KNOWLEDGE ORGANISERS

YEAR 10

BODMIN COLLEGE

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

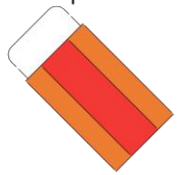

Black and Purple Pens


Pencil Case


Knowledge Organiser


Calculator

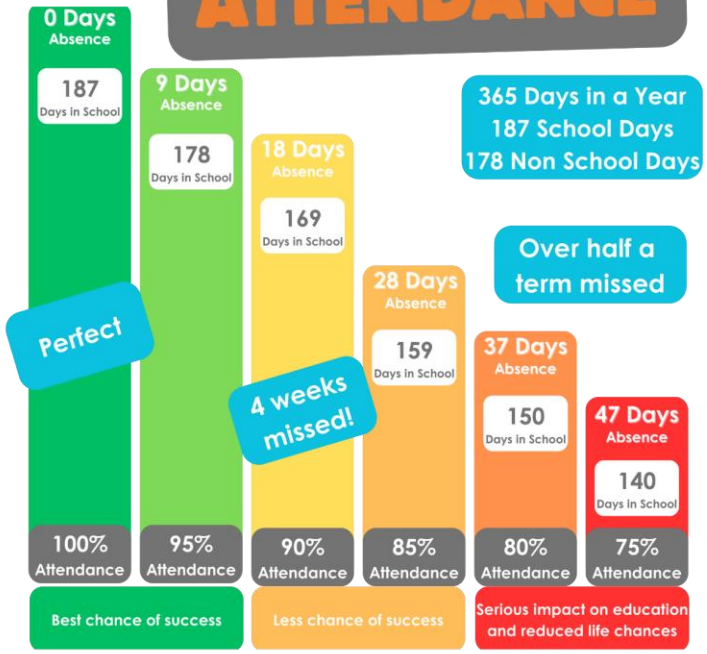

Pencil


Rubber


Ruler


Whiteboard and whiteboard pen

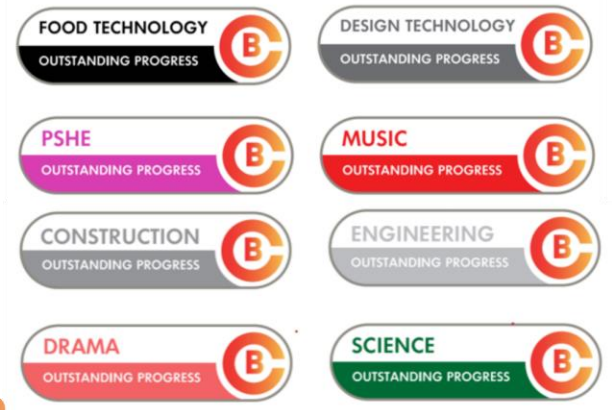
ATTENDANCE



REWARDS

Student Leaders

Subject Awards



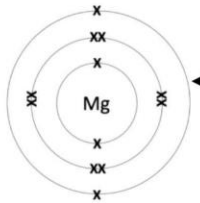
Merit Badges

THE PERIODIC TABLE OF THE ELEMENTS

Group 1 – **Alkali Metals**

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

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



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.

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

Group 7 – **Halogens**

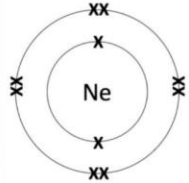
Group 0 – **Noble gases**

Non-Metals

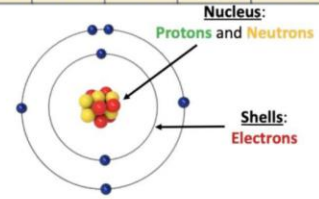
Transition Metals

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

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



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



HOW CAN I USE THE PHYSICS EQUATION SHEET?

Triple only equations

HT = Higher Tier only equations

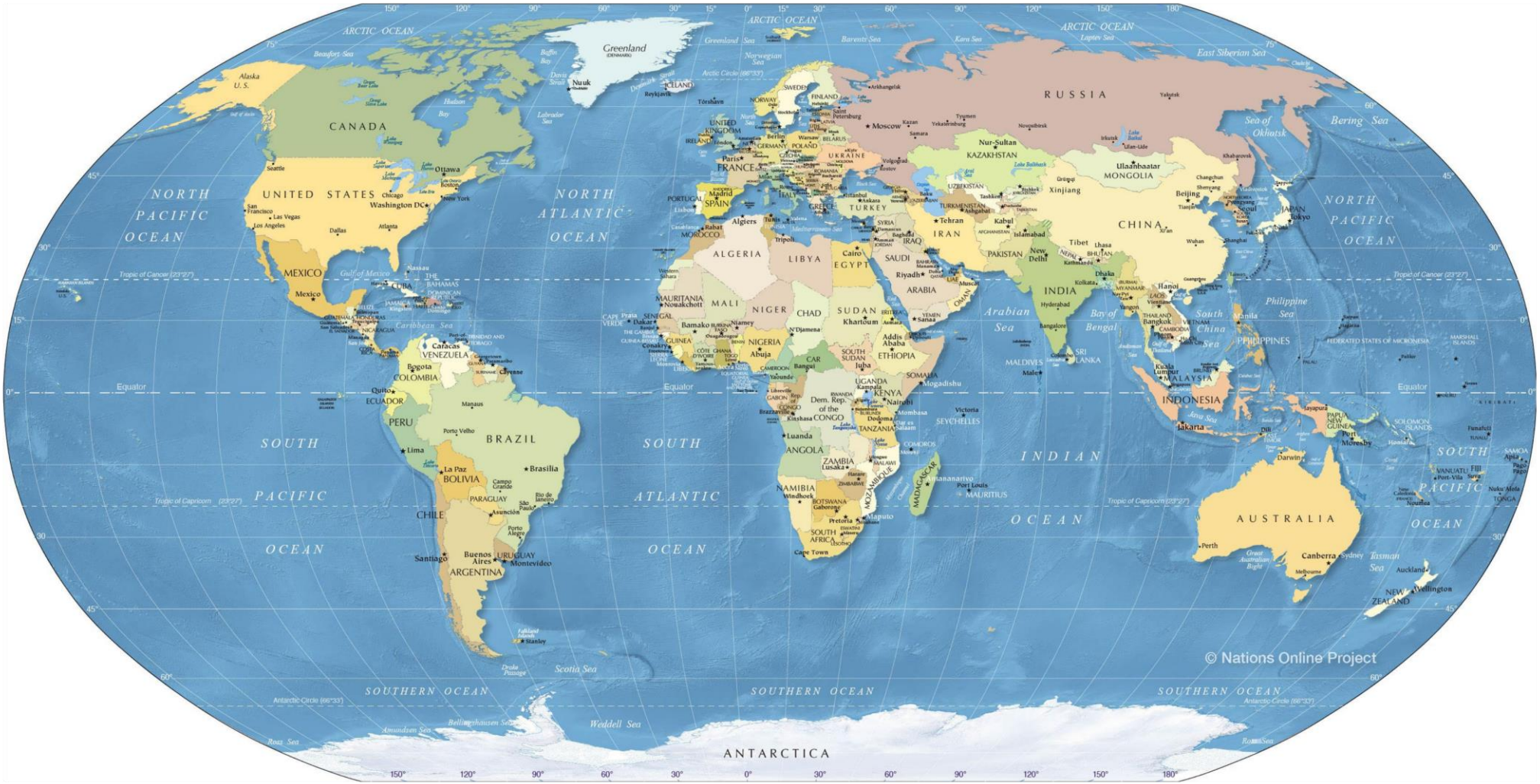
kinetic energy = 0.5 × mass × (speed)^2	$E_k = \frac{1}{2} m v^2$
elastic potential energy = 0.5 × spring constant × (extension)^2	$E_e = \frac{1}{2} k e^2$
gravitational potential energy = mass × gravitational field strength × height	$E_p = m g h$
change in thermal energy = mass × specific heat capacity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

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

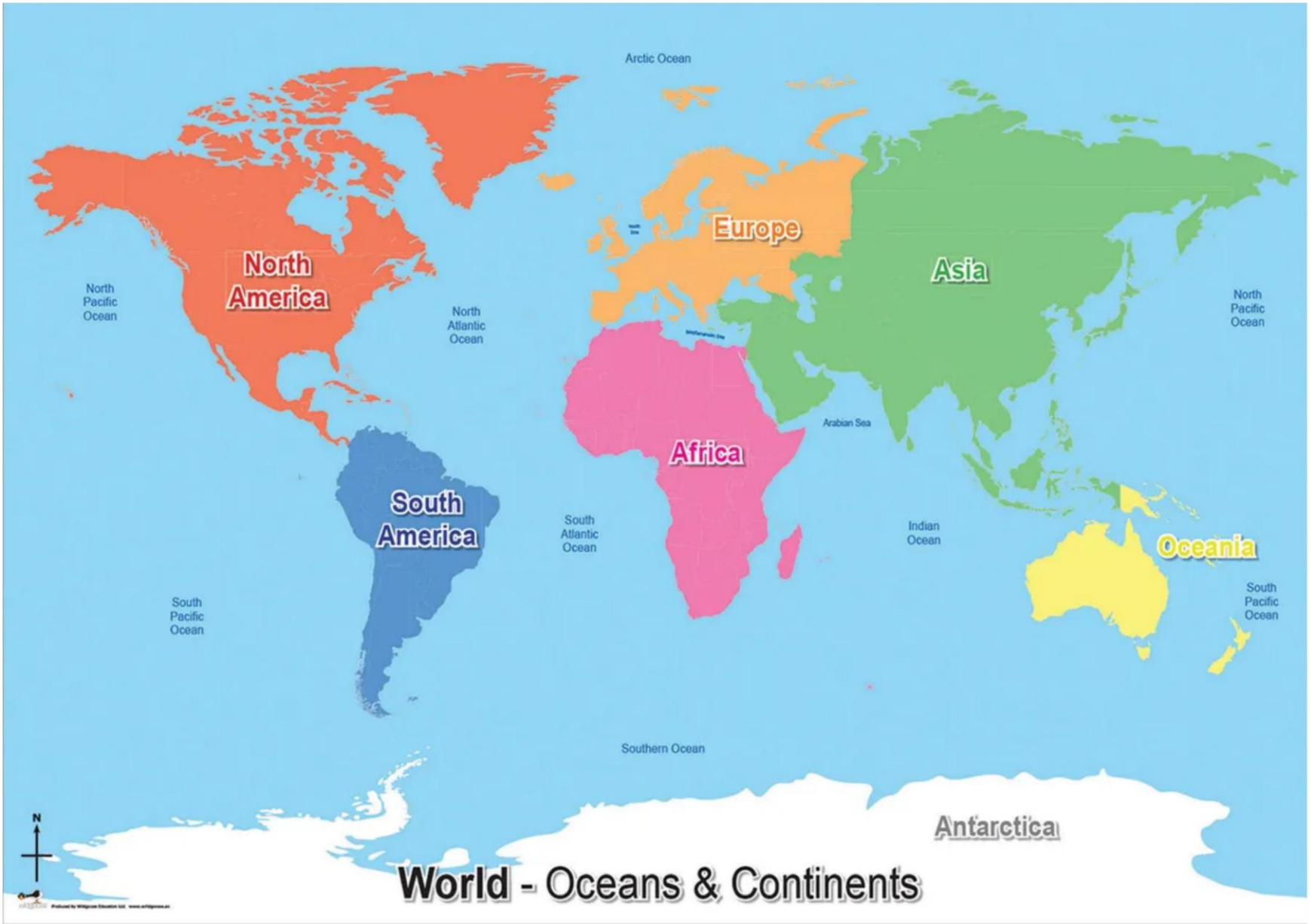
Give
Give
Want

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

WORLD MAP


ARCTIC OCEAN
Greenland
RUSSIA
CANADA
UNITED STATES
NORTH PACIFIC OCEAN
NORTH ATLANTIC OCEAN
CHINA
INDIA
AUSTRALIA
INDONESIA
BRAZIL
SOUTH PACIFIC OCEAN
SOUTH ATLANTIC OCEAN
INDIAN OCEAN
SOUTHERN OCEAN
ANTARCTICA
Equator
Tropic of Cancer (23°27')
Tropic of Capricorn (23°27')
Antarctic Circle (66°33')
© Nations Online Project

CONTINENTS AND OCEANS



PROTECTED CHARACTERISTICS

Sex

Sexual Orientation

Age

Disability

Gender Reassignment

Marriage and Civil Partnership

Pregnancy and Maternity

Race

Religion or belief

BRITISH VALUES

Democracy

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

Liberty

- I am **free to think** as I see fit
- I have the freedom to **make choices** that affect me but I **recognise** I am **accountable** for **all my actions**

Respect

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

Law

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

Responsibility

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

Tolerance

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

STAYING SAFE AT SCHOOL

At Bodmin College we want to ensure that all of our students feel happy, safe and supported at all times. Everyone has a duty of care to safeguard your physical and mental health when at school.
During tutor and PSHE lessons you will be taught how to stay safe both in school, outside of school and online. There is always someone from the 'Safeguarding Team' to talk to during school hours, should you need to. However, you can talk to any member of staff that you feel comfortable talking to.

FULL STOP

Bullying is not ok and we need to work together to stop it from happening.'Full Stop' is our online bullying report form, that allows you to report any occurrences of bullying, either in school, out of school, or online. You can complete the form 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.

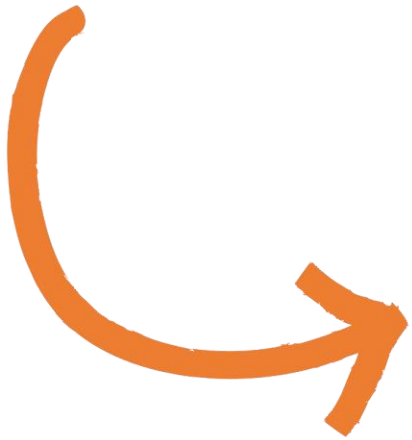
The purpose of lanyards are to keep our college campuses safe places to work and learn in. It is essential that all post-16 students, staff and visitors when on the college premises are easily identified and that we are aware of who everyone is on our campuses during all periods of the day. This is an 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.

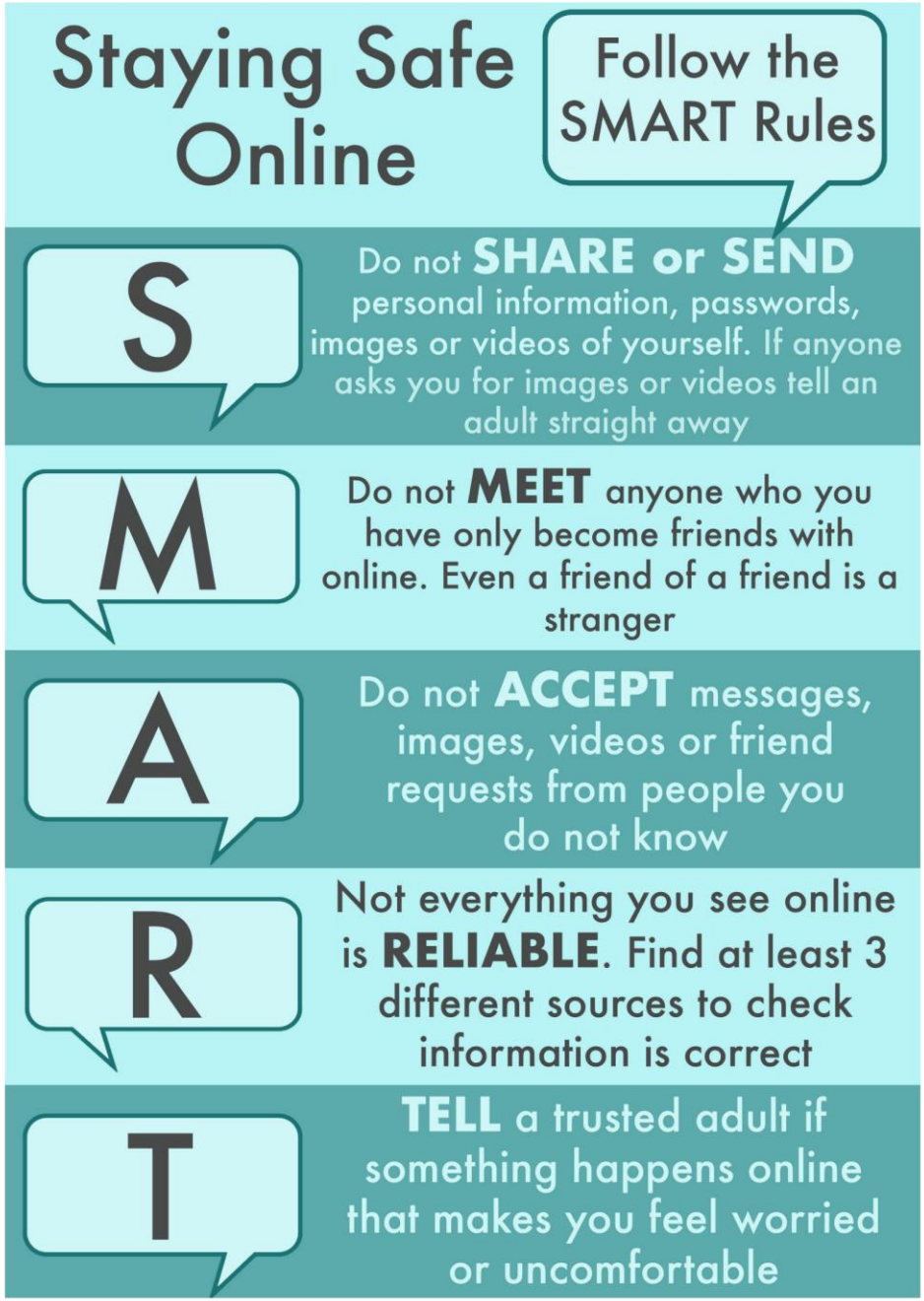
ONLINE SAFETY

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.





Wellbeing

Signposting

External Support
See websites below:

- kooth — Kooth.com
- YOUNGMINDS fighting for young people's mental health — Youngminds.org.uk
- childline ONLINE, ON THE PHONE, ANYTIME — Childline.org.uk
- Intercom Trust — Intercomtrust.org.uk

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

- CLEAR Emotional Trauma & Therapy Specialists — clearsupport.net
- Young People Cornwall Making Waves — Youngpeoplecornwall.org
- Penhaligon's Friends — Penhaligonsfriends.org.uk
- Cornwall Carers Service — Cornwallcarers.org.uk/young-carers
- withyou — wearewithyou.org.uk

MENTAL HEALTH & WELLBEING

Five self care tips

Get plenty of sleep

Teenagers need 8-10 hours of sleep per night

Maintain a healthy diet

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

Exercise regularly

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

"Talk to someone"

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

Make time for yourself

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

Animal Care

Week 1

Parasite – an organism that lives in or on another animal and derives nutrients from it.

Host – the animal a parasite lives on or in.

Flea = parasite

Dog = host

Ectoparasite – a parasite that lives on the host's body surface, examples are fleas, ticks and mites.

Endoparasite – a parasite that lives inside the host's body, examples are tapeworms and roundworms.

Week 2

Zoonotic – a disease that can pass between animals and humans.

Symptom – the signs animals show when they are ill or have parasites, for example scratching when they have fleas.

Anaesthetic – a substance that stops an animal feeling pain.

Anticoagulant - a substance that stops blood from clotting.

Lyme disease – a zoonotic, bacterial infection carried by ticks,

Tick

Bullseye rash from Lyme disease.

Week 3

Mite – a parasitic arachnid that lives on the skin, feeding off dead skin cells.

Arachnid – member of the spider family, 8 legs.

Arachnicide – chemical that kills arachnids.

Mange – condition caused by the presence of mites resulting in hair loss, itching and lesions on the skin.

Lesion – a sore on the skin.

Alopecia – hair loss

Lime-sulphur dip – treatment used to cure mange; PPE must be worn.

Types of mites include:
Demodectic
Sarcoptic
Ear mites
Red poultry mites
Feather mites

Animal Care

Week 4

Tapeworm – segmented, parasitic worm found in the intestine.

Scolex – head of a tapeworm.

Cuticle – tough body covering of intestinal worm to protect it from digestive enzymes.

Hermaphrodite – an organism with both male and female sexual organs.

Week 5

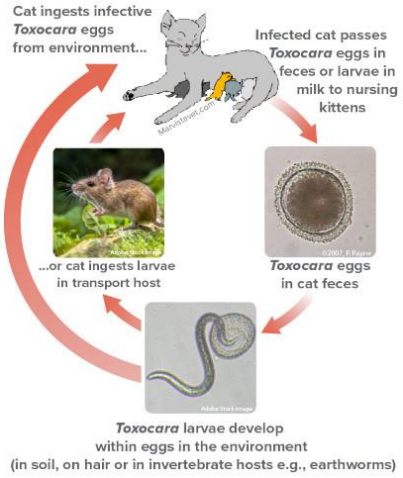
Life cycle – stages of a parasite's development. – egg, larvae, pupae, adult.

Transmission – how a disease or parasite is passed on from one animal to another.

Lactate – when a mammal produces milk for it's young to feed them.

Milk duct – tube through which milk goes from the mammary gland to the teat.

Umbilical cord – the blood vessels that connect the foetus to the placenta in mammals.



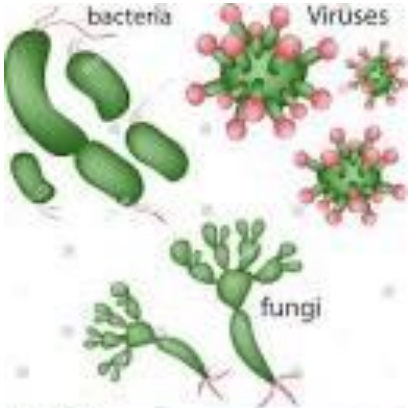
Week 6

Pathogen - a microscopic organism, such as a virus, bacterium, fungus, or parasite, that causes disease in its host organism.

Virus - an infectious microbe consisting of a segment of DNA surrounded by a protein coat. They need a host to survive, eg myxomatosis, canine parvovirus

Bacteria- small single-celled organisms, eg salmonella, Lyme disease. They do not need a host to survive.

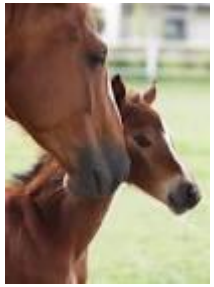
Fungus - organisms including moulds, yeasts and mushrooms. Eg ringworm, aspergillosis



Animal Care

Week 7

Direct transmission – when an infection is passed by one animal physically touching another animal.



Indirect transmission – when an animal touches something a diseased animal has used or produced, eg a feed bowl, a blanket, scratching post, vomit or faeces.

Vector transmission – when a disease is passed on by a biting insect or similar, eg Lyme disease passed on by ticks.

Week 8

Notifiable diseases – diseases named in the 1981 Animal Health Act, DEFRA must be informed.

DEFRA – Department for the Environment, Food and Rural Affairs.

Cull – to kill a population of animals to control the spread of a disease.

Biosecurity – disinfecting equipment, PPE etc to prevent the spread of disease.

Incinerate – to burn the carcasses of animals to prevent the spread of disease.

Carcass – the body of a dead animal.

Week 9

Rabies – viral, zoonotic disease that affects the nervous system.

Vaccinate / vaccine – an injection that tricks the body into making antibodies for a disease before coming into contact with it.

Fatal – a disease that kills.

Quarantine – isolate an animal to ensure it does not have a disease before letting it mix with other animals.

Endemic – a disease commonly found in an area.

Animal Care

Week 10

Foot and Mouth Disease – highly contagious viral disease that affects animals with cloven hooves, eg cows, sheep, pigs, goats, deer.

Cloven hoof – a hoof in two parts.

Outbreak – when a disease has spread over a large area of the country.

Restricted area – places that are out of bounds to prevent the spread of a disease.

APAH – Government department – Animal and Plant Health Agency

Week 11

Avian Influenza – also called bird flu – a viral disease that kills birds.

Strain – the type of virus causing the disease. There are a number of different bird flu viruses, not all of them are zoonotic.

Aviary – a place where birds live, big enough to fly in but netted so the birds cannot escape.

Isolate – preventing wild birds from mixing with domestic birds to prevent the spread of bird flu.

Week 12

Isolation – to keep an animal on its own to prevent the spread of disease.

Duration – length of time.

Disinfect – to clean using chemical that kills pathogens.

Virkon – a disinfectant that kills viruses recommended by DEFRA.

Art

Weeks 1 & 2

Clay - Clay is a fine-grained natural material composed of mineral particles that become pliable when wet and harden when fired or dried.
Ceramist - A ceramist is an artist or craftsman who specializes in creating objects from clay, often through shaping, firing, and glazing.
Pattern - A pattern is a repeated decorative design or sequence of elements that follows a specific, recognizable arrangement.
Inspiration - Inspiration is the stimulation of creative or imaginative thought, often leading to the generation of new ideas or actions.


Respond – In your sketchbook complete a double page of visual and annotated/written research about the artist Karolina Romanowska. This must include your own practical response. And the key words above. Use the artist research help sheets provided as a guide.

Weeks 3 & 4

Observation - Carefully looking at the subject and noticing and recording the shapes, details and tones that you see.

Texture - Texture in art refers to the surface quality or feel of an artwork, whether real (tactile) or implied (visual), that can convey a sense of depth, movement, or material.

Contrast - Contrast in art refers to the use of opposing elements, such as light and dark, colours, or shapes, to create visual interest, emphasis, or dynamic tension.

Draw – Completed a detailed tonal drawing in black biro of an African mask. Pay close attention to detail, pattern and shape. Draw accurately including tonal shading, cross hatching and line. Work to A4 in scale (the size of your sketchbook).

Weeks 5 & 6

Visual - Visual in art refers to the elements and principles that can be perceived through sight, creating an aesthetic experience or conveying meaning through images and forms.
Mood board - A moodboard is a collage of images, colours, textures, and materials used to visually convey the style, tone, and concept of a project or idea.
Layering - Laying in art refers to the process of applying a layer of material, such as paint, clay, or other mediums, to a surface in a structured or deliberate manner.
Recording - documenting and sketching initial concepts, observations, and inspirations to develop and refine artistic ideas throughout a project.

Gather a minimum of 10 images for a mood board you will be working on in lesson. These images must link to the idea and title of your personal project linking to 'The Human Condition'. Vary the scale of images, include artist work photographs, cut outs from magazines.

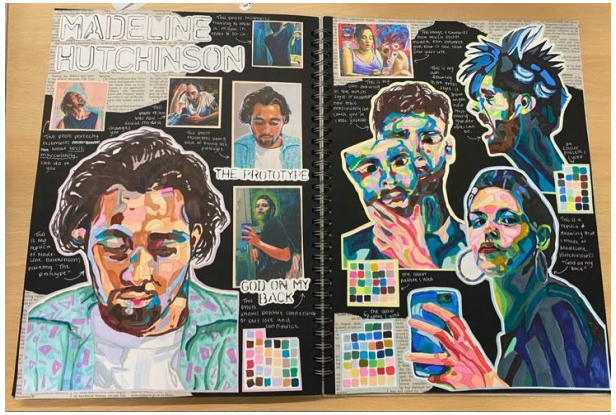
Art

Weeks 7 & 8

Annotate - To annotate means to add notes or comments to a text, image, or other content to provide explanation or clarification.

Present - To display or showcase an idea, concept, or subject through visual or creative expression.

Respond - react or engage with an artwork through interpretation, critique, or creative expression.



Research – In your sketchbook complete a double page of visual and annotated/written research about the first artist you have chosen for your personal project. This must include your own practical response.

Weeks 9 & 10

Photoshoot - A session where a photographer takes pictures of a person, object, or scene, typically for a specific purpose or project.

Rule of thirds - a photography and art principle where an image is divided into nine equal parts by two horizontal and two vertical lines, with the main subjects placed along these lines or at their intersections for a balanced composition.

Filter - A filter in photography is a transparent or translucent material placed over a camera lens to alter the image by adjusting color, contrast, or lighting effects.

Complete a **photoshoot** which links to your personal theme. And present this creatively in your sketchbook.

Weeks 11 & 12

Form - Form in art refers to the three-dimensional structure of an object, including its shape, volume, and depth, often creating a sense of solidity or physical presence.

Tone - Tone in art refers to the lightness or darkness of a colour, which helps to create contrast, depth, and mood in an artwork.

Depth - The illusion of three-dimensional space on a two-dimensional surface, creating a sense of distance or perspective in the artwork.

Scale - Scale in art refers to the size of an object or element in relation to its surroundings or to other elements within the artwork.

Observational drawing – Complete a detailed A4 drawing in a media of your choice of one of your photoshoot images.

Business Studies

Week 1

RO69 NEA

Introduction

Outine your product design and customer profile in RO68

Competitor analysis

When launching a new product, a business often looks at their competitors to find out what is already available on the market.

Businesses look at their competitors' strengths, weaknesses, unique selling points and how their product idea is different to what brands already exist.

The External Environment

When developing new products, businesses often look at opportunities and threats that exist outside of the business itself (externally).

Economic Factors relating to the economy such as inflation and unemployment.	**Social** Trends in fashion, changes in taste and changing buying habits.
Technological Changes and advances in technology which can affect new product development.	**Ethical** The morals and values people have including environmental factors.

Review

Strengths	Weaknesses

What is your business **Unique Selling Point (USP)**?

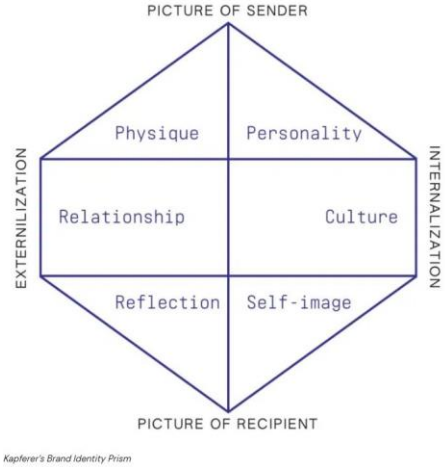
Week 2

RO69 Develop a Brand Identity

Brand Identity (The visible elements that identify the brand in the mind of the customer)

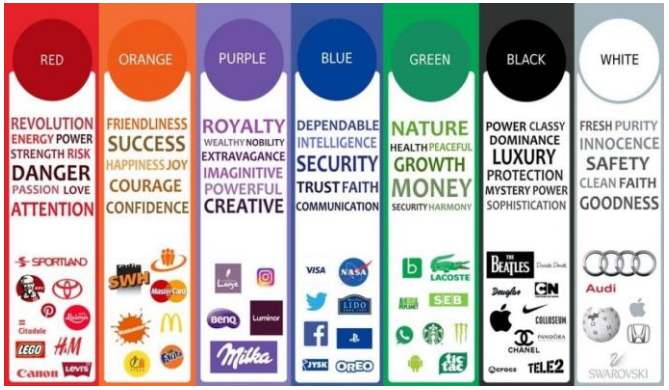
- Logo placement
- Visual look
- Colours used
- Typeface

Brand Identity:



Kapferer's Brand Identity Prism

Colours – what do they say?



Week 3

RO69 Develop a Brand Identity

Brand Personality

(how the customers perceive the brand)

- **Logo** (you have to create this one) +2
- Sound
- Jingle
- Strapline
- Catchphrase
- Slogan

Brand Image (unique combinations of views held about the brand by the customers)

- Logo design
- Customer perception
- Brand association

Why is branding used?

