KNOWLEDGE ORGANISERS

YEAR 10

BODMIN COLLEGE

Contents

SCHOOL DAY

08:45am Start of the School Day

08:45am Tutor Time

09:15am Lesson 1

10:30am Break 1

11:00am Lesson 2

12:15pm Lesson 3

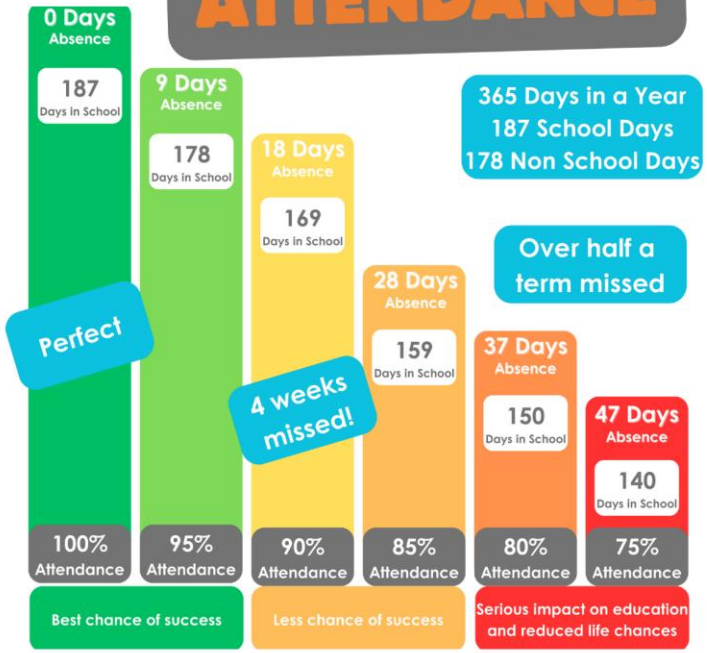
1.30pm Break 2

2:00pm Lesson 4

3.15pm End of the School Day

3:30pm Bodmin+

ATTENDANCE



EQUIPMENT

School Bag

Knowledge Organiser

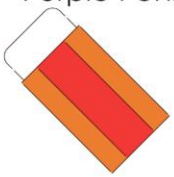
Black and Purple Pens

Pencil Case

Knowledge Organiser

Calculator

Pencil

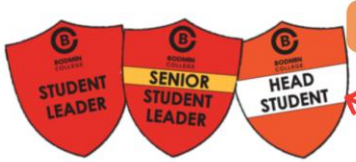


Rubber

Ruler

Whiteboard and whiteboard pen

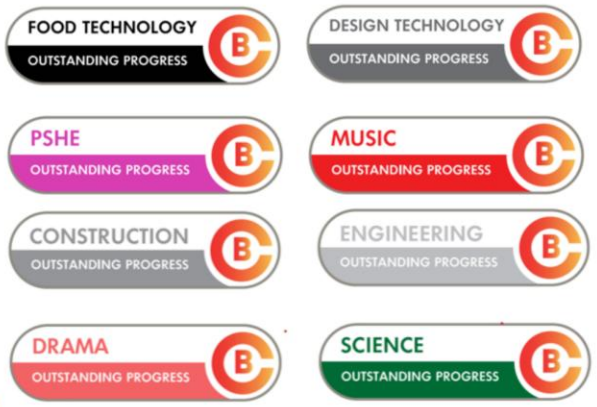
REWARDS



Student Leaders

Subject Awards

Merit Badges



TIMETABLE

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

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

THE PERIODIC TABLE OF THE ELEMENTS

Group 1 – **Alkali Metals**

Group 7 – **Halogens**

Group 0 – **Noble gases**

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

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

Element **symbol**

Element **name**

Key

relative atomic mass
atomic symbol
name
atomic (proton) number

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

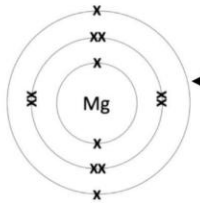
Atomic / Proton Number = number of **protons** which is the same as the number of **electrons**.

