – TO BE INSERTED THROUGHOUT THE TERM AS APPROPRIATE.	TWO PRACTICAL LESSONS – TO BE INSERTED THROUGHOUT THE TERM AS APPROPRIATE.

ART

Week 1

Key Words

Visual Narrative: A story conveyed through visual media, such as images, illustrations, or film, rather than text.

Vanitas: A genre of art, particularly instill life paintings, that symbolise the nature of mortality. **Symbolism:** Is visual language by using objects to represent a deeper meaning.

Interpretation: The act of explaining or understanding the meaning of something.

Expression: The process of visually conveying thoughts, feelings, or ideas through art.

Week 2:

Key Words To see: To perceive with the eyes. To observe.

To think: use one's mind to form connected ideas.

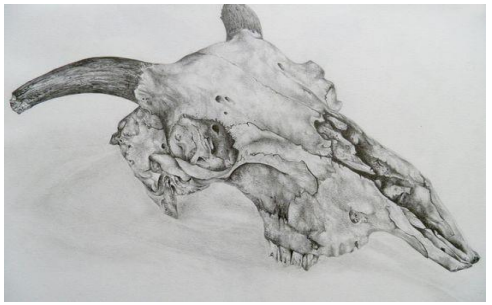
Week 3

Key Words

Grid drawing: is a technique used to accurately replicate an image by breaking it down into smaller sections.

Observation: The act of carefully examining something to gather information, understand it better or draw it.

Texture: the surface quality of a piece of work.



Mark-making: The process of creating lines, dots, marks, on a surface in a drawing.

Week 4

Key Words

Form: The three-dimensional object, defined by height, width, and depth when drawn.

Shape: A two-dimensional, enclosed area defined by lines.

Gradient Shading: A technique used to create a smooth transition from dark to light tones.

Value Scale: A range of shades from light to dark in a drawing, to create depth and contrast.

Contour: The outline or edge that defines the shape of an object.

Week 5

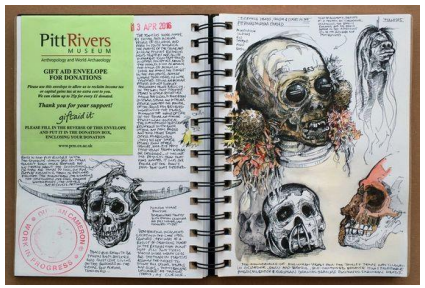
Key Words

Definition: The clarity and distinctness with which details and edges are rendered in an image or drawing.

Skeletal: Resembling a skeleton.

Graphite: A mineral form of carbon.

Pen & wash: An artistic technique combining ink pens to create detailed line work and watercolour washes to add tonal and color variations.



Media/Medium:

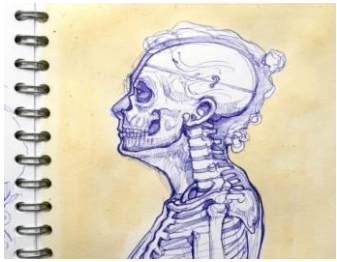
Refers to the physical material used to create a work of art.

Week 6

Key Words https://www.pinterest.co.uk/brokensharkcage/my-sketchbooks/

Detail: The small, intricate elements or features that contribute to the overall composition and realism of an artwork.

Realism: An artistic style that aims to depict subjects accurately and truthfully, emphasizing lifelike representation.



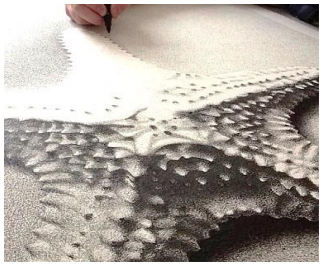
Proportion: The relationship in size and placement between different parts of an artwork, ensuring they are accurately scaled when compared to each other. **Anatomical Accuracy:** The correct depiction of the human or animal body, reflecting its structure and proportions.

ART

Week 7

Key Words

Technique: A specific method of doing something, especially in arts, involving skill.



Stippling: A drawing technique that uses numerous small dots to create texture, shading, and tonal variations.

Fine Liner: A pen with a very thin tip.

Depth: The perceived distance or dimension in an artwork, giving the illusion of three-dimensional form.

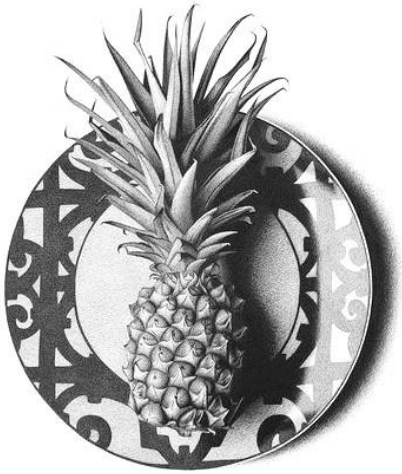
Highlight: The area in an artwork where light directly hits, the brightest part. **Shadow:** Darker area, giving contrast and depth.

Week 8

Key Words

To see: To perceive with the eyes. To observe.

To think: use one's mind to form connected ideas.



Week 9

Key Words

Masking fluid
Wax resist
Tint
Shade
Gradient
Salt resist
Hard edged Soft edged Wet on Wet Dry brush

Week 10

Key Words

Wet-on-Wet: Applying wet paint onto wet paint, allowing colours to blend/flow together for diffused edges & tones.

Dry Brush: Using a brush with minimal water and more pigment, creating a textured effect with visible brush strokes.

Watercolour Wash: A thin, diluted layer of watercolour is applied evenly over a large area to create a uniform base layer.

Over-laying: Apply layers of watercolor on top of each other after the previous layer has dried, for depth, richness, and more complex details.

Week 11

Key Words

Saturation: The intensity of colour, saturated means vibrant/vivid, desaturated means dull/muted.

Transparency: See-through allowing underlying layers to show through.

Under-painting: An initial layer of paint serves as a base to establish the tone of all other layers.

Dip Pen: A pen with detachable nib used to draw with ink.

Indian Ink: A permanent deep black ink made from carbon and water.

Week 12

Key Words

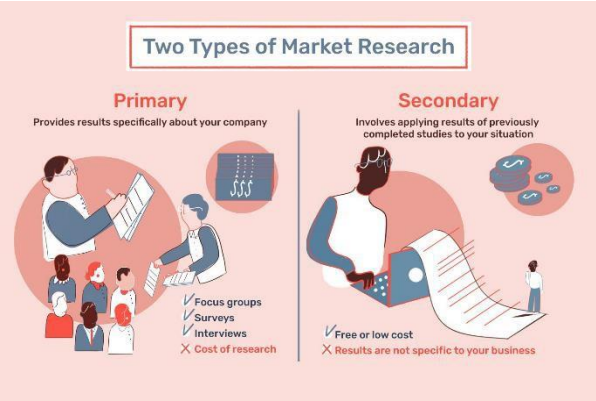
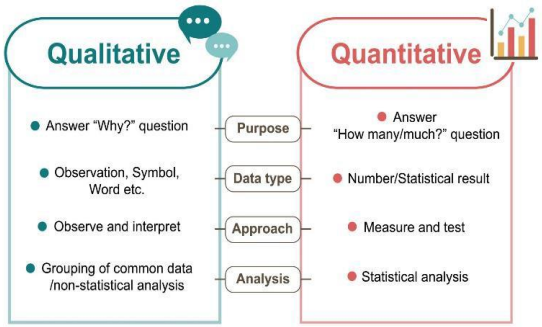
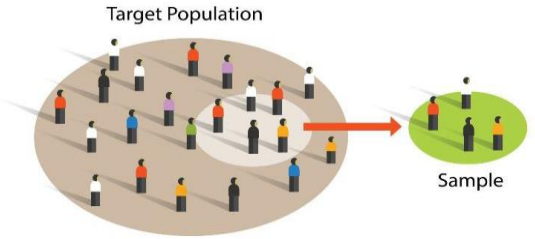
Expressive: Emotional, dynamic marks.

Textural: Creating the illusion of texture with marks.

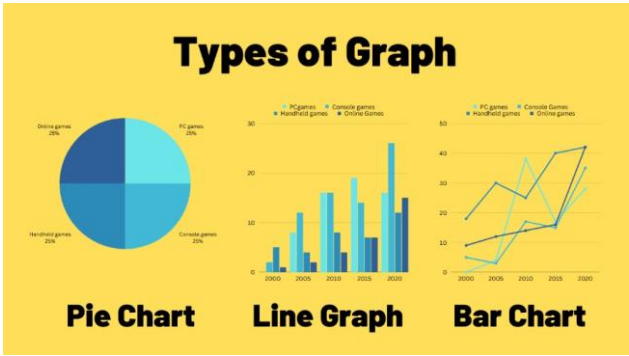
Layered: multiple levels of materials/techniques to increase complexity.

Hatching: Drawing technique using closely spaced parallel lines. **Contour hatching:** A variation of hatching where lines follow the curved shape of an object.

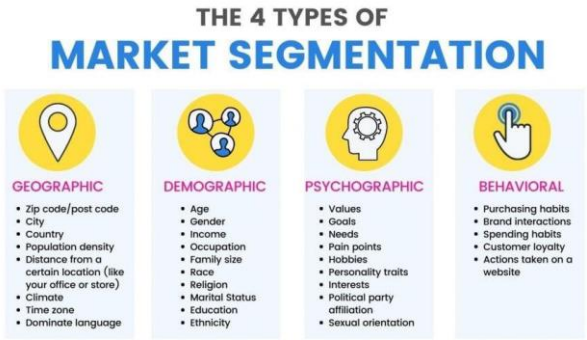
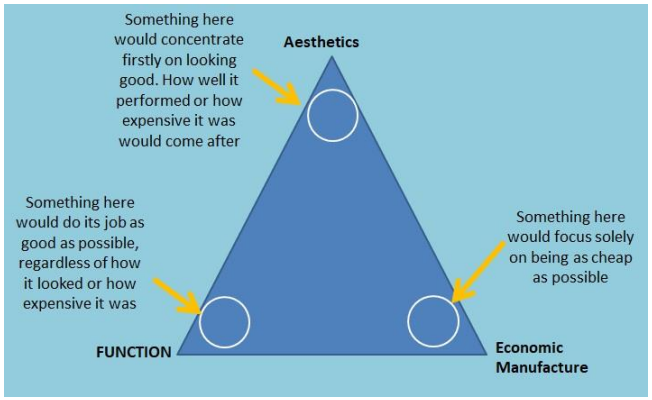
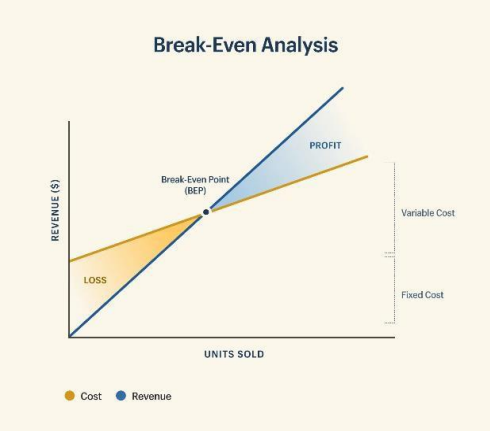
BUSINESS STUDIES

Week 1	Week 2	Week3
Market Research: Gathering information and data about customers' needs and preferences. **Aims of research and types of Research:** **Aims –** What the business owners are hoping to achieve with their research. **Types of research:**  • **Primary Research –** research which generates new data. • **Secondary Research –** research which utilises existing data.	**Market Research** **Data Types**  **Quantitative Data -** Data generated by closed questions. It can be expressed in numerical form and displayed graphically using graphs and charts. **Qualitative Data -** Data generated by open questions which seeks to discover people's opinions and feelings on a subject. These are often the 'why' questions.	**Sampling Methods.** How to select your research sample to maximize the validity of your data.  • **Cluster sampling –** Selecting your sample based on the personal characteristics of your respondents • **Convenience sampling –** Selecting your sample based on how easy it is to access your respondents • **Random sampling –** Selecting anyone for you sample • **Quota sampling –** Sampling a set number of respondents

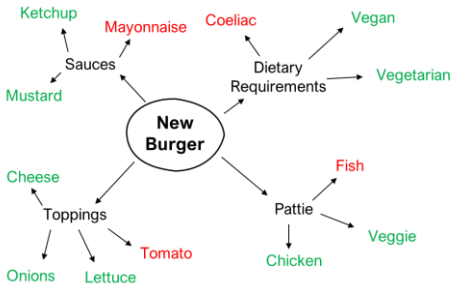
BUSINESS STUDIES

Week4	Week5	Week6
<u>Primary and Secondary Research Tools</u> Selecting the right research tool for the job.  • **Observations** • **Questionnaires** • **Surveys** • **Focus groups** • **Consumer trials** • **Test marketing/pilots**	Accuracy of Secondary Research **Reliability** – To What extent can your research sources be trusted? **Accuracy** – How closely do the research results reflect reality?  	**Review and Analyse Results** Presenting research findings in the most accessible to help formulate conclusions from the data. Enquiry Task – Students select the most appropriate methods to display their research results and then draw research conclusions from these results 

BUSINESS STUDIES

Week 7	Week 8	Week 9
Segmentation and Customer Profile **Market Segmentation –** grouping customers together based on personal characteristics for marketing purposes.  	**<u>Design mix and function, aesthetics and economic manufacture</u>** Successful products start with a good design that meets the needs and wants of customers. When designing a product, a business will usually consider three factors: **Function** – what the product should do and how well it does it, eg a washing machine should wash clothes **Aesthetics** – how the product appeals to consumers, eg how the product looks, feels or smells **Cost** – how cost-effective the product will be to manufacture, eg the product should be made and sold profitably  	**<u>USP and added value, and break-even</u>** **USP – Unique Selling Point** – What sets your product apart from all similar products on the market? This could be based on price, quality, branding or customer service. **Added Value** – Is the difference between the cost of making a product or service and the price that ot is sold for. **Break-even point** – The number of units that a business must sell before they cover their costs. This occurs when Total Revenue and Total Costs are equal. 

BUSINESS STUDIES

Week 10	Week 11	Week 12
Design Mix and Creative Techniques **Using market research information and creative techniques to create two product designs.** **Creative Techniques** • **Rough Sketches** • **Mood Boards** • **Mind maps** • **Brain Shifters**  	**Product Design and Review** Create two final product designs which have been informed by research data, the design mix and creative techniques. **Self-assessment** – the process of identifying strengths and weaknesses of a design and how it can be improved.  	**Assessment week** 

COMBINED SCIENCE

How can I use the Periodic Table?

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

Example: 1 H hydrogen 1

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

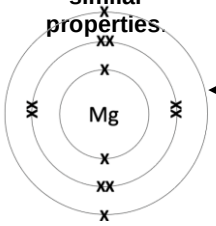
Atomic / Proton Number = number of **protons** which is the same as the number of **electrons**.

Neutrons = Mass number – Atomic number

Non-Metals

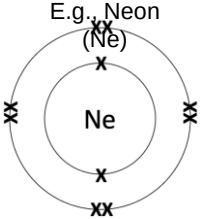
Transition Metals

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

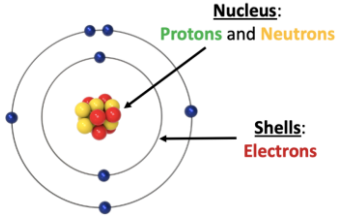


Magnesium (Mg) has **12 electrons** in total. It is in **group 2** so has 2 electrons in its **outer** shell. Mg's electronic configuration is 2,8,2.

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



COMBINED SCIENCE

Year 10 Science Knowledge Organiser Learning Cycle 1

Key words	Definition
Independent variable	The variable you change in an investigation
Dependent variable	The variable you measure in an investigation
Control variable	The variable you keep the same in an investigation
Hypothesis	A prediction of what will happen in an investigation
Reliability	We use control variables to ensure a reliable experiment
Reproducible	To re-do our experiment and get similar results due to a reliable method
Mean	Doing an experiment 3 times then dividing by 3 to get an average
Fair test	An experiment where only the independent variable changes.
Anomalous result	Result that does not fit with the rest of the data.

1. Designing and performing experiments

1. ***Repeatable*** – The **same** person gets the **same results** after repeating the experiment using the same method and equipment.
2. ***Reproducible*** – Similar results can be achieved by **someone else** or using a **different method**/piece of equipment.
3. ***Accurate*** – Results are close to the true answer
4. ***Precise*** – data is **close** to the **mean** (or the average!)

For data to be reliable, it must be **repeatable** and **reproducible**

2. The Variables

Independent variable – the thing we change!

Control variables – these are things we **keep the same** to ensure a reliable experiment (one we can repeat and reproduce.

Dependent variable – the thing we are **measuring** overall.

Variable | Example

Independent variable – I want to see if how hot water is increases the rate of diffusion from a teabag. So, I am changing the temperature (degrees Celsius) of water.

Control variables – I want **keep everything else the same**, e.g., the type of teabag, the volume of water (mL) used, the timer started at the same time, the same end point.

Dependent variable – I want to know if increasing water temperature increases the rate of diffusion from a tea bag. Therefore, I want to **measure** the rate of diffusion!

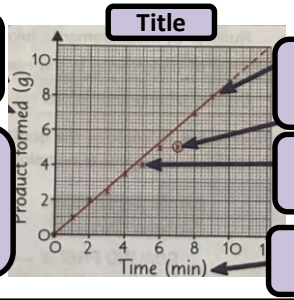
3. Presenting Data

SPLAT!

- Scale – evenly spread
- Plot – draw with a small, neat 'x'
- Line of best fit
- Axis – both X (bottom) and Y (side) axis have titles and units!
- Title

Axis: Dependent variable on Y-axis with Unit.

We must always draw a graph with a pencil and a ruler!



Line: Line of best fit through near to as many points as possible.

Plot: Mark points with small, neat crosses

Axis: Independent variable in the X-axis with unit.

Drawing conclusions from data:

1. State the **relationship** between the independent and dependent variable, e.g., '**as the time increases the product formed increases**'.
2. **Use statistics to support your answer.** 'For example, at 10 minutes there was 50g of product, compared to 160g at 20 minutes'
3. **Refer to the original hypothesis – does the data support this?**

When **evaluating** think of the **positives** and **negatives** of the method (the validity - did they use enough controls? And of the results – were results **reliable**, **accurate**, **reproducible**?) and come to an overall **conclusion**.

COMBINED SCIENCE

Week 1

Homeostasis

Reflex – automatic and **rapid response to a stimulus**, which minimises any damage to the body
Reflex Arc – **Nerve** pathway involved in a reflex action
Synapse – **Gap** between **neurons**
Neurones – cells that carry information as **electrical impulses** in the nervous system
Central nervous system (CNS) – consists of the **brain** and **spinal cord**.
Homeostasis – maintains a **stable internal environment**, by regulating of the conditions inside your body and cells
Hormone – **Chemical messenger** produced in **endocrine glands**
Endocrine system – made up of glands that secrete **hormones** into the **blood** stream and carries them to the **target organs**.
Target organ - The organ with **receptor molecules** on its cell surfaces which recognise a **specific hormone**.

Week 2

Homeostasis

Glycogen – Animals **store glucose** as glycogen in their **liver and muscle** tissues.
Insulin – A hormone that **regulates the level of sugar** in the blood
Diabetes - A serious disease in which the body is **unable to regulate blood sugar**. **Glucagon** – A hormone that causes the conversion of **glycogen to glucose**
FSH – Hormone which causes an **egg to mature** in the ovary
LH – Hormone which stimulates the **release of an egg** from the ovary **Oestrogen** – promotes the **repair and thickening** of the **womb lining Progesterone** – **maintains** the **womb lining** after ovulation
Contraception – methods of **reducing** the likelihood of **sperm reaching** an ovulated **egg**
IVF - brings **sperm** and the **egg together** to create an **embryo**, which is placed into the woman's womb to **increase** the chance of giving birth.

Week 3

Structure and bonding

Particle Model
- Solids are **regularly arranged** with particles **close together** that **vibrate on a fixed spot**.
- Liquids are **randomly arranged** with particles **close together** that **move around each other**.
- Gases are **randomly arranged** with particles **far apart** that **move quickly in all directions**.

Changes of State
- (s) – solid (l) – liquid (g) – gas (aq) - aqueous
- The amount of energy needed to change state is linked to the strength of the force of attraction between the particles; **stronger force = higher melting/boiling point**.

Ions:
- **Metals** lose electrons to **form positive ions**.
- **Non-metals** gain electrons to **form negative ions**.

Week 4

Structure and bonding

Ionic compounds
- Have a **giant ionic lattice** structure.
- Have **high melting points** and **high boiling points**.
- **Conduct electricity** when **molten** or **dissolved** in a solution.

Metallic Compounds
- Have **high melting points** and **high boiling points** (except mercury)
- Are good **thermal conductors** and **electrical conductors**.
- Are relatively **soft** and **malleable**.

Simple Molecular Substances
- Have **low melting points** and **low boiling points** and **don't conduct electricity**

Ionic Bond: electrostatic force of attraction between oppositely charged ions. Metallic Bond: electrostatic force of attraction between the regular lattice of metal cations and the delocalised electrons.
Covalent Bond: a shared pair of electrons between two non-metal ions.