- **Trust** – people often trust products that are branded compared to non-branded items.
- **Brand recognition** – having a brand name and logo helps people recognise a product and/or business.
- **Product image** – the perception of a product and/or business is often a result of branding.
- **Differentiation** – having a brand can support a business's aim to be different to what's already on the market (it could convey this message through a strapline, for example).
- **Adding value** – branded products are often priced higher than non-branded products.
- **Customer loyalty** – it is often the case that people repeatedly buy the same brand of product, with branding helping to secure repeat purchases.

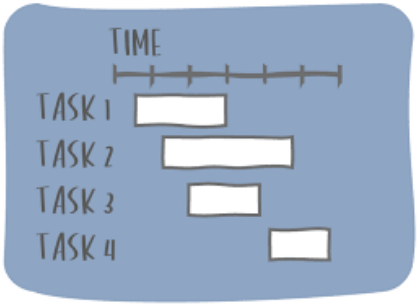
Business Studies

Week 4

Objectives:
- To raise awareness of the product or service
- To remind
- To differentiate
- To persuade/inform
- To create market pressure
- To boost market share

KPIs – **K**ey **P**erformance **I**ndicators
A successful promotional campaign needs planning in advance with a clear timeframe for the whole campaign and each activity within the campaign. Promotional campaigns also need to be reviewed so, beforehand, a business will identify what they think will be the outcomes if the campaign is to be considered a success; these are known as key performance indicators (KPIs).

Timeframe Planning with a Gantt Chart



Promotional Campaign
A promotional campaign is a series of activities a business plans to help promote a product. The reason the business carries out a promotional campaign is known as their promotional objectives.

Week 5

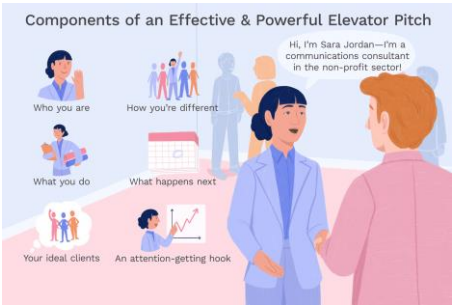
Promotional Material
You will need to create 3 types of promotional material. These items need to be digital and non-digital.

Digital/online	Non-digital
Pop-ups	Flyers/leaflets
Banner	Newspaper Advert
Social medial	TV advert
Promotional email	Magazine/Journal Advert
SMS texts	Cinema Advertising
Podcast	Billboards
Blog	Direct Mail
Vlog – Video log	Bus/Taxi
	Radio Stations
	Trade fairs and shows
	Festivals
	Sponsorship

Justify promotional methods
Objectives – which method suits your objectives
Budget – do you have sufficient funding to support your selected choice.
Time – time to design, get checked, print, publish.
Research – need to check possible options
Booking – you need to find out how to book the promotion. You may need to pay a deposit and you may need to ensure you have enough of a product to hand out.

Week 6

Pitching your product proposal



You are a product designer and you have carried out market research to create a new product design. Which you want to bring to market. You are now ready to develop a brand for your product, make recommendations as to how to promote it and prepare a pitch to show an audience that your product proposal will be successful if introduced to the market.
Your **pitch will include**:
- Your product design
- Your brand personality
- Your pricing recommendation
- Your proposed promotional campaign
- Any other relevant information from your findings in RO68

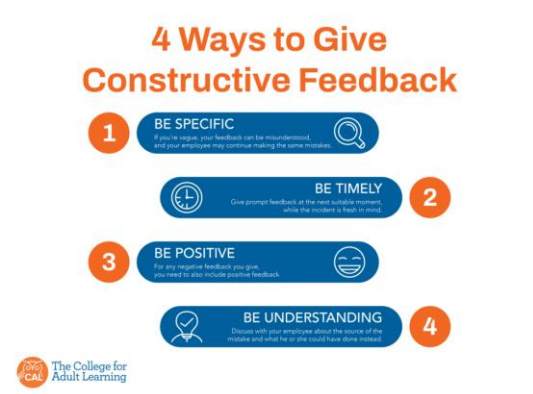
Think about your **audience**... who are they? What are they interested in? You need to:
- Inform
- Persuade
- Use time effectively
- Communicate well
- Consider the venue

Plan the questions...

Business Studies

Week 7

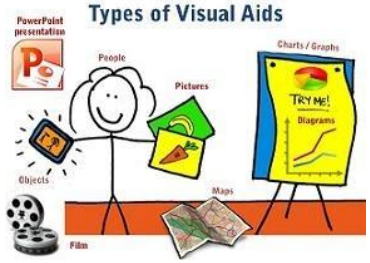
Pitch – giving feedback to others (6 marks)



Top students will:
Give effective support and feedback to others during their practice pitch

Review their own pitch, listening to other and changing their pitch to respond to feedback

When improving your pitch, make sure:
- Uses visual aids effectively
- Fully outlines your business proposal
- Is practiced and runs on time
- You are ready for questions



Week 8

Final pitch - Professional Pitches
A professional pitch is a presentation of a new product or service to an audience, similar to those you see on Dragon's Den. When someone prepares a professional pitch, they consider a number of factors beforehand:

The objectives
The objectives of the pitch are to inform the audience or to persuade the audience. This influences the presenter's style and language used.

The audience
The presenter needs to be aware of who they are pitching their ideas to, tailoring the content and style of pitch to match.

The venue
A suitable venue needs to be selected based on size, layout and equipment. Media/materials
The type of media (such as a presentation) used will be considered beforehand.

Personal Appearance
The presenter needs to consider their appearance and ensure it suits the style of pitch being delivered (formal).

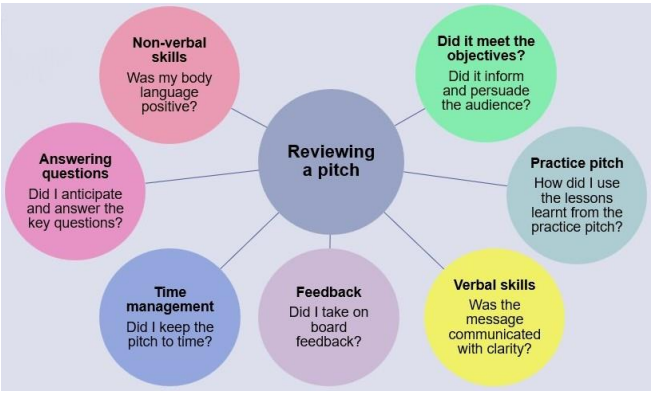
Pitch Structure
Considering the order in which the pitch will be presented is an important factor; starting with an introduction, ending with a conclusion and with logically sequenced information.

Use of Visual Aids
Including presentations and video clips.
Audience Questions
Presenters often plan answers to audience questions before their pitch.

Week 9

Review each aspect of your project

Review your pitch

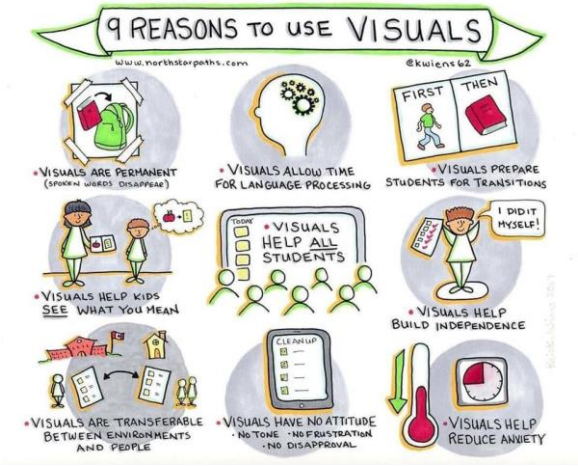


For both aspects, consider
- What you did well
- What you didn't do so well
- How you could improve/change it

Business Studies

Week 10

Reflect on pitch



When reflecting on our work, we need to:
identify the strengths and the weaknesses.

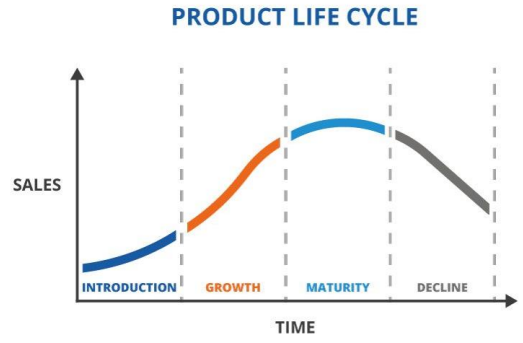
- Think about **EVERY** part of your pitch and your preparation work.
- Include feedback from others and your own improvements (did they work?)
- Consider why the strengths worked
- Consider ways of improving your weaknesses and make suggestions.

Write a conclusion that summarises what went well and the parts you struggled with ***and what you would do if you did this again.***

Week 11

Key Marketing Concepts
The Four Ps/ The Marketing Mix
(Product, Price, Place, Promotion)

The Product Lifecycle



Week 12

Key Marketing Concepts

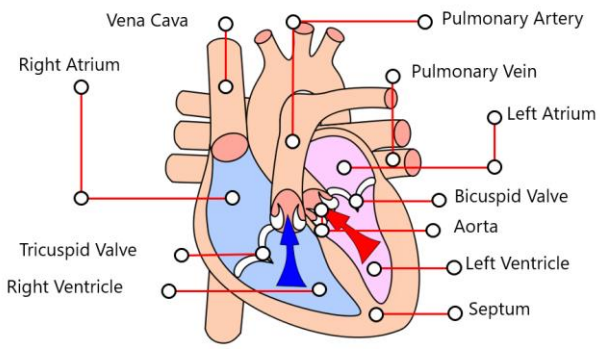
Pricing

Pricing strategy		Price tactic
Psychological pricing	£9.99	Customer thinks price is lower than it really is.
Cost plus pricing	~~£5~~ → £10	Business makes a profit by marking up product.
Penetration pricing	4.99 → 6.99 → 8.99	Price initially low then raised over time.
Promotional pricing	JANUARY SALE	Prices reduced for short period of time.
Price discrimination	CHEAP FLIGHTS!	Price will vary - low if demand is low, high if demand is high.
Destroyer pricing	GUARANTEED ★★★ LOWEST ★★★ PRICES	Prices kept low to eliminate competition.
Market skimming pricing	NEW!	Price initially high then gradually lowered.
Loss leader	~~£10~~ → £5	Product sold at a loss to encourage customers to buy other products.

Cambridge National in Sport

Weeks 1 & 2

Cardiovascular System



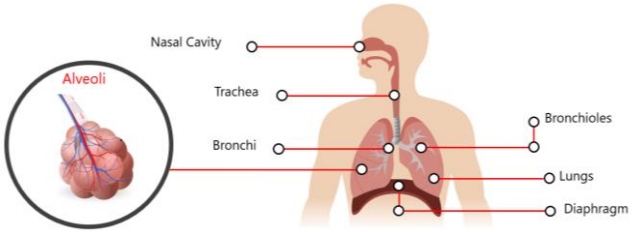
Arteries – Take blood **away** from the heart.
Veins – Returns blood to the heart. Contain valves to stop backflow of blood.
Capillaries – Tiny, thin-walled blood vessels that join veins and arteries. This vessels allow gaseous exchange.

Cardiac output is the amount of blood pumped out of the left ventricle of the heart per minute. Cardiac output is a combination of stroke volume and heart rate.

Heart rate is the number of times it beats each minute
Stroke volume is the amount of blood pumped out of the left ventricle per beat.

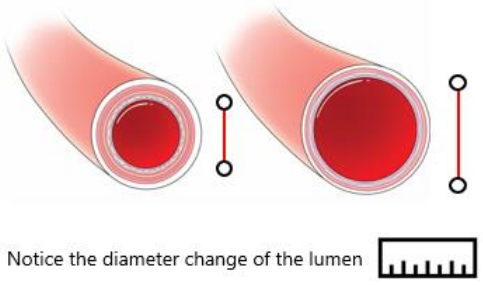
Weeks 3 & 4

Respiratory System



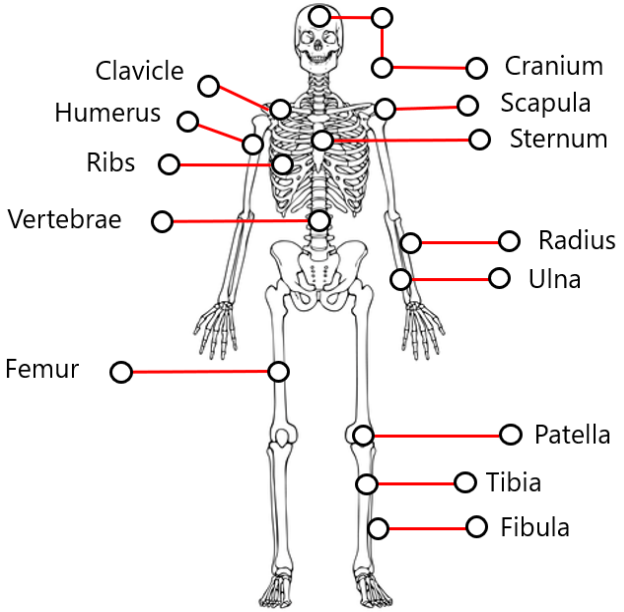
Gaseous Exchange:
This is a process where oxygen is transferred into the blood stream to be transported to the working muscles and carbon dioxide is moved into the lungs to be breathed out.

Vascular shunt
Blood flow is controlled through **vasoconstriction (contracting)** and **vasodilation (relaxing)** of the blood vessels. Moving blood to areas of the body that have a greater demand is a mechanism that helps maintain physical activity.



Weeks 5 & 6

Skeletal System



Joints: A joint is a place where two or more bones meet' This is known as **articulation**.
Synovial Joints: This is a **freely moveable joint**. These joints are the most moveable and are vital to sporting actions. *i.e. the knee joint*

Cartilage prevents the ends of bones rubbing together at joints.

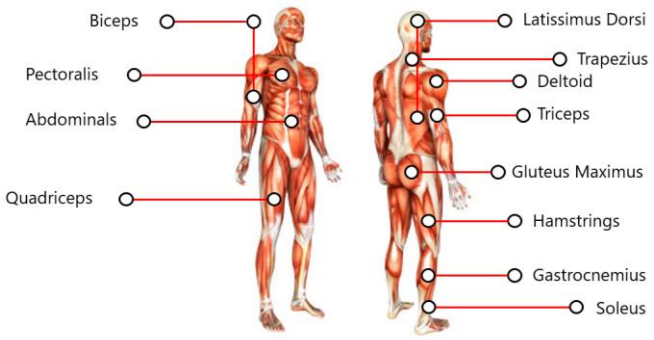
Ligaments – these are tough, elastic fibres that link bones to bones.

Tendons – These connect muscles to bones.

Cambridge National in Sport

Weeks 7 & 8

Muscular System



Adduction - Movement towards midline of the body
Abduction - Movement away from midline of the body
Flexion involves a decrease in the angle that occurs around a joint
Extension involves an increase in the angle that occurs around a joint or straightening a limb.
Rotation - The joint moves in a circular or turning motion
Circumduction – Turning of a limb in a conical movement

Weeks 9 & 10

Short Term Effects of Exercise

CV System
- Increase in heart rate
- Increase in stroke volume
- Increase in cardiac output

Respiratory System
- Increase in respiratory rate
- Increase in depth of breathing

Muscular System
- Working muscles produce heat therefore increasing muscle temperature.
- Lactate build up

Skeletal System
- Increased production of synovial fluid
- Increased muscle and ligament pliability

Long Term Effects of Exercise

CV System
- Increase in the size and strength of the heart
- Changes to resting Heart Rate (bradycardia)
- Changes to stroke volume and cardiac output
- The heart rate recovers back to its resting state much quicker

Respiratory System
- increase in vital capacity
- Improved efficiency of gaseous exchange

Muscular System
- better flexibility
- increase in muscle recovery

Skeletal System
- Increase the strength of tendons and ligaments around a joint

Weeks 11 & 12

Technology

Technology can be used to gauge the response of the Musculo-skeletal system both short and long term.

Musculo-Skeletal Analysis

Tape measure	This is a simple way to monitor long term development of the muscular system
Video Analysis	This is where a player is replayed footage of training or a performance to spot areas for development. Viewing slow motion replays and statistical charts are common post-match processes.
Motion capture software	The motion of the whole body can be tracked using specialist software. Markers are placed on the athlete and motions of these points tracked.
Electromyography (EMG)	This is a technique used to measure electrical activity in the muscle tissue. This is a laboratory-based technique that requires electrode sensors to be placed on the skin.

Cardio-Respiratory Analysis

Stopwatch	A simple stopwatch can be used when counting heart and breathing rate. Changes can indicate exercise intensity or body adjustments.
Heart rate monitor	The use of specific devices can monitor **heart rates and training zones.** This can indicate if a performer is training at the right level of intensity.
Smartwatches	These are sometimes called activity trackers. They can take a range of readings including heart rate, blood pressure, breathing rate, blood oxygen uptake
Global Positioning Software Applications	This is a type of **field-based computer programme** that is developed with a specific focus in mind. Tracking a person's **distance** and **time taken** to cover it could highlight areas for development.
VO2 Max Testing	The test provides data on how much oxygen the body can use and determines the maximal oxygen consume during exercise.
Spirometry trace	This measure changes in breathing volumes and can indicate a performer's **vital capacity**.

Combined Science

Week 1 – Quantitative chemistry

Conservation of Mass

total mass of the reactants = the total mass of the products

MASS IS CONSERVED.

In an open system:

- Mass of may decrease due to the loss of a gas being produced.
- Mass of may increase due to a reactant being a gas.

Relative Formula Mass (M_r)

Relative Formula Mass (M_r) – sum of all the relative atomic masses of all the atoms in a chemical formula.

1) Work out how many atoms of each element there are in the chemical formula.
2) Add together the Ar values for all the atoms of each element present.

e.g. M_r of CO_2 = (1 × C) + (2 × O) = (1 x 12) + (2 x 16) = 12 + 32 = 44

Moles

The mass of one mole of a substance is equal to the relative atomic/formula mass of its chemical formula in grams.

$$Number\ of\ moles\ (mol) = \frac{mass\ in\ g}{M_r}$$

The Avogadro constant in the number of particles in 1 mole of a substance

1 mole = 6.02×10^{23} particles.

$$Number\ of\ particles in\ a\ substance = moles\ \times avogadro\ constant$$

Balanced Equations – show the ratio of moles of the substances in a chemical reaction.

$$Mg\ (s) + 2\,HCl\ (aq) \rightarrow MgCl_2\ (aq) + H_2\ (g)$$

1 mole of Mg | 2 moles of HCl | 1 mole of $MgCl_2$ | 1 mole of H_2

Week 2 – Quantitative chemistry

Amounts of Substance

A reaction finishes when one of the reactants is all used up. The other reactant has nothing left to react with, so some of it is left over:

- the reactant that is all used up is called the **limiting reactant**
- the reactant that is left over is in **excess**

The **mass of product** formed in a reaction **depends upon the mass of the limiting reactant**.

The known mass of a reactant can be used to calculate the unknown mass of a product:

1) Divide the mass of the limiting reactant my its M_r to find the number of moles.
2) Use the balanced equation to find the number of moles or product.
3) Multiple the moles of the product by the M_r to fins the mass.

Balancing Equations Using Moles

If you know the masses of the reactants and products:

1) Divide mass by M_r to find moles of each substance.
2) Dived each number of moles by the smallest number of moles.
3) Put the numbers in front of each of the chemical formulas.

Concentration of Solutions

A solution forms when a solute dissolves in a solvent. The concentration is the amount of dissolved substance in a given volume. The concentration of a solution can be calculated using:

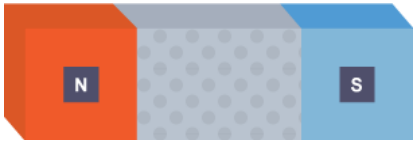
$$concentration\ in\ g/dm^3 = \frac{mass\ of\ solute\ in\ g}{volume\ in\ dm^3}$$

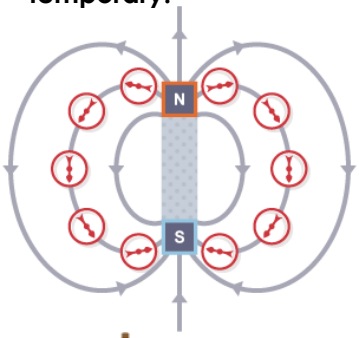
$$concentration\ in\ mol/dm^3 = \frac{moles\ of\ solute\ in\ mol}{volume\ in\ dm^3}$$

Combined Science

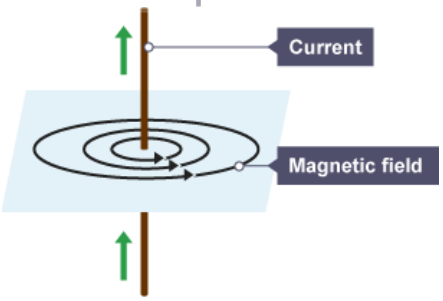
Week 3 - Magnets

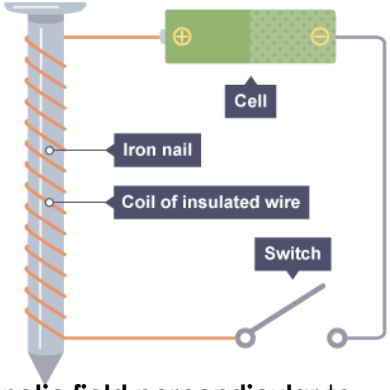
- **Magnetism** is a **non contact force which can be attractive or repulsive.**
- **Magnets** have a **North and a South pole.**
- **Like poles repel** one another, whilst **unlike poles attract.**
- Magnets can be **permanent or temporary.**





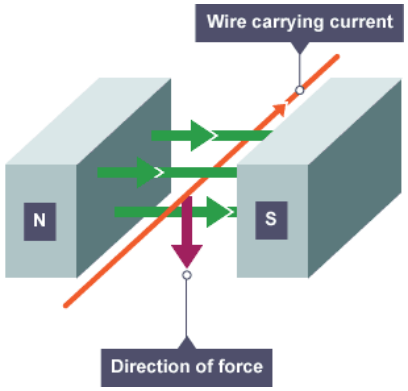
- **Magnetic field lines** flow from **North to South.**
- The magnetic field is **strongest** where the field lines are **most dense.**
- **Field lines** can be identified using a **plotting compass,** the compass needle will **point to the South pole.**



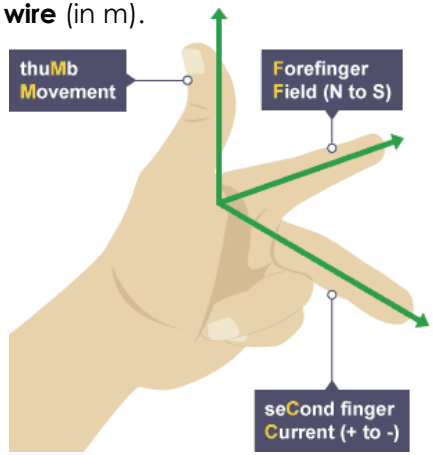


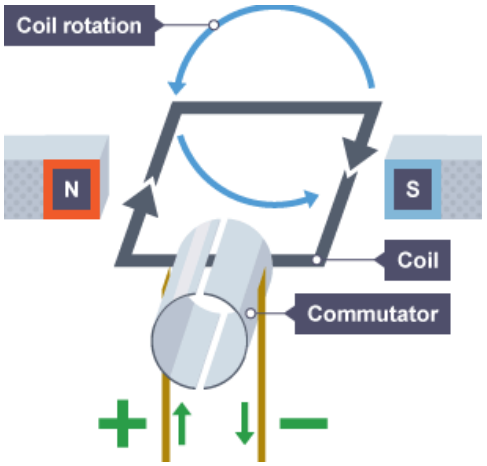
- A wire **carrying a current** generates a **magnetic field perpendicular** to the flow of current.
- The **right hand rule** can be used to **identify the direction of flow** of field lines.
- A **solenoid** is a **coil of wire.** When wrapped around an **iron core**, an **electromagnet** is formed.
- An electromagnet is a type of **temporary magnet** that is only **magnetic when a current flows.**

Week 4 - Magnets



- The **motor effect** describes the **force** that acts on a wire when it carries a **current in a magnetic field.**
- **Fleming's left hand rule** can be used to predict the **direction of force** exerted.
- The size of the force is **dependent** on the **strength of the magnetic field (measured in Tesla**) and the **size of the current** (in Amps), as well as the **length of the wire** (in m).





- **An electric motor** uses the **motor** effect to produce a **rotational force.**
- **A split ring commutator** is needed to **change the direction of flow of current,** in order to allow the **coil of wire** to continue **turning in the same direction.**

Combined Science

Week 5 – Biology revision

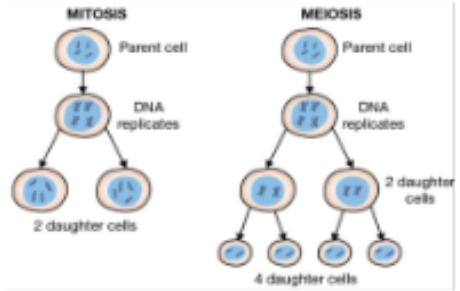
Inheritance and evolution

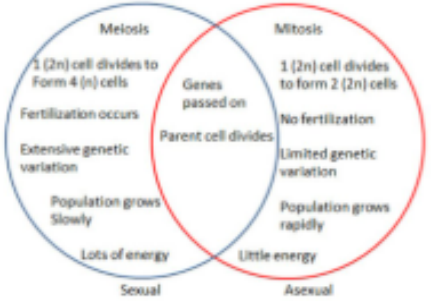
Sexual and asexual reproduction

- **Sexual** - The formation of a new organism by **combining the genetic material** of **two** organisms, **using meiosis**
- **Asexual** – reproduction with only **one parent, using mitosis**

Meiosis and Mitosis

- **Meiosis** – A type of cell division that produces 4 non identical haploid gametes
- **Mitosis** – A type of cell division that produces two identical diploid cells
- **Haploid** - A **sex cell** (gamete) that contains **one set of chromosomes**
- **Diploid** - Cells that contain **two sets of chromosomes**
- **Gametes – sex cells**, e.g. **egg or sperm**
- **Fertilisation** - fusion of the **nucleus** of a **male gamete** with the **nucleus of a female gamete**





DNA and the genome

- **DNA** - **Deoxyribonucleic acid.** The genetic material inside the nucleus of cells
- **Genome** - complete set of DNA found in an organism.

Week 6 – Biology revision

Gender and inheritance

- **Alleles** – **different versions of a gene**
- **Dominant** - An **allele** that **always expresses itself** whether it is partnered by a recessive allele or by another like itself.
- **Recessive** - **masked or suppressed** in the **presence of the dominant variant.**
- **Heterozygous** – a **genotype** where **two alleles** for a particular characteristic are **different.**
- **Homozygous** - a **genotype** in which the **two alleles** for the characteristic are **identical.**
- **Genotype** – An organism's **combination of alleles**
- **Phenotype** – The **characteristics** an organism has

Genetic disorders

- **Cystic fibrosis** – a **recessive genetic disorder** of the **cell membranes**.
- **Polydactyly** – a **dominant genetic disorder** where a baby's born with **extra fingers or toes**
- **Gene therapy** - **inserting** a **normal allele into the chromosomes** of an individual who carries a **faulty allele.**

Variation and mutations

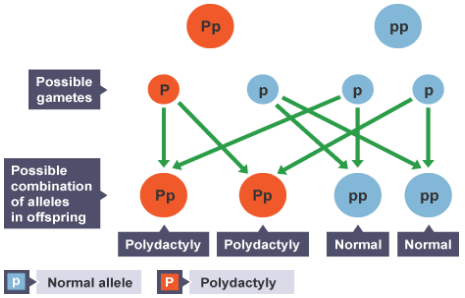
- **Variation** – **differences in characteristics** of organisms
- **Mutations** - a **permanent change** in the nucleotide sequence of **DNA**

		Mother	
		X	X
Father	X	XX	XX
	Y	XY	XY

XY = Male 50% chance
XX = Female 50% chance

	E	e
E	EE	Ee
e	Ee	ee

Outcome: One is EE (homozygous dominant), two are Ee (heterozygous) and one is ee (homozygous recessive).



Combined Science

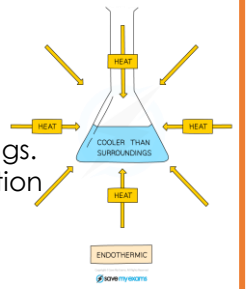
Week 7 – Chemistry revision

Endothermic and Exothermic Reactions

Energy is conserved in a reaction

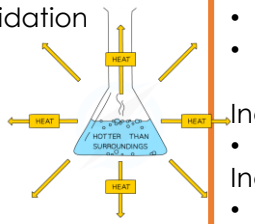
Endothermic reactions:

- Transfers energy **from the surroundings**.
- Causes a **decrease in the temperature** of the surroundings.
- Examples include thermal decomposition and the reaction between citric acid and sodium hydrogencarbonate.
- Uses include some sports injury packs.



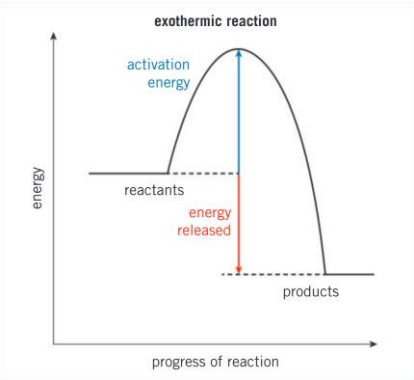
Exothermic Reactions:

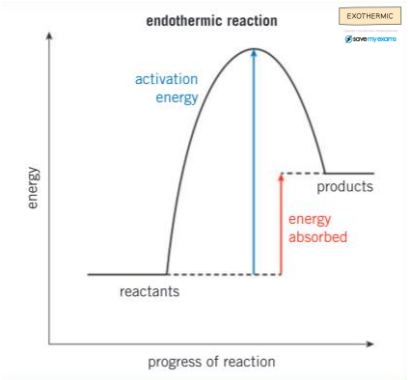
- Transfers energy **to the surroundings**.
- Causes an **increase in the temperature** of the surroundings.
- Examples include combustion, neutralisation, and most oxidation reactions.
- Uses include self-heating cans and hand-warmers.



Reaction Profiles

Show whether a reaction is exothermic or endothermic.





Keywords

Activation energy: the minimum amount of energy that reactants need to react when they collide.

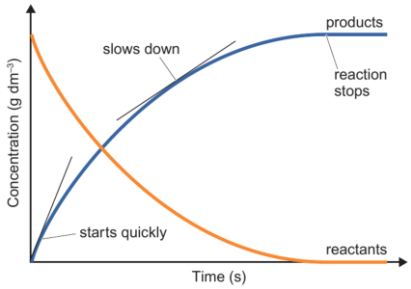
Week 8 – Chemistry revision

Rate and Collision Theory

For a chemical reaction to happen:

- Reactants must collide.
- Particle must have enough energy to react.

The greater the **frequency** of **successful collisions**, the greater the rate of reaction.



Factors Affecting Rate of Reaction

Increasing temperature:

- Particles move faster increasing the frequency of collisions
- Particles have more energy, so a greater proportion of collisions are successful.