Neutrons = Mass number – Atomic number

Transition Metals

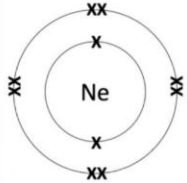
Non-Metals

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

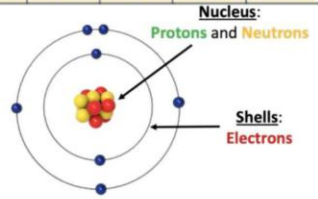


Magnesium (Mg) has **12 electrons** in total. It is in **group 2** so has 2 electrons in its **outer** shell. Mg's electronic configuration is 2,8,2.

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



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



HOW CAN I USE THE PHYSICS EQUATION SHEET?

HT = Higher Tier only equations

Triple only equations

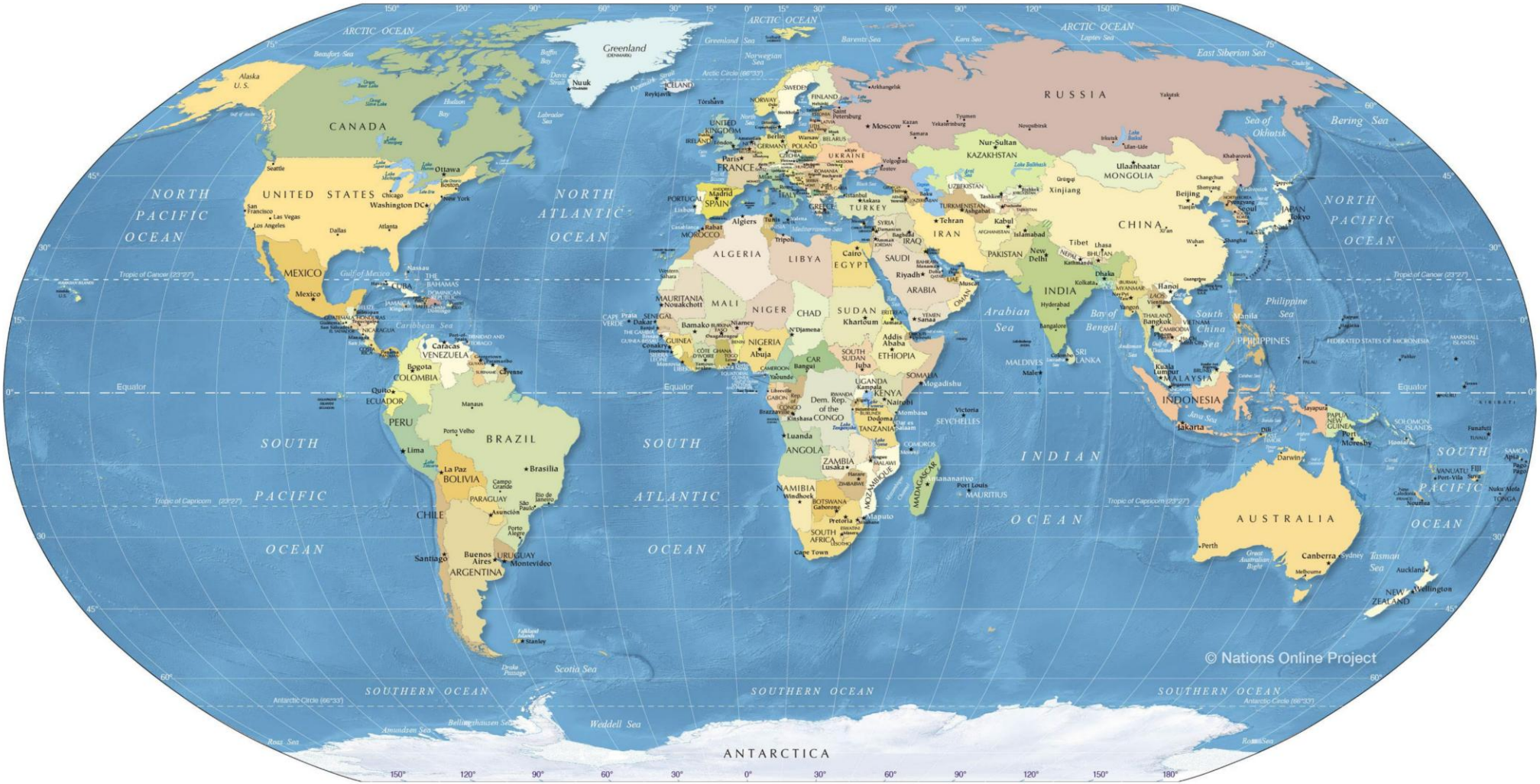
kinetic energy = 0.5 × mass × (speed)^2	$E_k = \frac{1}{2} m v^2$
elastic potential energy = 0.5 × spring constant × (extension)^2	$E_e = \frac{1}{2} k e^2$
gravitational potential energy = mass × gravitational field strength × height	$E_p = m g h$
change in thermal energy = mass × specific heat capacity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