COMBINED SCIENCE

Week 5

Structure and bonding

Giant Covalent Structures

- Have **high melting points** and **high boiling points**.
- **Do not conduct electricity** (except graphite).
- **Diamond, graphite** and **graphene** are examples of giant covalent structures.

Polymers

- Are **very long chains** of **repeating units**.
- Are typically **solid** at room temperature.

Acids and Alkalis

- **Acids** produce **hydrogen ions** (H^+) in aqueous solutions.
- **Alkalis** produce **hydroxide ions** (OH^-) in aqueous solutions.
- **Strong acids fully ionise** in aqueous solutions.
- **Weak acids partially ionise** in aqueous solutions.

Allotrope: different structural form of an element.
Intermolecular force: a relatively weak force that holds molecules together.

Week 6

Chemical changes

Reactivity of Metals

- The **reactivity of a metal** is determined by how **easily** it forms a **positive ion**,
- **Heating with carbon** is used to **extract metals less reactive** than **carbon** from their ores.
- **Electrolysis** is used to **extract metals** that are **more reactive than carbon** from their ores.

Electrolysis

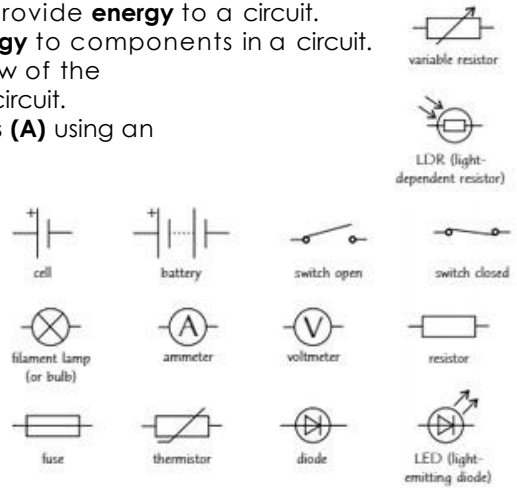
- **Positive ions** (cations) are attracted to the **negative electrode** (cathode) where they are **reduced**.
- **Negative ion**s (anions) are attracted to the **positive electrode** (anode) where they are **oxidised**.
- The extraction of aluminium from its ore requires the ore to be mixed with **cryolite** to lower the melting point of the ore.

Electrolyte: a liquid or solution that conducts electricity

Week 7

Electricity

- Batteries and power supplies provide **energy** to a circuit.
- Electrons flow and **transfer energy** to components in a circuit.
- Electric **current** is the rate of flow of the **charge** (electrons) around a circuit.
- **Current** is measured in **amperes (A)** using an **ammeter.**
- Current is the same at all points in a **series** circuit.
- The unit of charge is the **coulomb.**
- The sum of the currents in the branches of a parallel circuit is equal to the current supplied to the circuit.



Week 8

Electricity

- **Potential Difference** (Voltage) is the difference in energy per unit charge **across 2 points** in a circuit.
- It is measured in **volts (V)** using a **voltmeter.**
- In a **series** circuit the potential difference across the power supply equals the **total potential differences** across the components.
- In a **parallel** circuit the potential difference across the power supply **is equal to** the potential difference **across each branch.**
- Circuit components make the flow of current more difficult. This is known as **resistance**, measured in **Ohms (Ω)**.
- The resistance of a wire **increases with increasing length** but **decreases with increasing diameter**.
- **Filament lamps** are designed to have **very high resistance**. Thermal energy is stored in the filament, making it **hot enough to glow**.

COMBINED SCIENCE

Week 9

Electricity

Types of resistor:

- In an **Ohmic conductor**, **current is directly proportional to potential difference** at a constant temperature.
- In a **filament lamp**, **resistance increases as temperature increases**. This **reduces the current** at high potential differences.
- A **diode** is a component that only allows **current to flow in one direction**.
- The **resistance of an LDR** (Light Dependent Resistor) **decreases as light intensity increases**.
- The resistance of a **thermistor decreases as temperature increases**.

- The National grid transfers energy from a power station; through a **step up** transformer (greatly **increasing** the potential difference); through transmission lines; through a **step down** transformer (greatly **decreasing** the potential difference), to homes.
- Domestic energy in the UK is provided as Alternating Current (AC), at a **frequency of 50 Hz and a potential difference of 230v**.

Week 10

Waves and the Electromagnetic spectrum

- Waves transfer **energy** and **information**, but not matter.
- **Transverse** waves oscillate **at right angles** to the direction of travel.
- **Longitudinal** waves oscillate in the **same direction** as the direction of travel.
- The **amplitude** of a wave is its **maximum displacement from its rest position**.
- **Wavelength** (λ) is the distance between the same point on two adjacent waves.
- **Frequency** is the number of complete waves passing a fixed point per second. The **unit** of frequency is the **Hertz** (Hz), where 1 wave per second = 1Hz.
- The **period** of a wave is the time taken for **one complete wave** to pass a fixed point.
- At the **boundary** between two materials, a wave might be **absorbed, reflected or transmitted.**
- **Refraction** is a **change in the direction** of travel of an **electromagnetic wave** at a boundary as the wave **speed changes** in different media.
- Electromagnetic waves **travel faster in less dense** media.

Week 11

Waves and the Electromagnetic spectrum

- **Electromagnetic waves** form a continuous spectrum, with their **wavelength decreasing as their frequency increases**, radio waves having the longest wavelength and gamma rays the shortest.
- **Radiowaves** are produced by **oscillations in electrical circuits** and are used for communication and **broadcasting**. They can **also induce oscillations** in circuits.
- **Gamma rays** are produced by **changes in atomic nuclei.**
- Other electromagnetic waves are produced by changes **in the energies of electrons**.
- **Microwaves** are used for **communication** and for **cooking food.**
- **Infrared** radiation is used for **heating, cooking food and thermal imaging.**
- **Visible** light is used in **fibre optic** communication.
- **Ultraviolet** radiation is used to detect **security inks** and in **tanning lamps.**
- **X rays** and **gamma** rays are both used in **medical imaging** and in **radiotherapy** treatment.

Week 12

Consolidation

Summative

Assessment DIRT

CONSTRUCTION

Week 1

Measuring, marking and setting-out tools used for carpentry and joinery:

- Folding rule
- Try square
- Combination square
- Sliding bevel
- Mitre square
- Marking knife
- Marking gauge
- Mortise gauge
- Straight edge
- Setting-out rods

Week 2

Risk assessments.

- **Hazard identification:**
- General workplace hazards
- Task-specific hazards
- Workshop-specific hazards
- Hazards associated with materials
- Hazards associated with tools and equipment
- Hazards associated with worker behaviour

Week 3

Tools used in carpentry and joinery:

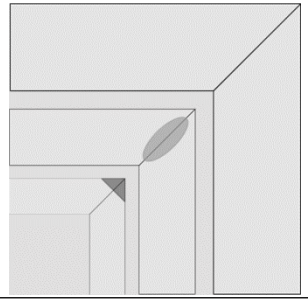
- Mallet
- Chisels
- Tenon Saw
- Nail punch
- Nail pincers
- Screwdrivers
- Bradawl
- Drill
- Smoothing plane
- Block plane
- Bench hook.
- Woodworking bench with vice

Week 4

Mitre joint.

The simplest joint that requires any form of cutting is a mitre joint - in effect this is an angled butt joint, usually relying on glue alone to construct it.

It requires accurate 45° cutting, however, if the perfect 90° corner is to result.



Week 5

Risk rating matrix:

- Severity of risk
- Likelihood of risk
- Risk score: – initial risk score
- Final risk score.

People at risk:

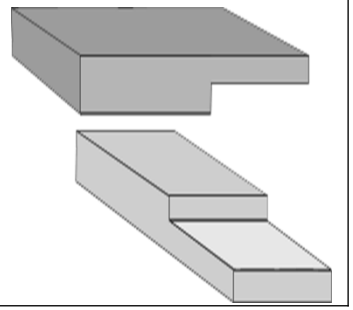
- Personal risk
- risk to colleagues
- risks to visitors
- risks to the general public and wider population

Week 6

Half-lap joint.

This requires the removal of timber to exactly half of the overall thickness of the piece, in order that a similar piece can fit to it.

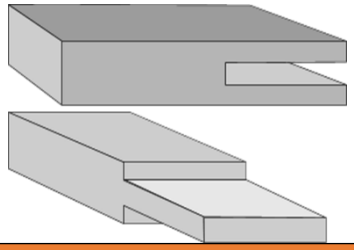
The main uses for this joint are to allow two pieces of timber to meet - usually at a right angle.



CONSTRUCTION

Week 7

Bridle joint.
This uses an open mortise with a through open tenon.
There is plenty of glue surface area and the joint will be strong, but screws or dowels as reinforcement will help the joint to resist side forces. Another useful joint in frame construction.
The visible end grain can be also be utilised as a decorative feature.

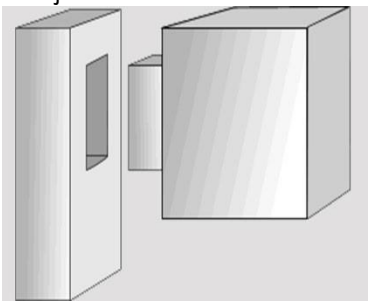


Week 8

Control measures:
- Eliminating the risk
- Minimising the risk
- Generic control measures
- Task-specific control measures
- Existing control measures
- Use of trained personnel

Week 9

Mortice and tenon joint.
The mortice and tenon joint is a very strong and frequently-used joint for assembling a variety of projects where strength and reliability are required.
Mortice and tenon joints have several advantages, shoulders to resist side forces acting on the finished project, neatness and virtual invisibility if required.

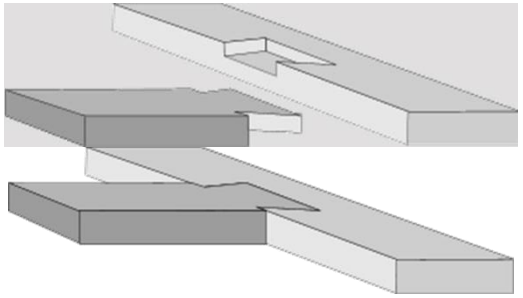


Week 10

Control measures:
- Eliminating the risk
- Minimising the risk
- Generic control measures
- Task-specific control measures
- Existing control measures
- Use of trained personnel
- **P**ersonal **P**rotective **E**quipment
- General workplace PPE
- Task-specific PPE
- Signage
- Barriers.

Week 11

Dovetail halving joint.
The dovetail will prevent the joint separating laterally through side forces.



Week 12

Recording and review:
- Requirements for recording risk assessments
- Requirements for periodic review

This is used to analyse the environment to identify hazards and risks in order to produce an initial risk rating.
To produce a revised risk rating that shows controls have brought the risk rating down to an acceptable level.

DANCE

Week 1	Week 2	Week 3
Technical Skills - These include accuracy of action, timing, dynamic, rhythmic and spatial content and the reproduction of the movement in a stylistically accurate way. **Expressive Skills** - Aspects that contribute to performance artistry and engage the audience. **Mental Skills** (Performance) - Commitment, concentration, confidence and movement memory. **Physical Skills** – Aspects enabling effective performance such as posture, strength and stamina. Introduction to **'Emancipation of Expressionism'** (EofE) by Kenrick H20 Sandy and Boy Blue Entertainment: **Styles** – hip hop, popping, locking, breaking, waacking, krumping and animation **Stimulus** – Music 'Til Enda' and the Freedom to Express Yourself.	**Choreographic Intentions** of EofE: • Hip hop as an art form • The journey through life • Chaos v. Order **Choreographic Approaches** of EofE: **Signature movements** (Ninja Walk, Ninja Static, Ninja Glide and Chariots of Fire) **Musicality** – The ability to make the unique qualities of the accompaniment evident in performance. **Formations** – Shapes or patterns created in space by dancers. **Motifs 'Mic Check' and 'B-Points':** **Isolation** – An independent movement of part of the body. **Unison** – Two or more dancers performing the same movement at the same time. **Timing** – The use of time or counts when matching movements to sound and/or other dancers. **Rhythm** – Repeated patterns of sound or movement.	Embedding the **choreographic approaches** within our Dance Platform EofE class dance. **Motif and Development** – Ways in which a movement phrase can be varied. **Counterpoint** – When dancers perform different phrases simultaneously. **Signature movements Formations** **Structuring Devices and Form.** **Episodic** – A choreography with several sections, linked by a theme. **Logical Sequencing** – The flow of phrases or sections of a dance. **Transitions** – Links between dance phrases or sections. **Unity** – A sense of 'wholeness' or harmony. **Aural Setting:** • Mood and atmosphere • Contrast and variety • Relationship to theme/idea • Musicality

DANCE

Week 4	Week 5	Week 6
Features of production: **Costume** – Clothing worn by dancers in performance. **Set/Staging** – The presentation of dance in the performing space including set, furniture, props, projection and backdrop. **Lighting** – The illumination of the performance area. **Dancers** – number and gender **Aural Setting** – An audible accompaniment to the dance such as music, words, song and natural sound (or silence). **Performance Environment:** **Proscenium** - the arch or opening that creates the effect of a picture frame and separates the stage from the auditorium. **Methods enabling us to work effectively as a group:** • Use of mirrors • Peer Feedback • Film and Watch Back • Peripheral Vision	**Dedicated Improvement and Reflection Time** (DIRT) **Movement Memory** – The automatic recall of learned movement material, without conscious thought. **Rehearsal discipline** - Attributes and skills required for refining performance such as commitment, systematic repetition, teamwork, responsibility and effective use of time. **Mental Rehearsal** – Thinking through or visualising the dance. **Systematic Repetition** – Repeating something in an arranged or ordered way. **Planning of rehearsal Response to feedback** **Capacity to improve**	**Formative Assessment** EofE Class Dance – Component 1 Performance: • **T**echnical Skills • **E**xpressive Skills • **M**ental Skills • **P**hysical Skills **Technical skills** in EofE: **Action content** – What a dancer does e.g. travelling, turning, elevation, gesture, stillness, use of body parts, floor-work and the transference of weight. **Spatial content** – The 'where' of movement such as levels, directions, pathways, shapes, designs and patterns. **Dynamic content** – The qualities of movement based upon variations in speed, strength and flow. **Relationship content** – The ways in which dancers interact, the connections between dancers. **Choreographic Intentions:** • Mood • Meaning • Theme • Idea • Style/Style Fusion

DANCE

Week 7	Week 8	Week 9
Choreographic Intentions of 'Infra' by Wayne McGregor for The Royal Ballet: • Seeing below the surface • Pedestrian Language • Relationships • Complex structure • Open Visual Field (allowing the audience to make their own interpretations) **Choreographic Approaches** of 'Infra': **Show** a phrase to the cast **Make** a phrase on target dancer/s **Task** – set a choreographic problem to solve **Structure** – The way in which material is organised to create the whole. **Ballet Technique:** • Barre work • Centre Practice (pirouette and adage) • Allegro	**Contemporary Technique:** • Use of the torso (curve, twist, high release and contraction) • Parallel and Turn Out • Flex and Point • Floor Work • Swing **Dance Style: Contemporary Ballet - Style Fusion** (The combination of features of two or more styles). **Stimulus:** • TS Elliot 'The Wasteland' • Infra (Latin for below) • Life beneath the surface of the city (London). • Human Interactions	Developing **Physical Skills** in the Contemporary Ballet Style: **Alignment** – Correct placement of body parts in relation to each other. **Balance** – A steady or held position achieved by an even distribution of weight. **Control** – The ability to start and stop movement, change direction and hold a shape efficiently. **Co-ordination** – The efficient combination of body parts. **Extension** – Lengthening one or more muscles or limbs. **Flexibility** – The range of movement in the joints (involving muscles, tendons and ligaments). **Isolation** – An independent movement of part of the body. **Mobility** – The range of movement in a joint, the ability to move fluently from action to action. **Posture** – The way the body is held. **Stamina** – Ability to maintain physical and mental energy over periods of time. **Strength** – Muscular power.

DANCE

Week 10	Week 11	Week 12
Technical skills in 'Infra' (Sections 1-4): **Action content** – travel, turn, elevation, gesture, stillness, use of different body parts, floor work and transfer of weight. **Spatial content** – pathways, levels, direction, size of movement, patterns and spatial design. **Dynamic content** – fast/slow, sudden/sustained, acceleration/ deceleration, strong/light, direct/indirect and flowing/abrupt. **Relationship content** – lead and follow, mirroring, action and reaction, accumulation, complement, contrast, counterpoint, contact and formations. **Choreographic Intentions:** • Mood • Meaning • Theme • Idea • Style/Style Fusion	**Duet Work in 'Infra':** **Contact** **Lead and Follow Contrast** – Movements or shapes that have nothing in common. **Complementary** – Perform actions or shapes that are similar to but not exactly the same as another dancer/s. • Inferences of different types of relationship • Manipulation • Push and Pull	**Features of production** in 'Infra': **Costume** – Fitted shorts, vests, t-shirts in flesh, black, white and grey colours. **Set/Staging** – An 18m LED screen with a mesmerizing flow of electronic walking figures. **Lighting** – The lighting, which relates closely to the structure, lights the width of the stage and often focuses downstage. **Dancers** – 12 (6 male and 6 female) **Aural Setting** – The score mixes melancholy string melodies with electronic sounds and found sound, such as train-whistles. **Performance Environment:** Proscenium Arch/Theatrical Setting **Technical skills** in 'Infra' (Sections 5-9): • Action content • Spatial content • Dynamic content • Relationship content

DIGITAL INFORMATION TECHNOLOGY

Week 1

User Interfaces

A user interface is the hardware and software that a user interacts with to use or control a computer or electronic device:

- Software features include virtual keyboards and virtual buttons that can be clicked, such as to close a window

Many human features are used for computer interaction, including:

- Movement – fingers on a keyboard/mouse/touch screen; moving to cause infra-red sensors to turn on a security alarm
- Voice – a microphone and software can interpret commands.

Types of user interface include:

- Speech/natural language
- GUI/WIMP – Graphical user interface / Windows, icons, menus, pointer
- Sensors
- Menu/forms
- Text based

Week 2

Factors and influences

Understand the factors affecting the choice of user interface including

- Performance / response time, ease of use
- User requirements, user experience
- Accessibility and storage space

Understand hardware and software influences:

- Operating systems and platforms, types/size of screen, types of user input
- Hardware resources available such as processor and memory
- Emerging technologies

User interfaces need to have good performance for users to be able to use them productively and also to enjoy the experience.

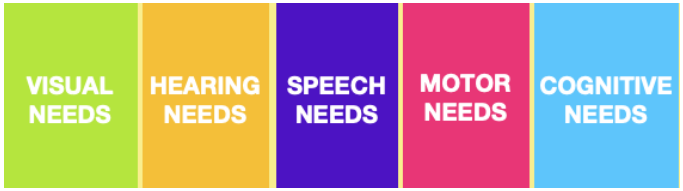
How easy an interface is to use will depend on who is using it.
In general, for most users, the interface needs to be intuitive It should be obvious how to use it without needing help or training.
Specialist applications for jobs such as databases or customer support should still be as easy to use as possible – however, they may require training.

Week 3

Audience needs

Be able to investigate the needs of audiences and how they affect the design of interfaces including

- Accessibility needs – visual, hearing, speech, motor, cognitive
- Skill level – expert, regular, occasional, novice



- Demographics – age, beliefs/values, culture, past experiences

Design Principles

Understand design principles for effective user interaction including:

- Colour
- Font style
- Language

Companies and organisations will have a set of colours which they expect to be used. This is known as a colour palette, there will be a limited set of colours to choose from.
Decorative fonts make titles or occasional text more interesting and suggest a style or mood.
It is important to consider appropriate language for:

DIGITAL INFORMATION TECHNOLOGY

Week 4	Week 5	Week 6
Design Principles Understand design principles for effective user interaction including: Amount of information Layout The amount of information given in an interface should be appropriate for the task. White space is any area around objects that has no text or graphics. Appropriate use of white space makes an interface clearer and easier to use. The layout of user interfaces should be close to user expectations, web pages for example normally have menus at the top or left of the web page. Logos are normally placed at the top left of a web page or interface design. Related tasks should be grouped together and important items should be placed in prominent positions – in particular the top of the page. **Design Psychology** There are a variety of design principles, these include: User perception of colour, sound, symbols and visuals. Retaining user attention by grabbing attention, uncluttered screens, labelling items, default user inputs, autofill and tip text. Intuitive design by using graphics in buttons, pop-up messages, help features, consistency and reversal of actions.	**Efficient user interfaces** Understand the techniques that can improve the speed and access to user interfaces including: Keyboard shortcuts Informative feedback Easy reversal of actions **Advantages of shortcuts:** They are very quick for users to carry out, they save users needing to move their hand to the mouse and go through menus and they can be useful for users with certain disabilities. Disadvantages of shortcuts: The shortcut needs to be learnt. If the correct shortcut is used, it may not be obvious to the user how to undo what they have done. Informative feedback, It is important that users are given useful feedback when they make use of interfaces. If problems are noticed, the user should have helpful comments to help rectify issues Reversal of actions is important, users need to be able to reverse or undo actions that they have carried out this helps to save users time. **Efficient user interfaces** Ensuring buttons and links are distinguishable Place related objects next to each other to reduce selection time It is important that links are easy to find on a website, For design reasons, hyperlinks may not be underlined or in blue, but they will be easy to distinguish from other text. Where objects are placed on a screen or webpage will help users to be more efficient, Icons are often put together into groups.	**Component A revision and assessment** Revision of material covered over the last five weeks followed by an assessment that will be put on Onenote.com Revise the 6 topics that have been covered so far this term. These are: User Interfaces Factors and influences Audience needs Design principles Design psychology Efficient user interfaces **Project planning techniques** **Understand what project planning tools are used to plan a user interface.** Tasks lists Written or graphical descriptions Gantt charts Mood boards Task lists are lists of information that need to be completed, a numbered task list is a sequence that needs to be completed in a certain order. Written and graphical descriptions help with the project planning process and can aid the sequence that would be followed. Gantt chart tasks are given as a list. Each task then has a horizontal bar which shows how long it takes to complete. The information contains the duration of each task, the date of the end of the project and the order that tasks occur in. Dependencies are indicated between each phase that has to be completed before moving to the next stage. A mood board gives a feeling for the style that a product needs to take. It includes: Colour schemes, font styles, background, borders, Images and Textures.