Increasing Concentration:

- More particles in the same volume therefore more frequent collisions.

Increasing pressure:

- Less volume therefore less space between particles causing more frequent collisions.

Increasing surface area:

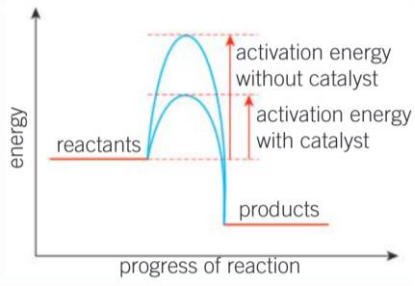
- Greater amount of reactant exposed leading to more frequent collisions.

Catalysts

Provide a different reaction pathway that has a lower activation energy.

Catalysts:

- Are not used up in a reaction.
- Increase the rate of a reaction.



Keywords

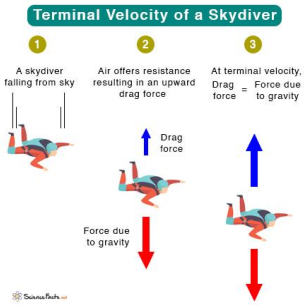
Successful collision: When reacting particles collide with enough energy to react.

Combined Science

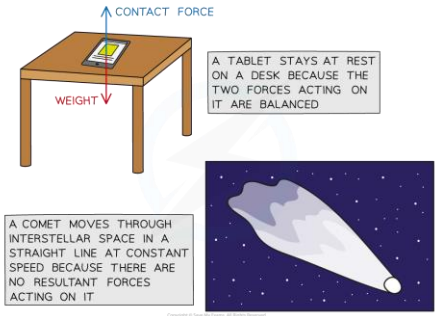
Week 9 – Physics revision

Forces

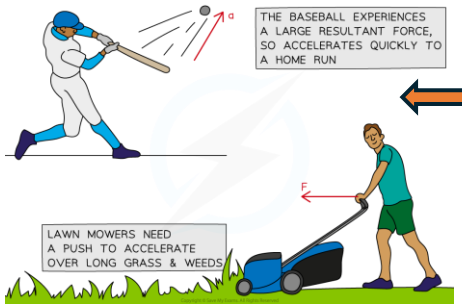
At **terminal velocity** an object stops accelerating and travels at a **constant velocity.** This is because the **forces opposing** the direction of travel (friction and air resistance) balance the **accelerative force**.



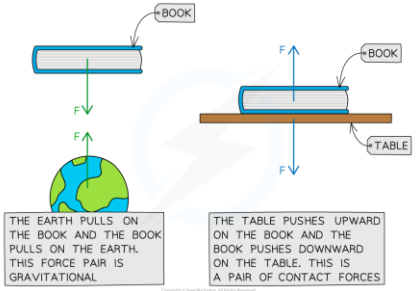
Newton's First law states that if the **resultant force on a stationary object** is **zero**, it will **remain stationary**. If the **resultant force on a moving object** is **zero**, it will **continue moving at constant velocity.**



Newton's Second law states that an object is proportional to the resultant force acting on it and inversely proportional to the objects mass



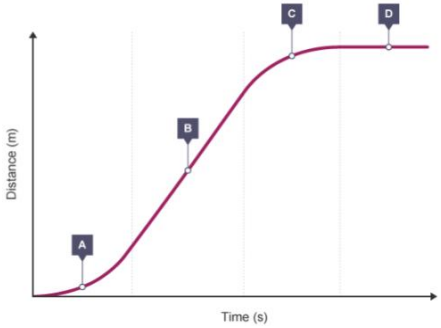
Newton's Third law states that when **two objects interact** they exert an **equal and opposite** force on one another.

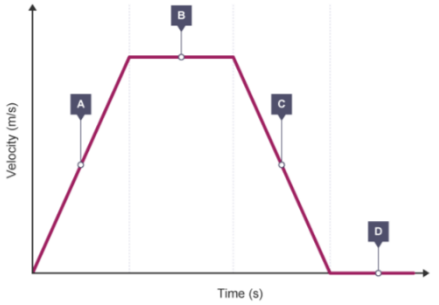


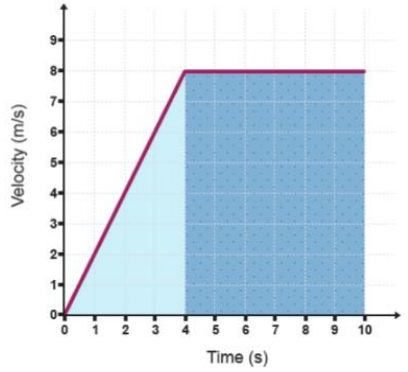
Week 10 – Physics revision

Forces

- **Distance** is a **scalar** value, measured in m. **Displacement** is a **vector** value measured in m, since it also **has direction.**
- **Speed** is a **scalar** quantity, whilst **velocity** is a **vector** since it **has direction**. Both are measured in **metres per second, m/s.**
- The **gradient** of a **distance-time graph** gives the **speed** of an object.
- The **steeper the gradient the greater the speed** of the object.
- The **gradient** of a **velocity-time graph** gives the **acceleration** of an object.
- A **positive gradient** shows **positive acceleration.**
- A **horizontal line** shows a **constant velocity.**
- A **negative gradient** shows **negative acceleration, or deceleration.**
- The **area under a velocity-time graph** gives the **distance** travelled.
- Dividing the area into triangles and rectangles allows you to calculate the area.
- **Acceleration** is the **rate of change of the speed** (or velocity) of an object, measured in **metres per second per second, m/s^2.**
- **Acceleration** can be **uniform** (changing at a constant rate) **or non-uniform.**







Combined Science

Week 11 – Improvement week

What Went Well?

You've completed your assessment, what next?

1. Review – what were your strengths and weaknesses?
2. Reflect – what could you have done differently in you preparation?
3. Improve – act to address your weaknesses and implement improvements for next time!

Even Better If...

Week 12 – Getting Y11 ready

Prepare for year 11 by getting GCSE ready and attempting a past paper.

- Biology paper 1
- Biology paper 2
- Chemistry paper 1
- Chemistry paper 2
- Physics paper 1
- Physics paper 2

AQA

Please write clearly in block capitals.

Centre number | | | | | | Candidate number | |

Surname _____

Forename(s) _____

Candidate signature _____

I declare this is my own work.

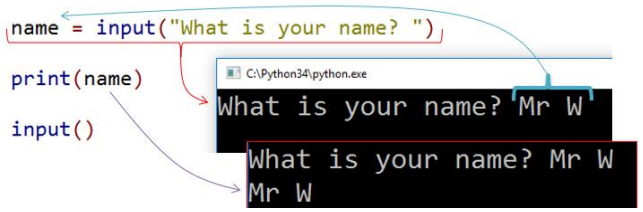
Computer Science

Week 1

Variables
A memory location containing a single piece of data that can change whilst the program is running.

Variable - Variables are simply memory locations that can store a single piece of data (of a particular data type) at any one time

Variable Assignment - X = 7 is *X becomes 7*



Constant
A memory location containing a single piece of data that cannot change whilst the program is running.

Constants are just like variables in that they are also memory locations.

Unlike a variable, a constant's contents **cannot** change whilst the program is running. They **cannot** be overwritten.

When might we use constants in programs?

Because constants cannot change, they are great if we want to use a value in our program that is "set in stone" .

Examples are VAT and the value of Pi.

Week 2

Data Types

Data Type	Typical Size	Explanation	Example
Integers	2 or 4 bytes	Whole Numbers	104 21 23,456
Real (float in Python)	4 or 8 bytes	Decimal or Whole number	-12 23,456 -0.34 1243.5434523
Strings	Usually 1 byte per character	Collection of alpha-numeric characters, whitespace and punctuation.	"Adsh 889wd" "sdsd34@@$" "Pea Soup"
Boolean	1 bit	Either TRUE or FALSE	TRUE / FALSE ON / OFF 1 / 0
Characters	1 byte	Single Character (any alphanumeric character or punctuation, but only **one** character)	'1' 'D' '%' 's'

Casting a string to an integer

```
var = "9"
var = int(var)
```

The variable var begins storing the string '9'.

Then, the variable's data is cast to an integer type and reassigned to the variable 'var'.

Casting an integer to a string

```
var = 9
var = str(var)
```

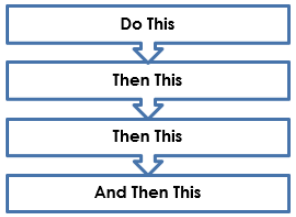
The variable var begins storing the integer **9**.

Then, the variable's data is cast to a string type and reassigned to the variable 'var'.

Week 3

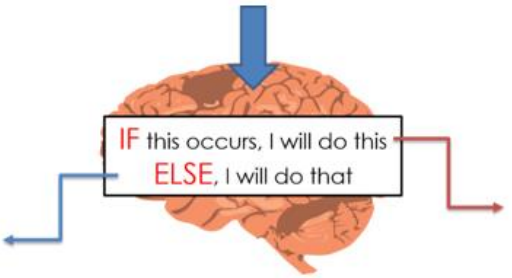
1. Sequencing

Performing one instruction after another



2. Selection

The program making decisions



3. Iterations

The program repeating, looping whilst a condition is true or for a set number of times.

Computer Science

Week 4

Operator

Operation	Description	Operator	Example
Addition	Adds one value to another	+	c = a + b
Subtraction	Subtracts one number form another	-	c = a - b
Multiplication	Multiplies two numbers	*	c = a * b
Division	Divides one number by another.	/	c = a / b
Modulo Division	Divides 2 numbers but only keeps the 'remainder' part of the answer	MOD or %	c = a % b
Quotient Division	Divides 2 numbers but only keeps the 'whole number' part of the answer	DIV or //	c = a // b

Relational Operators	How They Compare
= (or ==)	Is equal to
<> (or !=)	Is not equal to
<	Is less than
>	Is greater than
<=	Is less than or equal to
>=	Is greater than or equal to

Week 5

String Manipulation

String manipulation refers to a range of built in functions that many programming languages have which can manipulate string data.

Construct	Setup
String Length	.length
Substrings	.substring(x , i) .left(i) .right(i) *x is starting index* *i is number of characters* *Index begins at 0*
Concatenation	+
Uppercase	.upper
Lowercase	.lower
ASCII Conversion	ASC(…) CHR(…)

Week 6

File Handling

Open - Once a file has been opened, the records are read from it one line at a time. The data held in this record can be read into a variable, or, more commonly, an array

Python Example

```
file = open("scores.txt" , "r") #would import the contents of score into the variable file in read only mode
file = open("scores.txt" , "a") #would import the contents of score into the variable file in append mode
file = open("scores.txt" , "w") #would import the contents of score into the variable file in write mode
```

Read - Once a file has been opened, the records are read from it one line at a time. The data held in this record can be read into a variable, or, more commonly, an array.

Python Example

```
score = file.read() #reads the entire file
score = file.readline() #reads a single line
```

Write - Data is written to a file one line at a time, using the writeLine statement

Python Example

```
for x = 0 to 9
file.write(scores[x])
```

Closing - A file must be closed by the program for it to be saved.

Computer Science

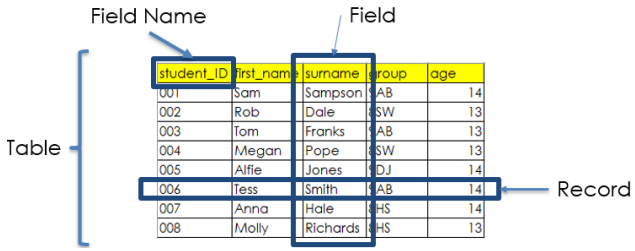
Week 7

Database and SQL

Table
A table is simply a collection of data that relates to a person or object (often referred to as an entity (e.g. students)).

Record
A collection of data about a single entity (e.g. a student).

Field
A unique piece of data about an entity (student surnames).



student_ID	first_nam	surname	group	age
001	Sam	Sampson	SAB	14
002	Rob	Dale	SSW	13
003	Tom	Franks	SAB	13
004	Megan	Pope	SSW	13
005	Alfie	Jones	SDJ	14
006	Tess	Smith	SAB	14
007	Anna	Hale	SHS	14
008	Molly	Richards	SHS	13

SQL

The SQL language is made up of a selection of statements to carry out jobs on databases.

There are quite a few but the basic / common statements are:

CREATE TABLE – *create a database table*
SELECT – *selects data*
UPDATE – *edits data*
DELETE – *removes data*
INSERT INTO – *inserts new data*

Week 8

Programming Techniques – Sub Routines

Subroutines

A subroutine is a block of code, that has been given a unique name and that will only execute (be run) when it is called to do so.

The diagram below attempts to demonstrate this. The subroutine named 'timestable', is only executed after it has been called. When it is called, the main program pauses whilst the subroutine runs. Then, after the subroutine has finished executing its code, the main program resumes.

```
#Main Program:

print("Welcome to the 10 Times Table")

timestable()

….the rest of the program code
```

```
#Subroutine:

procedure timestable()
    for x = 0 to 10
        print(str(x) + "times 10 is" + str(x*10))
endprocedure
```

Week 9

Defensive Design

The application of a range of strategies, when designing/writing programs, to ensure that they are robust (error free and meet the needs of the end user).

Input Sanitisation
Inputted data entered is cleaned of any unwanted characters.

Input Validation
Checking that the input meets certain criteria, to ensure that the data is in an acceptable form.

Length Check
This validation type will accept inputs that contain a number of characters that satisfies a particular range.
For example, only accepting usernames of a length between 6 and 12 characters, rejecting usernames that are either too short or too long.

Presence Check
This validation type will ensure that data is entered, preventing 'blank' inputs.
For example, if an online form asked the user to enter their phone number, it would not allow the form to be submitted if the field was left blank.

Range Check
This validation is usually used for numerical inputs (but can be for character inputs) and ensures that the system will only accept inputs that fall within a given range.

Computer Science

Week 10

Testing
Ultimately, testing is required to ensure that a developed program functions as it was designed to and meets the needs of the end user.
There are various reasons why a program might not function as it should:

Errors in the syntax mean that the program will not run properly

Errors in the logic of the code mean that the program produces unexpected results

Errors in the overall design of the program mean that the program doesn't do the job it was supposed to do

…and in all these cases, various testing strategies are used to ensure that these issues are eradicated, enabling the program to meet the needs of the end user.

Iterative Testing
-Testing should be ongoing throughout the development process.
-Code an aspect of your program and test it before moving on.

Final Testing
-At the end of the development, when the program is complete, the program should be tested again (as a whole) against the requirements of the customer to ensure their needs have been met.

Week 11

Black Box Testing

This only deals with the inputs and outputs of the program and not how the algorithms work.

Ideally, we would test that EVERY possible input produces the expected results – but this is not possible due to the great combinations of inputs possible. So similar inputs are grouped.

In Black Box testing we use 'Typical', 'Erroneous' and 'Boundary' data

White Box Testing

This only deals with the algorithms to make sure that they function correctly.

The focus is on testing that all possible paths of the algorithms work as they should.

On each test, the path of the execution is noted and compared with other runs.
Each path is determined by the values of the conditions in constructs such as IFs or Loops.

Typical Data – should produce the expected results.
Erroneous Data – should produce an error message and not crash the program.
Boundary/Extreme Data – it is important to test that data on the ends of a range of accepted data, are dealt with correctly by the program.

Week 12

Program Errors

Syntax Errors
A syntax error is simply an error where the code written doesn't meet the rules of the programming language.

These errors appear when the source code is translated into machine code. The translator tries to convert the code but if the code doesn't meet the rules known to the translator, it throws up an error.

Logic Errors
A logic error is one where the code is written in accordance with the programming rules and is therefore translated and runs, however, the program produces unexpected results.

Run time errors
When the code is free of syntax errors and logic errors, there is still one more error that can result.

A run-time error will occur to a normal working program if some extreme conditions occur.

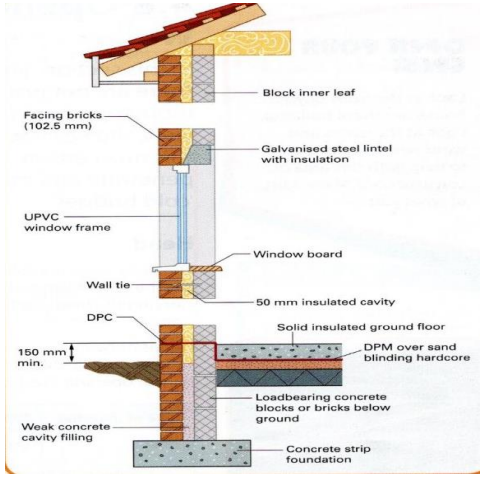
One example maybe that the program has got into a situation where it is to perform arithmetic which has an impossible answer:
-Dividing a number by zero
-Finding the square root of a negative number

These are known as arithmetic errors.

Construction

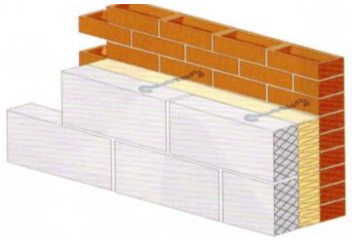
Week 1

Functions of a wall and openings:



Week 2

Cavity walls:
Wall ties hold the brickwork and blockwork together and provide stability. Wall ties are spaced at:
- 900 mm centers horizontally
 450 mm centers vertically
- 225 mm centers alongside openings (could be 300 mm centers but blocks are 225 mm per course).



Week 3

Timber framed construction:
This is a prefabricated form of construction.
The timber frame comes to site in sections.
The roof can be assembled at ground level on the substructure and then craned into position.
Work on the internals can then run concurrently with the internal brickwork.
This shortens construction time.

Week 4

Cross-wall construction:
In cross-wall construction, the front and back of the building is constructed as non-loadbearing, while the load bearing walls are at right angles to these walls. This leads to the name cross-wall. The floor between these cross-walls is connected to all four walls and provides lateral restraint.
Suitable for flats or apartments, as it is ideal for creating similar floors. These are quick to make and can be done off-site.

Week 5

Low-rise steel frame:
Portal frames are used for low-rise buildings where a wide span is required. In this instance there are intermediate columns that reduce the rafter size.
A skeletal steel frame for a low-rise building. It is sometimes known as a rectangular frame.

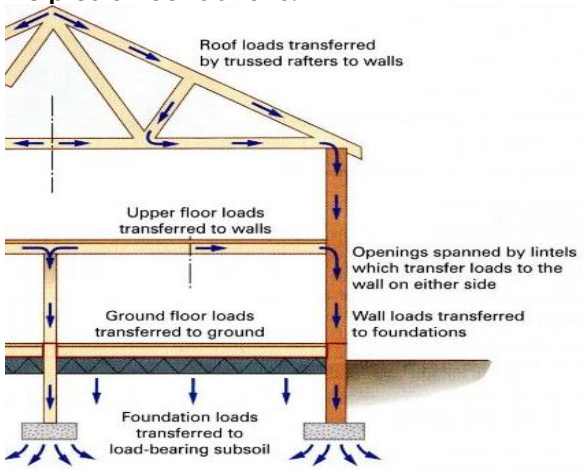
Week 6

Structurally insulated panels (SIPS):
These are insulated timber panels that are strong enough to take loads. They have a central layer of insulation, with plywood either side. These are made quickly that provides a lighter frame that helps reduce site waste. Because they are wooden they are a small fire risk.

Construction

Week 7

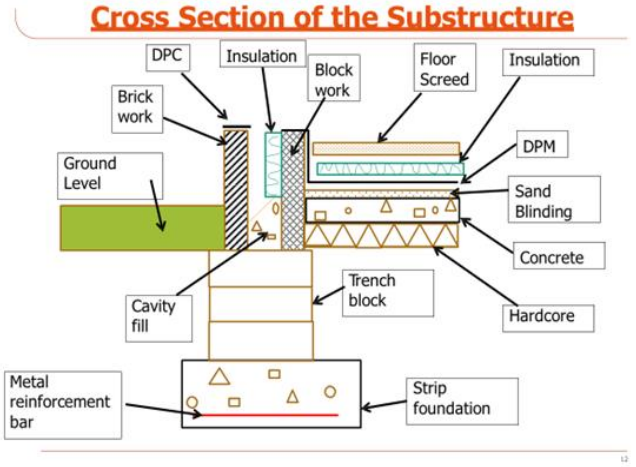
Principles of foundations:



Week 8

Functions of a foundation:
The foundation is the part of the building in contact with the ground. It supports the building and maintains stability. It must be able to:
•safely transmit the loads of the building to the sub-soil
•settle within acceptable limits (avoiding sinking into the ground)
•support the loads of the building
•spread the load of the building over an area that the ground is capable of supporting
•transfer the loads to deeper, higher bearing capacity soils or rock.

Week 9



Week 10

The functions of a floor are:
- to provide a level surface
- to reduce sound transmission
- to support and transfer loads to walls or to a structural frame
- to provide discreet distribution routes for services.

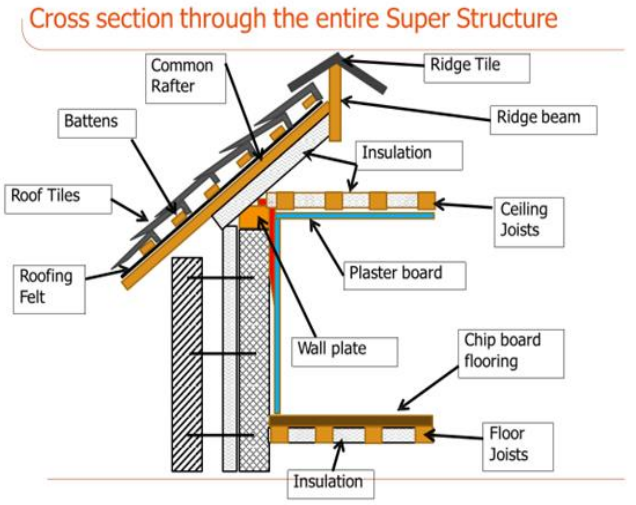
A ground floor further needs:
- to provide thermal insulation and reduce heat losses
- to transfer loads directly to the ground.

Week 11

Functions of a roof:
- To discharge rainfall away from the building.
- To waterproof the structure and provide shelter.
- To prevent heat loss from the building.

Secondary functions of a roof:
- To provide a terrace, garden or recreational space.
- To provide additional internal accommodation or space.

Week 12



Dance

Week 1

Dance Anthology - 'Shadows' by Christopher Bruce (Phoenix Dance Theatre)

Stimulus (starting point):
- Arvo Part's 'Fratres' for violin and piano.
- The music evokes images of a European history and tradition, steeped in over a thousand years of suffering and human experience.
- Explores a family dynamic, as they deal with an unseen but ever-present force.

Choreographic Intentions:
- "Politically aware", in reference to past or current political events, exploring their effect on human life.
- A small family, (possibly set in Eastern Europe) coming to terms with deprivation, poverty and the realities of what lies outside their intimate family home.
- A darker work with a semi-narrative.

Choreographic Approaches:
- Bruce does not prepare movement before entering the studio, he prefers to wait and work with the dancers.
- The movement must 'sit' well on the dancers.
- Started with the idea of a family unit sat around the hearth or dining table – the set is intrinsic to the choreography.
- The 'anxiety of the music' influenced the movement and allows each family member to have a voice and tell their story.

Dance Styles:
- A combination of classical and contemporary dance language termed **neo-classical**.

Week 2

Introduction to the Component 1 Set Phrase – Breathe:
Action content – What a dancer does.
Timing content – The use of time or counts when matching movement to sound.

Practical Exploration - 'Shadows' Class Dance:

Neo-classical – Bruce's signature movement style is grounded in modern dance techniques with a combination of classical and contemporary dance language.

Features of contemporary dance:
- Use of the torso
- Floor work
- Flexed and pointed feet
- Swing
- Grounded – low centre of gravity
- Story-telling and emotion

Features of classical dance:
- Turn out
- Extension and pointed feet
- Upright posture
- 5 positions of the arms and feet
- Graceful, light and flowing

Stimulus/Stimuli – Inspiration for an idea or movement.

Tactile – relating to the sense of touch (props)

Week 3

Component 1 Set Phrase – Breathe:
Movement Memory – The automatic recall of learned movement material, without conscious thought.
Floor work – slide, transfer of weight, lunge, spiral etc.

Emotions:
- Fear
- Anger
- Frustration
- Sadness

Features of the Aural Setting:
- Instrumental
- Violin and Piano
- No break in tempo
- Broken chords and diatonic scales
- Minor key
- Correlates to the speed and dynamic content of the movement

Appropriate Aural Setting:
- Mood and atmosphere – dark and solemn
- Relationship to theme or idea – introduces each character and their emotional response to the environment
- Contrast and variety
- Structure

Dance

Week 4

Component 1 Set Phrase - Breathe:
Flow
Moving through the counts

Improving a Group Performance:

- **Peer Feedback**
- **Self-feedback**
- **Teacher Feedback**
- **Target Setting**
- **Film and Watch Back**
- **Use of mirrors**
- **Peripheral Vision**
- **Mental Rehearsal** – Thinking through or visualising the dance.
- **Systematic Repetition** – Repeating Something in an arranged or ordered way.
- **Rehearsal Discipline** – Attributes and skills required for refining performance such as commitment, systematic repetition, teamwork and responsibility and effective use of time.
- **Musicality** – The ability to make the unique qualities of the accompaniment evident in performance.
- **Timing** – The use of time or counts when matching movements to sound and/or other dancers.
- **Sensitivity to other dancers** – Awareness of and connection to other dancers.
- **Unison** – two or more dancers performing the same movement at the same time.
- **Formations** – shapes or patterns created in space by dancers.
- **Artistry** – creative skill.

Week 5

Component 1 Group Performance Marking Grid:

Marks	Demonstration of physical skills and attributes safely to reflect choreographic intent	Demonstration of technical skills accurately and safely to reflect choreographic intent	Demonstration of expressive skills to reflect choreographic intent
8 Clear	Exceptional ability to demonstrate physical skills and attributes safely.	Exceptional ability to demonstrate technical skills accurately and safely.	Exceptional ability to demonstrate expressive skills.
7 Just			
6 Clear	Highly developed ability to demonstrate physical skills and attributes safely.	Highly developed ability to demonstrate technical skills accurately and safely.	Highly developed ability to demonstrate expressive skills.
5 Just			
4 Clear	Sound ability to demonstrate physical skills and attributes safely.	Sound ability to demonstrate technical skills accurately and safely.	Sound ability to demonstrate expressive skills.
3 Just			
2 Clear	Limited ability to demonstrate physical skills and attributes safely.	Limited ability to demonstrate technical skills accurately and safely.	Limited ability to demonstrate expressive skills.
1 Just			
0	Nothing worthy of credit.		

'Shadows' Features of Production:

Costume

- Clearly gendered, depicting the era 1930s-1940s
- Simple shirts, skirts, trousers and dresses
- Large over coats and shoes are worn at the end of the piece as the family prepare to leave the house.
- Muted and worn down, symbolising deprivation and poverty

Set/Staging

- Minimal set within a black-box
- Bare walls and floor
- A table, a bench, two stools, a coat stand and suitcases (all worn looking – symbolising hardship)
- Set in the heart of the home – a kitchen

Dancers

- 4 (2 male and 2 female)

Lighting

- Creates an intimate family space
- Depicts the feeling of a 'room', as well as what is waiting for the family outside.

Performance Environment

- End Stage; A performance space with the audience on one side; also known as 'end-on'.

Week 6

'Shadows' Technical Skills:

Actions – What a dancer does, e.g. travelling, turning, elevation, gesture, stillness, use of body parts, floor-work and the transference of weight.

Space – The 'where' of movement such as levels, directions, pathways, shapes, designs and patterns.

Dynamics – The qualities of movement based upon variations in speed, strength and flow.

Relationships – The ways in which dancers interact; the connections between dancers.

Dance Anthology - 'Within Her Eyes' by James Cousins (James Cousins Company)

Site Sensitive – Dances that are designed for (or relate to) non-theatre spaces.

Dance for camera – where the choreographer collaborates with (or is) the film-maker; where the intention is to produce a dance work in a multi-media form that cannot be achieved in live performance.

Analyse the 'Prologue' and 'The Beginning':

Camera Techniques – placement, angle, proximity and special effects.

Setting/Location - graveyard and vast field.

Lighting – natural light

Movement Material or Elements of the Dance – Actions, Space, Dynamics and Relationships

Aural setting – An audible accompaniment to the dance such as music and natural sound (or silence).

Stimulus (starting points):

- A love story with a twist.
- Themes of love, loss, dependency and loyalty, longing and memory.
- Not a conventional love story.
- Ultimately, they could never be together.

Dance

Week 7

Component 1 Set Phrase - Breathe:

Transitions – Links between dance phrases or sections

Spatial Awareness – Consciousness of the surrounding space and its effective use.

Practical Exploration - 'Within Her Eyes' Contact Work:

Choreographic Intentions:

- Creating a dance work with the same visceral energy of the live performance 'There We Have Been'.
- An abstract love story that is open for interpretation.
- Female dancer reaches, wraps, balances and falls on or around the male dancer.
- The male dancer never initiates or manipulates, he merely responds to her every move.
- The female dancer never touches the floor.
- Impressive physicality with a dark, emotional heart, resulting in a daring and intimate work.

Choreographic Approach:

- Narrative and emotional themes
- The physical idea of keeping the female dancer off the floor
- Collaborated with the dancers through improvisation, which was filmed and then learnt back from the video.
- Cousin pieced the sections together to reflect the narrative arc of the story.

Dance Styles: Contemporary/Contact Work

Physical Skills – Aspects enabling effective performance

Focus – Use of the eyes to enhance performance

Directions – The facing of a movement.

Week 8

'Within Her Eyes' Features of Production:

Costume

- Stylised everyday clothes.
- Female dancer – beige shirt and skirt, the lightness gives an ethereal feel/link to the heavens.
- Male dancer – khaki jumper and jeans, the darkness links him to earth.

Set

- Remote locations gives the feeling of isolation and highlights the characters separation from society
- Locations progress from very open landscapes to more intimate settings to show a passage of time and to reflect their relationship getting more intimate and restricted as it progresses.

Lighting

- Natural light
- Develops from daytime to evening to show the passage of time of the relationship.
- The darker setting towards the end adds intensity and intimacy.

Aural setting

- Composed specifically for the work
- Combing electronic elements with strings and piano creating a haunting feeling

Dance for camera

- The camera starts very far away to suggest isolation.
- As the relationship grows closer, the camera moves closer but still keeps distance until the first moment the dancers look at one another.
- Shot with the camera on a track, giving a smooth quality.
- The penultimate section switches to hand-held giving a raw and unstable feeling.

Week 9

Component 1 Set Phrase Breathe Marking Grid:

Solo performance assessment grid (12 marks)

For the list of knowledge, understanding and skills to be assessed, please refer to the subject content for Performance (page 11).

Marks	Demonstration of physical skills and attributes safely to reproduce set phrases	Demonstration of technical skills accurately and safely to reproduce set phrases	Demonstration of expressive skills to reproduce set phrases
4	Exceptional ability to demonstrate physical skills and attributes safely.	Exceptional ability to demonstrate technical skills accurately and safely.	Exceptional ability to demonstrate expressive skills.
3	Highly developed ability to demonstrate physical skills and attributes safely.	Highly developed ability to demonstrate technical skills accurately and safely.	Highly developed ability to demonstrate expressive skills.
2	Sound ability to demonstrate physical skills and attributes safely.	Sound ability to demonstrate technical skills accurately and safely.	Sound ability to demonstrate expressive skills.
1	Limited ability to demonstrate physical skills and attributes safely.	Limited ability to demonstrate technical skills accurately and safely.	Limited ability to demonstrate expressive skills.
0	Nothing worthy of credit.		