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

Give
Give
Want

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

WORLD MAP


ARCTIC OCEAN
Greenland
CANADA
Alaska
U.S.
RUSSIA
UNITED STATES
NORTH PACIFIC OCEAN
NORTH ATLANTIC OCEAN
EUROPE
ASIA
MEXICO
Gulf of Mexico
Caribbean Sea
CUBA
THE BAHAMAS
VENEZUELA
COLOMBIA
ECUADOR
PERU
BRAZIL
BOLIVIA
PARAGUAY
CHILE
ARGENTINA
URUGUAY
SOUTH PACIFIC OCEAN
SOUTH ATLANTIC OCEAN
INDIAN OCEAN
AUSTRALIA
INDONESIA
PHILIPPINES
CHINA
INDIA
MONGOLIA
KAZAKHSTAN
IRAN
SAUDI ARABIA
EGYPT
LIBYA
ALGERIA
SUDAN
NIGERIA
ETHIOPIA
KENYA
Dem. Rep. of the CONGO
ANGOLA
SOUTH AFRICA
Arctic Circle (66°33')
Tropic of Cancer (23°27')
Equator
Tropic of Capricorn (23°27')
Antarctic Circle (66°33')
SOUTHERN OCEAN
ANTARCTICA
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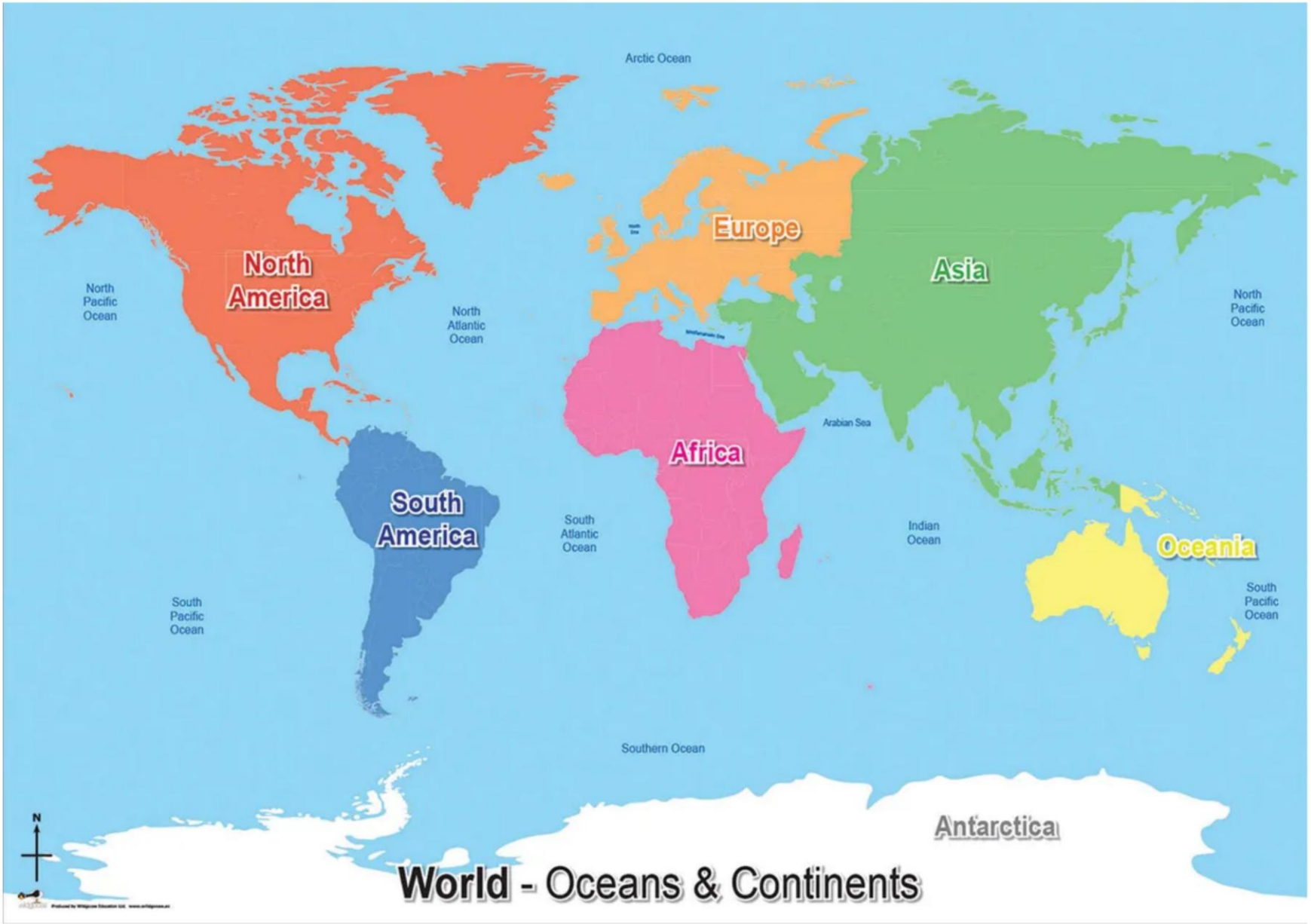
CONTINENTS AND OCEANS