DIGITAL INFORMATION TECHNOLOGY

Week 7

Project planning techniques

A mind map gives an overview of a whole project
A central idea or project name is at the centre, branches lead to key parts of the project, further branches lead to other ideas

Waterfall, Iterative, agile and scrum methodologies

The waterfall methodology allows for each stage of the project to be completed before the next stage is able to begin. Stages are Analysis, Design, Implementation, Testing and evaluation.
Iterative development allows a simple version of a product to be developed It is then repeatedly improved on each iteration.
Agile is a way of developing software that uses the iterative development.
Scrum are stand up meetings, meetings are less than 10 minutes and each person gives a progress report.

Creating a project proposal and plan

Purpose and audience.
It is important in project planning to clearly identify the people who will use the system (audience) and identify the reasons for the project (purpose).

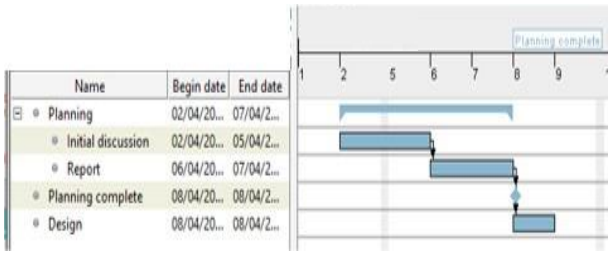
User requirements: The tasks that the user needs to be able to carry out such as images, colours, font styles.
Output requirements: Visual: Output from the interface including error messages.
Audio: Button clicks, error or warning sounds
Haptic (feedback through touch): Vibration on a phone
Input requirements: Mouse, keyboard, voice or touch.
User accessibility requirements:
Accessibility needs of the users.

Week 8

Creating a project proposal and plan

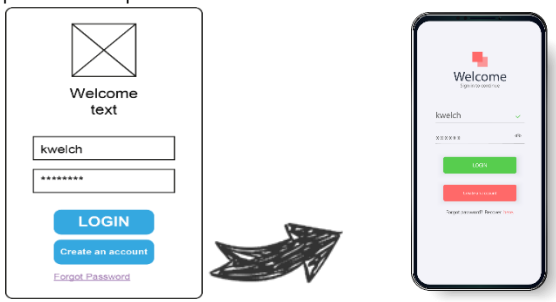
When creating a project plan understand:
- Timescales
- Key milestones

When creating a project plan it is important to identify the overall timescale of when the project will start and finish. Including sub tasks agreed with the client. Milestones are key points in a project, completion of the design phase of the project means that a client can now review the designs. Then move on to the next stage in the project.



Initial designs
An initial design will include:
- The user requirements
- Input and output requirements
- User accessibility needs

The requirements for this are covered in creating project proposal and plan.



Week 9

Initial designs

A design specification includes:
- Visualisation such as storyboard and sketches
- Hardware and software requirements

Sketches allow a screen design to be made quickly they can be hand drawn or made with computer software. They are often called wireframes.
Storyboards show the sequence of screens in an app, website or program they use the perspective of the user. They are useful to discuss the overall design and functionality with the client.
Sketches help to generate visualisations very quickly and can be altered immediately.
Hardware and software include all of the components in a PC and the programs needed to create designs.
Hardware will consist of internal components as well as external peripherals that would be required to meet the project need.
Software will be programs that will help the project manager and staff complete the designs and other tasks in the project plan.

Developing a user interface

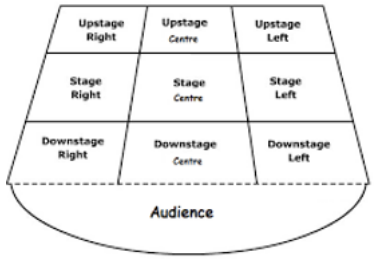
Initial designs will use the following design principles:
- Colour
- Font style/size
- Language
- Amount of information

Colour will be kept to a small number known as house colours, The fonts used will need to be suitable for the designs, Serif font is not a good choice in designs.
The language used will be appropriate to the age range, skill level and the product that is being used in the interface.
Information needs to be relevant to the design as the interface will rely mainly on icons, some information will be used to support the interface design.

DIGITAL INFORMATION TECHNOLOGY

Week 10	Week 11	Week 12
Developing a user interface Other design principles that will be used: • Layout • User perception • Retaining user attention • Intuitive design The layout will need to be user friendly, fast and easy to navigate with the least number of clicks to get to what you are looking for, it also needs to be easy on the eye and uncluttered. User perception is important in the design as they need to be part of the process so that their demands for using the layout are met. Retaining the user's attention will depend on how the interface looks and works, it needs to entice them in to looking at more information and products. An intuitive design should allow users to zoom in/out as well as the option to listen to text, it needs to support users with different disabilities and meet their requirements. Review Reviewing the success of the user interface including the strengths and weaknesses in: • Meeting the user requirements • Suitability for purpose and audience • Ease of use • Accessibility features • How effectively the design principles have been met When carrying out a review of your interface design you will need to look at all of the bullet points above. Did you meet all of the points, if you only met some of them what was positive about them? Could you have done things better if so what? Are there any weaknesses that you can see in your designs?	**Final assessment for B & C Planning and Assessment** End of component 1 final assessment.	

DRAMA

Week 1	Week 2	Week 3
Stage Types Thrust Proscenium Traverse End on In the round **Playwright** – Someone who writes the play **Genre**: Musical Theatre **Character** – a person in a play, novel or film **Ensemble** – a group of performers who act together **Social and Historical context** – what was happening in the world when the play was written and set **Themes** **Nature/Nurture** – Nature refers to genetics, nurture is environmental factors **Social Class** – a division of society based on social and economic status **Family** – A group of one or more parents and their children living together as a unit **Superstition** – a widely held but irrational belief in supernatural influences	**Proxemics** – the space between characters on stage **Thought-track** – the audience hear the character's thoughts out loud **Hot-seat** – asking a character questions **Sub-text** – hidden meaning beneath the text **Theatrical Skills** **Vocal Skills**: Tone – the emotional sound of the voice Pitch – high or low Pace - speed Accent – manner of speaking relating to where the character is from Emphasis – the stress on certain words to make them stand out Intonation – the rise and fall of the voice Volume – Loud or quiet **Physical skills**: Facial expression – movement of the face to express emotion Gesture – A movement of the head, hand or other body part to express meaning Gait – manner of walking Posture – position of body when standing or sitting.	**Vocal Skills** – tone, pitch, pace, accent, emphasis, intonation, volume **Physical skills** – facial expression, gesture, gait, posture, movement **Plot** - storyline **Duologue** – a dialogue between two people **Comedy** – a humorous genre **Interaction** – reciprocal action or influence **Performance Space** – the space on stage **Stage Positions**: Upstage, Downstage, Stage right, Stage left 

DRAMA

Week 4	Week 5	Week 6
Design Question: Set (4 marks) Command words in exam questions: **Describe** – to give detail **Analysis** – to analyse, to interpret **Justify** – to give reason **Set** – the scenery and furniture on stage **Levels** – creating different heights on stage through ramp, steps etc **Truck** – a board with wheels used to carry set pieces onto stage **Backdrop** – a white panel upstage which can be painted upon or projected onto **Projection** – presentation of an image on a surface **Flats** – a flat piece of theatrical scenery	12 mark question focusing on **PERFORMANCE SPACE** and **INTERACTION** Relationship Performance Skills (Physical and Vocal) **Proxemics** – how close or near you are to others on stage Positioning – your placement on stage Interaction – the way the character acts and responds to others Space Distance	Exploration of a set design for a different scene. Set Levels Truck Backdrop Projection Flats Describe Justify Assessment criteria Rehearse – to practice something Interaction Performance Space (See definitions Week Four)

DRAMA

Week 7	Week 8	Week 9
Lighting Terminology **Flood** – a large powerful light **Fresnel** – used for a softer edge effect **Profile** – creates a hard-edged spot **Par-can** – produces an intense beam of light **Positioning** – where you place the light in relation to the stage **Gobo** – a sheet inserted on a frame at the front of the light with a design cut into it to create patterns onto the stage **Gel** – coloured filter placed in front of the light **Intensity** – how bright or dim the light is **Technician** – someone who operates lighting and sound	**Performance Skills** **Vocal Skills** – tone, pitch, pace, accent, emphasis, intonation, volume **Physical skills** – facial expression, gesture, gait, posture, movement **Interaction** – the way a character acts and responds to others **Performance Space** – the space on stage **Climax** – the tension builds to its highest point **Tension** – a growing sense of expectation within the drama	**Tableau/x** a representation of a dramatic scene by a person or group, posing silently without moving. **Choreography** – creating a series of movements **Slow-motion** – moving slowly **Exaggeration** – over-emphasis **Physical expression** **Gesture** – a movement of the head, hand or other body part to express meaning **Mime** – acting in silence **Cross-Cutting** – two scenes are intercut to establish continuity **Cross-Fade** – the lights fade from one lighting state to another

DRAMA

Week 10	Week 11	Week 12
Soliloquy – when a character speaks their inner thoughts to the audience, *they are alone on stage* **Thought-Track** – the audience hear the character's thoughts out loud **Rehearsal** **Vocal Skills** – tone, pitch, pace, accent, emphasis, intonation, volume **Physical skills** – facial expression, gesture, gait, posture, movement **Character Objective** – what the character wants **Focus** – able to stay in role **Cooperation** – the action or process of working together to the same end.	**Performance** **Formative Assessment** **Vocal Skills** – tone, pitch, pace, accent, emphasis, intonation, volume **Physical skills** – facial expression, gesture, gait, posture, movement **Performance** **Audience** – people who watch the performance Evaluating work and setting targets: **Analyse** - to look at the information provided and break it down to identify and interpret the main points being raised **Evaluate** – to make a personal judgement about the performance **Target** – setting a goal for improvement • **S**pecific – clearly defined • **M**easurable – capable of being measured • **A**ttainable – able to be achieved • **R**elevant - appropriate • **T**imely – set to a time limit	**Design Question: Sound** **Ambience** – the feel of your production or the mood/tone **Underscoring** – music underneath dialogue to help create atmosphere **Volume** – how loud or quiet **Direction** - positioning **Sound effect** (SFX) **Design Question: Costume** **Fabric** - material **Cut** – the shape **Texture** – material, fabric **Pattern** – shapes on cloth **Accessories** – i.e. jewelry **Historical and Social Context** **Theme** **Period** – time the play was set in 

ENGLISH

Week 1-2

TASK- Learn the following terms using say, look, cover, write, check in your homework book.

1. **Miserly –** being unwilling or showing unwillingness to share with others.
2. **Capitalism –** an economic system where private individuals own and control production for profit.

Stave 1 Summary

In Stave One of "A Christmas Carol," Scrooge, a miserly old man, rejects Christmas cheer and treats everyone harshly. That night, he is visited by the ghost of his former partner, Jacob Marley, who warns him to change his ways.

Key Quotes

- 'A squeezing, wrenching, grasping, scraping, clutching, covetous, old sinner!' – Narrator about Scrooge
- 'his eyes sparkled, and his breath smoked again' – Narrator about Fred
- 'If they want to die, they better do it and decrease the surplus population' – Scrooge

Thesis Writing

Thesis writing is where we outline our argument for a Literature Essay. We use a three-pronged approach.
First sentence ◊ What does the writer aim to achieve with the text overall? **Second sentence** ◊ How does the writer get this argument across? Which characters or moments do they use?
Third sentence ◊ Provide references from across the text and then explain WHY the writer has done this.

AllWrite Task:

How does Dickens present Scrooge as an outsider to society? Thesis Led Response.

Week 1-2

TASK- Learn the following terms and quotations using say, look, cover, write, check in your homework book.

1. **Antithesis –** a person or thing that is the direct opposite of someone or something else.
2. **Pathetic Fallacy** - the attribution of human emotion to inanimate objects, nature, or animals, used to evoke a mood or feeling in the setting.
3. **Supernatural –** manifestation or event attributed to some force beyond scientific understanding or the laws of nature.

Creating an example of pathetic fallacy

Across the ocean, the wind ....

London (William Blake)

Summary and Purpose

William Blake's "London" depicts the city's suffering and corruption, highlighting the oppression and despair of its people. The poem critiques the impact of industrialization and institutional power on society. Blake uses vivid imagery to emphasize the pervasive misery and social injustices, calling for awareness and change.

Key Quotes

- 'Marks of weakness, marks of woe'
- 'In every cry of every man, In every infant's cry of fear, in every voice, in every ban'
- 'The mind-forged manacles I hear'

AllWrite Task:

Write an opening description of setting. Include pathetic fallacy.

ENGLISH

Week 3-4

TASK- Learn the following terms using say, look, cover, write, check in your homework book.

1. **Motif –** a dominant or recurring idea/image in a work.
2. **Benevolent –** showing or motivated by sympathy and understanding and generosity.
3. **Avarice –** excessive or insatiable desire for wealth or gain.

Stave 2 Summary

In Stave Two of "A Christmas Carol," the Ghost of Christmas Past takes Scrooge on a journey through his earlier years. Scrooge witnesses his lonely childhood, joyful moments with his sister, and the loss of his fiancée due to his growing greed, leading to deep regret and reflection.

Key Quotes

- 'He has the power to render us happy or unhappy' – Scrooge about Fezziwig
- 'A lonely boy was reading near a feeble fire' – Narrator about Scrooge
- 'another idol has displaced me...a golden one' – Belle to Scrooge

AllWrite Task:

How does Dickens present the consequences of Scrooge's greed in this extract? Produce a thesis and a main body of an essay (including layered analysis).

Week 3-4

TASK- Learn the following terms and quotations using say, look, cover, write, check in your homework book.

1. **Nostalgia –** a sentimental longing or wistful affection for a period in the past.
2. **Juxtaposition** - the fact of two things being seen or placed close together with contrasting effect.

Creating an example of juxtaposition

Beaming, Kate joyfully danced across to Mr Jones, who wore a face of ...

Ozymandias (Percy Bysshe Shelley)

Summary and Purpose

Percy Shelley's "Ozymandias" describes a traveler's account of a ruined statue in the desert, symbolizing the fleeting nature of power and human achievements. The poem reflects on the inevitable decline of all leaders and empires, emphasizing the impermanence of human grandeur and the enduring power of nature.

Key Quotes

- 'My name is Ozymandias, king of kings'
- 'wrinkled lip, and sneer of cold command'
- 'boundless and bare, the lone and level sands stretch'

AllWrite Task:

Write a description of contrasting characters. Include juxtaposition.

ENGLISH

Week 5-6

TASK- Learn the following terms using say, look, cover, write, check in your homework book.

1. **Social Welfare –** services provided by the government or private organizations to help those who are vulnerable.
2. **Exploitation –** the use of something/someone in order to get an advantage from it.

Stave 3 Summary

In Stave One of "A Christmas Carol," miserly Ebenezer Scrooge is introduced, showing his disdain for Christmas and kindness. He harshly rejects his nephew's invitation and mistreats his clerk. That night, Scrooge is visited by the ghost of his former partner, Jacob Marley, who warns him to change his ways.

Key Quotes

- 'A squeezing, wrenching, grasping, scraping, clutching, covetous, old sinner!' – Narrator about Scrooge
- 'his eyes sparkled, and his breath smoked again' – Narrator about Fred
- 'If they want to die, they better do it and decrease the surplus population' – Scrooge
- 'as good as gold and better' – Bob Cratchit about Tiny Tim

AllWrite Task:

How does Dickens present the struggles of the poor? Produce a thesis and a main body of an essay (including layered analysis).

Week 5-6

TASK- Learn the following terms and quotations using say, look, cover, write, check in your homework book.

1. **Destitute –** excessive or insatiable desire for wealth or gain.
2. **Flashback** - a scene in a novel, film, etc. set in a time earlier than the main story.

Flashback sentence examples:

Gazing at the photograph, she could feel the warm sunlight that took her back to…

Semi-colon list: a colon introduces the list, and semicolons indicate which parts of the list are grouped together.
Example: *Last year we travelled to Dorchester, Dorset; Edinburgh, Scotland; and Whitby, North Yorkshire.*

Create your own semi-colon list:

Poetry Comparison Thesis

Thesis writing is where we outline our argument for a Literature Essay. We use a three-pronged approach.
First sentence ◊ Which poems are you comparing?
Second sentence ◊ How do the poems link thematically to each other? What are the similar big ideas?
Third sentence ◊ How are the poems different? What big ideas do they explore differently?

AllWrite Task:

Craft a flashback

Include a detailed semi-colon list inspired by Dickens.

ENGLISH

Week 7-8

TASK- Learn the following terms using say, look, cover, write, check in your homework book.

1. **Fate –** the development of events outside a person's control, regarded as predetermined by a supernatural power.
2. **Penultimate –** second to last.
3. **Consequence –** a result or effect, typically one that is unwelcome or unpleasant.

Stave 4 Summary

In Stave Four of "A Christmas Carol," the Ghost of Christmas Yet to Come shows Scrooge a future marked by his death, where he is unmourned and his possessions are stolen. He also sees the Cratchit family grieving Tiny Tim's death. Scrooge vows to change his ways to avoid this fate.

Key Quotes

- 'Yellow, meagre, ragged, scowling, wolfish' - Narrator about Ignorance & Want
- 'When it came near him, Scrooge bent down upon his knee; for in the very air through which this Spirit moved it seemed to scatter gloom and mystery.' Narrator about Scrooge and The Ghost of Christmas Yet to Come

AllWrite Task:

How does Dickens present the consequences of sin?

Produce a thesis, a main body, and conclusion.

Week 7-8

TASK- Learn the following terms and quotations using say, look, cover, write, check in your homework book.

1. **Free Will –** the power of acting without the constraint of necessity or fate; the ability to act at one's own discretion.
2. **Cyclicity** - the quality or state of something that occurs or moves in cycles.

How do you use a cyclical structure in my own writing?

Give an example of how you might start and end a narrative to show cyclicity…

My Last Duchess (Robert Browning)

Summary and Purpose

Robert Browning's "My Last Duchess" is a dramatic monologue in which a Duke reveals his possessive and controlling nature while discussing a portrait of his late wife. Through his speech, he inadvertently exposes his jealousy and possible involvement in her death, critiquing the power dynamics and objectification in aristocratic society.

Key Quotes

- 'That's my last Duchess painted on the wall, / Looking as if she were alive.'
- 'I gave commands; / Then all smiles stopped together.'
- 'She had / A heart—how shall I say?—too soon made glad'

AllWrite Task:

Craft an opening an ending. Use a cyclical structure to show change.

ENGLISH

Week 9-10

TASK- Learn the following terms using say, look, cover, write, check in your homework book.

1. **Abundance –** a very large quantity of something.
2. **Merriment –** a cheerful or joyful disposition.
3. **Resolution –** the conclusion of the story by the resolving of conflicts of characters.

Stave 5 Summary

In Stave Five of "A Christmas Carol," Scrooge awakens on Christmas morning filled with joy and gratitude. He embraces the spirit of Christmas, generously helps the Cratchit family, reconciles with his nephew, and becomes a beloved, kind-hearted figure in the community, transforming his life completely.

Key Quotes

- 'As happy as an angel' 'As light as a feather' - Scrooge
- 'He did it all and infinitely more' – Narrator about Scrooge
- 'A second father to Tiny Tim'– Narrator about Scrooge

AllWrite Task:

How does Dickens present the transformation of Scrooge? Produce a thesis, a main body, and conclusion.

Week 9-10

TASK- Learn the following terms and quotations using say, look, cover, write, check in your homework book.

1. **Moral –** a lesson that can be derived from a story or experience.
2. **Parallelism** - the state of being parallel or of corresponding in some way.

Can you identify any parallels between the events of Stave 1 and Stave 5?

The Prelude (William Wordsworth)

Summary and Purpose

William Wordsworth's "The Prelude" explores the poet's life, emphasizing nature's profound impact on his development. Through vivid descriptions, Wordsworth illustrates how nature's beauty and power shape his thoughts, emotions, and identity, highlighting its role in human growth and the spiritual awakening of the individual.

Key Quotes

- 'It was an act of stealth / And troubled pleasure'
- 'With measur'd motion, like a living thing, / Strode after me.'
- 'As if with voluntary power instinct, / Upreared its head. I struck and struck again'
-

AllWrite Task:

Creative Writing Full response

ENGLISH

Week 11-12

TASK- Learn the following terms using say, look, cover, write, check in your homework book.