Dance

Week 10

Prompted PPE Component 2:

Paper maximum mark = 74 marks:

Section A = 30 marks (30 minutes)
- Knowledge of performing skills (technical, expressive, mental, physical and safe practice)and choreography

Section B = 12 marks (16 minutes)
- Appreciation of own work
- Set phrase and Choreography Questions only.

Section C = 32 marks (35 minutes)
- Appreciation of others work – Dance Anthology (Artificial Things, Infra, Shadows and Within Her Eyes)

Explain Questions: PEE = Point, Example, Explain

Discuss Questions: PEEP = Point, Example, Explain and Personal Opinion (I think ….)

Practical Exploration - 'Within Her Eyes' Site Sensitive:
Possible Site-Sensitive Locations:
- Corridors
- Classrooms
- Field
- Tennis Courts
- Canteen
- Art Foyer

Discuss - Contribution to mood, atmosphere and intention.

Week 11

Within Her Eyes - Camera Techniques:

Placement - the height and position of the camera relative to the subject (eye-level, high/ low or aerial/bird's-eye view).

Angle - the direction the camera is pointing, relative to the subject (side, central, diagonal etc.)

Proximity - the implied distance between the camera and the subject, rather than the actual physical distance (close up, medium shot or long shot).

Special Effects - techniques used during filming to create visual illusions or enhance the visual storytelling (fading, cross cutting, sudden changes of location or dancer etc.)

Week 12

Walking Talking Mock Component 2 (Purple Penning Prompted PPE from Week 10):

Paper maximum mark = 80 marks:

Section A = 30 marks (30 minutes)
- Knowledge of performing skills (technical, expressive, mental, physical and safe practice)and choreography

Section B = 18 marks (25 minutes)
- Appreciation of own work

Section C = 32 marks (35 minutes)
- Appreciation of others work – Dance Anthology (A Linha Curva, Artificial Things, Emancipation of Expressionism, Infra, Shadows and Within Her Eyes)

Explain Questions: PEE = Point, Example, Explain

Discuss Questions: PEEP = Point, Example, Explain and Personal Opinion (I think ….)

Digital Information Technology

Week 1

Characteristics of Data and Information

The characteristics of data are:
- No meaning e.g. M, 15
- No structure
- No context
- Unprocessed

The characteristics of information are:
- Has meaning e.g. male
- Has structure
- Has context
- Is processed

Information is processed data with meaning and context e.g. Age of student.

Data can be collected from different sources:
- Paper form
- Database
- Survey via email

Data is often stored in spreadsheets or databases so that it is structured and easy to access.

Database terminology includes:
- Table e.g. collection of student records
- Record/row e.g. data for one student with several fields
- Field/column e.g. name, email, mobile

You can generate information from data such as:
- Graphs/charts
- Calculations e.g. average score
- Searching and sorting

Week 2

Representing Information

Information can be presented in many ways.

Method	Advantages	Disadvantages
Text	Describes data, fast to produce	Must read, less engaging, hard to interpret
Numbers	Used to create charts	Difficult to understand without text and formatting
Tables	Data in tables is easier to process	
Graphs/charts/Sparklines	Patterns and trends easily noticed	
Infographics	Easier for people to remember	

Qualitative information e.g. Light rain showers and gentle breeze.

Quantitative information e.g. 11°, 58%

Week 3

Ensuring Data is Suitable

It is important that when data is collected it is as accurate as possible. Validation is checking that data meets certain rules. There are several methods.

Validation Method	Description
Range check	Checks value entered is within range.
Type check	Checks data type e.g. string, real, character, boolean.
Presence check	Checks item of data is present.
Length check	Checks the number of characters in a string are a certain length.

Verification is checking that information is correct. There are two methods.

Verification Method	Description
Proofreading	Checks spelling, punctuation and grammar.
Double entry	Same information is entered twice and compared e.g. changing a password.

Digital Information Technology

Week 4

Data Collection

Primary data is collected using these methods.

Method	Benefits/ Strengths	Drawbacks/ Weaknesses
Interviews	Fit for purpose, qualitative data, face gestures, no travel with video/phone calls	Costly to collect, harder to analyse results, face to face requires travel
Questionnaire	Easy to analyse, cheap	May not be returned, time to carry out
Surveys	High sample size provides more accurate quantitative data	Small sample size provides less accurate data, not taken seriously

Secondary data uses sources that other people have created.

Source	Benefits	Drawbacks
Websites/ forums/blogs	Some high quality sites	Unreliable sites
Books/ journals	High quality data	Very expensive
Booking systems	Automated, quantitative data	Setup costs

Week 5

Quality of Information

Factors affecting Quality	Considerations
Source/ Collection method	Some sources are more trusted, up to date and accurate.
Accuracy	Automatic data collection is accurate, human data collection has accuracy issues.
Age	Data may be out of date within seconds.
Completeness	Offer alternative time to collect data, use other sources of data to fill gaps, use interpolation to calculate missing data.
Amount of detail	Too much data is hard to sort through to find important data to produce good information. Not enough data results in poor decisions.
Format/ Presentation	Label to help understanding, format to make it easy to read.
Volume	Size of survey and number returned, large volumes require more storage space and time to process.

Week 6

Sectors That Use Data Modelling

Sector	Data	Decisions
Banking	Footfall	Open/close branches
Construction	ONS, Land registry	Land costs, property costs
Education	Admissions	Timetabling
Entertainment	Number of viewers	Continue broadcasting
Government	Birth and death registrations	Predicting demand for new schools, hospitals
Health care	Number of patients	Number of nurses and doctors needed
Health and safety	Accidents	First aid training
Retail	Items in stock	Ordering stock
Sport and fitness	Item sale price	Future sales
Transport	Number of passengers	Price of tickets

Digital Information Technology

Week 7

Threats to Individuals

Personal data includes:

- Name & email & telephone number
- Medical information
- Social media posts & browsing history
- Viewing and listening habits

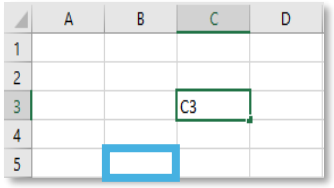
There are several threats to individuals who have data stored about them.

Threat	Details
Invasion of privacy	CCTV, personal and sensitive data on social media, reduces crime, used as evidence, may be used to blackmail someone
Identity theft	You can prove who you are using passport, birth certificate, NI number, bank statement and email address. People use personal information to pretend to be someone else.
Fraud	Crime where people are deceived e.g. identity theft
Targeting vulnerable groups of people	Fraudsters target the elderly, young and disabled people.
Inaccurate data could be stored	Data incorrectly entered, data becomes inaccurate over time e.g. mobile number

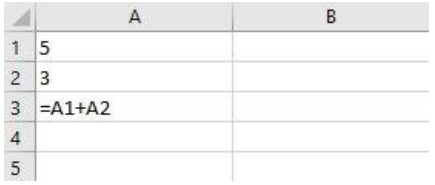
Week 8

Data Manipulation Methods

Spreadsheets are tables that contain **rows** (1, 2, 3, etc) and **columns** (A, B, C, etc). Each box is called a **cell** which has a **reference** e.g. **C3**. Cells can store data such as text and numbers.



Formulae is used to calculate values in cells e.g. **=A1+A2**



Text and numbers in columns can be **sorted** into **ascending** or **descending** order. **Filtering** is used to show and hide records.

Data can be **imported** from a comma separated values (**CSV**) file. The comma is called a **delimiter**. Data can also be imported from a fixed width file which use spaces instead of commas. For up-to-date data you can even import data directly from a web page.

Spreadsheets contain many **features** e.g. **Text to Columns** will split a name in one column e.g. 'Oliver Smith' into two columns e.g. 'Oliver' and 'Smith'.

Week 9

Advanced Manipulation Methods

Function	Description
IF	Allow decisions to be made in a spreadsheet.
WHATIF	This is analysis which is used to find the value of one cell based on a goal i.e. Goal seek.
SUMIF	Allows cells to be added together if they meet certain criteria.
VLOOKUP, HLOOKUP	VLOOKUP is used to find information in a row. HLOOKUP is used to find information in a column.
LEFT, RIGHT	This is a string operation function which allows you to take the leftmost or rightmost characters from a string.
COUNTBLANK, COUNTIF	This function will count cells that meet a condition.
AND, OR, NOT	This is a logical operator.

Digital Information Technology

Week 10

Other Processing Methods

Method	Description
Cell referencing	Relative cell references can change. Absolute cell references do not change and use a $ symbol.
Named cells	Cells named using column and row position e.g. A1. Cells can be given another name e.g. VAT.
Worksheets	Different sheets in one spreadsheet e.g. Sheet1. Can rename, delete, copy and hide sheets.
Comments and notes	Helps to explain the cell. You can hover mouse pointer over cell to see comment.
Hiding cells	Cells can be hidden from the user e.g. calculations.
Freezing panes	Lock rows or columns so they remain visible whilst scrolling.
Data validation	There are three types: list, type and length validation.
Conditional formatting	Can change a cell's format based on a condition e.g. colour scales.
Macros	This is an action that automate tasks. They can be triggered with buttons. VBA code is generated.

Week 11

Producing a Dashboard

Managers use dashboards to track and view key information. The following presentation methods and features are used on a dashboard.

Presentation Method/Feature	Description
Text	Need to consider text size, font style and font colour.
Cell borders	Grid lines allow key data to be highlighted.
Cell shading	Use a colour scheme.
Titles	Use a larger font size.
Graphs and charts	Trends can be easily spotted.
Axis labels and titles	Needed to make charts easy to understand.
Aligning charts	This makes it look more professional.
Sparklines	Show trends clearly.
Data summaries: totals, counts and percentages	Use functions to calculate totals e.g. =SUM(B16:D16)
Form controls: spinners, tick boxes, radio buttons and dropdowns	These enable dashboards to be interactive.

Week 12

Pivot Tables

Pivot tables can do the following:

- Automatically create summary data
- Interactively filter the data
- Quickly analyse data to find trends and patterns
- Produce interactive charts

Before creating a pivot table, the data should be in a table. A pivot table can then be made by dragging fields to areas such as rows, columns or values.

Pivot tables automatically calculate summary data such as count, sum and average.

Pivot tables can apply filters to the records e.g. filter by date.

Pivot charts can automatically analyse data and create charts which show trends. The pivot chart can easily be changed from a bar chart to either a line chart or a pie chart.

Pivot table slicers allow a user to select different data items to filter records used in a pivot table. Slicers make a dashboard interactive and dynamic.

Pivot table timelines work like slicers, they filter records which correspond to a certain date.

Drama

Week 1

Devising
Collaboration

Practitioners –
UPG
The Paper Birds
Frantic Assembly

Verbatim – a form of documentary theatre where the script is created from the exact words spoken by real people.

Physical theatre – a genre of performance that emphasizes the use of the body as the primary means of expression.

Dance, Movement, Mime

Week 2

Developing Devising skills

Theme: Conflict

Stimulus: starting point to give you ideas for your performance

Poem, Painting, Song

Creative response to a stimulus

Social and Historical Context

Week 3

Ensemble - A group of performers work together as a united whole rather than having a leader

Collaboration

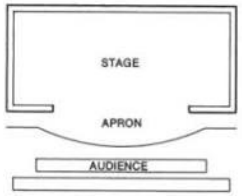
Artistic Intentions – the goal, purpose or message that the performance aims to communicate.

Planning

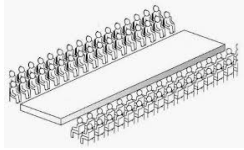
Opening scene - dynamic, audience response

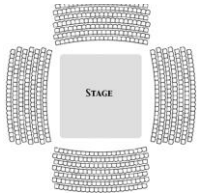
Week 4

Proscenium Arch



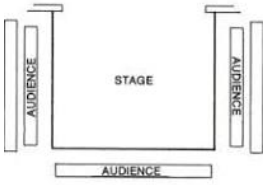
Traverse





Theatre in the round

Thrust Stage



Week 5

Rehearsal – time where you can prepare and develop your performance

Focus – maintaining concentration throughout your rehearsal

Scene – the section of the play that you are focusing on

Directing – having the creative vision for the play

Character – the people in the play

Plot – the narrative of the play

Week 6

Performance Skills

Voice
- Volume – how loud or quiet the voice is
- Pace – how low or high the voice is
- Tone – the mood of the voice
- Emphasis – where you place the stress vocally
- Intonation – the rise and fall of the voice
- Accent – showing where the character is from

Physical
- Facial Expressions – expressing emotions
- Gesture – use of hands
- Movement – the physicality of the character
- Posture – slouching or stood tall
- Gait – how the character walks

Drama

Week 7

Genre & Performance Styles

- Comedy – a style that makes the audience laugh
- Tragedy – a style that creates an emotional response
- Melodrama - exaggerated
- commedia dell'arte – Italian physical style
- Naturalism - Stanislavski
- epic theatre - Brecht
- documentary theatre – based on real events
- physical theatre – Frantic Assembly, DV8

Week 8

Production: Set, Costume, Lights, Sound

Lanterns:
Fresnel
Flood
Profile

Diegetic – sound that exists in the world of the play

Non-diegetic sound – sound that adds mood and atmosphere for the audience

Enhancing meaning

Mood/Atmosphere

Week 9

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

Week 10

Evaluation/Reflection

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

Week 11

Evaluation/Reflection

Audience response

Feedback

Aims and Intentions

Week 12

Evaluation/Reflection

Target – setting a goal for improvement
Specific – clearly defined
Measurable – capable of being measured
Attainable – able to be achieved
Relevant - appropriate
Timely – set to a time limit

English

Week 1 (stage directions)

Society - people living together in a more or less ordered community.
Community - a group of people living in the same place or having a particular characteristic in common
Collective responsibility – the idea the responsibility should be taken up by everyone and for everyone
Capitalism - an economic and political system in which a country's trade and industry are controlled by private owners for profit
Socialism - a political and economic theory of social organisation which advocates that the means of production, distribution, and exchange should be owned or regulated by the community
Microcosm - a community, place or situation regarded as encapsulating the characteristics of something larger than itself. For example, a village could be a microcosm for a city.

Context:

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

Key Quotations:
"*The **dining room** is of a **fairly large suburban** house, belonging to a **prosperous manufacturer**.*"
Stage Directions describing the Birling's

Week 2 (Act one)

Social welfare - the many programs that are designed to help people in need of goods and services that they are unable to provide for themselves
Welfare state - a system whereby the state undertakes to protect the health and well-being of its citizens, especially those in financial or social need
Industrialisation - the development of industries in a country or region on a wide scale
Dramatic irony – when the audience is aware of plot before characters
Edwardian era - "Edwardian" style broadly encompasses the years of 1901 through to 1919.
Misanthropic - having or showing a dislike of other people; unsociable.
Context:

- The Birlings are celebrating the engagement of their daughter, **Sheila**, to **Gerald Croft**. Birling sees this as another opportunity for making more money, as Gerald Croft is another wealthy businessman.
- The General Strikes of 1910 and 1912 revealed the terrible conditions of factory workers in Britain.
- There was a huge disparity between rich and poor in industrialised society.

Key Quotations:
"*he creates **at once** an impression of **massiveness, solidity and purposefulness**.*"
Stage Directions describing the Inspector
"**I'm talking** as a **hard-headed**, **practical man** of **business**." *Arthur Birling*
"Unsinkable, **absolutely** unsinkable." Arthur Birling
"as if we were all mixed up **together like bees** in a hive – **community and all that nonsense**"

Week 3 (Act one)

Patriarchal - relating to or denoting a system of society or government controlled by men
Blackmail - the action, treated as a criminal offence, of demanding payment or another benefit from someone in return for not revealing compromising or damaging information about them.
Exploitation - the action or fact of treating someone unfairly in order to benefit from their work.
Social class - a division of a society based on social and economic status.
Vulnerability - the quality or state of being exposed to the possibility of being attacked or harmed, either physically or emotionally.
Labouring poor - it was expected that the majority of the population would both work and be poor.
Naïve - showing a lack of experience, wisdom, or judgement
Philanthropic - seeking to promote the welfare of others; generous and benevolent.
Context:

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

Key Quotations:
"Crofts and Birlings are no longer competing are working together – for **lower costs and higher prices**"
"But **these girls** are **not cheap labour**, **they**'re **people**." Sheila Birling

English

Week 4 (act two)

Duplicitous – having two sides and therefore being deceitful.
Materialistic – motivated by material gain
Ignorant - lacking knowledge or awareness in general; uneducated or unsophisticated.

Respectability - the quality of being socially acceptable.
Allegorical morality play -A play in which the characters personify moral qualities (such as charity or vice) or abstractions (as death or youth) and in which moral lessons are taught.

Context:

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

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

"She looked **young** and **fresh** and **charming**" *Gerald Croft, Act Two*

Week 5 (act two)

Charity - an organization set up to provide help and raise money for those in need. The voluntary giving of help, typically in the form of money, to those in need.
Supercilious
Prejudice - preconceived opinion that is not based on reason or actual experience
Reputation - the beliefs or opinions that are generally held about someone or something.
Bigoted - unreasonably attached to a belief in particular prejudiced against a person or people on the basis of their membership of a particular group.

Context:

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

Key Quotations:
"I accept no blame for it at all" *Mrs Birling*
"Girls of that sort"//"Girls of that class" *Mrs Birling*
"He should be made an example of. If the girl's death is due to anybody, then it's due to him." *Mrs Birling*
"Don't worry Mrs Birling. I shall do my duty. (He *looks at his watch*.)" *Inspector*

Week 6 (Act three)

Impetuous - acting or done quickly and without thought or care.

Juvenile - childish; immature.

Ego - a person's sense of self-esteem or self-importance

Context:

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

Key Quotations:
"– **my child** – **your** own grandchild – **you killed them both** – **damn you**, damn you-"
Eric Birling
"One Eva Smith has gone – but **there are millions and millions and millions** of Eva Smiths and John Smiths still left with us (…) all **intertwined** with **our** lives."
The Inspector

English

Week 7 (Act three)

Revelation - a surprising and previously unknown fact that has been disclosed to others.
Social and moral epiphany – coming to terms with what is right in society and morally
Conscience - a person's moral sense of right and wrong, viewed as acting as a guide to one's behaviour.
Metamorphosis - the process of transformation from an immature form to an adult form.
Retribution - punishment inflicted on someone as vengeance for a wrong or criminal act.
Intransigence - refusal to change one's views or to agree about something.
Social responsibility - an ethical concept in which a person works and cooperates with other people and organizations for the benefit of the community.
Context:

- The capitalist mindset was intransigent and stubborn, and this is reflected in the adult Birlings and Gerald Croft's inability to reflect and change, who refuse to take responsibility for Eva's death.
- The Inspector's final teaching concludes the main message of the play: that we are all responsible for each other and a society that fails to recognise that responsibility is doomed.

Key Quotations:
"if **men** will not learn that **lesson**, then they well be taught it in **fire and blood and anguish**. **Good night**." *The Inspector*
"Between **us we drove that girl** to commit **suicide**." *Sheila Birling*

Week 8 (unseen poetry)

The purpose and perspective of the poem.

The subject of the poem The idea or thing that the poem concerns or represents.
The poet The person who writes the poem
The speaker The person who is expressing their voice in the poem – often different from the poet.
Dramatic monologue A Poem written in the voice of an individual character
Third person omniscient When the writer of the poem or story is writing using the third person, so pronouns such as "they" "Them" "he" "she" but" does not focus on one poem.
Third person subjective This is when the writer of the poem or story writes in the third person, but focuses on one main character – such as Scrooge in ACC
Autobiographical When the poem is a real account of something the poet experienced such as Exposure and The Prelude
Direct address When the poet addresses the reader directly as in Storm on the Island "So you see".
Imagery Using simile, metaphor, personification to build ideas and create connections in the poem.
Extended metaphor Using a metaphor and then extending it throughout the stanza or the poem.
Semantic field A word set that is all related to a particular idea or theme.

Week 9 (unseen poetry)

The structure and form of the poem

Sonnet A fourteen-line poem written in iambic pentameter, employing one of several rhyme schemes, and adhering to a tightly structured thematic organization. The name is taken from the Italian sonetto, which means "a little sound or song."
Acrostic An **acrostic** is a poem or other word composition in which the first letter (or syllable, or word) of each new line spells out a word or message
Rhyming couplets A pair of successive lines that rhyme
Caesura A caesura also written cæsura and cesura, is **a metrical pause or break in a verse** where one phrase ends, and another phrase begins.
Enjambment The continuation of a sentence without a pause beyond the end of a line, couplet, or stanza.
Free verse poetry that does not rhyme or have a regular rhythm.
Blank verse Blank verse" is a literary term that refers to poetry written in unrhymed but metered lines, almost always iambic pentameter
Juxtaposition The fact of two things being seen or placed close together with contrasting effect.

English

Week 10 (unseen poetry)

<u>The beat and phonology (sound) of the poem</u>
Tri metre, trochaic tetrametre, iambic pentametre
Three, four or five metrical feet in each line of poetry or verse.

Rhythm The beat and pace of poetry

Rhyme scheme the ordered pattern of <u>rhymes</u> at the ends of the lines of a poem or verse. Often communicated using letters such as "an ababcc rhyme scheme throughout".

Onomatopoeia the formation of a word from a sound associated with what is named (e.g. <u>*cuckoo*</u>, <u>*sizzle*</u>).
"a relatively large number of bird names arise by onomatopoeia such as "crow".

Assonance/Consonance The deliberate repetition of vowel sounds or the deliberate repetition of consonants

Fricatives harsh consonant sounds such as F or th.

Sibilance repetition of the "s" sound deliberately for effect

Plosives Plosives are sounds like 'buh' and 'puh' (B and P). They're called this because they make an explosive sound when forced from the lips

Monosyllabic/polysyllabic words. Words of one syllable (mono) or words of more than one syllable (poly)

Week 11 (Revisit power and conflict)

Omniscience – All knowing
Power – The possession of control, authority or influence over others.
Oppression – Unjust or cruel exercise of authority or power.
<u>Omniscience of nature</u>
The Prelude
Storm on the island
<u>Power and oppression</u>
My Last Duchess
Ozymandias

Context
The prelude – autobiographical. A significant moment in the poet's own life when he realised the omniscience of nature and his own vulnerability.
Storm on the Island – an autobiographical poem conveying the power of a storm hitting the Arran islands off the West Coast of Ireland, but also the struggles in Northern Ireland from the 70's to the late 90's.
My Last Duchess – A poem about the materialistic Duke of Ferrara and his patriarchal control and subsequent murder of his "last duchess"
Ozymandias – A poem about an eroding statue of the formidable tyrant Ramasses 2, and the power of time over tyrants.

Key quotations
"One Summer evening (led by her)" The Prelude
"Spits like a tame cat turned savage" Storm on TI
"That's my last duchess painted on the wall" MLD
"Round the decay of that colossal wreck" Ozymandias

Week 12 (revisit power and conlfict)

Futility – uselessness
Glorification – Elevation of something – making it seem better than it actually is.
Isolation – The act of being alone or solitary.
<u>Futility, glorification and isolation of war</u>
Kamikaze
Exposure
Charge of the Light Brigade
Bayonet Charge.

Context
Kamikaze – dramatic monologue. A poem about an isolated kamikaze pilot who turns around and returns home, only to be shunned by his family and friends.
Exposure – An autobiographical poem in which the iconic war poet Wilfred Owen describes nature as the ultimate enemy. He also reveals the brutal reality of the first world trench warfare – hence the title.
Charge of the Light Brigade. A narrative poem in which Tennyson describes the disastrous charge of the light brigade in the battle of balaclava when hundred of men died as a result of poor communication and leadership.

Key quotations
"Shaven head full of powerful incantations" KK
"The iced east winds that knive us" Exp
"Boldly they rode and well" COTLB
"The Patriotic tear that had brimmed in his eye, sweating like molten iron from the centre of his chest." Bayonet Charge

Food

Week 1

Types of commonly used sauces – roux, blended, reduction and emulsions.
Types of biscuits, methods – rubbing in, creaming, whisking and melting
Types of pastries – choux, short crust, filo, flaky, rough puff, puff, suet
Types of batters – thin and thick, including tempura

Practical - Satay Noodles
Satay Sauce - A rich and creamy sauce made from peanuts, coconut milk, soy sauce, and spices.
Peanut Butter - Often used as a base for making satay sauce.
Coconut Milk - A creamy liquid made from the flesh of coconuts, adding richness to the sauce.
Simmer - To cook liquid just below the boiling point, allowing it to develop flavours slowly.

The chicken proteins when raw are relaxed and soft, but as they are heated the proteins begin to coagulate pushing out moisture.

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

Reactivate -
- Chop all chicken uniformly to ensure even cooking.
- Cook the Thai pasta out to release the flavours

Week 2

Fruits and vegetables are rich in dietary fibre, vitamins and minerals.
Fats and oils are a dense source of calorie and provide the body with energy.
Sugar provides the body with quick energy.
Monosaccharides - A simple carbohydrate.
Disaccharides - A carbohydrate made from two sugar molecules

Practical – Butterbean Stew
Dumplings – a small savoury ball of dough which may be boiled or baked in a casserole/stew/soup.
Beans – are part of a group called legumes and pulses which also include lentils and peas

Soluble fibre - slows down the digestive process and the absorption of carbohydrates, so makes us feel fuller for longer. It helps control blood sugar levels. It can help lower blood cholesterol levels.
Insoluble fibre - absorbs water and increases bulk so keeps faeces soft, making them pass through the digestive system easily. This prevents constipation.

Reactivate -
- Ensure all dumpling are balled to the same size to enable equal cooking and even portion control
- Chop all vegetable uniformly to ensure even cooking.

Week 3

Meat is a good source of high-quality protein, providing all essential amino acids. Red meat is rich in iron and zinc. Fish provides essential omega-3 fatty acids.
Milk and Dairy Products are excellent sources of calcium. However, they can be high in saturated fat, which can contribute to high cholesterol levels.
High risk foods - Foods that are ideal for the growth of bacteria; high in protein and water e.g. milk, eggs, raw chicken
Cross contamination - The transfer of bacteria from one food to another
Pasteurisation - a process where milk is heated to 75°C for 25 seconds then rapidly cooled to 5°C. This destroys most of the pathogenic bacteria.
Lactose intolerant - When a person is unable to digest lactose, a sugar found in milk and some other dairy products.
Emulsion - A fine dispersion of minute droplets of one liquid into another.

Practical - Spicy Moroccan Rice
Marinating – to put (food, such as meat or fish) in a sauce/spices for a period of time to add flavour, colour and texture
Moroccan spice – coriander, ground cumin, paprika, turmeric, salt and garlic

Reactivate -
- Once cooked, let the rice sit covered for a few minutes off the heat. This allows the flavours to meld together and the rice to finish cooking evenly.

Food

Week 4

Beans, peas, lentils and tofu can also be good sources of protein, particularly for those following a vegetarian or vegan diet, plus they provide dietary fibre.
Cereals are great sources of complex carbohydrates providing energy. They also contain substantial amounts of fibre.
Staple foods - Food that forms a large part of the diet, usually from starchy foods.
Whole grain -100% of the grain, nothing has been removed.
Primary processing - The conversion of raw materials into food commodities e.g. milling of wheat grain into flour.
Secondary processing - Converting primary processed foods into other food products e.g. flour into biscuits.
Fortification - Adding vitamins and minerals to foods.
Gluten -Formed from the whole wheat proteins gliadin and glutenin, in presence of water. Gluten is developed by kneading.

Practical – Bakewell Blondies
Bakewell – sweet dessert or cake which is always flavoured with almond
Blondie – Blondies are a type of dessert bar that is similar to brownies but with a different flavour

Reactivate -
- Blondies should be dense and chewy. To achieve this, don't overmix the batter once you add the flour.

Week 5

Quorn – a brand name for a substance made of vegetable protein that is used in cooking instead of meat
Sensory qualities – These are colour, texture, flavour, smell, and appearance of food
Mycoprotein – A protein derived from fungi

Experiment - Comparing mycoprotein and minced beef when making bolognaise. Based on sensory analyse which produces the best bolognaise? Mycoprotein is the ingredient common to all Quorn™ products. It's a healthy, meat-free form of protein and is also a good source of dietary fibre.

Commodity Exam

Week 6

Heat transfer – heat transfer refers to heating your food items through a cooking appliance, such as a stove, fryer, microwave, or oven.
Pathogenic – bacteria which cause disease (unsafe)
Conduction - Heat transfer through direct contact between molecules within a substance.
Convection - Heat transfer through the movement of fluids (liquids or gases).
Radiation - Heat transfer through electromagnetic waves without involving particles or direct contact.

Practical – Butter Crunch Biscuits
Bicarbonate of soda - which is used to produce carbon dioxide which allows baked goods to rise and become light and fluffy, this creates the cracked effect of the top of this biscuits
Biscuit – a small baked unleavened cake, typically crisp, flat, and sweet.
Preheat - To heat the oven to the correct temperature before baking to ensure proper rising and cooking.

Reactivate -
- Buttercrunch biscuits can go from perfectly golden to overbaked quickly.
- Keep a close eye on them towards the end of the baking time, and remove them from the oven as soon as they are lightly golden brown around the edges

Food

Week 7

Dry heat methods – baking, roasting, grilling and toasting
Frying methods – shallow frying, deep frying and stir-frying
Moist heat methods – boiling, simmering, poaching, stewing, braising, pressure cooking, sous vide, balancing and steaming
Baking - It is a method of cooking food in an oven by dry heat applied evenly throughout the oven.
Roasting - This method involves cooking food in an uncovered pan in the oven. It creates a golden-brown crust and offers rich flavour.

Practical - Quiche
Shortening – shortening is defined as a fat, solid at room temperature, which can be used to give foods a crumbly and crisp texture, such as pastry
Shortcrust pastry – a basic type of pastry that is made with half the quantity of fat to flour, and has a crisp but crumbly texture.
Coagulation in eggs – When the egg is heated the runny yolk and white turn solid. The proteins in the egg start to thicken, a process known as coagulation.

Reactivate -
- When mixing the dough, avoid overworking it. Mix until just combined to prevent gluten development, which can make the pastry tough
- When rolling out the pastry, aim for an even thickness.

Week 8

Plasticity - The ability of fat to soften over a range of temperatures to hold its shape, or be shaped and spread.
Shortening - The ability for fat to shorten the length of the gluten molecules in pastry or shortbread, for example butter, lard or other fat that remains solid at room.
Aeration – Incorporating air into a mixture.
Triglycerides - have different melting points, with some fatty acids staying solid for longer than other. This feature gives the fat its plasticity.
Emulsions - Refers to the tiny drops of one liquid spread evenly through a second liquid. An emulsifier (such as egg yolk) is used to stabilise an insoluble mixture.

Practical – Flatbread
Leavened – this is bread contains baking yeast, baking powder or baking soda – ingredients that cause the dough to bubble and rise and create a light, airy product.
Unleavened – this is a bread which is prepared without using rising agents such as yeast or sodium bicarbonate.
Knead - This is the process used by bakers to mix ingredients and build strength and structure to their dough.