PROTECTED CHARACTERISTICS

Sex

Sexual Orientation

Age

Disability

Gender Reassignment

Marriage and Civil Partnership

Pregnancy and Maternity

Race

Religion or belief

BRITISH VALUES

Democracy

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

Liberty

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

Respect

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

Law

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

Responsibility

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

Tolerance

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

STAYING SAFE AT SCHOOL

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

FULL STOP

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

LANYARDS

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

ONLINE SAFETY

Staying safe online is really important, especially now that we have smartphones and devices connected to the internet all of the time. In school we use a system called **Smoothwall** so monitor the use of computers and devices connected to the internet. This helps us to keep you and our school community safe. There are lots of tops to help you keep safe online. Checkout out the SMART Rules here.

Wellbeing

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

Signposting

CLEAR
Emotional Trauma & Therapy Specialists
clearsupport.net

External Support
See websites below:

Young People Cornwall – Making Waves
Youngpeoplecornwall.org

kooth
Kooth.com

Penhaligon's Friends
Penhaligonsfriends.org.uk

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

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

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

withyou
wearewithyou.org.uk

Intercom Trust
Intercomtrust.org.uk

MENTAL HEALTH & WELLBEING

Five self care tips

Get plenty of sleep
Teenagers need 8-10 hours of sleep per night

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

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

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

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

Art

Clay Decoration & Glazing Recap

- Clay pieces can be decorated using texture, carving, underglaze, and glaze.
- Underglaze adds colour before glazing.
- Glaze seals the surface and adds a shiny or matte finish.
- Decoration should connect to your theme or cultural references.

Glaze – Glass-like coating added during firing

Underglaze – Colour painted on clay before glaze

Texture – Surface pattern or feel

Carving – Cutting designs into clay

OCR GCSE Art Assessment Objectives

GCSE Art is marked using four **Assessment Objectives (AOs)**.

Students must show evidence of all four across their sketchbook and final work.