1. **Malthusian Mindset –** mindset where society believes and fears that a large population size could lead to a humanitarian and ecological disaster.
2. **Cornucopian Mindset –** a mindset where society believes there is abundance and enough for everyone in society if shared.

Task: Identify across the novel, which characters embody each of these mindsets.

The power of nature in The Prelude and Ozymandias

In "The Prelude," nature's power profoundly influences the poet's emotions and identity. In "Ozymandias," nature's power erodes the statue, emphasizing the fleeting nature of human achievements and the enduring, unstoppable force of the natural world.

Key Quotes:

- Ozymandias – 'Round the decay / Of that colossal Wreck, boundless and bare, / The lone and level sands stretch far away.'
- The Prelude – 'Huge and mighty forms, that do not live / Like living men, moved slowly through the mind / By day, and were a trouble to my dreams.'

AllWrite Task:

Compare the ways poets present the power of nature. Plan a response and write a comparative thesis.

Week 11-12

TASK- Learn the following terms and quotations using say, look, cover, write, check in your homework book.

1. **Comparative –** a consideration or estimate of the similarities or dissimilarities between two things, ideas or people.
2. **Allegory** - a story, poem, or picture that can be interpreted to reveal a hidden meaning, typically a moral or political one.

How is A Christmas Carol an allegory?

"A Christmas Carol" is an allegory highlighting the moral and social issues of Victorian society. Through Scrooge's transformation from a greedy miser to a compassionate benefactor, Dickens critiques the impacts of capitalism and promotes the values of generosity, compassion, and social responsibility.

Creative Writing Structure

1. Time of year/day - describe the weather - use pathetic fallacy
2. Character in the wrong place/out of place?
3. Personification of setting – narrow focus
4. Broader description of setting or city – use a semi-colon list
5. Characters feelings reflecting setting – use pathetic fallacy
6. Introduction of motif – perhaps this links to a flashback
7. Has the story progressed? The setting changed? The characters emotions changed? Use cyclical structure.

AllWrite Task:

Creative Writing. Full response

ENGLISH

Week 13

TASK- Learn the following terms using say, look, cover, write, check in your homework book.

1. **Romanticism –** A literary and artistic movement emphasizing the importance of nature, emotional depth, and individual experience, often highlighting the sublime and transformative power of the natural world.
2. **SORT –** Revision strategy that asks you to **S**ummarise, **O**rganise, **R**ecall and **T**est yourself.

Key poems to **SORT**

- London
- Ozymandias
- My Last Duchess
- The Prelude

SORT strategies

Summarise – Mind map, Flash Cards, Revision Clock, Cornell and Sketch Notes.
Organise – Revision timetable, identifying weak/strong poems.
Recall – Leitner System (flashcards), Zones of relevance, Graphic organiser, Mnemonics, Group/Pair games
Test Yourself – Use your strategies to test yourself regularly.

AllWrite Task:

Compare the ways poets present ideas about [steer] in [named poem] and in one other poem.
Write a full comparative response.

FOOD

Week 1	Week2	Week3
Topic: Commodity 1 - Fruit& Vegetables		
Demonstration - South African Picnic Muffins **Secondary processing** - Secondary processing is when the primary product is changed to another product. **Dietary fibre** - isplant material that cannot be digested by the human body. Foods that are rich in fibre include *beans, pulses, and vegetables such as broccoli and carrots.* **Vitamin C** • Helps with resist infection • Helps wounds to heal • Helps the absorption of iron from other foods. • Produces a substance called collagen which makes connective tissues to bind cells together in the body. • It is an antioxidant. That means it helps protect the body against polluting chemicals which can harm us. **Food poisoning** - Food poisoning, also called foodborne illness, is an infection or irritation of your digestive tract that spreads through food or drinks.	**Practical** - South African Picnic Muffins Washing fruit and vegetables prior to preparing/cooking will help remove bacteria, including E.coli, from the surface. **Muffin** - a small domed spongy cake made with eggs and baking powder. **Classification** - fruits and vegetables are classified depending on which part of the plant they come from **Batter** - a mixture of flour and liquid with other ingredients, such as leavening agents, shortening, sugar, salt, eggs, and various flavourings, used to make baked goods and other food products **Basic equipment** - **Measuring jug** - used for measuring liquids **Paper cases** - used to bake cake mixture in, preventing the mix sticking **Muffin tin** - piece of equipment used to bake muffins/cakes. **Grater** - used to grate foods into fine pieces.	**Practical** - Tomato and Basil Soup A diet high in fruit and vegetables can help protect you against cancer, diabetes and heart disease. **Acidity** - The tart or sour taste often balanced with sweetness in the soup. **Iron** - Helps to make haemoglobin in the red blood cells which carry oxygen to the body cells **Basic equipment** - **Saucepan** - a cooking pot used for heating liquids **Can opener** - a toll to help open tin can with **Sharpe knife** - used to cut ingredients **Blender** - used to blend, puree and mix food items **Consistency** - The texture or thickness of a sauce. Cornflour is used to achieve the desired consistency in sauces, making them thicker and more viscous. **Simmer** - Cooking method involving low heat to gently cook ingredients.

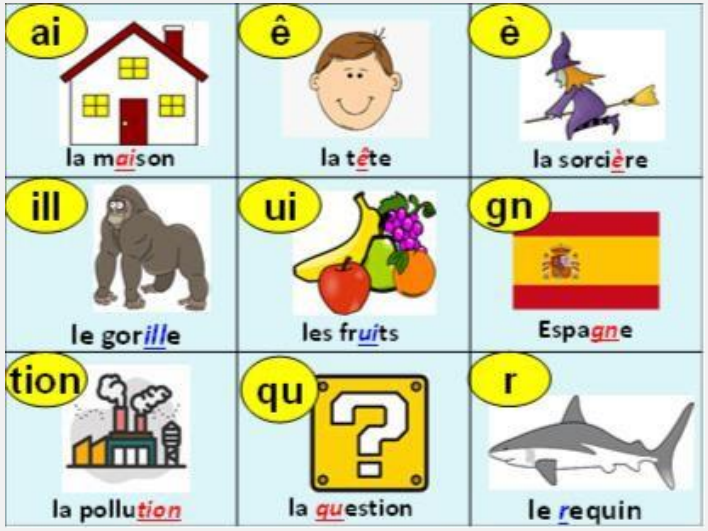
FOOD

Week4	Week5	Week6
Topic: Commodity 2 - Fats & sugars		
Practical - Cornish Fairings **Golden syrup** - process sugar, name other types of syrups natural - maple and honey Implications of a diet high in saturated fats which can cause cholesterol to build up in your arteries (blood vessels) **Cornish fairings** - Traditional gingerbread cookies from Cornwall, England. **Basic equipment** - **Baking tray** - is a flat, rectangular metal pan placed in an oven and used for baking. **Greaseproof paper** - paper which is used to line tins and baking trays with to prevent food items from sticking **Mixing bowl** - used to mix food item in **Melting method** - melting the butter (fat) and dissolving the sugar **Empty calories** - are calorie s that provide little nutritional value **Energy density**- is the amount of energy (or calories, kcal) per gram of food	**Practical** - Cheese Straws **Basic equipment** - **Baking tray** - is a flat, rectangular metal pan placed in an oven and used for baking. **Greaseproof paper** - paper which is used to line tins and baking trays with to prevent food items from sticking **Mixing bowl** - used to mix food item in **Grater** - Used to o grate foods into fine pieces. **Pastry Brush** - A kitchen tool used to apply butter, egg wash, or other liquids to the dough before baking, which can help with browning and adding flavour. **Caramelisation** - a process of browning of sugar used extensively in cooking for the resulting rich, butter-like flavour and brown colour. **Dough** - A mixture of flour, water, and other ingredients that is baked to make bread, pastries, and other baked goods **Rubbing - in method** - Using your fingertips, rub the flour and butter together until the mixture resembles breadcrumbs	**Theory** **Smoking point** - when a fat is heated it turns into a liquid oil. on further heating it will give off smoke and eventually ignites, different fats have different smoke points **Secondary processing** - Secondary processing is when the primary product is changed to another product - for example, turning potatoes in to chips. **Evaluation** - • The quality of the products that you have made. • The skills that you have developed. • Equipment that you have learned how to use. • Skills or processes that you need to improve. • How you could improve the way in which you work in practical lessons. **Reflect** - What went well? **React** - Even better if **Retain** - Embedding knowledge

FRENCH

Classroom language

français	English
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 peux aller à ma leçon de musique?	Can I go to my music class?
Je ne comprends pas.	I (don't) understand
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



Key Adjectives	
Ouvert	Open
Bref	Brief
Recherché	Sought after
Fermé à clé	Locked
Gratuit	Free (No Cost)
Libre	Free (Available)
Plein	Full
Même	Same
Perdu	Lost
Prochain	Next
Dernier	Last/Latest

Les Verbes Clés	Key verbs
louer	to rent/hire
descendre	to go down/ to get off
chercher	to look for
tomber	to fall
durer	to last
se trouver	to be located
éviter	to avoid
signer	to sign
fonctionner	to work (i.e.to function)
dépenser	to spend (money)
changer de	to change (train)
appeler (au téléphone)	to call
arriver	to arrive
perdre	to lose/miss (train)
prêter	to lend
emprunter	to borrow
remplacer	to replace
remplir (un formulaire)	to fill out (a form)
voler	to fly/steal
acheter des billets (for planes, trains, concerts & the theatre)	to buy tickets
acheter des tickets (for buses, the tube, cinemas & museums)	to buy tickets
monter	to go up
apporter	to bring
essayer de	to try to
vendre	to sell
venir	to come

FRENCH

Week 1 - Destinations	
En vacances	**On holiday**
Où es-tu allé(e)?	**Where did you go?**
l'année dernière	last year
l'été dernier	last summer
je suis allé en/au/aux/à…	I went on holiday to...
j'ai passé l'été en/au/aux/à …	I spent the summer in …
j'ai passé quinze jours …	I spent a fortnight
en Écosse	In Scotland
en Espagne	In spain
en France	In France
en Grèce	In Greece
aux États-Unis	In the USA
en Allemagne	In Germany
au Royaume-Uni	in the UK
Comment était le voyage?	**How was the journey?**
j'ai voyagé/nous avons voyagé	I/ we travelled …
en car	by coach
en voiture	by car
en train	by train
en avion	by plane
à pied	on foot

Week 2 - Activities and weather	
Qu'est-ce que tu as fait ?	**What did you do ?**
je suis allé(e)	I went
j'ai eu	I had
j'ai vu	I saw
j'ai fait	I did
j'ai lu	I read
j'ai bu	I drank
Quel temps faisait-il?	**What was the weather like ?**
il faisait du soleil	It was sunny
il faisait chaud	It was hot
il faisait froid	It was cold
il faisait du vent	It was windy
il faisait beau/mauvais	It was goo/bad weather
il pleuvait	It was raining
le temps était clair	It was clear
Où es-tu resté(e)?	**Where did you stay?**
je suis resté(e) avec /chez	I stayed with
j'ai logé dans …	I stayed in
un hôtel	A hotel
c'était	It was
il y avait	There was/were
l'hôtel avait	The hotel had

Week 3 - Descriptions in the past	
quel était le meilleur/le pire?	what was the best/worst thing
le meilleur/le pire était quand	the best/worst thing was when
j'ai vu un match	I watched a match
je suis allé(e) à la plage	I went to the beach
j'ai perdu le vol	I missed the flight
j'ai perdu ma valise	I lost my suitcase
les clés	the keys
la voiture etait en panne	the car broke down
j'ai eu un accident	I had an accident
j'ai vomi sur les montagnes russes	I was sick on a rollercoaster
je suis arrivé(e) en retard	I arrived late
j'ai dû …	I had to
aller au commissariat de police	go to the police station
attendre longtemps	wait a long time
Comment étaient les vacances?	**How were the holidays?**
Elles étaient…	They were
agréables	enjoyable
géniales	great
Je me suis éclaté(e)	I had a great time
Je me suis ennuyé	I was bored

Week 4 - Key verbs	
aller en vacances	to go on holiday
passer l'été	to spend the summer
faire les magasins	to go shopping
se reposer	to rest
attendre/s'attendre à	to wait/expect
faire du camping	to go camping
sortir avec des amis	to go out with friends
télécharger des chansons	to download songs
faire du tourisme	to go sightseeing
écrire des emails	to write emails
écrire des cartes postales	to write postcards
acheter des souvenirs	to buy souvenirs
lire	to read
jouer de la guitare	to play guitar
s'amuser	to have fun
regarder un match	to watch a match
se plaindre	to complain
rester	to stay
ne faire rien	to do nothing

FRENCH

Week 5 - Places in town	
En ville	**In town**
Il y a …	There is/are
un hôtel de ville	a town hall
un marché	a market
un parc	a park
un centre de loisirs	a leisure centre
un port	a port
un pont	a bridge
une bibliothèque	a library
une piscine	a pool
une place	a town square
un bureau de poste	a post office
un magasin	a shop
beaucoup de sites d'intérêt	lots of places of interest
quelque chose à faire	something to do
plusieurs choses à faire	plenty to do
il n'y a rien à faire	There's nothing to do

Week 6 - Finding the way	
Les directions	**Les directions**
Où est ?	**Where is ….?**
tourne à gauche	turn left
tourne à droite	turn right
prends la première à gauche	take the first left
prends la première à droite	take the first right
la deuxième rue	the second road
la troisième rue	the third road
à (la) droite	onthe right
à (la) gauche	on the left
jusqu'à	as far as / up to
passe	pass
va tout droit	go straight ahead
traverse la place	cross the square
prendre	to catch (the bus/train)
c'est	it is
au coin	on the corner
à côté de	next to
en face de	opposite
devant	in front of
loin de	far (from)
près de	near (to)
le nord/le sud	the north/south
l'est/l'ouest	the east/west
à la campagne	in the country
à la montagne	in the mountains
au bord de la mer / sur la côte	by the sea / at the coast
en banlieue	In the suburbs

Week 7 - In the shop	
Faire les magasins	**Shopping**
en vente	on sale
il/elle ouvre à	it opens at …
il/elle ferme à	it closes at…
ouvert	open
fermé	closed
fermé le dimanche	closed on Sundays
Pouvez-vous m'aider?	Can you help me?
Comment je peux vous aider?	How can I help you?
Combien coute cela/ça?	How much does it cost?
je veux	I want …
je voudrais/j'aimerais	I would like (more polite)
acheter	to buy
essayer	to try (on)
Quelle est votre taille?	What size are you?
échanger	to exchange
offrir un cadeau	to give a gift
Je peux l'échanger ?	Can I exchange it?
Il y a un/une autre de ma taille?	Is there another in my size?
ça (ne) me va (pas)	it (doesn't) suit me
c'est trop grand	It's too big
la taille	size (clothes)
le style	style

Week 8 - Hotel and restaurant	
Dans un hôtel	**In a hotel**
Quelle type de chambre voulez-vous?	Which type of room do you want?
Je voudrais faire une réservation pour…	I would like to make a reservation for...
une chambre	a room
avec des vues de la mer	with views of the sea
l'hôtel est complet	the hotel is full
excusez-moi	excuse me
je suis désolé	I'm sorry
le prix	the price
Dans un restaurant	**In a restaurant**
je voudrais réserver une table pour	I want to reserve a table for…
s'asseoir	to sit
je voudrais m'asseoir …	I want to sit…
à côté de la fenêtre	next to the window
à une table avec une vue	at a table with a view
je voudrais prendre	I'd like to have…
comme entrée	for the starter
comme plat principal	for the main course
comme dessert	for dessert
Comment est le repas?	How is the food?
Autre chose?	Anything else?
j'ai faim/soif	I'm hungry/thirsty
je suis pressé	I'm in a hurry

GEOGRAPHY

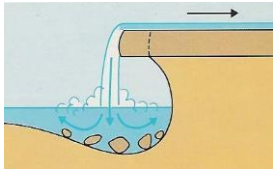
Week 1

Glossary:
Evaporation - water turning into water vapour.
Condensation - the air rises. High up, where it's cooler, the water vapour then turns into tiny water droplets. These form clouds.
Precipitation - moisture that falls from the atmosphere in any form.
Surface runoff - all water flowing on the Earth's surface.
Transpiration - loss of moisture from plants.
Evapotranspiration - the sum of evaporation from the Earth's surface together with the transpiration of plants.
Infiltration - seeping of water into the soil.
Interception - collection of water by vegetation. **Through-flow** - movement of water through the soil.
Groundwater - some water soaks right down and fills up the pores and cracks in the rock.

Week 2

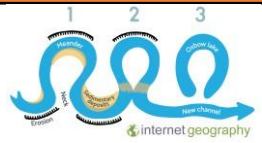
Glossary:
Abrasion – when the load carried by the river repeatedly hits the bed or banks dislodging particles into the flow of the river. **Attrition** - when stones carried by the river knock against each other, gradually becoming smaller and more rounded.
Solution - when the river flows over limestone or chalk, the rock is slowly dissolved. This is because it is soluble in mildly
acidic river water.
Hydraulic Power - the force of the water hitting the riverbed and banks.
Saltation – 'hopping' or 'bouncing' of particles (bedload) too
heavy to be suspended.
Solution – dissolved chemicals often derived from limestone or chalk.
Suspension – small sediment held (suspended) in the river.
Traction - large particles rolled on the riverbed.

Week 3



Glossary:
Hard rock – crock at the top of the waterfall/resistant to erosion.
Soft rock – soft rock at the base of the waterfall/vulnerable to erosion.
Overhang – unsupported hard rock.
Undercutting – process whereby the soft rock is eroded below the hard rock. Eventually the overhang is unsupported and falls.
Splash back - soft rock can be worn away and undercut by splash back from the waterfall (part of hydraulic action). **Plunge Pool** – body of water at the base of the waterfall. **Retreat** – the waterfall moves back due to ongoing undercutting, overhang and collapse.
Gorge – steep sided valley carved out by a waterfall.

Week 4



Glossary:
Meander – the wide bend of a river found mainly in lowland areas.
Slip off slope – there is deposition and shallow water on the inside of bends.
River cliff – there is erosion and deep water on the outside of bends.
Deposition – material is dropped due to the river losing energy.
Lateral erosion – sideways erosion.
Thalweg – the line of fastest flow within a river.
Helicoidal flow - corkscrew movement of water which is thought to transport eroded material downstream from one meander bend to the next.
Ox-bow Lake – a semi-circular area that represents the former course of a meander. They become cut off from a supply of water and eventually dry up, creating a scar.

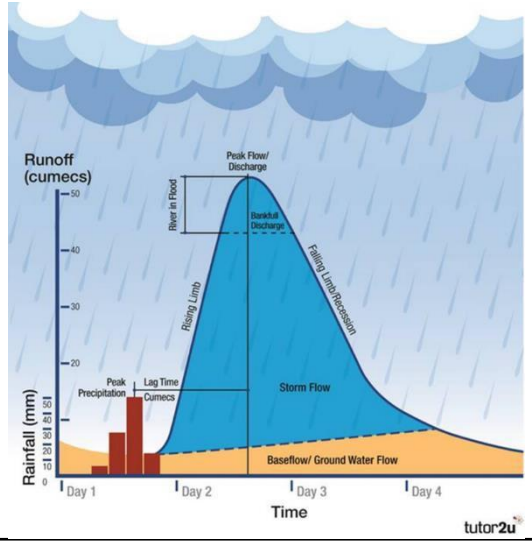
Week 5

River landforms on the River Tees
The River Tees is in the northeast of England. Its source is in the Pennine Hills (height 893m). It flows east until it reaches the North Sea.

High Force waterfall and gorge
High Force waterfall is found in the upper course of the river. It is 20m tall. It is formed due to a resistant band of igneous rock called dolerite. The river cannot erode the dolerite, so it has
formed a step in the long profile, and this has developed to form High Force waterfall. Below the dolerite is limestone; this is weaker and erodes quicker leaving an overhang. Eventually the overhang collapses and the waterfall will retreat upstream to form a gorge.

Meanders, levees and floodplains
These landforms are found on flat low-lying land within the middle and lower course of the River Tees.

Week 6



GEOGRAPHY

Week 7

Glossary:

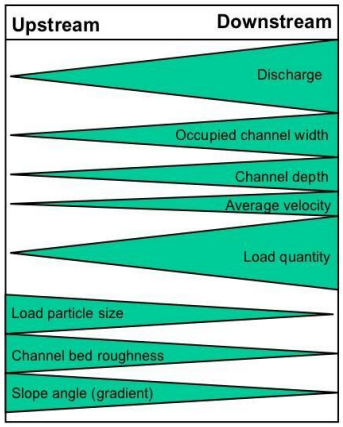
Hard engineering – using concrete or large artificial structures to defend against natural processes. For example, dams and reservoirs, straightening, embankments and flood relief channels.

Soft engineering – managing erosion by working with natural processes to help reduce the risk of river flooding. For example, floodplain zoning, river restoration, preparation and planting trees.

Cause – the factors that created the flood.
Effect – the result of the flood; the impact on people, the economy and the land.

Week 8

Does Cardinham Waters follow the Bradshaw Model?