Reactivate -
- Kneading the dough thoroughly helps develop gluten, giving the flatbread structure and elasticity. Aim for a smooth and elastic dough.

Week 9

Coagulation - The setting denatured protein during heating or change in PH.
Denaturation - Chemical bonds in the protein food have broken.
Foam formation - Foams are formed when gases (mainly air) are trapped inside a liquid.
Gluten formation - Formed from the two wheat proteins gliadin and glutenin, in presence of water. Gluten is developed by kneading.

Practical - Chocolate cornflake bars
Ganache - Chocolate ganache is a combination of chocolate and double cream
Desiccated coconut - is made by taking the soft flesh of the coconut, shredding and then drying it.
Baking - Convection-conduction, cooking foods in a hot oven.
Mix - To combine two or more ingredients together to become one.

Reactivate -
- Heat the cream slowly to prevent the base burning

Food

Week 10

Assessment Week

- Recall practical techniques
- Consider food safety and scientific terms
- Recognise dietary conditions and basic nutrition
- Recall equipment and there uses

Week 11

Dextrinisation - Breaking up of the starch molecules into smaller groups of glucose molecules when exposed to dry heat, e.g. toast.
Gelatinisation - When starch granules swell when cooked with liquid, then burst open and release the starch, causing the liquid to thicken.
The Maillard Reaction - is a chemical reaction between reducing sugars and protein's amino acids that gives browned, flavourful foods their distinctive taste.
Caramelisation - Breaking up of sucrose molecules (sugar) when they are heated. This changes the colour, flavour and texture of the sugar as it turns brown into caramel.

Practical – Garlic Chicken Pasta
Deglazing - To loosen the browned juices on the bottom of the pan by adding a liquid.
Danger zone - Range of temperatures between 5°C to 63°C at which bacteria begin to multiply rapidly
Coagulation - The setting or joining together of lots of denatured protein molecules during heating or change in PH. An irreversible change to the appearance and texture of protein foods.
Bacteria - Pathogenic microscopic living organisms, usually single-celled, that can be found everywhere. They can be dangerous, such as when they cause infection.
Drain - To pour liquid or fat from food through a strainer or colander, such as after cooking pasta.

Reactivate –
- Allow the liquid to deglaze the base of the pan, this will develop flavour within the dish.

Week 12

PH - The pH scale ranges from 0 to 14
Heat alters the flavour, texture, volume and appearance of foods due to the effect of the heat on proteins, fats, starch and water found in the foods.
Acid – acids contribute to leavening in baking, and to tenderization in a variety of foods, such as proteins.
Heat - the level of temperature used when cooking or heating something

Raising agents - are substances that produce gases in dough, causing it to rise and become light and fluffy.
Mechanical - a process which incorporates air.
Steam - the vapour into which water is converted when heated.
Yeasts - A microscopic fungus consisting of single oval cells that reproduce by budding, and capable of converting sugar into alcohol and CO2 gas. Also ferments in the correct conditions to make bread rise.

Food

Week 13

Experiment - Investigate the best flour for bread making. Which flour produces the best bread roll in terms of sensory qualities?
When flour is mixed with water, the gluten swells to form a continuous network of fine strands. This network forms the structure of bread dough and makes it elastic and extensible.

Gluten-free flour - is a type of flour made without gluten that is meant to replace all-purpose flour.
Elasticity - The property of dough to retract to its initial position after being stretched.
Strong white bread flour - is made from 'hard' wheat varieties which are high in gluten.
Sensory properties - Smell, appearance and texture, mouth feel, colour

French

Week 1 – Technology

Qu'est-ce que tu fais en ligne?	What do you do online?
J'utilise / je me sers de	I use
mon portable	My phone
mon ordinateur	My computer
ma console de jeux	My games console
mes écouteurs	My ear/headphones
des applis	apps
J'achète des vêtements	I buy clothes
Je cherche...	I search(for)
J'envoie des messages	I send messages
Je joue aux jeux en ligne	I play online games
Je parle avec mes amis	I talk with my friends
Je partage des photos	I share photos
Je télécharge (des chansons)	I download (songs)
bon pour la santé	Good for your health
mauvais pour le bien-être	Bad for your wellbeing
cependant	however
malgré cela	Despite that
même si	Even if/though
pourtant	however
il y a des applis pour tout	There are apps for everything
des risques de sécurité	Security risks
des vols d'identité	Identity theft
On peut devenir accro	You can become addicted

Week 2 – Mental health and wellbeing

Comment tu te sens?	How do you feel?
Ça va (bien) / ça ne va pas	I am well / not well
Quel est le problème?	What is the problem?
Qu'est-ce qui ne va pas?	What's wrong?
Je me sens	I feel
Je suis	I am
calme	calm
en colère	angry
fatigué(e)	tired
heureux(euse)	happy
inquiet(ète)	worried
triste	sad
stressé(e)	stressed
Tu dois	You must
Tu peux	You can
Il faut	It's necessary to
faire un peu de cuisine	do some cooking
parler à quelqu'un	talk to someone
faire une petit promenade	go for a little walk
expliquer le problème à	explain the problem to
éviter de passer trop de temps devant des écrans	avoid spending too much time on screens
demander des conseils	ask for advice
Ne t'inquiète pas	don't worry

Week 3 – Music, film, cinema

Qu'est-ce que tu regardes / écoutes?	What do you watch/listen to?
des films / des vidéos / des clips-vidéo / la télé	Films / videos / video clips / the TV
la musique rock/pop	Rock/pop music
une chaîne de musique / la radio / mon playlist	A music channel / the radio / my playlist
une émission de sport	A sports programme
une émission de télé-réalité	A reality TV programme
des vidéos amusantes	funny videos
un film de science-fiction / d'horreur	a sci-fi / horror film
une comédie	a comedy
des vidéos de danse sur YouTube	dance videos on YouTube
mon influenceur(euse) préféré(e)	my favourite influencer
un peu de tout	a bit of everything
une/deux/trois fois par mois	one/two/three times a month
chez moi	at my house
en streaming	streaming
sur un grand écran	on a big screen
Tu veux aller au cinema?	**Do you want to go to the cinema?**
la séance de trois heures	the three o'clock showing
deux billets s'il vous plaît	2 tickets please
ça t'intéresse?	Are you interested?
tu es libre?	Are you free?
d'accord je veux bien	Ok I would like to
Non, désolé(e), je ne peux pas	No sorry I can't
je (ne) suis (pas) libre	I am (not) free

French

Week 4 – Role models

Décris-moi ton modèle	Describe your model
Mon modèle s'appelle	My model is called
J'admire	I admire
Je suis	I follow
Il/elle est	He/she is
ordinaire	ordinary
actif(ive)	active
féministe	feminist
inspirant	inspirational
Il/elle partage	He/she shares
des messages positifs	positive messages
des photos positives	positive photos
Il/elle lutte	He/she fights
pour l'environnement	for the environment
pour l'égalité	for equality
contre le racisme	against racism
contre le sexisme	against sexism
Il/elle est devenu(e) célèbre	He/she becamse famous
Un bon modèle est quelqu'un qui	A good role model is someone who
aide les autres	helps others
inspire les autres	inspires othjers
encourage l'égalité	encourages equality

Week 5 –Preparing for writing PPE

Connectives	
En plus	In addition
D'ailleurs	moreover
Cependant / pourtant	however
En revanche	On the other hand
D'un côté...d'un autre côté	On the one hand...on the other hand
même si	Even if/though
donc	so
A mon avis	In my opinion
Selon moi / d'après moi	According to me
Je pense que/je crois que	I think that / I believe that
C'est plus + adj + que	It's more + adj + than
C'est moins + adj + que	It's less + adj + than
C'est le/la/les meilleur(e)(s)	It's the best
C'est le/la/les pire(s)	It's the worst
Pour finir	To finish
WOW phrases	
Si j'avais le temps (+conditional)	If I had the time
Si je pouvais (+ conditional)	If I could
Dans un monde idéal (+conditional)	In an ideal world
Après avoir /être+ past participle	After having (done)
Avant de + inf	Before doing
Je ne crois pas que ce soit + adj	I don't believe it is + adj
Je viens de + inf	I have just + verb
Depuis + time period	For + amount of time (use present tense)

Week 6 – Preparing for reading and listening

Learning vocabulary
Look back at you Autumn term and Spring term Knowledge Organisers / Memrise lists.
To prepare for your reading and listening test, make flashcards of these words and any others that you have forgotten and test yourself regularly.
Get a friend to say the words to you and see if you can recognise them.

Practice questions
You can also practise the listening and reading tasks on BBC Bitesize or in your revision guides and workbooks.

Beware of distractors: synonyms, different word type, negation, someone else, different person, different time frame.

Important reading and listening vocabulary	
ne... pas	not/don't
ne...jamais	never
maintenant / actuellement	now
avant / dans le passé	before / in the past
prochain / à l'avenir	next/in the future
le nord/le sud/l'est/l'ouest	north, south, east, west
ouvert	open
fermé	closed/shut
cher	expensive
un peu	A bit
trop	too
ensemble	together
s'entendre (bien/mal)	to get on (well/badly)
même	even/same
vieux(vielle)/nouveau (nouvelle)	old/new

French

11 – Global problems

Our planet in danger	Notre planète en danger
Le changement climatiq ue	Climate change
Le réchauffement de la planète	Global warming
Le niveau de la mer	Sea level
Le taux de carbone	The carbon level
La circulation	Traffic
La destruction	The destruction
La faim	Hunger
La pollution	Pollution
L'énergie (solaire)	(Solar) energy
Les inondations	Floods
L'extinction des espèces	Extinction of species
Les déchets	rubbish
Le monde naturel	The natural world

Our world is beautiful	Notre monde est beau
La forêt tropicale	The tropical forest
le/la/les plus grand(e)(s)	The biggest
le/la/les plus petit(e)(s)	The smallest
La plus haute montagne	The highest mountain
La plus longue rivière	The longest river
Il pleut	It rains/ is raining
Il y a du brouillard	It is foggy

12 – Helping others

Small actions	Des petits gestes
Il faut / on doit / on devrait	It is necessary to / we must / we should
utiliser le papier recyclé	Use recycled paper
manifester pour les organisations vertes	demonstrate for green organisations
développer la coopération globale	Develop global cooperation
trier les déchets	sort your rubbish
améliorer la qualité des voitures électriques	Improve the quality of electric cars
Je me douche au lieu de prendre un bain	I have a shower instead of taking a bath
Je ne mange jamais de viande	I never eat meat
Je fais des petits gestes	I take small actions
En achetant du papier recyclé	By buying recycled paper
En séparant le plastique et le verre	By separating plastic and glass
Quand j'étais plus jeune	When I was younger
Maintenant	Now
Je prenais	I used to take
J'allais	I would go
Je faisais	I used to do
je recyclais	I used to recycle

13 – making resolutions / future plans

Que feras-tu à l'avenir	What will you do in the future?
Je vais acheter / j'achèterai	I am going to buy / I will buy
des produits verts	green products
une voiture électrique	An electric car
Je vais avoir / j'aurai	I am going to have / I will have
une meilleure attitude	a better attitude
plus de patience	more patience
Je vais faire / je ferai	I am going to do / I will do
plus de travail / recyclage / sport	more work / recycling / sport
du travail bénévole	volunteer work
Je vais aller / j'irai	I am going to go / I will go
au centre de sport / aux cours de cuisine / à une manifestation	To the sports centre / to cooking lessons / a demonstration
Je vais passer / je passerai moins de temps sur les réseaux sociaux	I am going to spend less time on social media
Je vais lutter / je lutterai pour	I am going to fight / I will fight for
Je vais manifester / je manifesterai contre	I am going to protest / I will protest against

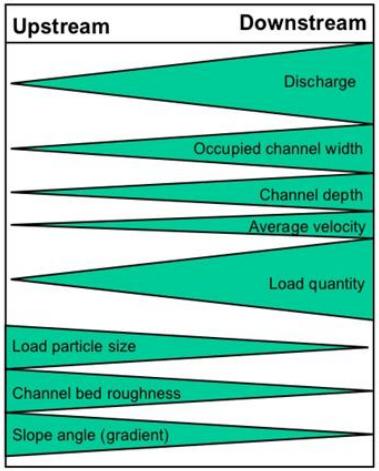
Geography

Week 1

Cardinham Woods and Physical Fieldwork

Does the river in Cardinham Woods (Cardinham Waters) follow the Bradshaw Model?

Bradshaw Model
According to the Bradshaw Model the river width and depth should increase from source to mouth. Additionally, velocity should increase from source to mouth. Sediment should decrease in size and become smoother and rounded.



Geographical Enquiry – Key Components

- Suitable question/Original Aim(s)
- Data Collection Methods (Primary & Secondary)
- Results/Data
- Data Presentation Techniques
- Analysis
- Conclusion
- Evaluation

Week 2

Primary Data – Data collected by you or your group. Data observed or collected directly from first-hand experience.

Secondary Data – Data collected by someone else or a group or organisation. Data that already exists. Important in providing background information and a context for the enquiry such as the Bradshaw model.

Qualitative Data – Use of numbers. Equipment will be required to collect this data. Involves sampling such as random or systematic.

Quantitative Data – Techniques that don't involve numbers or counting. Subjective and involves the judgement of the person collecting the data.

Systematic Sampling – Means working to a system to collect data, for example every 10cm or 50cm across the river.

Random Sampling – Where samples are chosen at random, for example every rock has an equal chance of being selected.

Opportunity Sampling – Systematic sampling may not be possible. Ease of access, safety in gaining access, legal aspects and rights of way need to be considered.

Stratified Sampling – Deliberately introducing a bias to ensure the sample addresses the question.

Week 3

Explain why the chosen location was suitable for the collection of data.

Identify one potential risk in your physical geography fieldwork and explain how the risk was reduced.

Justify one primary data collection method used in your physical geography enquiry.

Suggest why one set of data you collected may not have been accurate.

Justify the use of maps or photographs or field sketches in your physical geography enquiry.

Assess the effectiveness of your data collection method(s).

Assess the effectiveness of your data presentation technique(s) in your physical geography enquiry.

To what extent were the results of this enquiry helpful in reaching a reliable conclusion?

To what extent was the data collected useful in satisfying the original aim of the enquiry?

With reference to your methods, results and conclusions, suggest how your geographical enquiry could be improved.

to what extent did the result(s) and the conclusion(s) meet the original aim(s)?

Geography

Week 4

Rio de Janeiro
- Brazil's Atlantic coast, South America.
- Second largest city in Brazil.
- Grown around Guanabara Bay.
- Cultural capital of Brazil.
- Famous for its annual carnival.
- It is a UNESCO World Heritage Site.
- Home to the 2014 soccer World Cup.
- Home to the 2016 Olympics.
- Rio is important within the global economy.
- An industrial and finance centre.
- Many companies have their HQs in Rio

Why has Rio grown?
- Migration (International & internal migration)
- Natural increase

Social opportunities
- Health: mobile clinics have reduced IMR
- Education: grants to support families
- Water: treatment plants and new pipes
- Energy: nuclear, hydro and new power lines

Economic Opportunities for growth
- Economic development has led to a better infrastructure and attracted investment.
- There is a large labour supply (migration).
- Increased employment creates a disposable income.
- Industrial areas and port facilities have contributed to the city's development.
- Oil has been discovered, and this has stimulated oil-related industries.
- Rio is a popular tourist destination.

Week 5

Rio de Janeiro Challenges

Providing clean water, sanitation systems and energy.
- Around 12% of the city does not have access to clean running water.
- In Rio 35% of the city's sewage is transferred in open sewers and dumped into Guanabara Bay. Pipes and sewage treatment works cannot cope with the volume of waste.
- About 99% of all homes have access to electricity. But the infrastructure is overloaded, and this often leads to power cuts.

Providing access to services such as health and education.
- Healthcare has been improving, but there are only 6 hospitals within Rio and insufficient health clinics to serve local communities.
- Healthcare is difficult to provide within the favelas.
- Despite education being compulsory in Brazil for children aged 16-14, about 25% of the poorest children do not attend regularly.

Reducing unemployment and crime.
- There are huge inequalities in unemployment rates. Female unemployment in Rio is higher than male unemployment.
- Youth unemployment is also high.
- Robbery and violent crime, including murder and armed assault, occur regularly in Rio.
- Police regularly target drug gangs in the favelas.

Week 6

Rio de Janeiro Challenges

Managing environmental issues such as waste disposal, air and water pollution and traffic congestion.
- Every year Rio produces 3.5 million tonnes of waste, of which less than 2% is recycled.
- Waste collection varies hugely across the city and is particularly infrequent in the favelas.
- Guanabara Bay is highly polluted, causing a major threat to wildlife.
- Commercial fishing has declined by 90% in the last 20 years.
- Rio is the most congested city in S. America.
- Traffic congestion increases stress and levels of air pollution. Wastes time and costs money for businesses.

Managing urban growth.

Favela – self built housing on public or private land which lacks any proper infrastructure.

Favela Bairro Project (1995-2009) - US$1 billion 'slum to neighbourhood' project.

By 2005 around 100 favelas had been improved. Residents had been granted land ownership; roads had been paved and new childcare centres opened. Training was available in hygiene, computing and community development. The quality of life, mobility and employment prospects of the inhabitants improved considerably.

Geography

Week 7

Bristol
- Largest city in the Southwest of England with a population 694 000.
- Situated on the River Avon and linked to Wales by two large bridges across the Severn.
- Two universities.
- The largest concentration of silicon chip manufacturing outside California.
- A mix of mosques and synagogues; Christianity is represented by two cathedrals.
- Several theatres and music venues.
- Home to Aardman, the animators of Wallace and Gromit.
- The seventh most popular city of foreign visitors (SS Great Britain)

Why has Bristol grown?
- Migration (International & internal migration)
- Natural increase

Opportunities
- Cultural mix: Art, museums, festivals, food and music.
- Recreational activities and entertainment.
- Sport: Rovers and City. Cloucestershire Country Cricket and the Bristol half.
- Shopping: Cribbs Causeway and Cabot Circus.
- Employment opportunities within tertiary and quaternary sectors.
- Industry: Reputation for creative industry and high tech companies.
- Integrated transport systems.
- Urban greening: Over 1/3 is open space, wildlife is high on the agenda.

Week 8

Bristol Challenges

Urban deprivation – 15% of the city's residents (over 70 000 people) live in some of the most deprived areas in England. These areas suffer high levels of unemployment and crime.

Inequalities in housing – The growing population has seen house prices in Bristol rise by up to 50%. There is a housing shortage and housing is in urgent need of modernisation.

Education and health – Bristol experiences significant inequalities. Central and southern Bristol are deprived and have the lowest levels of attainment. The deprived wards (Filwood) record lower than average levels of good health and life expectancy. These areas have high levels of obesity and smoking.

Employment – There are high levels of unemployment within deprived wards despite the high employment rate across the city (77.6%).

Dereliction – Many warehouses and other historic buildings have been left derelict (Brownfield Site)

Waste disposal – Bristol's population is growing by 1% per year, and disposing of domestic waste, as well as waste associated with clearing derelict land, is a major challenge.

Urban sprawl – The city is sprawling onto countryside and this impacts on wildlife biodiversity and habitats.

Week 9

Bristol Harbourside
Was a highly successful port in the 1800s, but Bristol's narrow channel couldn't cope with the growing boats trying to navigate their way.
The docks were mostly disused by the 1970s and replaced by lots of weedy tarmac and informal parking.

Redevelopment aimed to reignite investment and make a city centre to be proud of.

Features
- Arnolfini - sugar warehouses now an Art gallery and café.
- Waterfront - old warehouses now pubs, cinema and restaurants.
- mShed - Bristol-themed museum in old dock sheds.
- Millenium Square - Open space for events and We the Curious (Science Museum).
- Millenium Parade – New housing with views to SS Great Britain.

Evaluation
Social – Wide range of activities available, links to heritage and history (makes people proud), but housing aimed at young and wealthy with no social mix.

Economic – Over 4000 jobs created, and further investment attracted by development.

Environmental – Repurposing of buildings is more attractive, passive heating and grey water in offices, but a lack of green space.

Geography

Week 10

Urban sustainability – Involves creating an environment that meets the social, economic and environmental needs of existing residents without compromising the same for future generations.

Water conservation – Individuals need to use as little water as possible. For example, install water saving devices in the home or collect rainwater in the garden.

Sustainable Drainage Systems (SUDS) - SuDS aims to reduce surface water flooding by capturing and storing water. For example, use green roofs or plant vegetation.

Energy conservation – Today most energy comes from renewable sources. Homes can be insulated and have double glazing; people can use energy-efficient appliances.

Waste recycling – Recycling saves raw materials and reduces energy use. Food waste leads to a huge waste of energy, water and packaging, as well as transportation and storage costs.

Creating green space – Act as the city's 'green lungs' and provide areas of recreation. Provide important wildlife habitats and promote biodiversity. Trees also reduce the risk of flooding.

Transport management strategies – Encourage people to walk or cycle, increase use of public transport, establish park and ride schemes and introduce integrated transport systems (ITS).

Refer to **Singapore and Beijing**.

Week 11

Social opportunities – the chances available to improve quality of life, e.g. access to education and health care.

Economic opportunities – chances for people to improve their standard of living through employment.

Urban regeneration – reversing the urban decline by modernising or redeveloping, aiming to improve the local economy.

Urban greening – the process of increasing and preserving open spaces in urban areas, i.e. public parks and gardens.

Traffic Congestion – when there is too great a volume of traffic for roads to cope with, and traffic slows to a crawl.

Integrated transport system (ITS) - different forms of transport are linked together to make it easy to transfer from one to another.

Brownfield site - land that has been used, abandoned and now awaits reuse; often found in urban areas.

Greenfield site - a plot of land, often in a rural area or on the edge of an urban area that has not been built on before.

Rural-urban fringe – a zone of transition between a built-up area and the countryside where there is often competition for land use.

Week 12

Command Words

Assess - Make an informed judgement.

Calculate - Work out the value of something.

Compare - Identify similarities and differences.

Complete/Draw/Label - Finish the task by adding to given information.

Describe - Set out characteristics.

Discuss - Present key points about different ideas or strengths and weaknesses of an idea.

Evaluate - Judge from available evidence.

Explain - Set out purposes or reasons.

Identify/Name/State/Give/Define - Produce an answer from recall/Express in clear terms/Name or otherwise characterise.

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 (strategy, scheme, project, etc).

Graphic Design

Week 1

Key Words & Definitions:

- **Research** – The process of gathering information and inspiration to develop ideas.
- **Inspiration** – Ideas taken from different sources to influence a design.
- **Mood board** – A collection of images, colours, and textures used to visualise a theme.
- **Concept** – The overall idea or theme behind a design.
- **Audience** – The specific group of people a design is intended for.

Reflective Questions:

- My initial ideas are inspired by...
- The purpose of my project is to...
- My target audience is... because...
- The research that has influenced my design includes...

Week 2

Key Words & Definitions:

- **Typeface** – A specific design of text, such as Arial or Times New Roman.
- **Serif** – A typeface with small decorative strokes at the ends of letters (e.g., Times New Roman).
- **Sans-serif** – A typeface without decorative strokes, making it clean and modern (e.g., Arial).
- **Hierarchy** – The arrangement of text to show importance, such as bold headlines.

Reflective Questions:

- The typeface I have chosen is... because...
- My typography improves readability by...
- The size and spacing of my text helps to...

Week 3

Key Words & Definitions:

- **Hue** – The basic name of a colour, such as red or blue.
- **Saturation** – The intensity of a colour, from bright to faded.
- **Contrast** – The difference between colours to create visual impact.
- **Monochrome** – A design using only one colour and its shades.

Reflective Questions:

- The colours I have chosen create an impact by...
- My colour scheme helps to communicate...
- The contrast in my design is effective because...

Week 4

Key Words & Definitions:

- **Grid** – A structured system of lines used to organise a design.
- **Alignment** – The positioning of elements to create a neat and structured look.
- **Balance** – The way elements are arranged to create a visually pleasing composition.
- **Proximity** – How close or far apart elements are, affecting their relationship.
- **White space** – The empty areas in a design that help improve clarity.

Reflective Questions:

- My layout guides the viewer's eye by...
- White space is used in my design to...
- The grid system has helped me to...
- If I changed my composition, it would affect my design by...

Week 5

Key Words & Definitions:

- **Vector** – A type of image that stays clear when resized (e.g., logos).
- **Raster** – A pixel-based image that can lose quality when enlarged.
- **Resolution** – The clarity of an image, measured in pixels per inch (PPI).
- **Composition** – How elements like text and images are arranged.
- **Cropping** – Cutting an image to focus on a specific area.

Reflective Questions:

- The images I have selected help to communicate...
- My use of cropping has changed the focus by...
- If I replaced my imagery with illustrations, it would...

Week 6

Key Words & Definitions:

- **Logo** – A symbol or design used to represent a brand.
- **Consistency** – Keeping design elements the same for a professional look.
- **Identity** – The visual elements that make a brand unique.
- **Branding** – The overall style and message a company presents.
- **Target market** – The group of people a brand aims to attract.

Reflective Questions:

- My design reflects a strong identity because...
- My branding choices appeal to my target market by...
- The consistency in my design helps to...
- If I changed my logo, it would affect my project by...

Graphic Design

Week 7

Key Words & Definitions:

- **Iteration** – Making multiple versions of a design to improve it.
- **Variation** – Small changes in design to test different ideas.
- **Testing** – Trying out designs to see what works best.
- **Refinement** – Adjusting and improving a design.
- **Aesthetic** – How something looks and feels visually.

Reflective Questions:

- My design has changed over time because...
- If I experimented more with typography, it might...
- To improve my work further, I could...

Week 8

Key Words & Definitions:

- **Target audience** – The specific group a design is meant for.
- **Critique** – Evaluating a design to find strengths and weaknesses.
- **Feedback** – Comments and suggestions for improvement.
- **Adaptation** – Changing a design based on feedback.
- **Engagement** – How much the audience interacts with a design.

Reflective Questions:

- My design appeals to my audience because...
- If I could test my design with more people, I would...

Week 9

Key Words & Definitions:

- **Resolution** – The clarity of an image or design.
- **Print-ready** – A design prepared for professional printing.
- **DPI** – Dots per inch, measuring print quality.
- **Digital format** – A file type used for screens (e.g., JPEG, PNG).
- **Export** – Saving a design in a specific format.

Reflective Questions:

- If I were to create this project professionally, I would need to...
- One technical skill I have improved is...

Week 10

Key Words & Definitions:

- **Aesthetics** – The visual style and appeal of a design.
- **Functionality** – How well a design works for its purpose.
- **Accessibility** – How easy a design is for all users to understand.
- **Usability** – How practical and effective a design is.
- **Clarity** – How easy it is to read and interpret a design.

Reflective Questions:

- The strongest part of my design is... because...
- One area that could be improved is...
- Comparing my final piece to my initial idea, I think...

Week 11

Key Words & Definitions:

- **Mock-up** – A visual representation of a final design.
- **Portfolio** – A collection of work showing design skills.
- **Visualisation** – How a design is imagined before creation.
- **Refinement** – Making final improvements to a design.
- **Finalisation** – Completing the last details of a project.

Reflective Questions:

- The final tweaks I made were...
- If I had more time, I would improve...
- The message my final design conveys is...

Week 12

Key Words & Definitions:

- **Evaluation** – A detailed review of the strengths and weaknesses of a project.
- **Progress** – The improvements and developments made over time.
- **Strengths** – The most successful and effective parts of a design.
- **Weaknesses** – Areas that could be improved in the design process.

Reflective Questions:

- The biggest challenge I overcame was...
- The strongest part of my project is... because...
- In future projects, I want to develop my skills in...

Hair & Beauty

Week 1

UCO91 - LO1 - A:
Lesson 1: Common cosmetic ingredients
The effects and functions of cosmetic ingredients:

- Phthalates
- Parabens
- titanium dioxide
- Formaldehyde
- UV filters
- Glycerine
- Hydrogen peroxide
- Pigments
- Lanolin
- Squalene
- Urea

Lesson 2: Common cosmetic ingredients 2
The effects and functions of cosmetic ingredients:

- Collagen
- oils (for example mineral, castor, vegetable)
- Dimethicone
- vitamin E
- sodium laureth sulfate
- alpha and beta hydroxy acid
- Fragrances
- Dihydroxyacetone
- aloe vera
- plant extract.

Week 2

UCO91 - LO1 – A
Lesson 3: The function of cosmetic ingredients
The effects and functions of cosmetic ingredients:

- Preservation
- Antioxidants
- Soothing agents
- Stimulating
- Antiseptic
- Astringent
- Skin conditioning
- Abrasives
- Bulking agents

Lesson 4: The function of cosmetic ingredients 2
The effects and functions of cosmetic ingredients:

- Protecting agents
- Foaming agents
- Propellants
- Humectants
- Emulsifiers
- Emollients
- Oxidising agents
- Stabilisers
- Developers.

Week 3

UCO91 - LO1 – B
Lesson 1: Ingredients that are classed as prohibited or restricted in the UK
The effects and functions of cosmetic ingredients:

- Hydroquinone
- Hydrogen Peroxide
- Benzyl Salicylate
- Citronellol
- Hydrated Magnesium Silicate
- Polyacrylamides
- Methyl Eugenol
- Zinc pyrithione
- Triclocarban
- Evernia furfuracea extract.

Lesson 2: Ingredients that are classed as toxic in the UK
The effects and functions of cosmetic ingredients:

- Formaldehyde
- Parabens
- Phthalates
- Triclosan
- Coal tar
- Laureth Sulfate and Sodium Lauryl
- 1,4 Dioxane
- Petroleum-Based Ingredients
- Dimethicone
- Methylisothiazolinone
- Metalloestrogens
- DEA, MEA, and TEA

Hair & Beauty

Week 4

UCO91 - LO1 – B
Lesson 3: The effects of dangerous and toxic cosmetic ingredients on human health
The effects of dangerous and toxic cosmetic ingredients on human health:

- Irritated skin
- Rashes
- redness on the skin
- difficulty breathing
- acne
- bitterness on the tongue
- Allergies
- UV sensitivity
- internal organ damage
- autoimmune disease
- hormonal imbalances
- reproductive problems
- Carcinogenic

UCO90 - LO1 – C
Lesson 1: Ingredients derived from animal products

- Retinol
- Gelatin
- Lanolin
- Hyaluronic acid
- Keratin
- Alpha-Hydroxy Acids
- Amino Acids
- Glycerin
- Lipoids/Lipids

Week 5

UCO90 - LO1 – C
Lesson 2: Reasons why animals are used for testing cosmetic ingredients
Common cosmetic ingredients derived from ani mal products and the role of animal testing

- Describe the disadvantages of animal testing
- Discuss the ethical argument for animal testing
- Veganism
- Vegetarianism

What is the organisation Peta? What does Peta stand for? What does Peta do? What role do they play?