- **AO1** – Develop ideas by researching artists and analysing their work.
- **AO2** – Refine work by experimenting with materials, techniques, and processes.
- **AO3** – Record ideas through drawing, photography, and written observations.
- **AO4** – Present a final outcome that links to research, experiments, and ideas.

Strong projects connect all four AOs together. Your sketchbook should show research, experimentation, recording, and a final outcome.

AO1 - Research

- **Research** artists that connect to your project theme.
- Include images, written analysis, and your own visual response.
- Explain materials, style, colours, and meaning in the artist's work

Influence – How an artist affects your work.

Analysis – Explaining how artwork works

Response – Your artwork inspired by an artist in a chosen media that links to the aritst.

Annotation – Written explanation

Composition – Arrangement of elements

Style – Distinct way an artist works

Technique – Method used to make art

Vocabulary

Assessment Objective (AO) – The criteria used to mark GCSE Art work.

Research – Finding and analysing artist information.

Experimentation – Trying different techniques and materials.

Observation – Recording what you see through drawing or photography.

Outcome – The final piece that shows your ideas and skills.

Art

AO2 Experimentation

- Test materials, techniques, and processes.
- Show a range of ideas and creative risks.
- Record what worked well and what didn't.

Experiment – Trying new ideas

Technique – A way of making art

Material – What artwork is made from

Process – Steps used to create work

AO3 Recording Ideas

- Record ideas through drawing, photography, and written notes.
- Focus on proportion, tone, texture, and detail.
- Observational work should show accuracy and careful looking.

Observation – Drawing from real life

Proportion – Correct size relationships

Tone – Light and dark areas

Detail – Small features in a drawing

AO4 Final Outcome

- Final outcomes should show skills, ideas, and development.
- Work should clearly link to research and experiments.
- The outcome should communicate your theme or message.

Outcome – Final artwork

Development – Progress of ideas

Intentions – What you plan to create

Theme – Main idea of the project

Evaluation & Reflection:

- Explain what worked well and what could improve.
- Link reflection to artists, experiments, and ideas.
- Evaluation helps refine and strengthen work.

Vocabulary

Development – How ideas improve, change, and grow through experiments and studies.

Intentions – What you plan to communicate or create in your artwork.

Process – The steps taken to create artwork from the initial idea to the final piece.

Proportion – The correct size relationships between different parts of a drawing or object.

Evaluation – Analysing what worked well and what could be improved in your work.

Business Studies

Week 1

RO69 NEA
Introduction
Outline 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

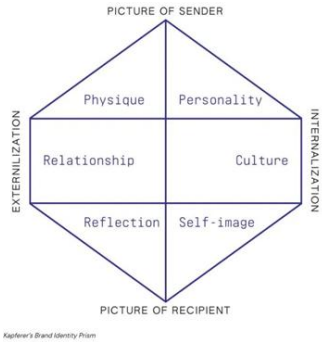
Strengths	Weaknesses

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:



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.

Vocabulary

Brand Identity
The visible elements of a brand (such as logo, colours, and typography) that identify and distinguish it in the minds of customers.
Logo Placement
The positioning of a logo on a product, advertisement, or platform to maximise visibility and recognition.
Visual Look
The overall appearance and style of a brand, including design elements that create a consistent image.
Typography (Typeface)
The style and appearance of text used in branding, including font choice, size, and spacing.
Brand Personality
The set of human characteristics or traits associated with a brand, influencing how customers perceive it.
Brand Image
The perception of a brand held by customers, based on their experiences and interactions.
Customer Perception
How customers view and interpret a brand, product, or service based on their beliefs and experiences.

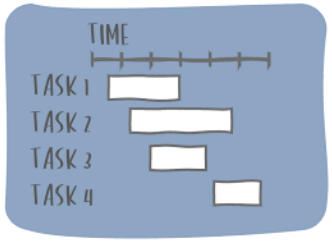
Business Studies

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

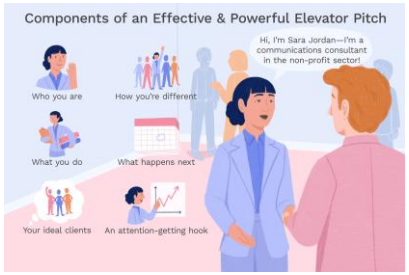
Promotional Material
You will need to create 3 types of promotional material. These items need to be digital and non-digital.