Week 9

Data Collection Methods	Data Presentation Techniques
Measuring the width of the river	A bar graph to present the width of the river
Measuring the depth of the river	Cross profiles to present the width and depth of the river
Measuring the speed of the river	Scattergraph to present the velocity of the river
Taking photographs	Annotated photographs to visually present the study area.
Producing field sketches	Neat and annotated field sketches to visually present the study area.

Week 10

Data presentation techniques:

Cross profile – this is a slice through the river. It helps to visualise what the river and riverbed look like. They can highlight changes in the riverbed over a distance.
Photographs and field sketches – are widely used in the study of geography. They can be used on their own or in association with maps. We used photographs and field sketches to identify the main geographical characteristics of the landscape. Gives a good visual appreciation of the landscape.
Histograms – are one of the most common methods of displaying statistical information. A histogram uses bars but with no gaps between them. This is because a histogram represents continuous data (such as the river width). A single colour or shading is used. Accurately show proportion.
Scattergraphs – if two sets of data are thought to be related, they can be plotted on a scattergraph. A line of best fit can be drawn to show the trend of the points if there is one. A scattergraph will also show how strong the relationship is.

Week 11

Does Cardinham Waters follow the Bradshaw Model?

Bradshaw Model - a theory which explains how a river's characteristics change as you move downstream.
Primary data - data collected by you (or your group) specifically for your project. Data observed or collected directly from first-hand experience.
Secondary data - data collected by someone else or a group. Data that already exists.
Qualitative data – techniques that don't involve numbers or counting. They are subjective and involve the judgement of the person collecting the data such as photographs and field sketches.
Quantitative - use of numbers. Most quantitative techniques need equipment or recording sheets such as measuring the width or depth of a river.
Conclusion – summarises what we found out. A conclusion is almost the end point in your enquiry. Shorter than the analysis because it is more focused.
Evaluation – Last part of the enquiry process. Examines the limitations and errors which can affect the results, but also how you could improve, and you need to reflect.

Week 12

Glossary:

Assess – make an informed judgement.
Compare – identify similarities and differences. **Describe** – set out characteristics/say what you can see. **Explain** – set out purposes or reasons.
Justify – support a case with evidence.
Outline – set out main characteristics
Suggest – present a possible case
To what extent – judge the importance or success of a strategy, project or scheme.

Random sampling – where samples are chosen at random, for example every rock has an equal chance of being selected.
Systematic sampling – means working to a system to collect data, for example every 20cm across the river.
Stratified sampling – deliberately introducing a bias to ensure the sample addresses the question. For example, deliberately selecting samples of different pebble sizes from a point in the river so that the whole range of pebble sizes is included within the sample.

GRAPHIC DESIGN

Graphic Design

Cycle 1: Materials, Techniques and Processes

Adobe key tools

Illustrator:
Selection Tool (V): Selects and moves objects
Direct Selection Tool (A): Selects anchor points **Pen Tool (P):** Creates precise paths and shapes
Shape Tools: Creates basic shapes such as rectangles
Blob Brush Tool (Shift+ B): Paints filled shapes
Gradient Tool (G): Applies colour transitions.
Pathfinder Panel: Combines, divides, and manipulating shapes

Photoshop:
Move Tool (V) Allows you to move selected elements.
Brush Tool (8) Used for painting and drawing
Clone Stamp Tool (S) Copies pixels
Lasso Tool (L) Used for making freehand selections.
Healing Brush Tool (J)Repairs imperfections in an image

Key Subject terminology

Typography: The art and technique of arranging type to make written language legible, readable, and visually appealing.
Composition: The placement or arrangement of visual elements in a design.
Balance: The distribution of visual weight in a design, creating stability. Contrast
Definition: The difference between elements in a design, such as colour, size, or shape, to create visual interest.
Hierarchy: The arrangement of elements in order of importance guiding the viewer's eye.
White Space: The empty space around and between elements in a design, used to create visual breathing room and highlight content.

Keyboard shortcuts

CMD + N Create a new document. **CMD + S:** Save the current document. **CMD + Shift + S:** Save As
CMD + Z: Undo the last action.
CMD + C: Copy the selected object. **CMD + V:** Paste the copied object. **CMD + G:** Group the selected objects. **CMD + Shift + G:** Ungroup the selected **CMD** + +/- Zoom in or out

Annotation terms:
Explore: Investigate and experiment with different design elements, tools, and techniques to discover new possibilities and solutions.
Analyse: Examine the components and structure of a design to understand how they work together and assess their effectiveness.
Compare: Identify similarities and differences between two or more designs, elements, or approaches to evaluate their relative strengths and weaknesses.
Contrast: Highlight the differences between design elements such as colour, size, and typography to create visual interest and draw attention.
Evaluate: Assess the quality and effectiveness of a design based on specific criteria and provide feedback for improvement.

GRAPHIC DESIGN

Week 1	Week2	Week3
This week you will: demonstrate an ability to create designs that use symmetrical, asymmetrical, or radial balance to achieve visual stability.	**This week you will:** demonstrate an ability to use contrasting elements such as colour, size, and typography to create focal points and enhance visual interest in their designs.	**This week you will:** demonstrate an ability to apply alignment techniques to create organised, clean, and professional-looking layouts.
Symmetrical: Symmetrical balance in graphic design means elements are evenly placed around a central axis, creating a sense of harmony and stability. **Asymmetrical:** Asymmetrical balance in graphic design involves placing different visual elements on each side of a central axis, achieving balance through contrast and careful arrangement. It creates a dynamic and visually interesting composition.	**Typography:** Typography in graphic design refers to the art and technique of arranging type to make written language readable, legible, and visually appealing. **Contrasting:** Contrasting graphic design involves using differences in elements such as colour, size, shape, or texture to create visual interest and hierarchy within a design	**Cohesive:** Cohesive in graphic design refers to elements that work together harmoniously, creating a unified and integrated visual presentation. **Visual Structure** Visual structure in graphic design refers to the arrangement and organization of elements within a design to create a clear hierarchy, balance, and flow that guides the viewer's eye through the composition.
Week 4	**Week 5**	**Week 6**
This week you will: demonstrate an ability to group related items using proximity to improve readability and enhance user experience.	**This week you will** demonstrate an ability to use repetition to create consistency and unity across various design elements and projects. layers.	**This week youwill** demonstrate an ability to prioritise elements in their designs through size, colour, and placement to guide the viewer's eye effectively.
Proximity: In graphic design, proximity refers to the spatial relationship between elements in a composition. Elements that are physically close to each other are perceived to be related, while those that are farther apart are seen as separate. **User Experience (UX):** User experience encompasses all aspects of a person's interaction with a product, system, or service.	**Repetition:** In graphic design, repetition involves using the same or similar elements multiple times within a design. This can include repeating shapes, colours, patterns, or typography. **Unity:** Unity refers to the sense of harmony and cohesiveness in a design. It ensures that all elements of a design work together to create a single, cohesive composition.	**Hierarchy:** In graphic design, hierarchy refers to the arrangement and organisation of elements in order of importance. It guides the viewer's eye to the most important parts of the design first and helps to convey the message clearly. Hierarchy can be established using size, colour, contrast, placement, and typography to emphasize certain elements over others.

GRAPHIC DESIGN

Week 7	Week 8	Week 9
This week you will demonstrate an ability to arrange visual elements to create balanced, engaging, and aesthetically pleasing compositions.	**This week you will** demonstrate an ability to use Adobe Illustrator's tools and techniques to create scalable vector graphics.	**This week you will** demonstrate an ability to use Adobe Photoshop for essential tasks such as photo editing, retouching, and working with layers.
Visual Elements: Visual elements in graphic design are the components that make up a design, such as line, shape, colour, texture, space, form, and typography. These elements are used to create compositions and convey messages visually. **Composition:** Composition in graphic design is the arrangement and placement of visual elements within a design. It involves organising these elements in a way that is harmonious and effective.	**Adobe Illustrator:** Adobe Illustrator is a vector graphics editor and design program developed by Adobe Inc. It is used to create and edit vector images, such as logos, illustrations, and typography. Illustrator is widely used in graphic design for its powerful tools and precision. **Vector Graphics:** Vector graphics are images created using mathematical equations to define points, lines, and shapes.	**Adobe Photoshop:** Adobe Photoshop is a widely used software application for image editing, graphic design, and digital art developed by Adobe Inc. It provides a range of tools for editing photos, creating graphics, and designing digital artwork. **Photo Editing:** Photo editing involves altering and enhancing photographs using various techniques and tools.
Week 10	**Week 11**	**Week 12**
This week you will demonstrate an ability to use Adobe InDesign to create professional layouts for print materials like brochures and magazines.	**This week you will** demonstrate an ability to apply colour theory principles using colour tools in Adobe Illustrator and Photoshop to create visually harmonious designs.	**This week you will** be assessed on their ability to set up a document in Adobe InDesign and create a basic layout that aligns with the design brief.
Adobe InDesign: Adobe InDesign is a desktop publishing software application developed by Adobe Inc. It is used to create and design layouts for print and digital media, such as magazines, **Layouts:** In graphic design, layouts involve positioning text, images, and other elements in a way that is aesthetically pleasing and effectively communicates the intended message.	**Colour Theory:** Colour theory is the study of how coloursinteract with each other and how they can be combined to create visual effects. It involves understanding the colour wheel, colour relationships (such as complementary, analogous, and triadic), and the psychological effects of colours.	**Design Brief:** A design brief is a document that outlines the objectives, requirements, and constraints of a design project. It serves as a guide for designers, providing essential information about the project's goals, target audience, budget, timeline, and specific design elements to be included.

HAIR & BEAUTY

Week 1

The Purpose of a business

- What is a business- 'A business is an organization which produces and sells goods, or which provides a service'
- The purpose of a business is to produce goods, supply services and distribute products
- Reasons for starting a business- fulfil a business opportunity, providing goods/and or services, personal aims and objectives

Week 2

Business structures and their advantages and disadvantages

- Business structures- sole trader, partnership, public limited company (PLC), privates limited company (LTD), franchise, concession, independent/freelance, not for profit organization

Sole Trader

Advantages	Disadvantages
• Full control over the HMRC • Easy to set up • Less red tape with accounting and the records • Finances are private • Profits are not shared hard work	• Register with decision making Personally, liable for any debts • Personally, responsible for business • It is all down to you, it can be very with shareholders •Can be difficult to take time off

Partnership

Advantages	Disadvantages
• Easy to set up • Less red tape with accounting and records • Finances are private • Shared workload • Shared expertise and skills • Shared set up and running costs	• Unlimited liability for any debts or acts of negligence • Disagreements between partners • Unable to make independent decisions, both partners need to agree • Individual taxation • Shared profits

Week 3

The scope of opportunities for hair and beauty businesses

- Hair and beauty businesses- beauty salons, hair salons, barbers, spas, nail bars, brow bars, complementary therapy centres, tanning salons, men only salons, specialist hairdressers, mobile hairdressers/barbers/ therapists, aesthetic clinics
- A beauty salon = treatments and services that improve the appearance of the face and body for aesthetic purposes.
- A freelance beauty therapist = a variety of beauty treatments and services in a client's own home
- A spa = therapeutic health treatments and services providing relaxation and rejuvenation to treat the mind and body and provide a sense of wellbeing.
- A hairdresser = creating styles by cutting colouring and styling the hair.
- A freelance hairdresser or barber is not based in a salon, they visit the customer at home and carry out a variety of hair services for men, women and children who prefer to have their hair done in their own home
- Barbers/barbershop = cutting/shaving men's hair and beards. They have mainly worked on men and boys' hair.

HAIR & BEAUTY

Week 4	Week 5	Week 6
Career pathways and progression opportunities available in the hair and beauty sector • Career/training pathways- TLevel, apprenticeship, further education, private training, higher education • Career opportunities- hairdresser, barber, colour technician, beauty therapist, spa therapist, massage therapist, nail technician, make-up artist, educator, product sales consultant • Career progression levels- junior stylist, senior therapist/stylist, consultant, salon manager, salon owner • Type of employment- contracted, self employed	**The common hair and beauty services and treatments** • Hairdressing- shampooing, cutting, colouring, perming, relaxing, thermal styling, extensions, wrapping, braiding • Barbering- shampooing, cutting, fading, beard shaping/trimming, shaving, colouring, styling • Beauty therapy- facials, eye treatments, hair removal, tanning, make-up • Spa therapy- massage therapies, body wraps, hydrotherapy • Nails- manicure, pedicure, gel polish, nail enhancements, nail art • Make- up artistry- fashion and photographic make- up, camouflage, occasion/bridal make-up, theatrical and media make-up, prosthetics	• Business links and interdependencies within the hair and beauty sector • The hair and beauty sector has links with many other industries. These relationships can offer a broad range of benefits to the different industries. • Businesses will link with one another to make the business viable and to create a more profitable business. • Interdependencies are key areas where two or more businesses will rely on each other to make a business work effectively. For example, a retailer is interdependent with a manufacturer, the manufacturer needs the retailer to sell the goods, and the retailer needs the manufacturer's goods to sell. • Interrelated industries- leisure and tourism, fashion, health and fitness, fashion design buying, education and training, theatre and media, retail, product manufacturing and distribution, aesthetic nursing

Week 7	Week 8	Week 9
The historical development of hair and beauty industries over the last 50 years • The evolution and development of industry from general hairdressers and beauty salons to specialised salons such as blow-dry bars, nail bars, male grooming, aesthetic clinics, spas • Technological advances- hair replacement systems, nail systems, eyelash and eyebrow treatments, airbrush make-up, laser treatments, non-medical and clinical aesthetics	**Entrepreneurship and the associated benefits** • What is the definition of enterprise? • A project, a willingness to take on a new project, an undertaking or business venture. • What is meant by being an entrepreneur? • Someone who organizes, manages, and assumes the risks of a business or enterprise. • Benefits to the economy and society- new businesses, employment opportunities, increased customer choice, improved business performance and choice	**The characteristic's and objectives of an entrepreneur** • Characteristics of an entrepreneur- charismatic, driven, hardworking, motivated, dedicated, risk takers, enthusiastic, organised, innovative, good communicator, analytical ability, decision maker • Objectives of an entrepreneur- to be their own boss, to be in charge of their own destiny, to take risks, work flexibly, to pursue an interest, earn money for personal profit, identify a gap in the market that could help expand a personal vision, job and personal satisfaction • Well known hair and beauty entrepreneurs- Anita Roddick, Max Factor, Jeffree Star, Vaniti Parti, Vidal Sassoon

HAIR & BEAUTY

Week 10	Week 11	Week 12
The historical development of hair and beauty industries over the last 50 years • The evolution and development of industry from general hairdressers and beauty salons to specialised salons such as blow-dry bars, nail bars, male grooming, aesthetic clinics, spas • Technological advances- hair replacement systems, nail systems, eyelash and eyebrow treatments, airbrush make-up, laser treatments, non-medical and clinical aesthetics	**Entrepreneurship and the associated benefits** • What is the definition of enterprise? • A project, a willingness to take on a new project, an undertaking or business venture. • What is meant by being an entrepreneur? • Someone who organizes, manages, and assumes the risks of a business or enterprise. • Benefits to the economy and society- new businesses, employment opportunities, increased customer choice, improved business performance and choice	**The characteristics and objectives of an entrepreneur** • Characteristics of an entrepreneur- charismatic, driven, hardworking, motivated, dedicated, risk takers, enthusiastic, organised, innovative, good communicator, analytical ability, decision maker • Objectives of an entrepreneur- to be their own boss, to be in charge of their own destiny, to take risks, work flexibly, to pursue an interest, earn money for personal profit, identify a gap in the market that could help expand a personal vision, job and personal satisfaction • Well known hair and beauty entrepreneurs- Anita Roddick, Max Factor, Jeffree Star, Vaniti Parti, Vidal Sassoon

HISTORY

Week 1	Week 2	Week 3
Elizabeth and her Court **-The Court**- This was made up of rich nobles who followed Elizabeth around her many palaces. **- The Privy Chamber-** The Privy Chamber involved rooms in which Elizabeth spent her private time. Ladies in Waiting would attend to her needs here such as getting her dressed. **-The Privy Council**: The Privy Council were just advisors and Elizabeth had ultimate control, she enjoyed how they opposed each other as this meant they would not join up and oppose her. This method of control is known as control and conquer.	Elizabeth and the rebellion of the Earl of Essex -Essex was one of Elizabeth's favourites. He **defied** her by marrying without permission and attacking Lisbon with Drake. Elizabeth and her Parliaments **-Parliament much less important than today.** Elizabeth could rule by royal orders called **Proclamations.** If she wanted to raise taxes or change the law she had to ask Parliament. Many MPs were **Puritans**. (Very strict Protestants).	Elizabeth and local government **-Lord Lieutenant:** Ensured each county obeyed the law. Usually the most powerful noble in the county. Provided part-time soldiers when needed. **-Justice of the Peace (JP):** JP's were expected to keep law and order in their local areas as there was no official police force. Elizabeth and Propaganda: -**Censorship** is limiting what people can see or find out. Portraits, plays, preaching and printing presses were all tightly controlled to only show what Elizabeth wanted people to see.

HISTORY

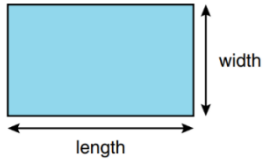
Week 4	Week 5	Week 6
<u>Elizabeth and the religious settlement</u> **- Elizabeth was a Protestant.** She was not a Puritan and still liked decorations and church music. She passed two laws in 1559: **Act of Supremacy** making her Supreme Governor of the Church of England **Act of Uniformity** which stated everyone should attend Church, Bibles and services must be in English.	<u>Elizabeth, the spy network and the Catholics</u> -Elizabeth was **excommunicated in 1570** (expelled from the Catholic Church). This increased the threat against her. Elizabeth increasingly relied on **Francis Walsingham** and his spy network to find out about threats towards her. Informers and torture were used.	<u>Elizabeth and Mary, Queen of Scots</u> **- Mary, Queen of Scots** was Elizabeth's Catholic Cousin. She fled Scotland in 1568 and was imprisoned by Elizabeth. **- The Throckmorton Plot (1583) and the Babington Plot (1586)** plotted to execute Elizabeth and put Mary on the throne. Mary, Queen of Scots was executed in February 1587. <u>Elizabeth and the Spanish Armada</u> The Spanish Invasion fleet was known as **the Armada.**

HISTORY

Week 7	Week 8	Week 9
Elizabethans and their contrasting lives **The Gentry** were 2% of the population but owned over 50% of the land. **The Middling Sort** were comfortable but less wealthy and powerful than the gentry. **The Labouring Poor** made up half the population. They struggled to make a living, and often went hungry. They lived in small, two roomed houses which were dark and smoky.	Elizabethans and poverty Rising populations, rising prices, low wages, failure of harvests, increasing unemployment and outbreaks of plague increased poverty. Those who could travel went looking for work or food. The number of **vagrant poor** (homeless labourers who travelled for work). Those who could not move were known as the **settled poor.**	Elizabethans and pastimes Theatres were popular for rich and poor. Parish Feasts and festivals were popular. Sports were violent and included Boxing, wrestling, bear and bull baiting, and football which had no pitches, few rules and lots of injury. Every village had an alehouse (a pub) where people sang and gambled. There were religious and farming festivals too.
Week 10	**Week 11**	**Week 12**
Elizabethans and witchcraft Supernatural beliefs helped people with challenges of daily life. Wise women used herbs and plants to cure illness. Elizabethans also believed supernatural powers could be dangerous. Historians give different reasons for the rise in witchcraft accusations:	Elizabethans and American colonies **Humprey Gilbert** claimed land in Newfoundland but did not set up a **colony (an area under control by another country**) **Walter Raleigh** planned a colony in **Roanoke**, Virginia on the East Coast of America. **The colony failed** because of losing many of their supplies and seeds at sea, local Indigenous leader **Wingina** became hostile and refused to keep giving them food when they had run out.	Key examination terminology **Interpretation:** Accounts of the past produced later in time. **Message:** What an interpretation is trying to suggest overall. You could ask if the interpretation is positive or negative. **Details:** What specific points are included? What does the writer or artist focus on? **Purpose:** What is this interpretation trying to achieve? Is it trying to educate or entertain? Who is the target audience?