Lesson 3: Alternative safety testing for cosmetic ingredients
Reliable and realistic alternative safety tests for cosmetic ingredients, non-animal test methods, include using:

- human cells and tissue studies (x-vitro)
- human volunteers and growing artificial human skin (in-vitro)
- computer models (in silico)

Week 6

UCO91 - LO1 – D
Lesson 1: The pH value of cosmetic products
The importance of maintaining the pH values of cosmetic products

- pH Neutral
- pH Acid
- pH Alkali
- pH and our hair and skin

Effects of acidic products on the hair and skin
Effects of alkaline products on the hair and skin

Methods of testing pH products

Hair & Beauty

Week 7

UCO90 - LO1 – E
Lesson 1: Skin products
Identify the different types of products used in a skincare routine
- Eye make-up remover
- Cleanser
- Toner
- Moisturiser
- Exfoliator
- Face mask

Lesson 2: Make-up products
Identify
cosmetic products and their effects on the skin:
- Foundation
- Concealer
- Powder
- Blusher
- Shader
- Highlighter
- Bronzer
- Eyeshadow
- Eyebrow pencil
- Eye-pencil/liquid eye-liner
- Mascara
- Lipstick
- Lip-liner pencil
- Lip gloss

Week 8

UCO90 - LO1 – E
Lesson 1: Nail products
Cosmetic products and their effects on the nails (Nail products):
- Nail polish remover
- Cuticle cream
- Hand lotion/cream
- Base coat
- Nail polish
- Top coat

Lesson 2: Hair styling and finishing products and their effects on the hair
- Setting/blow drying lotion
- Mousse
- Creams
- Gel
- Heat protector
- Serum/oil
- Hairspray
- Wax

Hair cleansing and conditioning products:
- Shampoo
- Surface conditioner
- Restructurants

Shaving products
- Pre-shave lotion
- Shaving cream
- Aftershave lotion
- Moustache wax
- Beard oil

Week 9

UCO91 - LO2 – A
Lesson 1: The anatomy and physiology of the skin (Epidermis)
- The 3 main layers of the skin - epidermis, dermis and subcutaneous/hypodermis layer
- The 5 sub-layers of the epidermis – basal cell layer, prickle cell layer, granular layer, clear layer and horny layer

Lesson 2: Dermis
- Dermis – is the middle layer of the skin, it is made up of 2 layers and contains many appendages including sweat glands, sebaceous glands, hair follicles, arrector pili muscles, nerve endings, dermal papilla, a rich blood supply

Hair & Beauty

Week 10

UCO91 - LO2 - A:
Lesson 1: Functions of the skin
– secretion, heat regulation, absorption, protection, excretion, sensation and vitamin D production

The purpose of the acid mantle – creates a natural defence to attacks from bacteria, viruses and other potential contaminants that might penetrate the skin. The acid mantle is made of sebum and sweat (the acid mantle is a very fine, slightly acidic film with a pH between 4.5 and 6.2; slightly acidic)

Lesson 2: Characteristics of skin types
Skin Types:
- **Balanced:** Even color, no blemishes, fine texture, no visible pores.
- **Oily:** Shiny, enlarged pores, blackheads, congestion.
- **Dry:** Lacks oil, flaky patches, fine texture, dry to touch.
- **Combination:** Oily T-zone, normal to dry cheeks, mixed conditions.

Skin Conditions:
- **Dehydrated:** Dull, dry, tight, fine lines, lacks moisture, affects all skin types.
- **Sensitive:** Redness, increased reactivity, pigmentation changes.
- **Photo-aged:** Wrinkles, pigmentation changes, reduced elasticity, broken capillaries.

Male Skin:
- Thicker, firmer, oilier, more collagen, higher sebum production, can be sensitive and dry due to shaving.

Week 11

UCO91 - LO2 - A:
Lesson 1: The common diseases and disorders of the skin
- Infectious skin conditions – examples include: ringworm, cold sores, impetigo, scabies (infestation)
- Non-infectious skin conditions – examples include: eczema, dermatitis, psoriasis, acne

Lesson 2:
Structure of the hair
- the cuticle – outermost layer of the hair, protects the hair shaft)
- the cortex – middle layer of the hair, forms the bulk and contains the pigment of the hair
- the medulla – central core of the hair, contains soft thin transparent cells
- hair bulb – forms the base of the hair follicle, contains living cells that divide and grow
- inner/outer root sheath – surrounds and protects the growing hair
- dermal papilla – surrounded by the hair bulb, provides the blood supply necessary for hair growth

Functions of the hair: to provide protection to the eyes, nose, ears and skull, heat regulation (preserves body heat), sensation (detects changes to the environment)

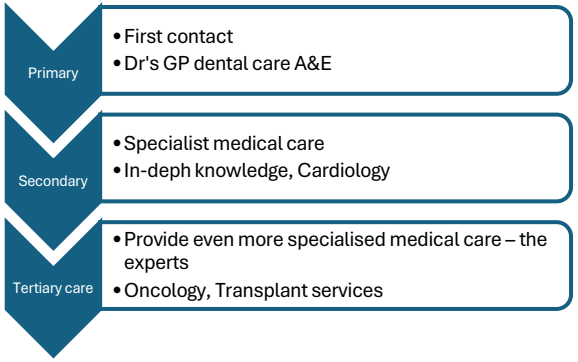
Week 12

Command verbs:
List: A set of related items recorded one below the other.
Label: Assign a name to identify an item.
State: Express something clearly and concisely.
Identify: Pinpoint specific qualities or features, or establish what something is.
Analyse: Examine in-depth, exploring each part and providing reasoned judgments.
Assess: Break down a subject and evaluate its quality, value, or importance.
Compare: Look at similarities and differences between two or more subjects, considering their relevance.
Define: Provide the meaning of a word or phrase.
Describe: Give detailed information, including relevant characteristics or events.
Evaluate: Provide positive and negative points, followed by a conclusion or justification.
Explain: Provide details to make a subject understandable, including the 'what' and the 'why.'
Justify: Give reasoned explanations and evidence to support actions or decisions.
Make recommendations: Suggest something suitable based on knowledge and understanding.
Outline: Provide a general description of main characteristics or key points, without detail.
Plan: Propose a detailed approach to achieve a goal or task, ensuring enough time and resources.
Present: Communicate researched information to an audience, often at the end of a project.
Review: Summarise key points, discuss, and give your opinion, often in a critical appraisal.
Select: Choose the most relevant answer carefully.
Summarise: Pick key points or features, then condense and rephrase the information.

Health & Social Care

Week 1

Component 2 A1 Different types of healthcare services



Allied health professionals Help people recover from / or adapt to injuries and health conditions Examples **Physiotherapist** – helps people regain their mobility and motor skills (after an injury) **Speech and language therapists-** help people who have communication difficulties and people who have eating or swallowing problems. **Occupational therapists** – help people find ways to overcome any difficulties they have carrying out everyday tasks (household chores) **Dieticians** – use knowledge about food and nutrition to improve health and treat health problems related to what a person eats and drinks **Healthcare services often work together** Multidisciplinary team – when different healthcare services work together, can include referrals between healthcare services

Week 2

Health conditions affect everyday life for a lot of people.

Coronary Heart disease – when the arteries that supply blood to the heart get blocked by layers of fatty material building up.
Cerebral Vascular Accident – also known as a stroke. When the blood supply to the brain is cut off.
Type 2 diabetes causes blood sugar levels to become too high- occurs when the body's cells don't respond properly to insulin – this can cause blood sugar levels to rise to dangerous levels
Dementia affects cognitive ability and is a syndrome that causes a gradual decrease in brain function. It can cause problems with thinking memory communication and mobility
Obesity is when a person becomes very overweight with a lot of body fat. It can cause lots of other conditions such as type 2 diabetes, coronary heart disease and some cancers
Respiratory conditions are diseases of the lungs.
Asthma is a condition where the airways become narrow and swollen which can make it difficult to breathe. Common symptoms include coughing, wheezing, chest tightness and breathlessness
Arthritis is a disease that affects the joints, causing joints to swell with can lead to joint pain and stiffness, symptoms usually worsen with age

Week 3

Chronic obstructive pulmonary disease (COPD) is a group of conditions that cause breathing difficulties. The most common conditions are emphysema (damage to the air sacs in the lungs) and chronic bronchitis (inflammation of the airways)

Component 2 A2 Social care - Services for children and young people who are ill, vulnerable or disabled with day to day living.
Services for children and young people - Some children and young people may need temporary support from social services – others may need support throughout childhood and adolescence and into adulthood
Extra support from social care services may be needed for a variety of reasons A child needs protection (e.g. from abuse) A child is showing challenging behaviour
Parents or carers are ill and can't look after the child
There are family problems (e.g. high levels of parental conflict) - Three types of social care services for children and young people are foster care, residential care and youth work **Foster Care – family environments, Residential Care – like foster but bigger homes with professional staff, Youth Work – community settings (youth centres, schools etc)**

Health & Social Care

Week 4

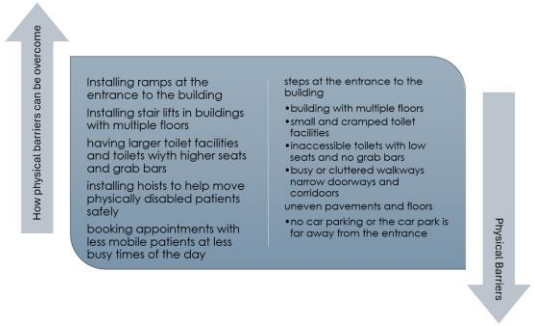
Services for adults or children with specific needs 1: Some people have specific needs that mean they need extra support **Learning disabilities-** people who find it difficult to learn new things – **Sensory impairments** – people have problems with their senses (vision or hearing) **Long-term health issues** – people may be born with health conditions (e.g. cystic fibrosis) or develop them during their life (e.g. dementia) **2**: Social care services available for people with specific needs

Residential	Respite	Domiciliary
Safe place for people to stay	Short term 'break' with trained carers at home/ day care centre or residential homes	Help people with everyday tasks / personal care in their own home

Services for Older adults – due to the aging process- Older adults have higher risk of developing health conditions such as.. **Dementia** (decline in memory, speed of thinking and mobility **Arthritis** (joint pain and restricted movement) **Sensory impairments** (problems with vision and hearing) **Cardiovascular conditions** (can cause heart attack or stroke) **Informal Care** – partners, friends, neighbours etc **Voluntary care** – community groups, charities, faith based organisations

Week 5

Barriers to access services Physical & Sensory Physical barriers affect how easily a person moves around – making it difficult to get into and around buildings that provide health and social care services (GP or Care home settings)



Sensory Barriers – affect people with a sensory impairment (two main are visual & hearing difficulties) people can be from birth, or develop later in life, common in older people to experience a gradual decline.
Visual difficulties – leaflets small text = have large print / braille, small maps = signs made bigger
Hearing difficulties – noisy / dark reception areas = use a quiet well-lit area so they can hear, and lip read. Telephone booking systems for appointments = alternatives / online email or by text

Week 6

Barriers to access services Cultural People can have different social and cultural backgrounds

Lack of awareness	Not knowing symptoms, not knowing about services available, may diagnose at late stage = awareness campaigns / posters and leaflets to educate
Differing cultural beliefs	Different needs, specific diets, prayer times, preference for person treatment, I likely to access if worried their needs won't be met, = offers of ranges of food, choice of service provider (male or female) place of worship available
Social stigma	A person seen in a negative way or discriminated, common around mental health and sexual health conditions, people feel scared or embarrassed = education / leaflets and posters
Fear of loss of independence	Reluctance to seek help as feel it may affect their independence = services will work with people to support them to do things themselves

Geographical barriers – where a service is located can affect who can access it- too far away, can't drive, public transport links, less mobile people unable to manage long journeys etc

Barriers	How to overcome barriers
Long walk from car park / bus stop, journey takes too long, the route is unsafe no footpath , no direct transport link, infrequent public transport, car parking too expensive, no parking	Local community travel schemes, offering home visits, community clinics, telehealth schemes, visits into community settings such as schools, free parking

Health & Social Care

Week 7

Component 2 A3 Barriers to access services Language & Communication English as an Additional Language (EAL) or Language / speech impairments can prevent people from being able to communicate with health and social care workers – making it difficult for a care provider to understand a patient's need's / understand information given.

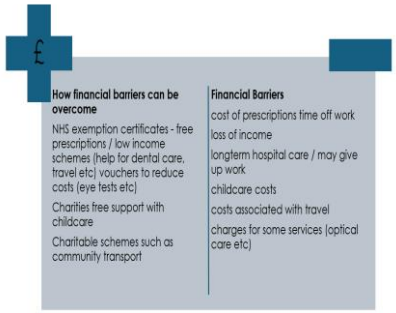
Barriers	How language barriers can be overcome
Dr's using jargon, becoming ill having accident in another country, leaflets only in one language, care providers using slang, speech impairments making it difficult for patients to express themselves	Explaining complex medical information in simpler terms, using interpreters, face tpo face and phone appointments, having longer appointments, health and wellbeing group meetings of other languages, information leaflets in multiple languages, avoiding slang, training staff awareness, having an advocate

Text Barriers – (words that are written down) making accessing care and support that they need harder.

Text barriers	They may be unable to read – find information complex, not be able to read signs,
How text barriers can be overcome	Use communication carers, specific learning disability nurses, have longer appointment times, health passport, low text

Week 8

Barriers to access services financial – some people can't afford to pay for the services they need. Some areas that cost – dental care, optical care, some prescriptions, domiciliary and residential care



As the population ages more disorders are being treated successfully= huge strain on **health and social care resources**.
NHS is funded through

- Taxation
- National Insurance contributions

Barriers created by lack of staff

- Not enough people will get help who need it
- Can prevent access to resources such as lack of radiographers = lack of access to Xrays
- Burnout of current staff – under pressure

Week 9

Component 2 B1 Skills in health and social care and Attributions - Certain skills are needed when delivering care.
Problem solving – work out the cause of a problem and find ways to overcome it
Observation – ability to pay attention and notice changes
Dealing with difficult situations – ability to keep calm, dealing with people with challenging behaviours, giving a patient bad news, information whilst being sensitive and compassionate.
Organisation – to be able to plan their time and workload, to be organised, keep files and paperwork in place

Attributes are characteristics that a person has / demonstrates….
Empathy – the ability to understand and relate to another person's feelings, see things from the other persons point of view- helps the person feel less anxious **Patience** – the ability to deal with delays difficult situations without becoming annoyed **Trustworthiness** – a person has to be able to trust care professionals to take care of their needs, good relationships, respecting. **Honesty** – a person is given the correct information about their condition or situation so that they can be involved in decisions about their care,

Health & Social Care

Week 10

Values – the 6 C's

- C •CARE
- C •COMPASSION
- C •COMPETENCE
- C •COMMUNICATION
- C •COURAGE
- C •COMMITMENT

Obstacles are something related to an individual that stops them from receiving care or makes receiving care difficult.
Lack of Time – work and family commitments, time energy **Lack of Resources –** financial resources / equipment and amenities **Unachievable Targets –** targets set by professionals (evening walks) **Lack of Support –** friends / family help with transport etc

Week 11

Component 2 B3 - Obstacles that individuals who require may face & Benefits to the individuals of the skills, attributes and values of health and social care

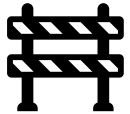
Lack of motivation
Low Self esteem
Acceptance of current state
Stress and anxiety

Other Factors specific to an individual that might act as obstacles to them receiving care can be…
Abilities or disabilities – Physical = mobility, get to and from health or social care service. Communicate with health professionals, understand information and follow recommendations Learning disabilities = difficult to understand new information, learn new skills and cope independently
Health Conditions – some can make it difficult to access services needed. Visual impairment – may not be able to drive. Dementia – cognitive ability and problems with memory. Arthritis – joint pain and unable to walk / drive to get to a service.
Addiction – people can become addicted to substances such as alcohol, nicotine and drugs. May become dependent, experience withdrawal symptoms, hard to admit, worried about judgements and experience cravings.

Week 12

Benefits to the individuals of the skills, attributes and values of health and social care
To someone **receiving Care – they may benefit in several ways**





1. They will be helped to overcome their obstacles
2. They will be given high quality care
3. Their care will be person centred and focussed on their own wishes
4. They'll be treated with respect
5. They won't experience discrimination
6. They'll be empowered and have independence
7. They'll be involved in decisions about their care
8. They'll be kept safe from harm
9. They'll feel comfortable raising any complaints they have
10. They'll be able to keep their dignity and privacy
11. Their confidentiality will be maintained
12. Their rights will be promoted



History

Week 1

Timeline of Pendennis Castle

The Henrician Fort (1540-45)
1540- King Henry VIII begins device forts- Pendennis completed 1545

The Elizabethan Period (1558-1603)
1588- The Spanish Armada is sent by Phillip II and is defeated
1597- Another Spanish fleet headed for Fal Estuary blown back by gales
1597-1600- Chemise, bastions and ramparts added, making it a Star Castle

The Georgian Modernisation (1700-1815)
1700-39 New barracks, gateway & guns + Old rampart reformed after neglect
1779 Spanish & French invasion fleet plans to seize Falmouth
1789-1815 Napoleonic Wars including Trafalgar (1805) & Waterloo (1815)
1793 New Half-Moon gun battery and stores built nearer the waterline

The late Nineteenth century (1850-1900):
1847-59 Invasion panics lead to more powerful guns installed from 1854
1885 Electric submarine minefield installed in Fal Estuary channel
1887 New guns & batteries including One Gun Battery (Disappearing Gun)

The Twentieth century (1900-2000):
1902 Royal Artillery Barracks (and clock tower) at the Parade Ground end
1914-18 WW1- Pendennis becomes a command centre of West Cornwall artillery defences
1939-45 WW2- 6" Guns at Half Moon Battery and Battery Observation Post added
1956- Pendennis Castle de-commissioned by Ministry of Defence and becomes a youth hostel
1984- Pendennis Castle becomes an English Heritage site. This led to big changes in the use of the site, and the addition of areas like car parking and gift shops.

Week 2

Key Words:

Barracks: Buildings where soldiers were housed
Bastion: A position projecting out from the side of the castle to fire guns
Battery: A position which houses a group of big guns - to fire a cannonade
Breech (block): The back end of a modern gun where explosive shells are loaded
Carrick Roads: Third deepest natural harbour in the world - strategically important!
Chemise: A wide circular gun platform built around the original Tudor keep
Device Forts: Series of coastal fortifications ordered to be built by Henry VIII (1540s)
Disappearing Gun: Big Victorian era gun designed to 'disappear on re-coil into its gun-pit
Garrison: The soldiers and artillerymen on station at the castle at any one time
Gatehouse: Main entrance to the castle, with a portcullis and bridge over the ditch
Gun Pit: Pit housing a big gun / where the disappearing gun would vanish into
Gun Platform: Flat concrete base, often semi-circular in shape, for mounting big guns
Half-Moon Battery: Big covered battery between keep and modern Coastguard building
Keep: The original barrel-shaped stone fortification built by King Henry VIII
Magazine: Underground ammunition store (for safety) near gun emplacements
Portcullis: Reinforced wooden grill which drops from above to strengthen gate
Ramparts: High walls and ditches which surround the old 'Star Castle' from 1600
Ravelin: Earth embankment overlooking approach to PD (Ships & Castles area)
Star Castle: PD castle design from 1600, so-called because plan view is star shaped

History

Week 3

Why was Pendennis Castle built here?

- Carrick Roads-deepest natural harbour in UK and to be able to shelter enemy fleet-and view over south coat towards Helford river [pirates].
- Built on steep rocky headland suited to defence from attack by sea
- Built with St Mawes castle so the pair could control 2 mile wide waterway. Little Dennis and St Mawes blockhouses built at water's edge as castles set further back, to guard the shore.
- Southwest Cornwall nearest point for invaders to land so first line of defence.

Why was it strategically important over time?

- Spanish Armada sailed past in 1588; a second armada aimed to invade from Carrick Roads 1597, England saved by storms as only 1 cannon was working at Pendennis Castle.
- Civil War 1642-1646 shelter to Queen Henrietta Maria and Charles, Prince of Wales. Kept contact by sea with French allies of Charles 1, and a base for royalist supporters of the King.
- WW1 training barracks for troops on Western Front; Falmouth an key army supply base for France and Belgium. The Carrick roads an anchorage for convoys, minesweepers and anti-submarine vessels
- WW2 Falmouth naval dockyard important to national defence so role in guarding it against air raids, u-boats and e-boats.

How has it changed over time?

- Henrician circular keep built for almost 360 degree defence, 2 gun decks for cannons, added chemise for greater firepower, with fore-building for officers quarters and guardhouse across dry ditch with drawbridge.
- Elizabethan 'Star Castle built deep surrounding ditch and high stone-lined ramparts with battlements, bastions for cannons to allow interlocking fire.
- 20th century: large barracks-as permanent gunnery staff required to manage the new guns 1902 a new barracks built to house 140 strong regiment of Royal Garrison Artillery.
- Additional buildings and services added when it became English Heritage in 1984.

Week 4

What does the site reveal about everyday life, attitudes and values in particular periods of history?

Tudor times and Civil War siege

- Dangers and hardships for gunners-gunpowder explosion, deaf within 1 year from cannon fire, choking smoke, danger of recoil, explosion of unspent gunpowder when sponging out barrel. High risk of injury. Hot, heavy work. But sheltered by thick walls and narrow openings [gun ports]. Sentry duty at night.
- Living conditions for gunners-slept on floor beside guns, side-by-side with gunpowder. Squalid conditions, one latrine. Frequently unpaid in Tudor times. Average age 21, up to 100 gunners in times of danger. During Civil War siege ate horses, rats and candles, chewed on leather harnesses, 100s starved or died of disease.
- Discipline for gunners was strict; oath of loyalty to king; fines or imprisonment; only 2 absences allowed at a time ; imprisoned for causing an 'affray' [fight]
- Social hierarchy, lives of officers/Killigrew governors –lived in more style in the fore-building and had servants and own kitchen. But Captain of castle could not be absent more than 8 nights a month.

Life, attitudes and values in period 2: World War One

- Dangers and hardships for gunners. There was danger in magazines of spark/explosion. Huge danger from about 1000 shells and cartridges stored+ from cordite becoming damp and unstable. Gunners in Half Moon battery in danger of ricocheting gunfire.
- Living conditions for gunners-cramped barrack block beside Half Moon battery, 'hot bunking' at end of each shift. Boredom.
- Discipline for gunners-strict rules for magazine workers including woollen overalls and no matches. Locked in guardhouse as punishment, painting rocks etc.
- Social hierarchy was in place. Officers had more spacious quarters and better food but also bound by strict rules.

History

Week 5

Crime and Punishment: Medieval Britain Key Words

Felony: A serious crime, such as murder or stealing expensive goods.
Petty Crime: Small and not very significant crimes- for example, getting debt and doing limited harm to a person or property
Hue and Cry- Victims of crime alerted people to a crime and others in the village were expected to hunt the criminal down.
Sheriffs- The King's chief law enforcer in each county
Constables- Law enforcement officers in each village whose role was to ensure his parish responded properly to crime
Justices of the Peace- Responsible for passing judgement on the hundred courts (run by the county sheriff). They were unpaid volunteers.
Scolding- A crime from 1350 of using offensive or abusive speech in public.
Heresy- A crime of spreading beliefs not allowed by the Church from 1500
Treason- Plotting against someone above you in the social order.
Vagrancy- Where people wander from place to place in search of work.

Medieval Crime and Criminals

Serious crimes were crimes that could be punished by **death.** They were called felonies and included:

- Homicide (murder) between 1300 and 1348, it was found that homicide made up around 18 per cent of the trials
- arson
- burglary - illegally entering a property with the intention of stealing
- robbery - stealing from a person using force or the threat of force
- receiving stolen goods

Gangs of **outlaws (living outside of society)** operated throughout the medieval period and were feared by most people. They lived in forest areas. They ambushed travellers and stole from the homes of anyone they could. Poorer villagers were more frequent targets because their houses were less well protected. Churches were often robbed because they contained many valuable gold and silver items inside.

Week 6

Crime and Punishment: Medieval Enforcing law and order

There was no professional police force in the medieval period. The whole community was involved in the task of catching criminals and keeping the peace. They weren't paid and carried out their responsibilities on a voluntary basis.
In theory, it was the **King** who held overall responsibility for maintaining what was known as the King's Peace.
The sheriff was a powerful lord who acted as the king's agent in each county. He was unpaid but would often be given a share of the fines or property taken from convicted criminals. The role also came with a high status.
The coroner was an official responsible for investigating violent or suspicious deaths.
Each county was divided into **hundreds**. Each hundred had two c**hief constables** - usually wealthy farmers - who served for a year. Their main task was to make sure that free men between 15 and 60 years of age were ready to serve the king or sheriff if required.
Watchmen were men who patrolled the streets at night in towns in order to prevent crime.
There were also **parish constables**, usually leading villagers, who served in the post for a year. They led the hue and cry.

Medieval Punishing Offenders

A range of punishments were used to make criminals suffer and to deter other people from committing similar crimes. Fines, public humiliation in the stocks or imprisonment were used in these cases.
Serious crimes could be punishable by **death.** The method of execution usually depended on the type of crime. Executions took place in **public** in order to act as a **warning to others.**
Hanging was used to punish murder or high value theft.
Hanging, drawing and quartering was the punishment for people who committed high treason (plotting to kill the monarch) and
for counterfeiting gold or silver coins.
People who were guilty of heresy could be burned alive on a bonfire.

History

Week 7

Crime and Punishment: Early Modern Britain Key Words

Puritan: a strict Protestant who wanted people to obey the bible and live pure, holy lives
Reformation: the time in the sixteenth century when many Protestant churches started
Restoration: the act of restoring; renewal, revival, or reestablishment
Smuggling: secretly importing goods in order to avoid customs duties
Assizes: A court that used to meet periodically in each county of England and Wales to handle civil and criminal cases.
Quarter session: sessions of a court held four times a year by a justice of the peace to hear criminal charges as well as civil and criminal appeals.
Change: make (someone or something) different; alter or modify.
Continuity: the fact of something continuing for a long period of time without being changed or stopped
Bloody Code: large number of capital offences that were created in England and Wales in the eighteenth century.

The changing nature of crime in the 16th and 17th Century

The English population increased **from 2.4 million in 1500 to 4.1 million by 1600.** This led to a rise in **food prices** and a **fall in wages.** The economic situation worsened in the years when there was **bad weather** and the **harvest failed.** This meant that many people left their villages to look for work, sometimes **begging** or **stealing** as they moved around.

The influence of **Puritanism** grew from the late 16th century onwards. Puritans were very concerned about behaviour they believed to be sinful. They wanted to protect the **Sabbath (Sundays)** for religious worship and to get rid of what they saw as pagan practices.

There were sharp increases in witchcraft trials in the 1570s, 1580s and 1590s, when **hardship and poverty** were most widespread as a result of **plague** or **poor harvests.** There was a similar pattern during the **English Civil War** in the 1640s. Some historians believe chaotic circumstances such as war and famine created tension within communities and led to **people blaming others** (normally older, single women) for bad fortune or deaths. Accusations often started with disputes between neighbours.

Week 8

The changing nature of crime in the 18th Century

Smuggling was the crime of **bringing goods into the country secretly,** thereby avoiding paying the **import duty.** By the early 18th century, smuggling had become a big problem around the **coastal areas** of the country. In the 17th century it had mainly been **tobacco** from Virginia, in America, that was smuggled. After the 1720s, there was an increase in the smuggling of **tea, brandy** and **silk** after the government placed **high duties** on these goods.

Highway robbery became more frequent during the 18th century for the following reasons:
More roads had been built in the 17th and 18th centuries, meaning that travel by stagecoach was more common.
Roads were **poorly lit.**
There were **more wealthy people.**
There were **few banks** so people tended to carry money and jewellery with them.
Horses became cheaper to buy and **handguns** were easier to obtain.

Enforcing the law

Continuity:

- Use of the Hue and Cry
- Constables remained an important part of law enforcement. There were usually two constables for each town or village, normally wealthier and well-respected men.
- Church courts still dealt with crimes committed by the *clergy*.

Change:

- Thief takers were private individuals who made a living from **tracking down wanted criminals** in order to collect the **reward** on offer.
- A new law prevented people who were accused of serious crimes from claiming **benefit of the clergy.**
- By the 17th century, there was too much work for the quarter sessions (four times a year) alone to deal with. Therefore, smaller groups of JPs started to meet in their local areas in petty sessions. They dealt with small offences such as **drunkenness.**

History

Week 9

Punishments - fines, physical punishments and humiliation

Fines were the most common form of punishment.
The manorial courts, **petty sessions** and **quarter sessions** all frequently issued fines to those found guilty of a crime.
As most people lived in small communities, shaming those who committed crimes acted as deterrent.
The Pillory: Head and arms in a wooden frame. Used for traded unfairly or committed sexual offences.
Ducking Stools: Disorderly women and dishonest tradesmen were fastened to a chair and lowered into a river or pond.
The Stocks: Offenders placed in
Whipping and Branding: Used more frequently in the period. Vagabonds were whipped and burned through the ear.
Scold's Bridle: Women who were accused of nagging had their heads locked into heavy iron frame. Spikes pressed down onto the tongue when it was locked.

Punishments - prisons and bridewells

Prisons continued to play only a limited role in the early modern period. However, the bridewell was a new institution that was used to house vagrants (also known as vagabonds) and to punish other kinds of behaviour.
The use of prisons, or gaols, was limited to generally only holding people who were in debt, or people awaiting execution or another form of punishment.
As a response to the growing concerns about vagrancy, **Bridewell Palace** in London was turned into a prison in 1556. It was used to house vagrants. They were forced to work or were physically punished if they refused. Other towns began to build these **'houses of correction'** in the late 16th century too. They were usually referred to as bridewells. Vagrants, unmarried mothers and runaway apprentices were sent to bridewells for hard work and sometimes physical punishment, such as whipping. Eventually, JPs were required to build bridewells in every county.

Week 10

Punishments - capital punishment

Hanging was still used as a punishment. Although there was a dramatic increase in the number of crimes that were punishable by death, the actual number of executions fell from the mid-17th century onwards.

Treason committed by commoners continued to be punished by hanging, drawing and quartering. Noblemen and the gentry who committed treason had their head cut off using an axe. The use of hanging, drawing and quartering increased during the early modern period as a result of growing political and religious conflict.

People found guilty of other **capital offences** were hanged. Hangings were slow and painful. They were always carried out in public and quite often large crowds turned out to watch.

The Bloody Code

The name Bloody Code refers to the legal system from around 1688 onwards, when the number of offences that were punishable by death rose dramatically.

The crimes that were added to the list of those punishable by death were **mostly crimes against property.** For example, the **1723 Black Act** made the poaching of deer, rabbit and fish a **capital offence.** Also, anyone who was found armed or disguised in a hunting area could be executed.

Lawmakers believed their land and property were under threat from the increase in the numbers of vagrants and **highway robbers.** This influenced Members of Parliament (MPs), who passed the harsh laws, and were themselves **landowners** and **merchants,** to give harsher punishments to those who committed crimes against property.