Digital/online	Non-digital
Pop-ups Banner Social medial Promotional email SMS texts Podcast Blog Vlog – Video log	Flyers/leaflets Newspaper Advert TV advert Magazine/Journal Advert Cinema Advertising Billboards Direct Mail 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...

Vocabulary

Key Performance Indicators (KPIs)
Measurable values used by a business to evaluate the success of a promotional campaign against its objectives.
Promotional Campaign
A coordinated series of marketing activities designed to promote a product or service and achieve specific business objectives.
Gantt Chart
A visual timeline used to plan, schedule, and track tasks within a project or promotional campaign.
Promotional Material
Resources used to advertise or market a product, which can be digital (e.g. social media) or non-digital (e.g. flyers).
Target Audience
The specific group of consumers a product or campaign is aimed at, based on characteristics such as age, interests, or lifestyle.
Pitch
A structured presentation used to persuade an audience to support, invest in, or buy a product or idea.

Business Studies

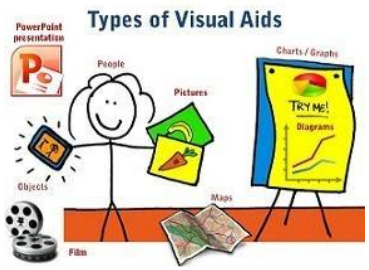
Week 7

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

Vocabulary

Constructive Feedback
Helpful comments given to improve someone's work by highlighting strengths and suggesting specific improvements.

Professional Pitch
A formal presentation designed to inform or persuade an audience about a product, service, or idea.

Target Audience (Pitch Context)
The specific group of people a pitch is aimed at, influencing the content, tone, and style of delivery.

Visual Aids
Supporting materials such as slides, images, or videos used to enhance a presentation and improve audience understanding.

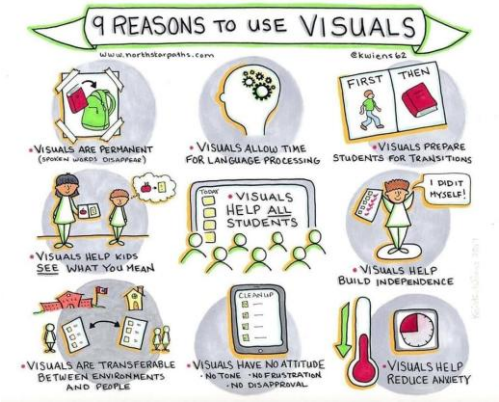
Pitch Structure
The organised format of a presentation, typically including an introduction, main content, and conclusion delivered logically.

Evaluation (Review of Success)
The process of assessing a product or pitch by considering what worked well, what didn't, and how it could be improved.

Business Studies

Week 10

Reflect on pitch



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

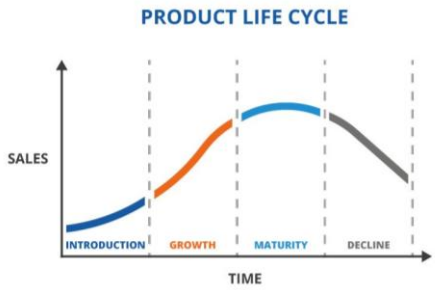
- Think about **EVERY** part of your pitch and your preparation work.
- Include feedback from others and your own improvements (did they work?)
- Consider why the strengths worked
- Consider ways of improving your weaknesses and make suggestions.

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.