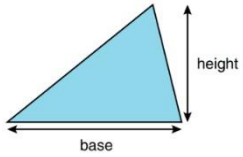
MATHS

Area of a Rectangle



$$length \times width = l \times w$$

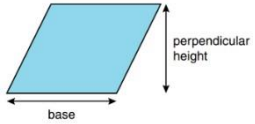
Area of a Triangle



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

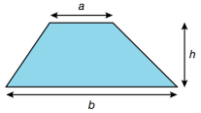
$$= \frac{bh}{2}$$

Area of Parallelogram



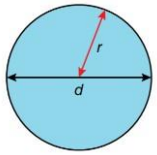
$$base \times perpendicular\ \ height$$

Area of Trapezium



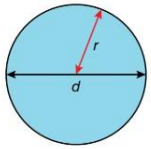
$$\frac{1}{2}(a + b)h$$

Circumference of a circle



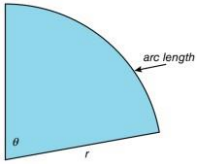
$$C = \pi \times d$$

Area of a circle



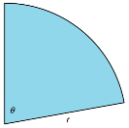
$$A = \pi \times r^2$$

Arc Length



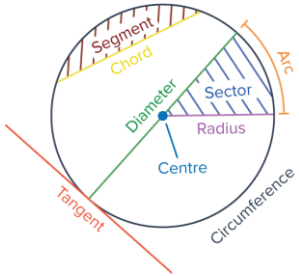
$$Arc\ Length = \frac{\theta}{360} \times \pi \times d$$

Area of a Sector

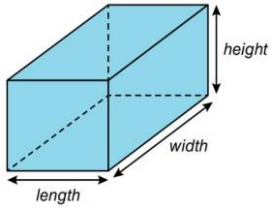


$$A = \frac{\theta}{360} \times \pi \times r^2$$

Parts of a circle



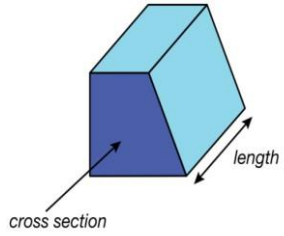
Volume of a Cuboid



$$Length \times width \times height$$

$$V = l \times w \times h$$

Volume of a Prism



$$Area\ of\ cross\ section \times length$$

Square Numbers

$1^2 = 1$

$2^2 = 4$

$3^2 = 9$

$4^2 = 16$

$5^2 = 25$

$6^2 = 36$

$7^2 = 49$

$8^2 = 64$

$9^2 = 81$

$10^2 = 100$

$11^2 = 121$

$12^2 = 144$

$13^2 = 169$

$14^2 = 196$

$15^2 = 225$

Cube Numbers

$1^3 = 1$

$2^3 = 8$

$3^3 = 27$

$4^3 = 64$

$5^3 = 125$

$6^3 = 216$

$7^3 = 343$

$8^3 = 512$

$9^3 = 729$

$10^3 = 1000$

Prime Numbers

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

19, 23, 29, 31,

37,…

HCF: Highest Common Factor

LCM: Lowest Common Multiple

Index Rules

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

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

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

$x^0 = 1$

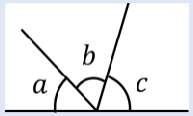
$x^{-a} = \frac{1}{x^a}$

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

MATHS

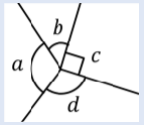
Angle Rules

Angles of straight line add up to 180°



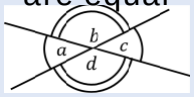
$a + b + c = 180$

Angles at a point add up to 360°



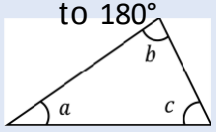
$a + b + c + d = 360°$

Vertically opposite angles are equal



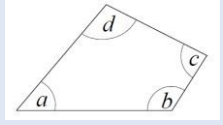
$a = c, \quad b = d$

Angles in a triangle add up to 180°



$a + b + c = 180°$

Angles in a quadrilateral add up to 360°



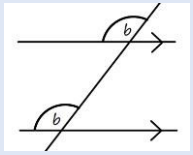
$a + b + c + d = 360°$

Angle Rules

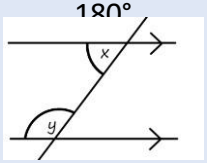
All exterior angles in a polygon sum to 360°

One exterior angle + one interior angle = 180°

Corresponding angles are equal

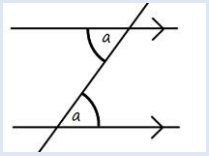


Co-interior angles add to 180°

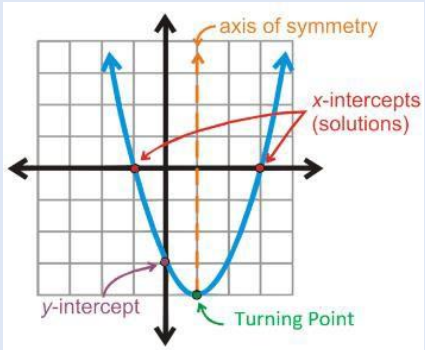


$x + y = 180°$

Alternate Angles are equal



Quadratic Graphs



Speed

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

Density

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

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

Gradient

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

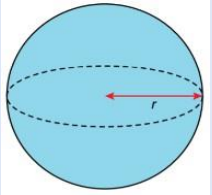
Compound Interest

P = principal amount
r = Interest rate
n = number of years/months/day

$$Total\ Accrued = P\left(1 + \frac{r}{100}\right)^n$$

HIGHER TIER ONLY

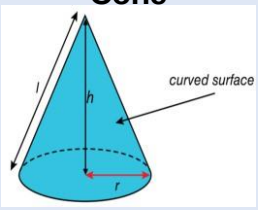
Sphere



$$S.A. = 4\pi r^2$$

$$V = \frac{4}{3}\pi r^3$$

Cone



$$Curved\ S.A. = \pi rl$$

$$V = \frac{1}{3}\pi r^2 h$$

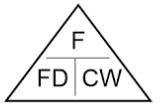
HIGHER TIER ONLY

General linear line equation

$y = mx + c$
Where m is the gradient and c is the y-intercept.

Frequency Density

$$\text{Frequency density} = \frac{\text{Frequency}}{\text{Class width}}$$

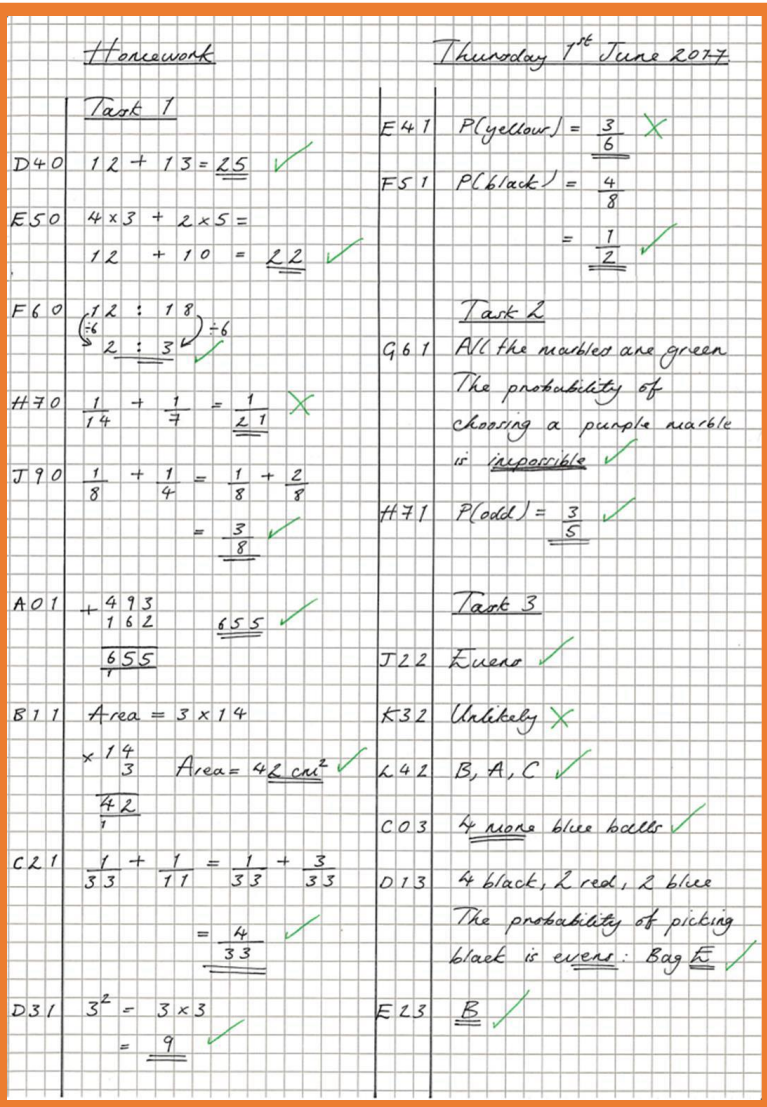


MATHS

1) Go to sparxmaths.uk
2) Login using your username and password
3) Complete your compulsory homework as follows:

- Write the bookwork code
- Write the question and then your workings and your answer
- Mark your answer in a different colour
- If you are struggling, **watch the video**
- Your homework is complete when you have answered **every** question correctly.
- If you are really struggling with one question, complete the other questions and ask your Maths teacher for help the next day or attend the Sparx Clinic.

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



MEDIA

MEDIA LANGUAGE

Media Language: the way in which the meaning of a media product is communicated to the audience.

Denotation: what you can see/hear – the sign
Connotation: what this suggests – the deeper meaning the audience

Denotation: Black rimmed glasses
Connotation: Clever, nerd, geek, intelligent, educated

We can divide codes of media language into three categories - these can help you to understand the meanings of a media product.

VISUAL	LANGUAGE	TECHNICAL
Colour & Lighting	Typography	Shot size: WS, LS, MLS, MS, MCU, CU, ECU, POV, BEV
Props	Slogans	
Setting/Locations	Captions	Camera angles
Facial expressions	Lexis (word choice)	Camera movement
Body Language	Emotive language	Framing
Costume, Hair, MU	Persuasive Language	Juxtaposition: 2 separate signs that together create a contrasting meaning
Images	Capitalisation (or not)	

MEDIA REPRESENTATIONS

Representation: the description or portrayal of someone or something in a particular way. Representation is not a 'window to the world' – it is how the media producers want you to see the world! Representation is the process of how reality is constructed for an audience (this is known as **Mediation**).

EVENT
Something happens
e.g. USA win many medals in the Olympics but the UK have won more Gold medals

MEDIATION
The slant put on the event by the media *e.g. The USA are 'winning' the Olympics due to the amount of medals they have but this is not 100% accurate.*

REPRESENTATION
This is how the event is presented by the media.
e.g. Fox News reports that USA are 'winning' the Olympics.

Representation often includes **stereotypes** but to be completely fair in the media these need to be avoided. Stereotypes are a widely held, often negative and **over simplified image** or idea of a particular type of person or thing.
E.g. Teenagers are often represented as unruly, rude, lazy, disrespectful & defiant.
Although these are negative, stereotypes are used in media products so that the audience quickly recognise the characters and can pick up the narrative easily.
When analysing representation, we can look to see whether texts are supporting (using) or subverting (challenging) stereotypes. We can look at the following areas:

GENDER AGE SEXUALITY ETHNICITY SOCIAL GROUP

MEDIA PERSPECTIVES (THEORY)

LEVIS STRAUSS: Binary Oppositions
Binary opposites are a pair of related concepts which are opposite in meaning. E.g. good & bad, black & white, masculine & feminine.

PROPP: Character Types
Propp identified seven character archetypes: the villain, the donor, the helper, the princess, the dispatcher, the hero, and the false hero.

LAURA MULVEY: The Male Gaze
The male gaze refers to the way women are objectified by the camera lens because men are in control of the production process and make decisions that appeal to their own values and interests. The audience, including women, are then positioned to accept this narrow representation.

ANALYSING

KEY TERMINOLOGY:
Connotation - Low key lighting ***has connotations of/connotes*** a dark theme/story
Conventions - Horror films ***conventionally*** feature a villain and threatening sound
Stereotypical - Boys ***stereotypically*** like sports, cars and video games. Girls ***stereotypically*** like the colour pink, fashion and make up.

Try using **DEL** to help structure your ideas:

DESCRIBE - the representation constructed

EXPLAIN - support with specific evidence - how has media language been used to construct this representation

LINK - to the overall context/meaning

MEDIA

WEEKS 1&2

- **Representations and Stereotypes**

(See Representation box on previous page)

Stereotype:	A widely held and over simplified image or idea of a particular type of person or thing.
Counter stereotype:	A representation that challenges a stereotype.
Archetype:	A very typical example of a certain person or thing. For example a male archetype would be very masculine, tall and muscly, strong and powerful with short hair.
Subvert:	To challenge or show the opposite.

WEEKS 3&4

WEEKS 5&6

- **GQ Magazine Context**

Published monthly by Condé Nast, British GQ sells itself as "The greatest magazine around. The men's magazine with an IQ. Whether it's fashion, sport, health, humour, politics or music, GQ covers it all with intelligence and imagination."

WEEKS 7&8

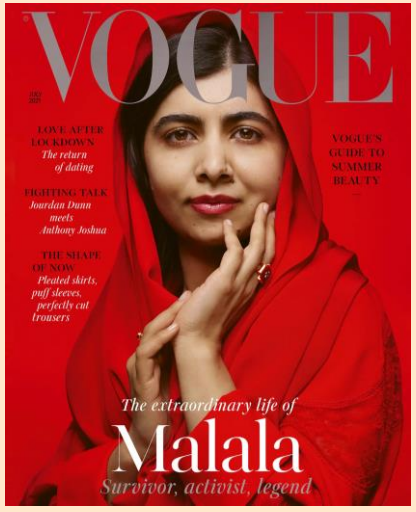
- **Media Language in Magazine Covers**

Star vehicle:	the celebrity/famous cover star
Typography:	font style, size, colour & position
Layout:	how different elements are positioned
Colour palette:	the main 2 or 3 colours used
Anchorage:	the words that go along with images to give those pictures a certain meaning in a specific context
Cover lines:	the lines on a magazine cover that tell you what the magazine contains
Lexis:	word choice (language techniques)

SERIF **SANS SERIF** Script

Binary Oppositions Theory: See page 1

WEEKS 9&10



- **Vogue Magazine Context**

Published monthly by Condé Nast, Vogue is classed as a glossy, monthly, women's lifestyle consumer magazine. "British Vogue is the authority on fashion, beauty and lifestyle, and is a destination for women to learn, be challenged, inspired and empowered.

WEEKS 11&12

- **Component 1 Section A Question 2 (25marks)**

SUGGESTED STRUCTURE: Use DEL to help with each paragraph

(See p1)

Introduction: overall sentence **comparing** the representation in the two covers
Paragraph 1: a similarity, with examples and explanations for both covers
Paragraph 2: a similarity, with examples and explanations for both covers
Paragraph 3: a difference, with examples and explanations for both covers
Paragraph 4: a difference, with examples and explanations for both covers
Conclusion: make a **judgement** about **HOW FAR** they are similar/different representations

MEDIA

WEEK ONE

- **Gaming Industry Terminology**

Revenue: The amount of money a company makes from sales.

Franchise: a collection of linked media products derived from single original source.

Augmented reality: Technology that allows pictures of virtual objects to be overlaid onto images of the real world.

Horizontal integration: Where an organisation buys other companies in the same sector that produce similar products.

Technological convergence: bringing previously unrelated technologies together, often in a single device.

WEEK TWO

- **Epic games Context**

Epic Games was started by Tim Sweeney in 1991 and was originally run from his parent's house.
In 2014, the Guinness Book Of Records named Unreal Engine as the 'most successful videogame engine'.
Epic Games owns video game developer Chair Entertainment and cloud-based software developer Cloudgine, and has sub- studios in the UK, Japan, and Germany.
Tencent - a Chinese investment company focused on internet and AI development - bought a 42% stake in Epic in 2012.

WEEK THREE

- **Game Funding & Profit Models**

Games as a Service (GaaS): where there is a constant revenue stream from 'in- game purchases' after the initial purchase.

Micro Transactions: where users can purchase in-game virtual goods with micropayments.

Season Passes: like a subscription that allows you to access new content over the course of a period of gameplay (the 'season') that play-for-free users can't access.

Merchandise: to produce and sell products connected with a popular film, event, game, etc.

Licensing Deal: agreements that grant the right to use intellectual property, such as characters, brands, or technologies, in games.

WEEK FOUR

- **Regulating Video Games**

PEGI Pan European Game Information

FORTNITE

12 TM www.pegi.info

In 2012 the PEGI system was incorporated into UK law and The Video Standards Council was appointed as the statutory body responsible for the age rating of video games in the UK using the PEGI system.
Fortnite has the PEGI rating of 12 for "frequent scenes of mild violence".

WEEK FIVE

- **Audience Theory**

Effects Theory: Bandura believed that children would learn & copy behaviour that they saw, particularly violent behaviour.

Stuart Hall: Said media audiences were active and not passive. **Active** is when an audience is engaging, interpreting, and responding to media messages and can question the message. **Passive** is when an audience accepts a message without question and by doing so would be directly affected by it.

WEEK SIX

- **Uses & Gratifications Theory**

Blumler & Katz's theory suggests there are certain reasons why an audience responds to different media texts. We can use **PIES** to help us to remember them:

Personal identity: relating to a character or situation
Information: finding out information
Entertainment: escaping from daily lives
Social Interaction: discussing with others

MEDIA

WEEK SEVEN

- **Radio Industry Terminology**

PSB:	A Public Service Broadcaster aims to serve the public rather than make a profit.
Commercial:	Stations funded by advertising.
Remit:	the task or area of activity officially assigned to an individual or organization.
Ofcom:	The organisation that regulates UK TV & Radio.
Convergence:	when two or more things come together to form a new whole.
License Fee:	the charge for anyone in the UK who watches terrestrial TV or accesses iPlayer.
RAJAR:	the organisation that measures radio audiences in the UK.

WEEK EIGHT

- **The BBC & Radio 4**

✓ In the UK, BBC radio is funded by the licence fee. The BBC has a public service remit: **to educate, inform and entertain**.
✓ It has 8 UK-wide TV channels
✓ It has 10 national radio stations, BBC World Service & about 40 local radio stations
✓ Catch up services such as iPlayer & the Sounds app
✓ **Radio 4** – mostly speech-based station (news, current affairs, factual, drama & comedy series)
✓ **Radio 4** "should appeal to listeners seeking intelligent programmes in many genres which inform, educate & entertain.

BBC

WEEK NINE

- **The Archers Context**

BBC RADIO 4

The Archers is aired on Radio Four, the BBC's main spoken-word channel, and so is funded by the licence fee.
The Archers was originally established in 1951 to educate farmers. The show soon became a major source of entertainment for people from all walks of life, not just the rural community. However, the show still prides itself on the quality of its research and its ability to portray real rural life.
Radio Four has a high cultural status and so the audience for The Archers consists mainly of well-educated middle-class professionals, most of whom are middle aged and above, white women.

WEEK TEN

- **Convergence**

There are a number of ways for fans to engage with the show:

✓ Regular Radio 4 slot
✓ Sunday omnibus
✓ BBC Radio 4 Extra repeats
✓ Podcast
✓ iPlayer
✓ BBC Sounds App
✓ BBC Website The Archers' page
✓ Twitter
✓ Facebook

BBC SOUNDS

iPLAYER

WEEK ELEVEN

- **Episode Terminology**

Controversy:	a lot of discussion and argument about something, often involving strong feelings of anger or disapproval.
Narratives:	storylines.
Melodrama:	a sensational dramatic piece with exaggerated characters and exciting events intended to appeal to the emotions.
Omnibus:	a broadcast of a programme that normally includes all episodes from a particular week, allowing audiences to catch up in one go.

WEEK TWELVE

- **Uses & Gratifications Theory**

Blumler & Katz's theory suggests there are certain reasons why an audience responds to different media texts. We can use **PIES** to help us to remember them:

Personal identity: relating to a character or situation
Information: finding out information
Entertainment: escaping from daily lives
Social Interaction: discussing with others

PE

Week 1 and Week 2

How much to eat?

On average, men need around 2,500 calories (Kcal) a day while women need around 2,000.

	Function	Examples
Carbohydrates	Provide quick and efficient energy for movement.	Fruit, honey, biscuits, bread, rice, pasta, cereals.
Proteins	Repair, growth and efficient working of all the body tissues.	Meat, fish, dairy, lentils, nuts, seeds.
Fats	Provide energy very slowly, protect vital organs and help prevent heat loss.	Meat, cheese, cream, fish, nuts.

Employability

Your ability to gain employment. Employability is having a set of skills, knowledge, understanding and personal attributes.

Week 3 and Week 4

The components of a balanced die

Minerals	Essential for many processes such as bone growth/strength, nervous system, red blood cells, immune system. Need small amounts only.	Calcium – milk, canned fish, broccoli; iron – watercress, red meat, nuts; potassium – bananas, pulses, white meat.
Vitamins	Vital for the production of energy, the prevention of disease and the working of the metabolism. Need small amounts only	A – liver, dairy, green veg, yellow fruit; B – vegetables, wholegrain cereals, peanuts; C – citrus fruit, vegetables; D – oily fish, eggs.
Fibre	Effective bowel function and healthy digestion	Fruit, vegetables, nuts, cereals

Managing Time

Planning and controlling time spent on specific tasks to increase efficiency. Setting deadlines,
writing to do lists, and giving yourself small rewards for accomplishing certain activities.

Week 5 and week 6

. The components of a balanced diet

Water	Main component of blood and cells, helps carry nutrients and remove waste products, helps regulate body temperature.	Fluids and foods.

The importance of water

The body needs to be **hydrated** to stay healthy. Fluid is lost in sweat, urine, faeces and exhaled air. Failing to replace lost fluids can result **in dehydration.**

Commitment

An agreement or promise to do something in the future. Work commitment is the level of enthusiasm you give towards your tasks assigned.