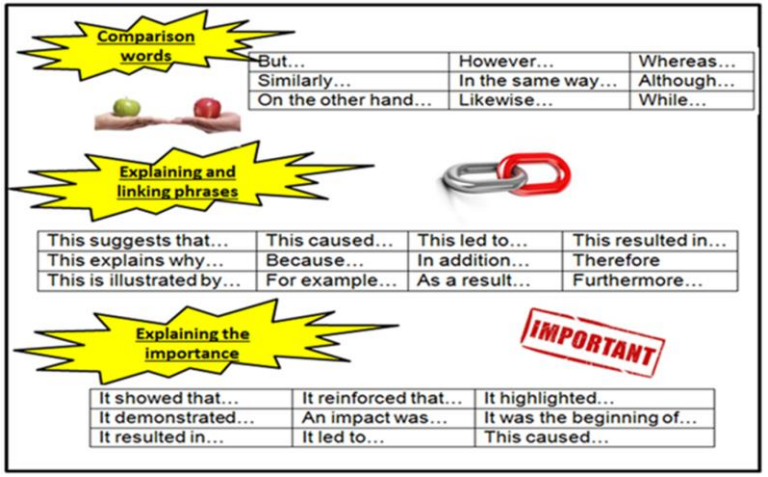
History

Week 11

Important factors in change and continuity

- Beliefs, attitudes and values- what society views as crime and how ideas and attitudes change over time
- Government- how the Government views crime and punishment and actions the Government takes
- Technology- how development in technology impacts upon crimes committed and how criminals are caught and dealt with
- Urbanisation- how mass movement to the cities impacts on crime and punishment
- Wealth and poverty- how rich and poor experience crime and punishment differently.

These are reasons that crime and punishment changed or stayed the same.



Week 12

Examination Skills

Write a clear and organised summary (9 marks)
The clear and organised summary question is asking you to write a structured account. The most important thing in this question is that it **must** be structured around one or more of the following (which may not be obvious from the question):

- **Causation** = the reasons why things happened/changed/improved/got worse
- **Diversity =** why different people/groups/areas had different motives/experiences
- **Change** = how and why things changed over time
- **Continuity** = how and why things stayed the same over time

Explanation- why, what, how (10 marks)
This question focuses on explanation. You do not necessarily have to do any evaluation (judgement) but need to answer a specific question about why something happened/what impact something had/why something was important etc.
You do not need to write pages and pages for this question and you should spend no more than 10 minutes on it. There is no need for a conclusion but organising your explanation into short paragraphs that each make a clear point is strongly advised.

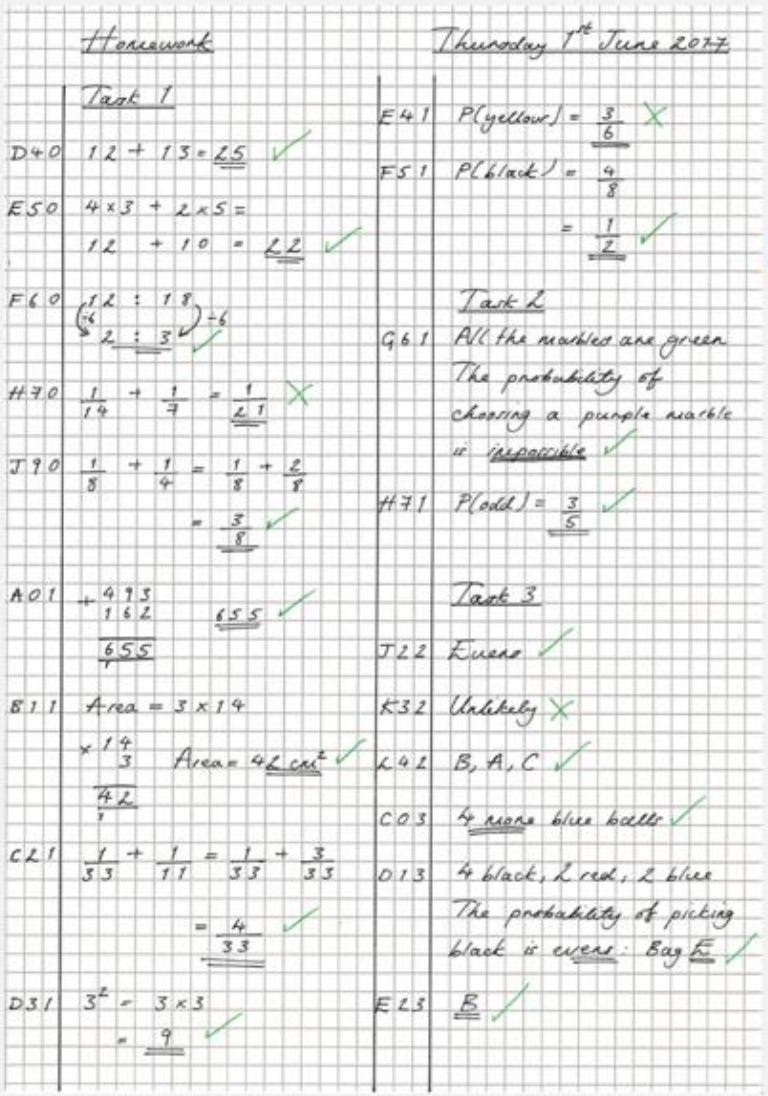
How far do you agree question (18 marks)
In this question you must write a balanced argument. This means that you need to consider both sides of the argument.
You should be aiming to make 4 points, supported with specific examples. Therefore to be balanced either 2 points on each side or 3 on 1 and 1 on the other.
A top level answer also needs a clinching argument in the conclusion.

Maths

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

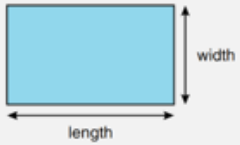
- Write the bookwork code
- Write the question and then your workings and your answer
- Mark your answer in a different colour
- If you are struggling, **watch the video**
- Your homework is complete when you have answered **every** question correctly.
- If you are really struggling with one question, 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



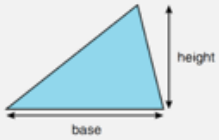
Maths

Area of a Rectangle



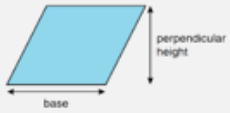
$$length \times width = l \times w$$

Area of a Triangle



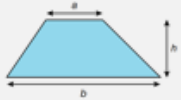
$$\frac{1}{2} \times base \times perpendicular\ height$$
$$= \frac{bh}{2}$$

Area of Parallelogram



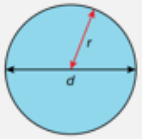
$$base \times perpendicular\ \ height$$

Area of Trapezium



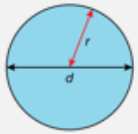
$$\frac{1}{2}(a+b)h$$

Circumference of a circle



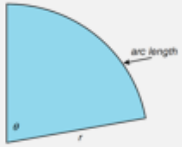
$$C = \pi \times d$$

Area of a circle



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

Arc Length



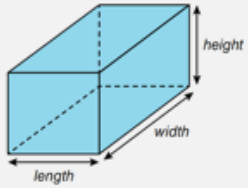
$$\frac{angle}{360} \times \pi \times d$$

Area of a Sector

$$\frac{angle}{360} \times \pi \times r^2$$

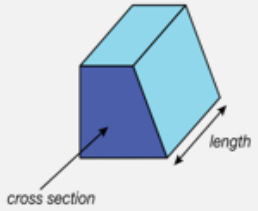
Parts of a circle

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

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

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

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

$$x^0 = 1$$

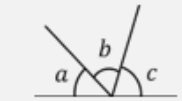
$$x^{-a} = \frac{1}{x^a}$$

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

Maths

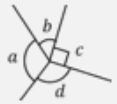
Angle Rules

Angles of straight line add up to 180°



$a + b + c = 180$

Angles at a point add up to 360°

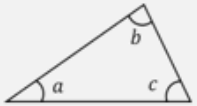


$a + b + c + d = 360°$

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°

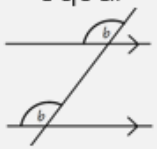
$a + b + c + d = 360°$

Angle Rules

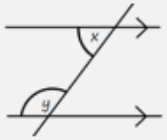
All exterior angles in a polygon sum to 360°

One exterior angle + one interior angle = 180°

Corresponding angles are equal

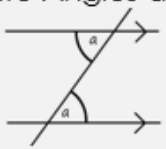


Co-interior angles add to 180°

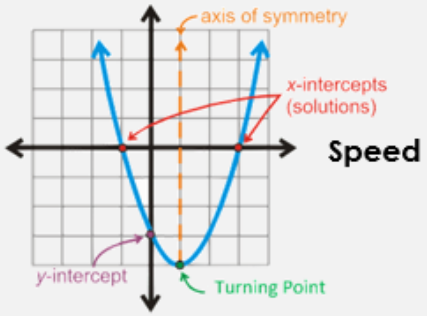


$x + y = 180°$

Alternate Angles are equal



Quadratic Graphs



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

Density

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

Pressure

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

Gradient

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

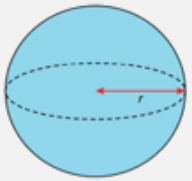
Compound Interest

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

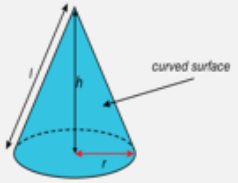
Sphere



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

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

Cone



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

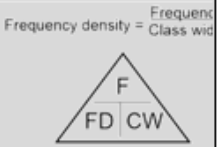
$$V = \frac{1}{3}\pi r^2 h$$

HIGHER TIER ONLY

General linear line equation

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

Frequency Density



Media: newspapers

Week 1

TYPES OF NEWSPAPERS

TABLOID: Tabloids are image led, 'popular' newspapers; they normally have red mastheads; the 'red tops' report on politics and international news but tend to include more celebrity gossip and scandal; they write short stories using simple language and they have more pictures than other newspapers.

MIDDLE MARKET: refers to the target readership of these newspapers, which is somewhere between the 'red tops' and the 'broadsheets'.

BROADSHEET: Broadsheets are text led, 'quality' newspapers; the 'broadsheets' have a higher news content than the 'red tops', cost more to buy and have a lower circulation; the style of writing differs from tabloids with longer sentences and paragraphs, and more articles offering in-depth analysis.

Week 2

TERMINOLOGY: COVER LAYOUT & DESIGN

Week 3

TERMINOLOGY: ARTICLE LAYOUT & DESIGN

Week 4

TERMINOLOGY: CONTEXT

Anchorage: the text that explains the context of the image
Direct address: Talks directly to the audience
Emotive content: words and images that spark emotion
House Style: the style of the brand, including fonts and colours
Political allegiance: who, politically, the newspaper supports
Informal language: slang, less correct way of saying things
Political ideology: a certain set of ideals of a political party
Montage: piecing together separate images

Week 5

CONTEXT: THE SUN

- The Sun is a British **tabloid daily** newspaper owned by News UK, a subsidiary of **right-wing**, Australian-born American media baron Rupert Murdoch's News Corp.
- The Sun has an average daily print **circulation** of roughly 1.3 million copies in the UK and a daily **readership** of around 2.3 million.
- News Corp describe The Sun as, "**an instigator, an entertainer, a cultural reference point, a finger on the pulse, a daily relationship**."
- The majority of its print audience is **male, C2DE** and aged between **35–64** years old.

Week 6

CONTEXT: THE GUARDIAN

- The Guardian is a British **national daily** newspaper with an average daily print **circulation** of approx. 105,000 in the UK, comprising 53,902 newsstand sales and 51,232 **subscriptions.**
- The Guardian newspaper targets a **well-educated, affluent, digitally-savvy, liberal audience**. The demographic is **86% ABC1**. The gender split is fairly equal, and the **average age** of the print reader is **54**.
- In 2006, it went through a redesign. It became smaller, had a new typeface and balanced the longer pieces of journalism out with many shorter stories. **Broadsheet content in tabloid format**.

Media: newspapers

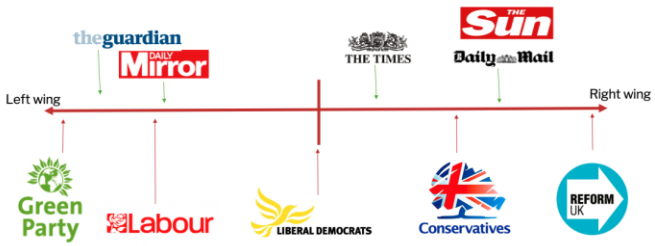
Week 7

NEWS VALUES

1. **IMMEDIACY**: Has it happened recently?
2. **FAMILIARITY**: Is it culturally close to us in the UK?
3. **AMPLITUDE**: Is it a big event that affects many?
4. **FREQUENCY**: Does the event happen often?
5. **PREDICTABILITY**: Did we expect it to happen?
6. **SURPRISE**: Is it rare or unexpected?
7. **CONTINUITY**: Has it previously been defined as news?
8. **ELITE**: Big/well-known countries or people?
9. **PERSONALISATION**: Is it a human-interest story?
10. **NEGATIVITY or BALANCE:** Is it bad news or a fun story to balance bad news?

Week 8

UK POLITICAL SPECTRUM



- **Political bias**

Media bias is the bias of journalists and news producers within the mass media in the selection of many events and stories that are reported and how they are covered.

Week 9

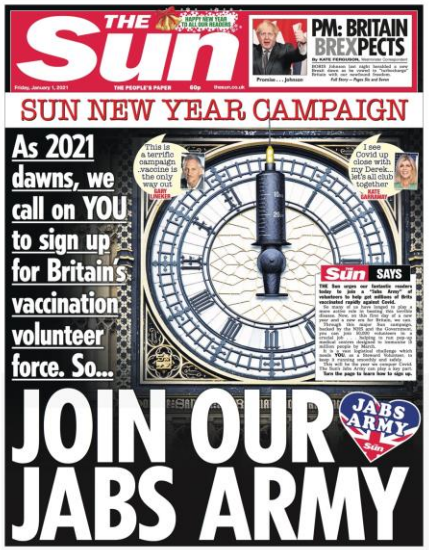
SET TEXT #1

From 2019-2020, Dominic Cummings was Prime Minister Boris Johnson's Chief Political Advisor.
Forced out at the end of 2020, Cummings publishes a blog, in which he reveals events that took place at No.10 Downing Street during the Covid lockdown.

Week 10

SET TEXT #2

COVID-19 was a global pandemic. A mass immunisation programme was essential to help prevent the spread of the disease. By January 2021, the NHS had delivered more than 1 million vaccinations, colloquially known as jabs.



Week 11

UNDERSTANDING SET TEXTS

For each set text we cover, you need to be able to talk about the following:

- Who produced it.
- Who the target audience are
- What the context was (what was going on at the time)
- How MEDIA LANGUAGE is used to construct meanings
- What REPRESENTATIONS are constructed and how this has been done
- How it appeals to its target audience
- What each front-page story is about

Week 12

ANALYSING A TEXT

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

DESCRIBE - the technique used/representation constructed

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

LINK - to the overall context or meaning or question

PE

Week 1& 2

Acute injuries occur as a result of an impact or collision during an event, training or match. For example, a bad tackle in football leading to knee ligament damage.

Sudden trauma

Impact or collisions are known as sudden trauma. This can be through a bad tackle in football or being hit by a cricket ball.

Immediate impact and pain

Acute injuries will result in immediate pain and produce swelling and a loss of function.

Common injuries are:

- Sprained ankle
- Hamstring tear

Attitudes and Behaviour

Attitude is a feeling, belief, or opinion of approval or disapproval towards something. Behaviour is an action or reaction that occurs in response to an event or internal stimuli (thought)

Week 3 & 4

Strains are a soft tissue injury that is caused by over-stretching.

This involves torn muscles or tendons and are best treated by rest and applying ice to the injured area to limit internal bleeding. Compression and elevating the injured part of the body will help reduce swelling too.

Games players can often suffer this type of injury due to the nature of the sport and can be classified as a grade 1 – 3 depending on severity.

Honesty

Honesty builds trust. When we are truthful about our thought, feelings, and actions, we create a foundation of trust that others can rely on. Honesty is essential for building healthy relationships, both personally and professionally.

Week 5 & 6

Sprains - Torn ligament

This soft tissue injury can occur when the ligaments at a specific joint get stretched/wrenched or torn. Sprains are particularly common in basketball players due to the game involving a lot of jumping and landing throughout.

Anterior Cruciate Ligament (ACL)

In many sports, movements such as changing direction sharply, landing and jumping can cause sprains of the ligaments supporting the knee joint. The ACL runs diagonally in the middle of the knee and prevents the tibia sliding out in front of the femur. Severe ACL sprains require surgery to re-attach the ligament.

Confidence

Self-confidence fosters a positive self-view, empowering leaders to take risks, persevere through challenges, and manage stress effectively.

Week 7 & 8

Fractures - Bone fractures are a hard tissue injury were a break or crack in the bone occurs due to excessive force from a collision/object or poor landing.

Open Fracture The skin is broken and the bone may protrude through increasing the risk of infection.

Closed Fracture The surrounding skin is unbroken. However, injury to internal tissue may cause swelling

Commitment

An example of commitment is being punctual and expressing a desire to advance in your department. This demonstrates you take your job seriously and continually strive for excellence and maximum productivity.

Week 9 & 10

A **dislocation** is an acute injury that occurs when a bone slips out of position usually when the joint is unexpectedly impacted. This can be a fall or due to a severe blow to the joint area.

Enthusiasm

Enthusiasm in the workplace is a potent force that propels individuals, teams, and organizations towards success. From increased productivity and a positive work environment to enhanced innovation and job satisfaction, enthusiasm ignites a series of positive outcomes.

Week 11 & 12

Concussion:

Concussion is trauma or injury to the brain. It is caused by a direct blow to the head resulting in a disruption to brain functioning.

Signs/symptoms:

- Become unconscious.
- Feel sick, dizzy or drowsy.
- Get confused, stare & suffer memory loss

Positivity

People with a positive mindset are more successful because they recognize opportunities and take advantage of them. If you have a positive attitude, you'll always find the good in every situation and are more likely to turn setbacks into opportunities

Photography

Week 1

Key Words

- **Brief -** An artist's brief is a document or set of guidelines that outlines the goals, expectations, and requirements for a creative project.
- **Analyse -** Being able to analyse a work is an essential part of evaluating it. Recording this evaluation ensures that the creative process, influences and material choices is communicated clearly.

Respond – In your sketchbook **c**omplete a page of visual and annotated/written research about the Brief you have chosen.

Week 2

Key Words

- **Annotate**: Write about your idea by adding annotations to your work explaining or commenting on images and analysing why an artist has created their work.
- **Artist research** - studying the work, techniques, and styles of other photographers to understand their creative process and gain inspiration for your own work. This can include analysing their compositions, lighting, subject matter, and the messages they convey through their images.

Respond – In your sketchbook complete a page of visual and annotated/written research about an Artist that you have chosen to explore further.

Week 3

Key Words

- **Composition**: The arrangement of visual elements within a frame, guiding the viewer's eye and creating balance.
- **Depth**: The sense of three-dimensionality or spatial arrangement in an image, often created through layering, focus, or perspective.

Respond - Complete a **photoshoot** of your chosen subject, portrait, still-life or landscape, upload to your onedrive and present this creatively in your sketchbook. Focus on your composition.

Week 4

Key Words

- **Studio Lighting -** is artificial light source to either add to the light that's already there, or to completely light the object being photographed.
- **Studio camera setting** - Shutter speed 1/125, Aperture f11, ISO 100
- **Natural lighting -**the use of sunlight as a light source, without the use of flash or studio lighting. The quality and position of natural light can significantly affect the mood, tone, and clarity of a photograph.

Respond - Complete a **photoshoot** focussing on light

Week 5

Key Words

- **Edit** - Photo editing is the process of altering a photograph, such as by adjusting its colour, light, tone, composition, or focus. It's also known as post-processing.
- **Contact sheet** - a page with thumbnail images from a photoshoot. A contact sheet provides an overview of all the frames and their exposure.

Respond – Pin ideas onto your pinterest board about different types of editing processes. Use the teacher boards and find your own. Transfer these to your sketchbook and annotate.

Week 6

Key Words

- **Graphic Design -** *is the art of visually communicating ideas, emotions, and information through the use of typography, imagery, and layout.*
- **Narrative -** *is the structured to a piece of work that tells a story or conveys a message.*
- **Concept -** *is the foundational idea or theme that shapes the direction and creative approach of a project or design.*

Respond - Complete a **photoshoot** of your chosen subject, focussing on your narrative/concept

Photography

Week 7

Key words

- **Explore –** experiment and create observations and insights using a variety of materials, techniques and processes in response to the theme.
- **Record ideas:** Record your ideas, observations, and insights visually, through writing, or using other media

Respond – pin ideas about different types of photography and ways to record your insights. Transfer these to your sketchbook and annotate.

Week 8

Key Words

- **Double exposure:** Combining 2 or more images to create an alternative image. Using either opacity or the layers and blends palette examples like overlay, lighten, darken and multiply.
- **Texture Overlays:** Applying patterns or textures to images to add visual interest or a tactile quality.
- **Digital Collage**: Merging various images and elements into a single composition, often exploring themes or narratives in a unique way.

Respond – Complete a **photoshoot** of your choice. It must link to your project and develop new ideas.

Week 9

Key Words

- **Blending Modes**: Settings that determine how layers interact with each other, affecting colour, brightness, and contrast.
- **Photoshop Layers -** transparent panes stacked on top of each other, allowing you to edit each element independently, creating a flexible and non-destructive workflow
- **Edit** - Photo editing is the process of altering a photograph, such as by adjusting its colour, light, tone, composition, or focus. It's also known as post-processing.

Respond – Pin ideas about different editing techniques that could develop your ideas. Transfer to your sketchbook and annotate.

Week 10

Key words

- **Camera settings** – Camera settings are the controls that allow you to adjust how your camera captures an image, primarily focusing on exposure, which is the amount of light that reaches the sensor, and other aspects like focus and image quality.
- **Final piece planning** - strategically outlining and developing a cohesive series of images that demonstrate your understanding of a theme, artistic direction, and technical skills, culminating in a final, well-presented outcome

Respond – Complete a **photoshoot** that links to ideas developed in your final piece planning

Week 11

Key Words

- **Mock up**: a small-scale, annotated model of the final piece that a photographer is planning to create. It's a way to ensure that the final piece will look as intended and to identify any potential problems that might arise.
- **Purpose**: Your final piece must have a context or a purpose. Who is your final piece for and is this well considered, developed and evidenced in your sketchbook?

Respond – In your sketchbook complete a page about the context or purpose of you final piece.

Week 12

Key Words

- **Link to preparatory work**: Ensure your final piece connects to your research and artist or designer work.
- **Refine ideas**: make small improvements to your ideas and techniques to create a professional-looking final piece
- **Evaluation:** The process of explaining: your research about other artists' work and the ideas you have had, your experiments and the way you have refined them. the decisions you made along the way and how you have recorded your learning.

Respond – In your sketchbook **c**omplete an evaluation page about your final piece.

PSHE

Weeks 1 & 2

Where can I seek help with relationships?

Speak to a member of staff, a trusted family member or friend, or use these websites to support:

www.youngminds.org.uk

www.themix.org.uk/get-support

www.mind.org.uk/for-young-people/how-to-get-help-and-support

Weeks 3 & 4

Where can I seek help with negative influences online?

Speak to a member of staff, a trusted family member or friend, or use these websites to support:

www.headspace.com/mindfulness/negative-effects-of-social-media

www.childnet.com

www.reportharmfulcontent.com

Weeks 5 & 6

Where can I seek help with negative influences in real life?

Speak to a member of staff, a trusted family member or friend, or use these websites to support:

anti-bullyingalliance.org.uk

Victim Support – a national charity which helps people affected by crime. Web: www.victimsupport.org

www.childline.org.uk

Weeks 7 & 8

What might be the consequences of poor budgeting?

Running Out of Money
Without a budget, you might spend more than you earn, leading to running out of money before the end of the month.
Increased Debt
Poor budgeting can lead to borrowing more money or using credit cards too much, causing debt to pile up over time.
Stress and Worry
If you're not keeping track of your spending, it can cause stress, as you might worry about bills or whether you can afford what you need.
Missed Financial Goals
Without a plan, you might struggle to save for important things. This makes it harder to reach your financial goals.

Weeks 9 & 10

How do I send a professional email?

Use a Clear Subject Line
Make sure the subject of your email clearly tells the reader what the email is about (e.g., "Meeting Request")
Begin with a polite greeting, like "Dear [Name]" or "Hello [Name]," if you know their name. If you don't, "Dear Sir/Madam" works.
Keep it Clear and Concise
Be brief and get straight to the point. Use short paragraphs and simple language.
End Politely and Include a Signature
Close with a polite sentence like "Thank you for your time" or "Best regards." Then, sign off with your name and contact information.

Weeks 11 & 12

Top tips for a successful work experience placement

Be Punctual and Reliable
Always show up on time and be dependable. If you say you'll do something, make sure you follow through.
Stay Positive and Enthusiastic
Show interest in what you're doing and stay upbeat. A positive attitude makes people want to work with you.
Be Eager to Learn
Ask questions and be open to feedback. Show that you're willing to learn and improve.
Be Respectful and Professional
Treat everyone with respect, be polite, and follow the rules. This will help you build a good reputation.

RE

Weeks 1 & 2

Life of the Buddha

Siddhartha Gautama: The given name of the Buddha.

The Four Signs of Being: Old age, disease, death and a Holy Man

Ascetic: Living a deliberately harsh life to overcome suffering..

Enlightenment: A state of being free from suffering.

Sangha: Buddhist monastic community.

Weeks 3 & 4

Three Universal Truths and the Four Noble Truths

Annica: Impermanence, nothing lasts forever.

Anatta: No-self, you have no fixed identity.

Dukkha: Life involves suffering.

Craving: Wanting something you don't have.

Attachment: Having an emotional connection to someone or something.

Weeks 5 & 6

Noble Eightfold Path

Wisdom: Having experience, knowledge and good judgement

Morality: Choosing to do the right thing.

Mental Training: Practicing awareness, meditation and mindfulness.

Bikkhu: A Buddhist monk. Someone who has devoted their life to their religion.

Weeks 7 & 8

Karma and Enlightenment

Karma: The universal law of moral causation.

Samsara: Buddhist belief in rebirth.

Nirvana/Nibbana: The state of enlightenment that is free from suffering.

Arahat: A monk who achieves Nirvana.

Buddha Nature: The capacity for everyone to achieve Nirvana.

Weeks 9 & 10

Meditation and Mindfulness

Mindfulness: Deep awareness of your thoughts, feelings and those of others.

Meditation: Activities that allow for states of mindfulness.

Samatha: Breathing exercises designed to help start meditation.

Vipassana: Traditional sitting meditation.

Chanting and Mantras: Repeated recitation of the Buddha's teachings.

Weeks 11 & 12

Zen Gardens

Zen: A denomination of Buddhism that focuses on achieving *Zazen*.

Zazen: A state of peace and contentment achieved by focusing on the moment.

Tranquility: A calm and peaceful atmosphere.

Contemplation: Looking thoughtfully at something for a long time.

Bonsai: The art of growing ornamental and artificially dwarfed plants, trees and shrubs.

Separate Science

Week 1 – Quantitative chemistry

Conservation of Mass

total mass of the reactants = the total mass of the products

MASS IS CONSERVED.

In an open system:

- Mass of may decrease due to the loss of a gas being produced.
- Mass of may increase due to a reactant being a gas.

Relative Formula Mass (M_r)

Relative Formula Mass (M_r) – sum of all the relative atomic masses of all the atoms in a chemical formula.

1) Work out how many atoms of each element there are in the chemical formula.
2) Add together the Ar values for all the atoms of each element present.

e.g. M_r of CO_2 = (1 × C) + (2 × O) = (1 x 12) + (2 x 16) = 12 + 32 = 44

Moles

The mass of one mole of a substance is equal to the relative atomic/formula mass of its chemical formula in grams.

$$Number\ of\ moles\ (mol) = \frac{mass\ in\ g}{M_r}$$

The Avogadro constant in the number of particles in 1 mole of a substance

1 mole = 6.02×10^{23} particles.

$$Number\ of\ particles in\ a\ substance = moles\ \times avogadro\ constant$$

Balanced Equations – show the ratio of moles of the substances in a chemical reaction.

$$Mg\ (s) + 2\,HCl\ (aq) \rightarrow MgCl_2\ (aq) + H_2\ (g)$$

1 mole of Mg | 2 moles of HCl | 1 mole of $MgCl_2$ | 1 mole of H_2

Week 2 – Quantitative chemistry

Amounts of Substance

A reaction finishes when one of the reactants is all used up. The other reactant has nothing left to react with, so some of it is left over:

- the reactant that is all used up is called the **limiting reactant**
- the reactant that is left over is in **excess**

The **mass of product** formed in a reaction **depends upon the mass of the limiting reactant**.

The known mass of a reactant can be used to calculate the unknown mass of a product:

1) Divide the mass of the limiting reactant my its M_r to find the number of moles.
2) Use the balanced equation to find the number of moles of product.
3) Multiple the moles of the product by the M_r to find the mass.

Balancing Equations Using Moles

If you know the masses of the reactants and products:

1) Divide mass by M_r to find moles of each substance.
2) Dived each number of moles by the smallest number of moles.
3) Put the numbers in front of each of the chemical formulas.

Concentration of Solutions

A solution forms when a solute dissolves in a solvent. The concentration is the amount of dissolved substance in a given volume. The concentration of a solution can be calculated using:

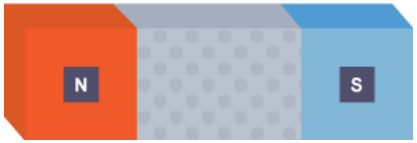
$$concentration\ in\ g/dm^3 = \frac{mass\ of\ solute\ in\ g}{volume\ in\ dm^3}$$

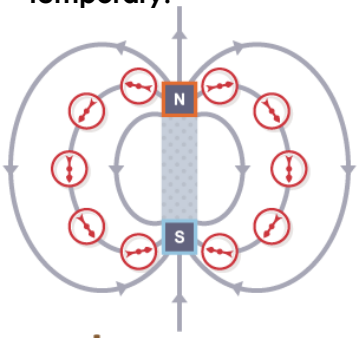
$$concentration\ in\ mol/dm^3 = \frac{moles\ of\ solute\ in\ mol}{volume\ in\ dm^3}$$

Separate Science

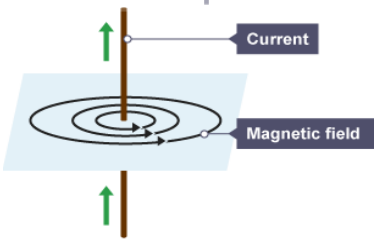
Week 3 - Magnets

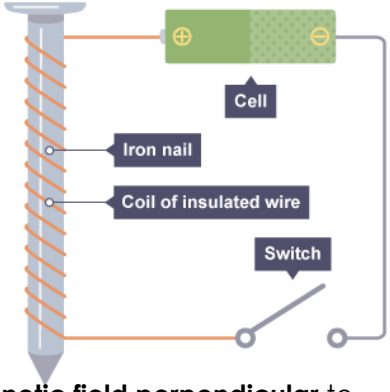
- **Magnetism** is a **non contact force which can be attractive or repulsive.**
- **Magnets** have a **North and a South pole.**
- **Like poles repel** one another, whilst **unlike poles attract.**
- Magnets can be **permanent or temporary.**





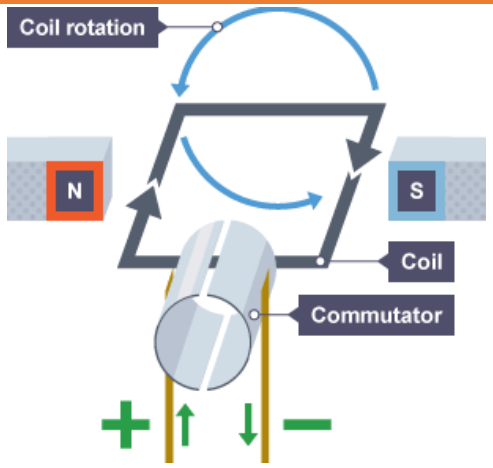
- **Magnetic field lines** flow from **North to South.**
- The magnetic field is **strongest** where the field lines are **most dense.**
- **Field lines** can be identified using a **plotting compass,** the compass needle will **point to the South pole.**

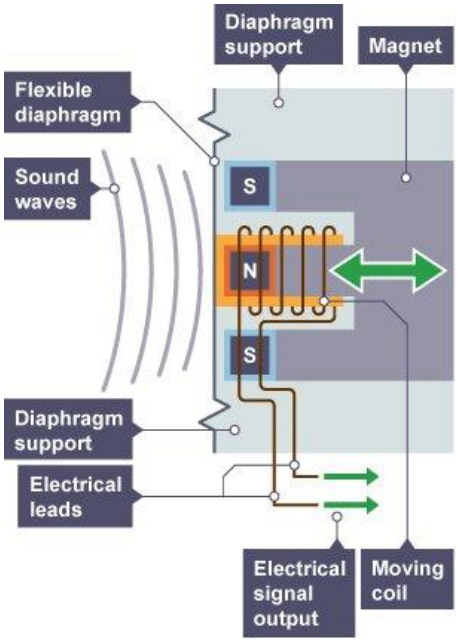




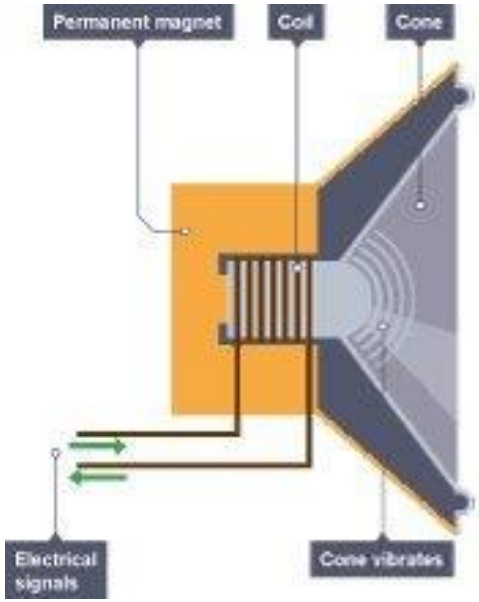
- A wire **carrying a current** generates a **magnetic field perpendicular** to the flow of current. The **right hand rule** can be used to **identify the direction of flow** of field lines.
- A **solenoid** is a **coil of wire.** When wrapped around an **iron core**, an **electromagnet** is formed.
- An electromagnet is a type of **temporary magnet** that is only **magnetic when a current flows.**

Week 4 - Magnets





- **An electric motor** uses the **motor** effect to produce a **rotational force.**
- **A split ring commutator** is needed to **change the direction of flow of current,** in order to allow the **coil of wire** to continue **turning in the same direction.**



- **Microphones** use the motor effect to **generate a current** when a **wire moves in a magnetic field.**
- **A loudspeaker** moves a cone when an **electromagnet interacts with a permanent magnet.**

Separate Science

Week 1 Separate Content

Atom Economy

The percentage of mass of reactants that end up in the desired product(s).

$$atom\ economy = \frac{total\ M_r\ of\ desired\ product(s)}{total\ M_r\ of\ all\ reactants} \times 100$$

Percentage Yield

Comparison of the yield of product with its theoretical amount.

$$percentage\ yield = \frac{mass\ of\ product\ actuall\ made}{maximum\ theoretical\ mass\ of\ product} \times 100$$

Factors affecting yield:

- Incomplete reaction
- Side reactions
- Product loss from separation

Week 2 Separate Content

Concentration of Solutions

Titrations can be used to find the volume of solution needed to completely react with another solution.

To find the unknown concentration of a solution:

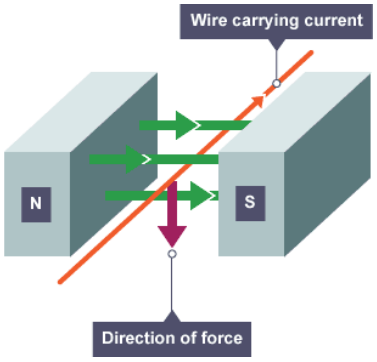
1) Multiple known concentration by the volume measured by titration to work out the number of moles or reactant 1.
2) Use the balanced equation to find the number of moles of reactant 2.
3) Divide the moles of reactant 2 by its volume to get the unknown concentration.

Moles of Gases

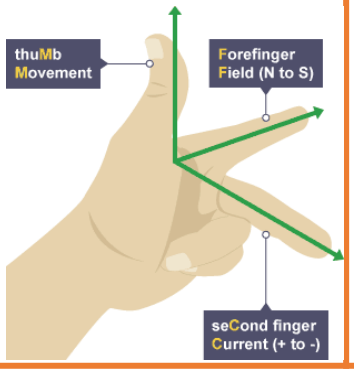
At the same temperature and pressure one mole of any gas will occupy the same volume.

$$volume\ of\ gas\ at\ RTP = \frac{mass\ in\ grams}{M_r} \times 24$$

Week 3 Separate Content

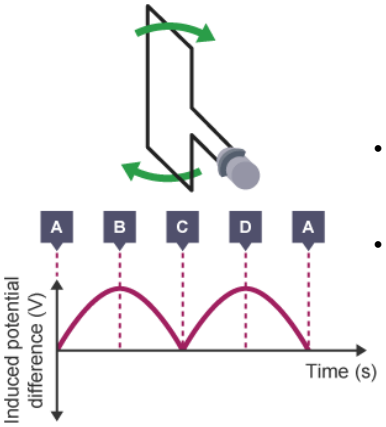


- The **motor effect** describes the **force** that acts on a wire when it carries a **current in a magnetic field.**
- **Fleming's left hand rule** can be used to predict the **direction of force** exerted.

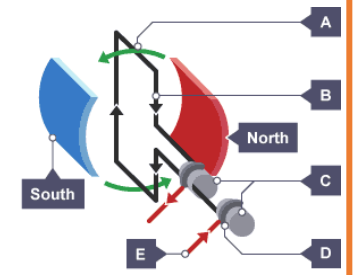


- The size of the force is **dependent** on the **strength of the magnetic field (measured in Tesla**) and the **size of the current** (in Amps), as well as the **length of the wire** (in m).

Week 4 Separate Content



- **AC generators** produce an **AC current** when a coil moves in a **magnetic field.**
- **Slip rings** connect the coil to a circuit.
- **DC generators** (dynamos) a **split ring commutator** maintains a **constant direction of flow of current.**



A	The coil is rotated in the magnetic field
B	Current is induced in the rotating coil
C	Slip rings connected to the coil
D	Brushes make continuous contact between the external circuit and the slip rings
E	Current flows in external circuit

Separate Science

Week 5 – Biology revision

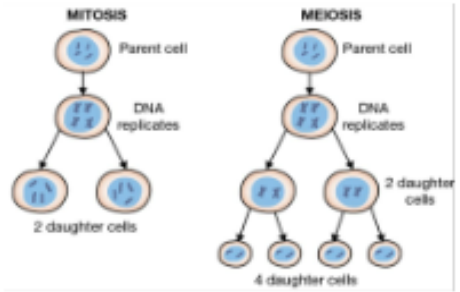
Inheritance and evolution

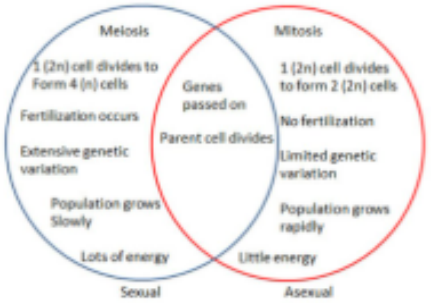
Sexual and asexual reproduction

- **Sexual** - The formation of a new organism by **combining the genetic material** of **two** organisms, **using meiosis**
- **Asexual** – reproduction with only **one parent, using mitosis**

Meiosis and Mitosis

- **Meiosis** – A type of cell division that produces 4 non identical haploid gametes
- **Mitosis** – A type of cell division that produces two identical diploid cells
- **Haploid** - A **sex cell** (gamete) that contains **one set of chromosomes**
- **Diploid** - Cells that contain **two sets of chromosomes**
- **Gametes – sex cells**, e.g. **egg or sperm**
- **Fertilisation** - fusion of the **nucleus** of a **male gamete** with the **nucleus of a female gamete**





DNA and the genome

- **DNA** - **Deoxyribonucleic acid.** The genetic material inside the nucleus of cells
- **Genome** - complete set of DNA found in an organism.

Week 6 – Biology revision

Gender and inheritance

- **Alleles** – **different versions of a gene**
- **Dominant** - An **allele** that **always expresses itself** whether it is partnered by a recessive allele or by another like itself.
- **Recessive** - **masked or suppressed** in the **presence of the dominant variant.**
- **Heterozygous** – a **genotype** where **two alleles** for a particular characteristic are **different.**
- **Homozygous** - a **genotype** in which the **two alleles** for the characteristic are **identical.**
- **Genotype** – An organism's **combination of alleles**
- **Phenotype** – The **characteristics** an organism has

Genetic disorders

- **Cystic fibrosis** – a **recessive genetic disorder** of the **cell membranes**.
- **Polydactyly** – a **dominant genetic disorder** where a baby's born with **extra fingers or toes**
- **Gene therapy** - **inserting** a **normal allele into the chromosomes** of an individual who carries a **faulty allele.**

Variation and mutations

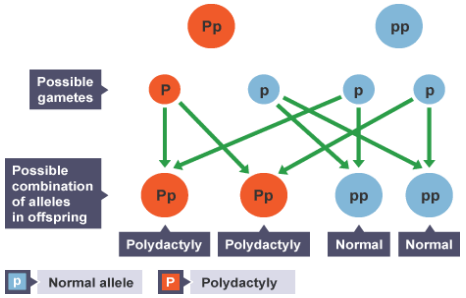
- **Variation** – **differences in characteristics** of organisms
- **Mutations** - a **permanent change** in the nucleotide sequence of **DNA**

		Mother	
		X	X
Father	X	XX	XX
	Y	XY	XY

XY = Male 50% chance
XX = Female 50% chance

	E	e
E	EE	Ee
e	Ee	ee

Outcome: One is EE (homozygous dominant), two are Ee (heterozygous) and one is ee (homozygous recessive).



Separate Science

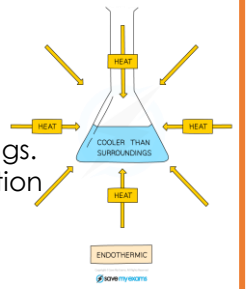
Week 7 – Chemistry revision

Endothermic and Exothermic Reactions

Energy is conserved in a reaction

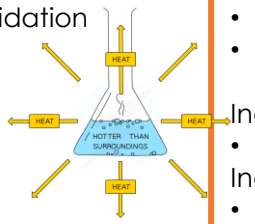
Endothermic reactions:

- Transfers energy **from the surroundings**.
- Causes a **decrease in the temperature** of the surroundings.
- Examples include thermal decomposition and the reaction between citric acid and sodium hydrogencarbonate.
- Uses include some sports injury packs.



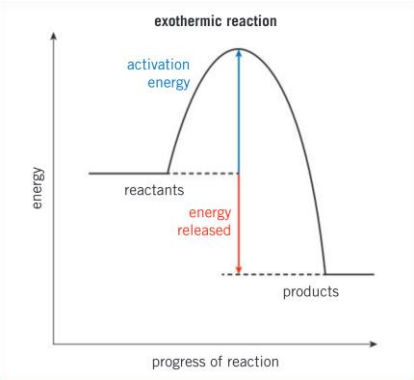
Exothermic Reactions:

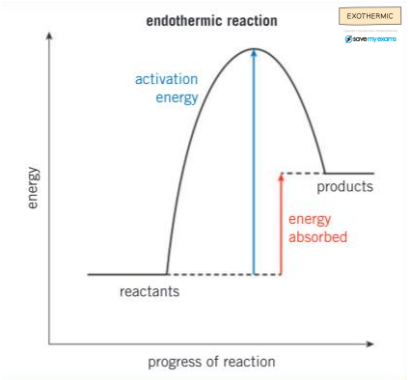
- Transfers energy **to the surroundings**.
- Causes an **increase in the temperature** of the surroundings.
- Examples include combustion, neutralisation, and most oxidation reactions.
- Uses include self-heating cans and hand-warmers.



Reaction Profiles

Show whether a reaction is exothermic or endothermic.





Keywords

Activation energy: the minimum amount of energy that reactants need to react when they collide.

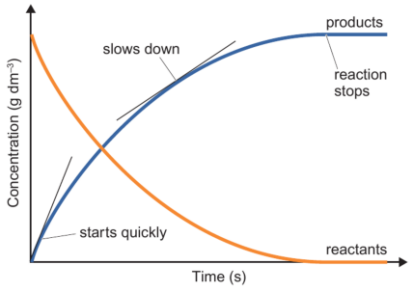
Week 8 – Chemistry revision

Rate and Collision Theory

For a chemical reaction to happen:

- Reactants must collide.
- Particle must have enough energy to react.

The greater the **frequency** of **successful collisions**, the greater the rate of reaction.



Factors Affecting Rate of Reaction

Increasing temperature:

- Particles move faster increasing the frequency of collisions
- Particles have more energy, so a greater proportion of collisions are successful.

Increasing Concentration:

- More particles in the same volume therefore more frequent collisions.

Increasing pressure:

- Less volume therefore less space between particles causing more frequent collisions.

Increasing surface area:

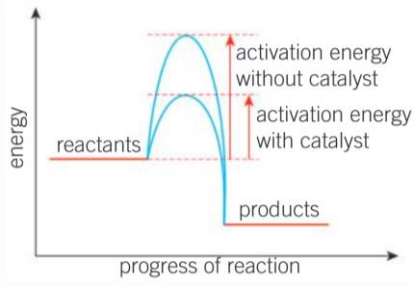
- Greater amount of reactant exposed leading to more frequent collisions.

Catalysts

Provide a different reaction pathway that has a lower activation energy.

Catalysts:

- Are not used up in a reaction.
- Increase the rate of a reaction.



Keywords

Successful collision: When reacting particles collide with enough energy to react.

Separate Science

Week 5 Separate Content

Protein synthesis

- **Protein - Organic compound** made up of **amino acid** molecules
- **Synthesis** – **combining two** or more **components**

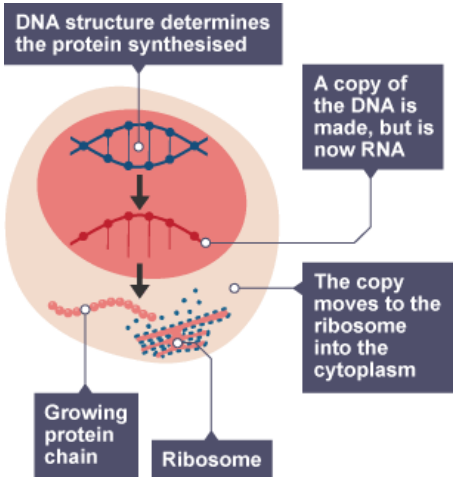
Order of bases on DNA

↓

Order of amino acids

↓

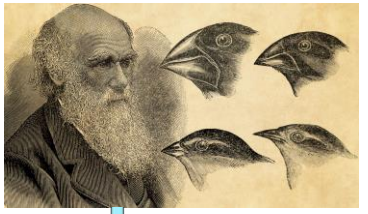
Specific proteins

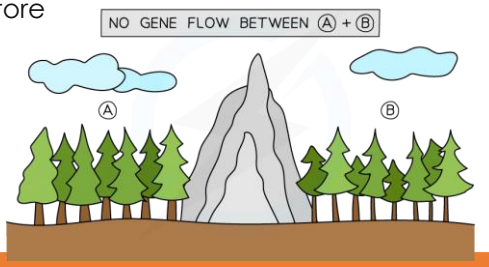


Week 6 Separate Content

Theory of evolution and speciation

- **Darwin** – best known for the **theory of evolution by natural selection**
- **Wallace** – best known for work on warning colouration in animals and his **theory of speciation**
- **Lamarck –**best known for his alternative theory of evolution before Charles Darwin
- **Speciation** - The formation of **new species** by **natural selection**





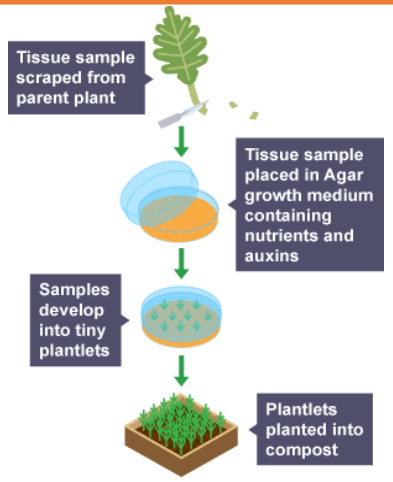
Week 7 Separate Content

Cloning

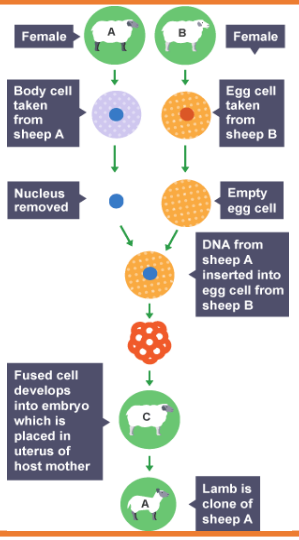
Clones - genetically identical individuals

Cuttings - Part of a plant stem, leaf, or root cut off and used for producing a **new plant.**

Tissue culture - the **growth of tissues or cells separate** from an **animal or plant**.



Week 8 Separate Content



The method for adult cell cloning is:

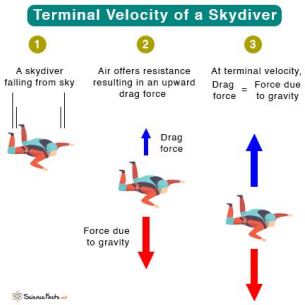
1. The nucleus is removed from an unfertilised egg cell.
2. The nucleus from an adult body cell, such as a skin cell, is inserted into the egg cell.
3. An electric shock stimulates the egg cell to divide to form an embryo.
4. These embryo cells contain the same genetic information as the adult skin cell.
5. When the embryo has developed into a ball of cells, it is inserted into the womb of an adult female to continue its development.

Separate Science

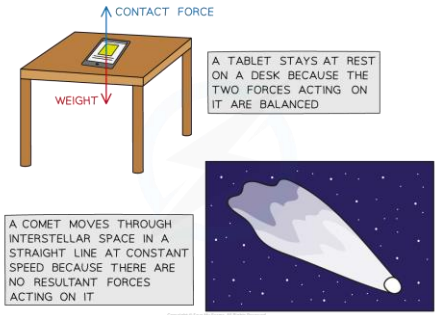
Week 9 – Physics revision

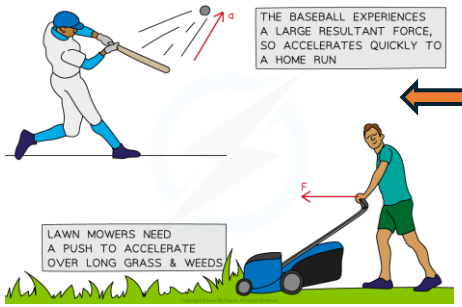
Forces

At **terminal velocity** an object stops accelerating and travels at a **constant velocity.** This is because the **forces opposing** the direction of travel (friction and air resistance) balance the **accelerative force**.



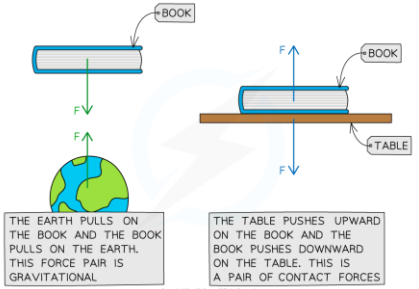
Newton's First law states that if the **resultant force on a stationary object** is **zero**, it will **remain stationary**. If the **resultant force on a moving object** is **zero**, it will **continue moving at constant velocity.**





Newton's Second law states that an object is proportional to the resultant force acting on it and inversely proportional to the objects mass

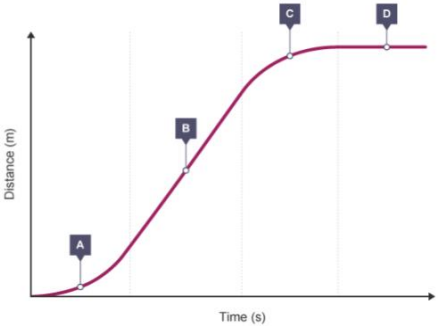
Newton's Third law states that when **two objects interact** they exert an **equal and opposite** force on one another.

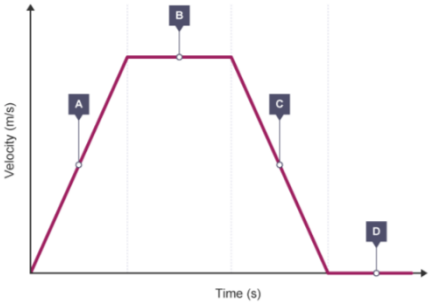


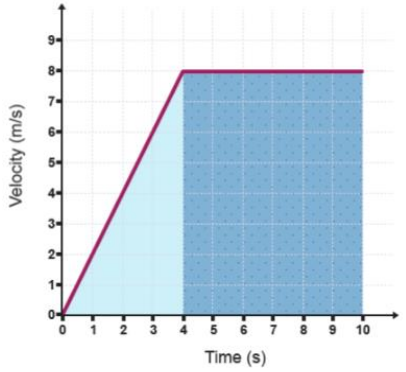
Week 10 – Physics revision

Forces

- **Distance** is a **scalar** value, measured in m. **Displacement** is a **vector** value measured in m, since it also **has direction.**
- **Speed** is a **scalar** quantity, whilst **velocity** is a **vector** since it **has direction**. Both are measured in **metres per second, m/s.**
- The **gradient** of a **distance-time graph** gives the **speed** of an object.
- The **steeper the gradient the greater the speed** of the object.
- The **gradient** of a **velocity-time graph** gives the **acceleration** of an object.
- A **positive gradient** shows **positive acceleration.**
- A **horizontal line** shows a **constant velocity.**
- A **negative gradient** shows **negative acceleration, or deceleration.**
- The **area under a velocity-time graph** gives the **distance** travelled.
- Dividing the area into triangles and rectangles allows you to calculate the area.
- **Acceleration** is the **rate of change of the speed** (or velocity) of an object, measured in **metres per second per second, m/s^2.**
- **Acceleration** can be **uniform** (changing at a constant rate) **or non-uniform.**







Separate Science

Week 11 – Improvement week

What Went Well?

You've completed your assessment, what next?

1. Review – what were your strengths and weaknesses?
2. Reflect – what could you have done differently in you preparation?
3. Improve – act to address your weaknesses and implement improvements for next time!

Even Better If...

Week 12 – Getting Y11 ready

Prepare for year 11 by getting GCSE ready and attempting a past paper.

- Biology paper 1
- Biology paper 2
- Chemistry paper 1
- Chemistry paper 2
- Physics paper 1
- Physics paper 2

AQA

Please write clearly in block capitals.

Centre number | | | | | | Candidate number | |

Surname _____

Forename(s) _____

Candidate signature _____

I declare this is my own work.

Separate Science

Week 9 - Revision

Aerobic respiration in plants and animals

Respiration – an **exothermic reaction**, in which **energy is transferred from glucose**, occurring in **all living cells**.

Energy is needed:

To contract muscles for **movement**

To keep **warm** (in mammals and birds)

To **build up larger molecules from smaller ones**

GLUCOSE + OXYGEN → CARBON DIOXIDE + WATER

$C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$

Week 10 - Revision

Leaves and photosynthesis

Photosynthesis – an **endothermic reaction** in which **energy is transferred to chloroplasts from light**

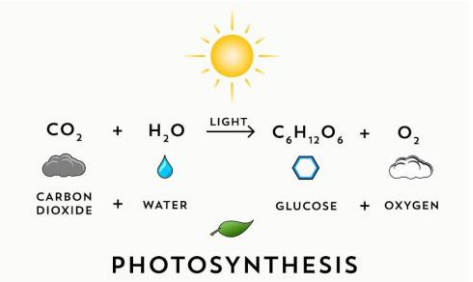
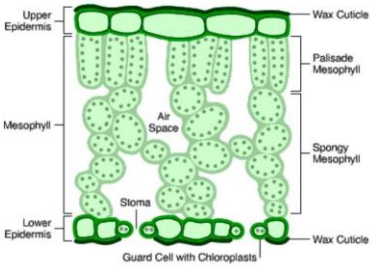
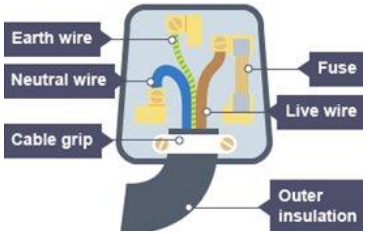


Diagram cross section of a leaf



Week 11 - Revision

- Electrical appliances are dangerous. Precautions to protect us include:
- **Circuit breakers** detect surges in the supply and cut the supply off.
- Appliances are connected using 3 core cables. These are copper wires wrapped in differently **coloured plastic to insulate us from the current in the wire.**
- The **brown wire** is **live** and carries current at **230V.**
- The **blue wire** is **neutral** and at 0V.
- The **green and yellow wire** is the **Earth** wire and is also at 0V. It **prevents the appliance from becoming live** in the event of a fault.



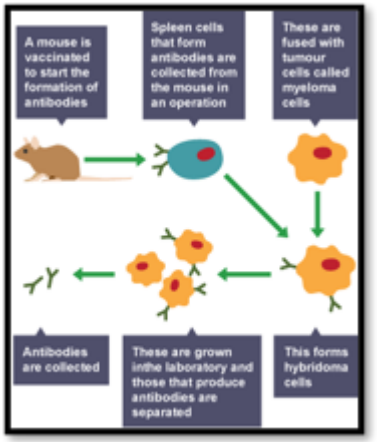
Week 12 - Revision

Monoclonal antibodies

Uses: Cancer treatment, Locating specific molecules, Measuring levels of substances in urine or blood, e.g. **Pregnancy tests** detect particular hormones in the urine.

+ **Targets cancer cells**, whereas other treatments may kill any cells

- Can cause **side effects**, so aren't used widely



Spanish

Week 1 – Young people in action

Los derechos de los niños	
Tengo derecho a…	I have the right to…
la educación	education
la libertad de expresión	freedom of expression
un medio ambiente sano	a healthy environment
No puedo…	I cannot…
dar mi opinión	give my opinion
salir solo/a	go out alone
dormir	sleep
tengo que ganar dinero	I have to earn money
hay mucha violencia	there is a lot of violence
tengo que trabajar	I have to work
no es justo porque…	It isn't fair because…

Week 2 – Helping globally

¿Qué se debería hacer para proteger el medio ambiente?	
Para proteger el medio ambiente,	In order to protect the environment,
Se debería…	You/We should…
ahorrar energía en casa	save energy at home
apagar la luz	turn off the light
conservar el agua	save water
ir en bici(cleta)	go by bike
reciclar el papel / el plástico / el vidrio	recycle paper / plastic / glass
No se debería…	You/We shouldn't…
tirar la basura al suelo	throw rubbish on the ground
usar bolsas de plástico	use plastic bags

Week 3 – Around town

¿Cómo era tu ciudad antes?	
Antes…	Before…
Ahora…	Now…
es / era	it is / was + characteristic
está / estaba	it is / was + condition / location
hay / había	there is / there was
tiene / tenía	it has / had
peligroso	dangerous
sucio	dirty
limpio	clean
basura	rubbish
barrio	neighbourhood
cosas para los jóvenes	things for young people
red de transporte	public transport network

Week 4 – Developing our writing

Making your work stand out	
más… (=que)	more… (than)
menos… (que)	less… (than)
lo mejor	the best thing
lo peor	the worst thing
a partir de ahora	from now on
además	furthermore
aunque	although
no obstante	however
nunca	never
ni…ni	neither…nor
por eso	because of this
según	according to
por un lado…por otro lado…	on the one hand… on the other hand…
para	in order to / for

Week 5 – Non-negotiable verbs

If you know these, you can talk about anything in three tenses!	
fui	I went
vi	I saw/watched
tuve	I had
fue/era	it was
había	there was/ were
lo pasé bien/ mal	I had a good/bad time
me divertí	I had fun
me gusta	I like
le gusta	he/she likes
iré	I will go
veré	I will see
tendré	I will have
habrá	there will be
será	it will be
me gustaría	I would like

Week 6 – Revision - Local area

Words you may have forgotten	
lugar / sitio	place
barrio	neighbourhood
puerto	port
plaza	town square
tienda	shop
centro comercial	shopping centre
mercado	market
edificio	building
la calle	the street
comprar	to buy
ir de compras	to go shopping
llegar	to arrive
salir	to leave / to go out
vender	to sell
alquilar	to rent

Spanish

Week 7 – Revision – School

Words you may have forgotten	
empezar / comencer	to start
acabar / terminar	to finish
a la una / a las dos	at … o'clock
asignatura	subject
el Bachillerato	Baccalaureate (equivalent to A-levels)
la formación profesional	vocational training
el recreo	break time
el almuerzo	lunch
los idiomas	languages
duro	hard / difficult
fácil	easy
el edificio	a building
un alumno	a pupil
el comportamiento	behaviour
las instalaciones	the facilities
las aulas	the classrooms

Week 8 – Independent study

Personalised revision list	
During your revision lessons this week, compile a list of words that you need to revise ahead of the test	

Week 9 – Independent study

Personalised revision list	
During your revision lessons this week, compile a list of words that you need to revise ahead of the test	

Week 10 – Improving your written work

Wow-phrases	
Just add the conditional	
si fuera millonario/a	if I were a millionaire
si fuera rico/a	if I were rich
si fuera más	if I were more…
si fuera posible	if it were possible
si pudiera	if I could
si tuviera la oportunidad	if I had the chance
si tuviera mucho dinero	if I had a lot of money
Just add the infinitive!	
me hubiera gustado	I would have like to
hubiera preferido	I would have preferred
tengo ganas de…	I fancy…
tengo que	I have to
tuve que	I had to
he podido	I have been able to

Week 11 – What a wonderful world

te parece	it seems to you
me parece	it seems to me
me interesa	I'm interested in
me interesaría	I would be interested in
me importa	it's important to me
suena	it sounds
merece	it deserves
extraordinario	extraordinary
increíble	incredible
hermoso	beautiful
lleno de	full of
la naturaleza	nature
los bosques	the woods
los ríos	the rivers
la isla	the island
las vistas	the views
el paisaje	the landscape

Week 12 – Global citizenship

ayudar	to help
apoyar	to support
dar (doy)	to give (I give)
proteger	to protect
hacer campañas	to do/run campaigns
luchar por / contra	to fight for / against
sin hogar	homeless
el comercio justo	fair trade
los ancianos	the elderly
con discapacidad	with a disability
la igualdad de género	gender equality
el racismo	racism
los derechos	rights
el medioambiente	environment
los árboles	trees