Week 7,8,9 and 10

Hydration and physical activity

Taking in fluids regularly and maintaining the body's hydration levels is extremely Lack of fluids (dehydration) has the following negative effects on the performer:

- Tires (fatigues) and slows down the performer.
- skill level decreases
- loss of motivation
- become thirsty.
- (muscle) cramps
- decrease in sweating.
- increase in body temperature.
- (in extreme cases) death

However, by drinking regularly during exercise, athletes can prevent these declines in concentration and skill level, reduce fatigue, prevent excessive increases in heart rate and body temperature and improve performance.

Drive and initiative

Initiative is the ability to be resourceful and work without always being told what to do. It means your using your head and have the drive to achieve.

Analysing

To study or examine something in detail to discover or understand more about it,

Week 11 and Week 12

Carbohydrate loading

Carbohydrates provide energy. The complex carbohydrates – starches – are stored in the body as *glycogen* and converted into *glucose* when the body needs more energy.

High-protein diets

Protein builds tissue, including muscle. Athletes who want to build up their muscle during strength- training sometimes eat high-protein diets. This includes obvious strength-training athletes, such as weightlifters, but also includes endurance athletes who want to repair or prevent torn muscle.

Teamwork and communication

Good communication in teams develops trust, builds camaraderie among the team members, boosts morale, and helps employees stay engaged in the workplace.

PHOTOGRAPHY

Week 1 Capturing & Recording

Key Words

Identity: capture the sense of who you are and your friends as individuals through how you are perceived.
Adolescence: is a traditional stage of physical and psychological development that generally occurs during the period from puberty to adulthood.
Portrait: depicting only the face or head and shoulders.

Carolyn Mendelsohn
https://www.carolynmendelsohn.com/
Carolyn Mendelson explores the lives of young people living in Bradford from 12 years old and upwards.

Respond further by capturing your immediate family members.

Week 2 Replicating Photos of Others

Key Words

Portraiture: focuses on capturing the essence, personality and mood of the person or groups of people.
Black & White Photography: uses varying shades of gray,
from pure black to pure white to create images that emphasize contrast and texture.
Catchlight: is the reflection of the light source in a subject's
eye, which can bring life and depth to a portrait by adding a sparkle that draws your attention to the eyes.

Lee Jeffries
https://lee-jeffries.co.uk/
Lee Jeffries captures the lives of homeless individuals, capturing their raw emotions and humanity through his evocative, yet intermate imagery.

Respond further by photographing your grandparent.

Week 3 Researching a Photographer

Key Words

Candid: captures the spontaneous and unposed moments of genuine expression and natural interaction within the subject matter.
Still-Life: This genre of photography involves the artistic
arrangement of inanimate objects focusing on composition, lighting and texture.
Symbolism: involves using visual elements and compositions
to represent a deeper meaning or concepts beyond their literal appearance.

Nan Goldin's
"My Bed" series intimately documents her own life and relationships through raw and unfiltered photographs of her unmade bed

Respond further by photographing your own bedroom space

PHOTOGRAPHY

Week 4 Capturing & Recording

Key Words

Nostalgic: Nostalgia evokes a wistful longing for the past through visual cues such as vintage aesthetics or soft tone to transporting the viewer to sentimental memories and emotions. **Tone:** tone refers to the overall mood or atmosphere conveyed through the use of light, shadow, colour and composition, shaping the emotional impact of an image.

Composition: refers to the arrangement of elements within a frame to create a visually appealing and balanced image that informs the viewer through a narrative or focal point.

Alice Hutchison & **Ilona Savchenko**'s "Trophy Girl "
explores the underrepresentation of women in sport and the aspirations of teenage girls that fall by the wayside

Week 5 Researching a Photographer

Key Words

Rebellion: succinctly challenging the norm and expectations through a concise expression.

Doodling: is a spontaneous and often unconscious form of
drawing that reveals and gives us an insight into the doodler's thoughts and imagination, disrupting conventions and boundaries of visual art.

Graffiti: encompasses diverse range of styles and messages, challenging conventional notions of public space and serves as a powerful form of urban expression.

Jose Romussi
is an artist that uses found imagery of fashion and beauty photography and overlays them with opaque embroidery that alters the original meaning of the photograph

Week 6 Replicating Photos of Others

Key Words

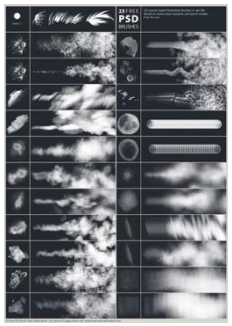
Symmetrical: a composition that is balanced and in harmony by mirroring evenly on either side of the frame.

Random Composition: an arrangement that has no deliberate
plan, resulting in intriguing visual narratives that challenge conventional perspectives.

Colour: plays a pivotal role in conveying emotion, setting and
mood, it adds depth to visual compositions through is hues, contrasts and harmonies.

Adam Voorhes
https://www.voorhes.com/
the photography due Adam Voorhes and Robin Finlay explore still-life, food and beverages

PHOTOGRAPHY

Week 7 Capturing & Recording	Week 8 Recording & Refining	Week 9 Recording & Refining
Key Words **Collage:** describe both the technique and resulting work of art in which pieces of paper, photographs or other materials are arranged and stuck down onto a supported surface. **Scale:** Scale refers to the relative size of an element in a design when compared to other elements. **Destroy:** Destroying or vandalising of any art work is intentional damage to create a chosen effect.  https://www.behance.net/gallery/78402901/NIKE-REACT-IG- CAMPAIGN	**Key Words** **Photoshop Brushes**: is a digital paintbrush, allowing you to add, modify, and retouch elements in your images with precision and creativity. **Surface:** refers to the tangible structure/texture of a image/painting area or digital or hand drawn paper upon which one works to create an image. **Manipulate:** is a process of digitally or physically editing an image to make it appear different.   https://www.behance.net/mozolewski	**Key Words** **Abstract Design:** In the abstract style, various elements of design are put together to create an interesting composition that could lead the viewer to think or react in a certain way, even though it doesn't look like a specific object. **Bleed:** In the print design world, bleed is printing that goes beyond the edge of where the sheet will be trimmed. **Colour:** Using colour in graphic design to create contrast is powerful for three main reasons: Colour contrast attracts the eye because it creates visual interest. Conflicting colours look like glaring errors, while complementary colours are subtle yet clear to the subconscious mind.  **https://www.behance.net/gallery/49519061/Motivation- poster**

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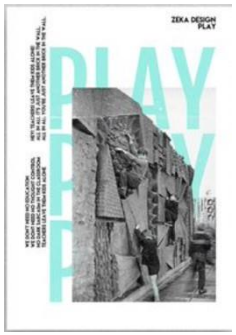
PHOTOGRAPHY

Week 10 Recording & Refining	Week 11 Recording & Refining	Week 12 Refine- Final Piece
Key Words **Gradient:** The **Gradient Tool** creates a gradual blend between multiple colours. You can choose from present gradient fills or create your own. **Tone:** Use layers to perform tasks such as compositing multiple images, adding text to an image, or adding vector graphic shapes. Add a layer style for special effects, such as a drop shadow or a glow, or sharpen objects; change the opacity of a layer to make the content on it partially transparent. **Design:** design, refers to something that is or has been intentionally created, although it is sometimes used to refer to the inherent nature of something – its design.   https://www.pinterest.co.uk/zeka_design/	**Key Words** **Adolescent:** a young person in the process of developing from a child to an adult. Doddle: to waste time: idle: trifle or loiter, in this case to doddle on a piece of paper to kill time! Illustration: a picture or diagram that helps make something clear and attractive.   https://www.markpowellartist.com/	**Key Words** **Era:** An era is a span of time defined for the purposes of chronology or historiography. **Youthhood:** the fact, condition, state, or time of being **Self-Reflection:** Self-reflection is like looking into a mirror and describing what you see. It is a way of assessing yourself, your ways of working, thinking, influences and behaviours.   Flyers, Objects and Ephemera Incorporating over 15,000 flyers and zines documenting historic concerts, raves and events from Hippies to 2Tone, to Acid House, the Subculture Archives chronicles the design and visual communication of youth cultures' self expression through printed and paper means from the 1960s to present day. From moral panic stricken newspaper front covers, to customised clothing and school satchells, all browsable online. https://www.museumofyouthculture.com/

RE

Weeks 1 and 2

How Hindos Understand Brahman:
The Supreme God and ultimate reality, responsible for the creation of the universe. Brahman is present in all things at all times and is represented in different ways

Trimurti:
The three divine manifestations of Brahman and the principle of Gods of Hinduism.

Brahman – The Creator, responsible for the creation of life
Vishnu – The preserver, responsible for maintain and existing life and helping it flourish
Shiva – The Destroyer, responsible for the death and destruction necessary for new life

Weeks 3 and 4

Avatars:
Manifestations of the Trimurti into different aspects. Each of the Trimurti has thousands of Avatars that exemplify particular aspects of that god.
E.g. Ganesh, the Elephant headed god of prosperity and wisdom is an Avatar of Shiva.

Murti:
Statues used to house the Avatars. Used in temples and at home as a focal point of Hindu Worship. Murti are treated with great reverence and respect.

Puja:
Ritual offerings made to Murti statues where each offered item carries particular meaning and significance.
E.g. Flowers represent life and beauty.

Weeks 5 and 6

Lesson 3 - Euthanasia

Karma:
The Hindu belief in the cosmic recording of our good and bad actions in life.

Karma affects the state of your soul's rebirth.

Caste:
The Hindu cultural class system which is divided into multiple levels. Your caste is determined by your karma and so there are very strict rules around marriage and employment.

Moksha:
The end to the cycle of rebirth where a Hindu's soul becomes one with Brahman. This is the goal of all Hindus..

Weeks 7 and 8

The four stages of life as understood by Hindus, each contains certain roles and responsibilities.

Brahmacharya: The Student
Young Hindus must learn skills and develop into good people.

Grhastha: The Householder
Hindus work and start their own families.

Vanaprastha: The Elder
Stepping back from running the household, offering support to their children.

Sannyasa: Renunciation
Hindus leave their families for the remainder of their lives to focus on God.

Weeks 9 and 10

Key features of the Hindu temple:

Murti - statues of deities used in devotional worship.

Shrines - alcoves and altars where the Murtis are placed.

Arti Lamps - lit butter lamps used as part of ritual practices.

Bells - used to awaken the deities.

Prayer Hall - gathering space for Hindu worship.

Vedas - Sacred texts of Hinduism.

Weeks 11 and 12

The Hindu festival of Light
One of the principle religious festival in Hinduism that is also observed by other Eastern religions too.

Purpose:
Diwali retells the mythical story of the hero Rama rescuing the princess Sita from the demon king Ravana.

Practices:
Hindus decorate their homes with lights and colours, exchange new clothes, give sweet treats to neighbours and gather as families to pray at the temple. Firework displays are often used to celebrate Diwali.

RE

Weeks 13 and 14

Meditation:
The practice of mindfulness aimed at helping a Hindu gain a better understanding of God and creating a deeper connection with the universe.

Yoga:
More than just stretching! Yoga practices use posture and endurance to encourage meditative states of mind.

Westernisation:
The act of making things acceptable for Western audiences.

SEPARATE SCIENCE

Year 10 Science Knowledge Organiser Learning Cycle 1

Key words	Definition
Independent variable	The variable you change in an investigation
Dependent variable	The variable you measure in an investigation
Control variable	The variable you keep the same in an investigation
Hypothesis	A prediction of what will happen in an investigation
Reliability	We use control variables to ensure a reliable experiment
Reproducible	To re-do our experiment and get similar results due to a reliable method
Mean	Doing an experiment 3 times then dividing by 3 to get an average
Fair test	An experiment where only the independent variable changes.
Anomalous result	Result that does not fit with the rest of the data.

1. Designing and performing experiments

1. ***Repeatable*** – The **same** person gets the **same results** after repeating the experiment using the same method and equipment.
2. ***Reproducible*** – Similar results can be achieved by **someone else** or using a **different method**/piece of equipment.
3. ***Accurate*** – Results are close to the true answer
4. ***Precise*** – data is **close** to the **mean** (or the average!)

For data to be reliable, it must be **repeatable** and **reproducible**

2. The Variables

Independent variable – the thing we change!

Control variables – these are things we **keep the same** to ensure a reliable experiment (one we can repeat and reproduce.

Dependent variable – the thing we are **measuring** overall.

Variable | Example

Independent variable – I want to see if how hot water is increases the rate of diffusion from a teabag. So, I am changing the temperature (degrees Celsius) of water.

Control variables – I want **keep everything else the same**, e.g., the type of teabag, the volume of water (mL) used, the timer started at the same time, the same end point.

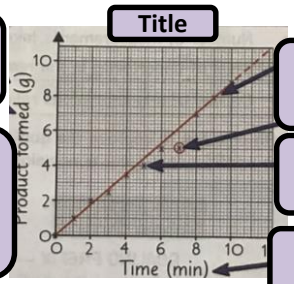
Dependent variable – I want to know if increasing water temperature increases the rate of diffusion from a tea bag. Therefore, I want to **measure** the rate of diffusion!

3. Presenting Data

- Scale – evenly spread
- Plot – draw with a small, neat 'x'
- Line of best fit
- Axis – both X (bottom) and Y (side) axis have titles and units!
- Title

Axis: Dependent variable on Y-axis with Unit.

We must always draw a graph with a pencil and a ruler!



Line: Line of best fit through near to as many points as possible.

Plot: Mark points with small, neat crosses

Axis: Independent variable in the X-axis with unit.

Drawing conclusions from data:

1. State the **relationship** between the independent and dependent variable, e.g., '**as the time increases the product formed increases.**'
2. **Use statistics to support your answer.** 'For example, at 10 minutes there was 50g of product, compared to 160g at 20 minutes'
3. **Refer to the original hypothesis – does the data support this?**

When **evaluating** think of the **positives** and **negatives** of the method (the validity - did they use enough controls? And of the results – were results **reliable**, **accurate**, **reproducible**?) and come to an overall **conclusion**.

SEPARATE SCIENCE

Week 1	Week 2	Week 3
Ecology **Trophic level** – a **stage** in a **food chain** **Pyramid of biomass** – a **diagram** showing the relative amount of **biomass** at each **trophic level** **Efficiency of biomass transfer** (%) = biomass transferred to the next level/biomass available at the previous level x 100 **Decomposers** – **organisms** that help the process of **decomposition**, eg. Bacteria and fungus **Decay** - When plants wither and die. **Decomposers** - Organisms which **eats dead organisms**, **fallen leaves**, **animal droppings**, and breaks them down into simpler materials. **Biogas** – produced by **anaerobic decay** – mainly made up of **methane** **Global warming** – gradual **increase** in **average temperature** of the **Earth's surface** **Biodiversity** – the **variety** of **different species** on Earth, or within an ecosystem **Deforestation** – **cutting down** of forests **Food security** – having **enough food** to feed a **Population** **Intensive farming** - Farming methods that usually involve **monoculture** (growing one crop) and using **pesticides** and **fertilisers** to improve crop yield. **Sustainable** - An activity which **does not** consume or destroy resources or the environment. **Biotechnology** - use of **selective breeding** and **genetic modification** techniques in farming.	**Homeostasis** **Reflex** – **automatic** and **rapid** response to a stimulus, which minimises any damage **Synapse** – **Gap** between **neurons** **Neurones** – **cells** that carry information as **electrical impulses** in the nervous system **Central nervous system** (CNS) – consists of the brain and spinal cord. **Cerebral Cortex** – Outer, highly folded part of the brain that **controls conscious thought** **Cerebellum** – Controls **movement**, **balance** and **muscular activity** **Medulla** – Controls **unconscious activities** such as heart rate and breathing rate. **Accommodation** – The process of **changing** the **shape** of the **lens** to focus on near or distant objects **Pupil reflex** – The size of the pupil changes in **response** to bright or dim light **Homeostasis** – maintenance of a **steady internal environment**, involving regulation of the conditions inside your body and cells **Hormone** – **Chemical messenger** produced in **endocrine glands** **Endocrine system** – made up of glands that secrete **hormones** into the **blood stream** and carries them to the **target organs**. **Target organ** - The organ with **receptor** molecules on its **cell surfaces** which recognise a **specific hormone**.	**Homeostasis** **Glycogen** – Animals **store glucose** as glycogen in their **liver** and **muscle** tissues. **Insulin** – A hormone that **regulates** the level of **sugar** in the **blood** **Diabetes** - A serious disease in which the body is **unable** to **regulate blood sugar**. **Glucagon** – A hormone that causes the **conversion** of **glycogen** to **glucose** **Vasodilation** – Blood vessels near the surface of the skin **widen**, allowing **more blood** to flow through them **Vasoconstriction** – Blood vessels near the surface of the skin **constrict**, allowing **less blood** to flow through them **Urea** – **excess proteins** are **deaminated** in the liver to form **ammonia**, which is converted into **urea** **Ultrafiltration** – process by which the **glomerulus filters** water, ions, glucose and other small molecules from the **blood**. **FSH** – Causes an **egg** to **mature** in the ovary **LH** – Stimulates the **release** of an **egg** from the ovary **Contraception** – methods of **reducing** the likelihood of **sperm** reaching an **ovulated egg** **IVF** - brings **sperm** and the **egg together** to create an **embryo**, which is placed into the woman's womb **Auxin** – a **plant hormone** that **controls growth** near the tips of shoots and roots.

SEPARATE SCIENCE

Week 4

Structure and bonding

Particle Model

- Solids are **regularly arranged** with particles **close together** that **vibrate on a fixed spot**.
- Liquids are **randomly arranged** with particles **close together** that **move around each other**.
- Gases are **randomly arranged** with particles **far apart** that **move quickly in all directions**.

Changes of State

- (s) – solid
- (l) – liquid
- (g) – gas
- (aq) - aqueous
- The amount of energy needed to change state is linked to the strength of the force of attraction between the particles; **stronger force = higher melting/boiling point**.

Ions:

- **Metals** lose electrons to **form positive ions**.
- **Non-metals** gain electrons to **form negative ions**.

Week 5

Structure and bonding

Ionic compounds

- Have a **giant ionic lattice** structure.
- Have **high melting points** and **high boiling points**.
- **Conduct electricity** when **molten** or **dissolved** in a solution.

Metallic Compounds

- Have **high melting points** and **high boiling points** (except mercury)
- Are good **thermal conductors** and **electrical conductors**.
- Are relatively **soft** and **malleable**.
- **Alloys** are **mixtures** of a **metal** with at least one **other element** and are relatively **harder than pure metals**.

Simple Molecular Substances

- Have **low melting points** and **low boiling points** and **don't conduct electricity**

Giant Covalent Structures

- Have **high melting points** and **high boiling points**.
- **Do not conduct electricity** (except graphite).
- **Diamond, graphite** and **graphene** are examples of giant covalent structures

Ionic Bond: electrostatic force of attraction between oppositely charged ions.
Metallic Bond: electrostatic force of attraction between the regular lattice of metal cations and the delocalised electrons.
Covalent Bond: a shared pair of electrons between two non-metal ions.

Week 6

Structure and bonding

Polymers

- Are **very long chains** of **repeating units**.
- Are typically **solid** at room temperature.

Nanotechnology

- Uses include medicines, cosmetics, sun cream, deodorants, electronics and as catalysts.
- Have a **high surface area to volume ratio**.

Chemical changes

Acids and Alkalis

- **Acids** produce **hydrogen ions** (H^+) in aqueous solutions.
- **Alkalis** produce **hydroxide ions** (OH^-) in aqueous solutions.
- **Strong acids fully ionise** in aqueous solutions.
- **Weak acids partially ionise** in aqueous solutions.

Titrations

- Burettes and pipettes are used to measure volumes of solutions as they are more accurate.
- $1000cm^3 = 1dm^3$
- moles = concentration x volume

Allotrope: different structural form of an element. Intermolecular force: a relatively weak force that holds molecules together.

SEPARATE SCIENCE

Week 7	Week 8	Week 9
Chemical changes Reactivity of Metals • The **reactivity of a metal** is determined by how **easily** it forms a **positive ion**, • **Heating with carbon** is used to **extract metals less reactive** than **carbon** from their ores. • **Electrolysis** is used to **extract metals** that are **more reactive than carbon** from their ores. Oxidation and Corrosion • **Corrosion** is when a metal is **oxidised**. • **Rusting** is when **iron corrodes** in the presence of **oxygen** and **water**. • **Corrosion** is **prevented** by **creating a barrier** or **sacrificing a more reactive metal**. Electrolysis • **Positive ions** (cations) are attracted to the **negative electrode** (cathode) where they are **reduced**. • **Negative ion**s (anions) are attracted to the **positive electrode** (anode) where they are **oxidised**. • The extraction of aluminium from its ore requires the ore to be mixed with **cryolite** to lower the melting point of the ore. Electrolyte: a liquid or solution that conducts electricity	**Electricity** • **Friction** between two **insulating materials** can produce a **static charge**. • A **negatively** charged insulator has **gained electrons,** whilst a **positively** charged one has **lost electrons.** • A charged object creates an **electric field** around itself, which will **exert a force** on any **charged objects** entering the field. • Objects with **opposite** electric charges will **attract** one another; those with the **same** charge will **repel**. • A **spark** is caused when the **potential difference between** the charged **object** and the **Earth** is great enough to **ionize the air.** • **Potential Difference** (Voltage) is the difference in energy per unit charge **across 2 points** in a circuit. • It is measured in **volts (V)** using a **voltmeter.** • In a **series** circuit the potential difference across the power supply equals the **total potential differences** across the components. • In a **parallel** circuit the potential difference across the power supply **is equal to** the potential difference **across each branch.** • Circuit components make the flow of current more difficult. This is known as **resistance**, measured in **Ohms (Ω)**.	**Electricity** • The resistance of a wire **increases with increasing length** but **decreases with increasing diameter**. • **Filament lamps** are designed to have **very high resistance**. Thermal energy is stored in the filament, making it **hot enough to glow**. Types of resistor: o In an **Ohmic conductor**, **current is directly proportional to potential difference** at a constant temperature. o In a **filament lamp**, **resistance increases as temperature increases**. This **reduces the current** at high potential differences. o A **diode** is a component that only allows **current to flow in one direction**. o The **resistance of an LDR** (Light Dependent Resistor) **decreases as light intensity increases**. o The resistance of a **thermistor decreases as temperature increases**. • The National grid transfers energy from a power station; through a **step up** transformer (greatly **increasing** the potential difference); through transmission lines; through a **step down** transformer (greatly **decreasing** the potential difference), to homes. • Domestic energy in the UK is provided as Alternating Current (AC), at a **frequency of 50 Hz and a potential difference of 230v**.

SEPARATE SCIENCE

Week 10	Week 11	Week 12
Waves and the Electromagnetic spectrum • Waves transfer **energy** and **information**, but not matter. • **Transverse** waves oscillate **at right angles** to the direction of travel. • **Longitudinal** waves oscillate in the **same direction** as the direction of travel. • The **amplitude** of a wave is its **maximum displacement from its rest position**. • **Wavelength** (λ) is the distance between the same point on two adjacent waves. • **Frequency** is the number of complete waves passing a fixed point per second. The **unit** of frequency is the **Hertz** (Hz), where 1 wave per second = 1Hz. • The **period** of a wave is the time taken for **one complete wave** to pass a fixed point. • At the **boundary** between two materials, a wave might be **absorbed, reflected or transmitted.** • **Refraction** is a **change in the direction** of travel of an **electromagnetic wave** at a boundary as the wave **speed changes** in different media. • **Sound** waves travel through **particle vibrations** in solids, liquids or gases. • **Sound** waves travel **faster** through **more dense** media. • **Hearing is a result of vibrations transferred to the ear drum.** • Human hearing is typically limited to a frequency range of 20Hz to 20kHz. • **Ultrasound** waves have a **frequency greater than 20kHz** and are used for imaging. • **Seismic** waves are produced by **earthquakes**. **P- waves** are **longitudinal** whilst **S-waves** are **transverse.**	**Waves and the Electromagnetic spectrum** • Electromagnetic waves **travel faster in less dense** media. • **Electromagnetic waves** form a continuous spectrum, with their **wavelength decreasing as their frequency increases**, radio waves having the longest wavelength and gamma rays the shortest. • **Radiowaves** are produced by **oscillations in electrical circuits** and are used for communication and **broadcasting**. They can **also induce oscillations** in circuits. • **Gamma rays** are produced by **changes in atomic nuclei.** • Other electromagnetic waves are produced by changes **in the energies of electrons**. • **Microwaves** are used for **communication** and for **cooking food.** • **Infrared** radiation is used for **heating, cooking food and thermal imaging.** • **Visible** light is used in **fibre optic** communication. • **Ultraviolet** radiation is used to detect **security inks** and in **tanning lamps.** • **X rays** and **gamma** rays are both used in **medical imaging** and in **radiotherapy** treatment.	**Lenses and visible light** • **Convex** lenses cause light to **converge** at the **principal focus.** • The **distance** from the **centre** of the lens to the **principal focus** is the **focal length.** • **Concave** lenses cause light to **diverge.** • **Specular** reflection occurs at **smooth** surfaces, the reflected light travelling in one direction only. • **Diffuse** reflection occurs at **rough** surfaces, the reflected light travelling in many directions. • **Filters absorb** some wavelengths of light and **transmit** those of the **same colour as the filter.** • The **colour** of opaque objects is determined by the **wavelengths of light they reflect**; other wavelengths are absorbed. • All objects emit and absorb infrared radiation. • A **perfect black body** absorbs **all the radiation** falling on it. • The **intensity and wavelength** of **emissions** depends on the **temperature** of an object. • A body in **thermal equilibrium** with its surroundings will have a **constant temperature** and is **emitting and absorbing radiation at the same rate.**

SPANISH

Classroom language		Question words	
Español	**Inglés**	**Español**	**Inglés**
¿Cómo se dice… en español/inglés?	How do you say… in Spanish/ English?	¿Qué?	what
¿Cómo se escribe…?	How do you spell…?	¿Cómo?	how
¿Cómo se pronuncia?	How do you pronounce (it)?	¿Por qué?	why
¿Me das …. ?	Can you give me…?	¿Dónde?	where
¿Puedes repetir?	Can you repeat that?	¿Adónde?	where to
¿Puedo ir a mi clase de música?	Can I go to my music class?	¿De dónde?	where from
(No) entiendo	I (don't) understand	¿Cuándo?	when
Lo siento	I'm sorry	¿Cuánto/a?	how much
(Casi) he terminado	I have (almost) finished	¿Cuántos/as?	how many
por favor	please	¿Cuál?	which
gracias	thank you	¿Quién?	who
Objetos en la clase	**Classroom objects**	¿A qué hora?	at what time
un bolígrafo	a pen		
una regla	a ruler		
un cuaderno	an exercise book		

Phonics - Sound Symbol Correspondence (SSCs)

These sounds never change!

a = c<u>a</u>t e = <u>e</u>gg i = f<u>ee</u>t o = h<u>o</u>t u = w<u>oo</u>

ca - <u>ce</u> - <u>ci</u> - co - cu

Stick your tongue out like the English **/th/** for **/ce/** and **/ci/** and also **z, /que/** = **ke - /qui/** = **key**

ga - <u>ge</u> -<u>gi</u> - go - gu

Soft **/g/** sound, except for **/ge/** and **/gi/** these are pronounced like a Spanish **/j/** in the back of your throat. Soft **/gue/** = **<u>ge</u>t** and **/gui/** = **gee<u></u>se**

h = silent, **ll** = like an English **y**, **v** like an English **b, ñ** = **ny, r**oll your **r**s if they come at the beginning of a word, or are a double **rr**

SPANISH

Week 1 – Past Holidays

1. Past holidays	
De vacaciones	**On holiday**
¿Adónde fuiste?	Where did you go?
El año pasado	Last year
El verano pasado	Last summer
fui a ..	I went to …
España	Spain
las Islas Baleares	The Balearic Islands
las Islas Canarias	The Canary Islands
América Latina	Latin America
Reino Unido	UK
Me quedé en Inglaterra	I stayed in England
¿Cómo viajaste?	**How did you travel?**
Viajé en…	I travelled by…
avión	plane
coche	car
barco	boat/ferry
a pie	on foot
tren	train
vuelo	flight
metro	tube train

Week 2 – Past Activities

2. Essential verbs	
¿Qué hiciste?	**What did you do?**
fui	I went
fue	it was
vi	I saw
tuve	I had
hice	I did
lo pasé bomba	I had a blast
lo pasé mal	I had a bad time
me divertí	I had fun
había	there was/were
The weather	
hizo calor	It was hot
hizo frío	It was cold
hizo sol	It was sunny
hizo viento	It was windy
hizo buen tiempo	It was good weather
hizo mal tiempo	It was bad weather
llovió	It rained
hubo nieve	It snowed

Week 3 – Key Verbs

3. Key verbs	
ir (a)	to go (to)
viajar	to travel
descansar	to relax
escuchar música	to listen to music
comer	to eat
beber	to drink
visitar	to visit
tomar el sol	to sunbathe
escribir	to write
bailar	to dance
ver	to see/watch
comprar	to buy
ir de compras	to go shopping
pensar/ creer	to think/ believe
querer	to want
salir	to leave/ to go out
tomar el sol	to sunbathe
pasar	to spend (time)
volver	to return
disfrutar	to enjoy
divertirse	to have fun
pasar	to spend (time)
perder	to lose/ miss
romper	to break
conocer	to meet

SPANISH

Week 4 – Opinions in the Past

4. Opinions in the past	
¿Cómo te fue?	**How was it?**
Fue guay	It was cool
Me gustó	I liked it
Me encantó	I loved it
¿Por qué?	**Why?**
Perdí …	I lost/ missed
el vuelo	the flight
mi móvil	my mobile
mi maleta	my suitcase
mi pasaporte	my passport
mi tarjeta de crédito	my credit card
mi cámara	my camara
mi reloj	my watch
Key adverbs	
a menudo	often
a veces	sometimes
demasiado	too
en seguida	straight away
más	more
menos	less
no obstante	nevertheless

Week 5 – Places in Town

5. Places in town	
En la ciudad	**In town**
¿Qué hay en tu ciudad?	What's in your town?
hay….	there is….
no hay….	there is(n't)
un castillo	a castle
un parque	a park
un centro comercial	a shopping centre
un campo de fútbol	a football pitch
una biblioteca	a library
una playa	a beach
una piscina	a pool
una plaza	a town square
una tienda	a shop
un mercado	a market
un supermercado	a supermarket
un cine	a cinema
un centro comercial	a shopping centre
el puente	the bridge
la calle	the street
la plaza	the square

Week 6 – Locations

6. Locations	
Dónde está?	**Where is it?**
Está...	It is...
el norte	the north
el sur	the south
el este	the east
el oeste	the west
el suroeste	the southwest
el campo	in the country
las montañas	the mountains
la ciudad	the town
al lado del mar	by the sea
la costa	on the coast
las afueras	the suburbs
Superlatives	
lo bueno	the good thing
lo malo	the bad thing
lo mejor	the best thing

SPANISH

Week 7 – Directions

7. Directions	
¿Para ir al / a la….? **¿Por dónde se va al / a la…?**	**How do I get to…..?**
¿dónde está …?	where is...?
está lejos	it is far away
está cerca	it is near
al final de	the end of
a la derecha	to/on the right
a la izquierda	to/on the left
sigue	continue
gira….	turn
toma….	take
pasa...	go past
cruza	cross
coge	catch
la primera calle	the first street
la segunda calle	the second street
la tercera calle	the third street

Week 8 – Description of Town

8. Key prepositions	
a	at
cerca de	near
lejos (de)	far (from)
durante	during
fuera de	outside/out of
hacia	towards
hasta	until
para	for/in order to
por todas partes	everywhere
por /a través de	through
sin	without

SPORT SCIENCE

Week 1

Components of Fitness

- Components of fitness are individual attributes or skill sets that enables an action to be completed. Specific test can be used to measure these.

- Everyone's fitness level will differ depending on the particular sports they play.
- Each activity has its own set of fitness requirements that the individual must meet in order to compete with others.
- Team games often require a combination of multiple components of fitness.

The 11 components of fitness are:

Cardiovascular Endurance	Speed
Muscular Endurance	Strength
Co-ordination	Power
Reaction Time	Agility
Balance	Flexibility

Week 2

Fitness Testing

The Multi-Stage Fitness Test (Bleep Test):
Testing for **cardiovascular endurance/stamina**

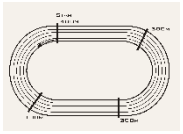
Definition	The ability of the heart and lungs and blood to transport oxygen for sustained a period.
MSFT	

Protocol:

- The athlete performs a 20m progressive shuttle run in time with a beep, to the point of exhaustion.
  The level reached depends on the number of shuttle runs completed and is ascertained from a standard results table.

The 12-minute Cooper run test
Testing for cardiovascular endurance/stamina

12-minute cooper run



- This requires athletes to run as far as they can in 12 minutes and the distance covered is recorded and compared to a standardised table. In this test the performer runs to exhaustion.

Protocol:

- When instructed start running at own pace.
- After 12 minutes has passed measure total distance covered.

Week 3 and 4

Fitness Testing

Number of sit-ups completed in 30 seconds
Testing for **muscular endurance**

- This is a 30 seconds test to assess the muscular endurance of the abdominals

Protocol:

- The athlete assumes the sit up position.
- Raise yourself up to a 90 degrees position and return to the floor.
- Perform as many as possible in 30 seconds.
- Record the number of repetitions completed.
-

One-minute press-up test (push up)

This one-minute test assesses the muscular endurance of the Triceps, Deltoid and Pectorals.

Protocol:

- The athlete assumes the press-up position.
- Perform as many as possible in 1 minute.
- Record the number of repetitions completed.

SPORT SCIENCE

Week 3 and 4

Fitness Testing

Testing for **speed**

30m Sprint Test

This test is designed to measure speed over a set distance (30 m)

Protocol:

- Perform a thorough warm up.
- When signalled to begin sprint maximally for the required distance.
- The fastest trial is recorded.

Testing for **Strength Hand grip dynamometer test**

This test measures the static strength of the performer hand grip in one action Protocol:

- Adjust the hand grip so it is comfortable
- Stand with your arms by y
- Squeeze the grip lever has hard as possible for 5 seconds.
- Carry out three trials to determine the best score.

Fitness Testing

Testing for **Power**

Vertical jump test (Sargent jump test)

This is a test of the anaerobic power of the quadriceps. Jump height can be manually or digitally recorded on a vertical jump board. Protocol:

- Performers to reach up to highest point without going onto tiptoes. This is marked.
- Jump vertically and touch highest point on the wall/board.
- The score is the difference between the 2 measurements. Repeat 3 times and obtain average.

Testing for **Power**

Standing long jump test

This is a test of explosive power of the legs. The aim of the test is to jump as far as possible while landing on both feet.

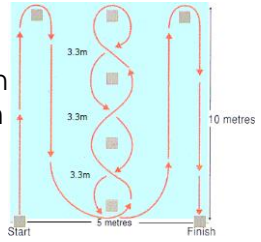
Protocol:

- Subjects begin by standing behind the start line feet shoulder wide apart.
- Take off two footed, swinging your arms to create a forward drive.
- Measurement is taken from the nearest point of contact from the back of the heels.

Fitness Testing

Testing for **Agility**

Illinois Agility Test



This is an important component of man team sports, though is not always tested, and is often difficult to interpret results.

Protocol:

- Performers start at the first cone on their fronts.
- On the whistle subjects should follow the agility course.
- Performers are timed from start to finish.

Testing for **Balance**

Standing Stork Test

The standing stork test monitors the progress of the athletes' ability to maintain balance in a static position.

Protocol:

- Subject must remove their shoes and socks.
- Lift the right leg and place the sole of the right foot against the side of the left kneecap. The athlete raises the heel of the left foot to stand on their toes.
- The athlete is timed holding this position for as long as possible.
- The moment the position is lost the timer is stopped.

SPORT SCIENCE

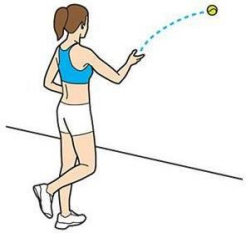
Weeks 3 and 4

Testing for **Flexibility**
Sit and Reach Test
This test is an indirect measure of the range of movement at the hips, hamstring and lower back.

Protocol:

- Legs straight with feet flat against the box.
- Push marker as far as possible without bending your knees
- Best of three trials shoul

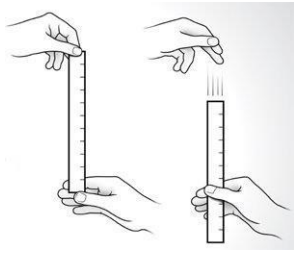
Testing for **Coordination**
Anderson wall toss test
This is a test of hand-eye coordination, where the participant throw a ball against a wall and attempt to catch it with the opposite hand.



Protocol:

- Stand facing the wall.
- Throw the ball underarm against the wall from right to left hand. Alternate the hands from right to left and left to right.
- Count the number of completed catches in 30 seconds.

Testing for **Reaction**
Time Ruler Drop
Reaction Test This is a simple method of assessing reaction time. This involves a ruler dropping and the subject reacting to it by catching it.



Protocol:

- A ruler is held by the assistant between the outstretched index finger and thumb of the athlete's dominant hand.
- Ensure the top of the thumb is level with the zero- centimetre line on the ruler.
- Ruler is released and measurement (cm) is taken from the point caught on the ruler.
- Compliance with test procedures.

Week 5 and Week 6

In order to compare the results from fitness tests **normative data tables** can be used. This is also known as **benchmarking data** and is collected from a number of studies to allow you to make a judgement against.

- Normative data can be used as a way to assess the strengths and areas of improvement of a performer.

Reliability is a question of whether the test is accurate. It is important to ensure that the procedure is correctly maintained for all individuals to obtain a consistency of results

Other factors affecting reliability:

- Calibration of equipment
- Motivation of participant
- Conditions of the testing environment (inside vs outside conditions)
- Experience of the person administering the test

Validity relates to whether the test actually measures what it sets out to measure.

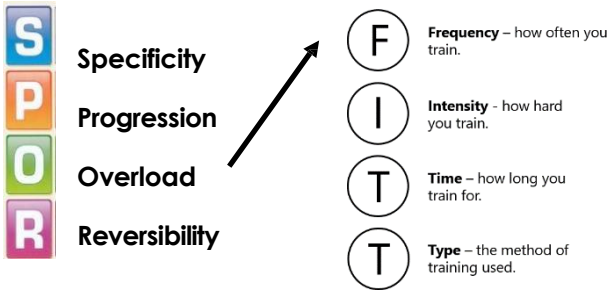
SPORT SCIENCE

Week 7

Principles of training

All training programmes should be designed with principles of training in mind. They allow the performer to train in an appropriate way so gains are made.

The principles of training are,



FITT Principle of overload

Frequency - How often we train This is the number of training sessions completed over a period of time

Intensity - how hard you train Fitness gains are only achieved if the body systems work hard enough.

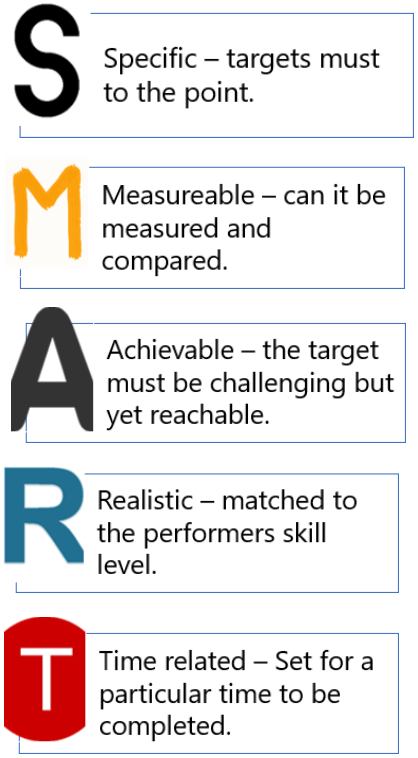
Time – how long you train for Each session must last at least 20 minutes to get any benefits.

Type – the method of training used. The type of training used is dependent on the component of fitness the performer would like to improve. This also helps prevent tedium

Week 8

SMART Goals

When setting goals, athletes should apply the SMARTER principle.



Week 9 and 10

Aerobic exercise utilises oxygen to fuel the body for long periods of work.

This includes activities like:

- Walking
- Jogging
- Cycling
- Swimming

Aerobic exercise
Intensity: Low
Duration: Long
Oxygen consumption: Enough to meet the demands
Methods of training: Continuous and fartlek

Anaerobic exercise involves fuelling the body without using oxygen.

Activities like **sprinting, weightlifting, jumping and throwing** are anaerobic in nature causes a build-up of lactic acid *(this causes fatigue)*

Anaerobic methods of training are high intensity and performed in short, rapid bursts. **Aerobic exercise**
Intensity: High
Duration: Short
Oxygen consumption: Not enough oxygen to meet the demands
Methods of training: HIIT, Interval, Plyometric & Resistance.

SPORT SCIENCE

Week 11 and 12

Fartlek Training

This means **Speed Play** in Swedish. It is a combination of different intensities.
i.e. 30 seconds at 50% max, 30 seconds walking, 30 seconds at 80%.

Works on both aerobic and anaerobic fitness due to the varying intensities.

Fartlek training is used by **team games** performers as it suits the movements necessary for a game. This can be completed over **different terrains**, woods, hills and roads, to create a variety of intensities.

Appropriateness
This type of training is good for events which alter the intensity of work, for example team games

Plyometric Training

Power training movements are more focused on body weight and a lighter resistance but are explosive in nature.

Plyometrics training refers to any exercise that enables the muscle to reach maximal force in the fastest possible time. Plyometrics exercises cause the muscle to lengthen (eccentric action) before a maximal muscle shortening (concentric action)

Strength gains through plyometrics usually takes about 8-10 weeks.

Plyometrics must be performed carefully because it can be physically stressful on the body.

Appropriateness
Excellent for jumping events and any sport that requires elevating off the ground.

Weight Training

Strength training uses progressive resistance against a muscle group to cause hypertrophy.

Resistance band exercises place additional force against an accelerating muscle therefore making them work harder.

Free weights are not attached to a machine. They allow a constant resistance but the risk of injury is higher than fixed-resistance machines. Dynamic movements are common with free weights

Fixed resistance machines use stacks of weights attached through pulleys to offer resistance. Machine weights do not allow over extension of the muscle group and isolate target areas.

Appropriateness
Weights can be adjusted to suit goal or intended outcome.