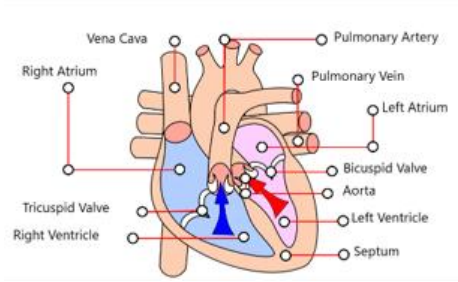
Vocabulary

Marketing Mix (4Ps)
The combination of Product, Price, Place, and Promotion used by a business to market a product effectively.
Target Market
A specific group of consumers a business aims its products and marketing towards.
Product Life Cycle
The stages a product goes through from launch to decline: introduction, growth, maturity, and decline.
Pricing Strategy
The method a business uses to set the price of a product based on objectives, costs, and market conditions.
Penetration Pricing
A strategy where a product is introduced at a low price to attract customers and gain market share quickly.
Market Skimming
A pricing strategy where a product is launched at a high price, then gradually reduced over time.

Cambridge National in Sport Science

Week 1 & 2

Cardiovascular System



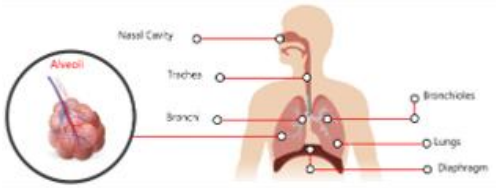
Arteries – Take blood **away** from the heart.
Veins – Returns blood to the heart. Contain valves to stop backflow of blood.
Capillaries – Tiny, thin-walled blood vessels that join veins and arteries. This vessels allow gaseous exchange.

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.

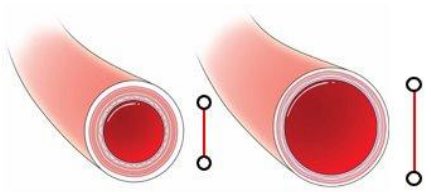
Week 3 & 4

Respiratory System



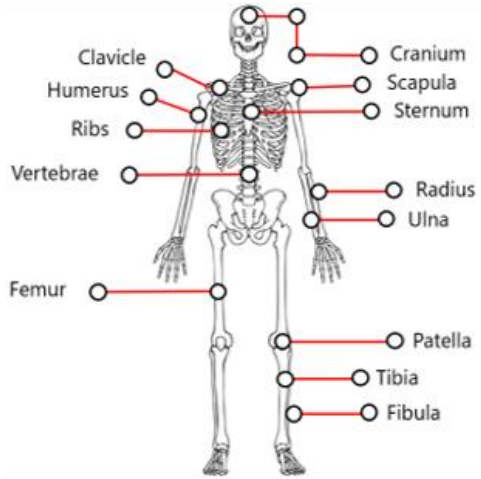
Gaseous Exchange:
This is a process where oxygen is transferred into the blood stream to be transported to the working muscles and carbon dioxide is moved into the lungs to be breathed out.

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.



Week 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.

Vocabulary

Cardiac Output Amount of blood pumped by the heart per minute

Heart Rate Number of times the heart beats per minute

Stroke Volume Amount of blood pumped per beat

Gaseous Exchange Oxygen enters blood, carbon dioxide leaves

Vasoconstriction Blood vessels narrow to reduce blood flow

Vasodilation Blood vessels widen to increase blood flow

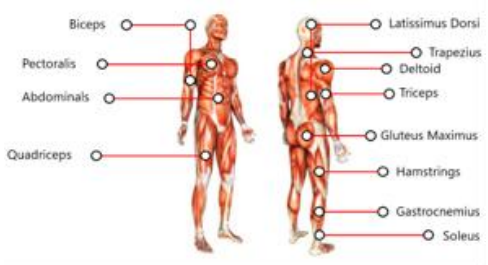
Cartilage Smooth tissue that reduces friction at joints

Ligaments Connect bone to bone
Tendons Connect muscle to bone

Cambridge National in Sport Science

Week 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

Week 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

Week 11 & 12

Technology

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.

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**.

Vocabulary

Adduction Movement towards the midline of the body

Abduction Movement away from the midline

Flexion Decreasing the angle at a joint

Extension Increasing the angle at a joint

Circumduction Circular movement of a limb

Respiratory Rate Number of breaths per minute

Tidal Volume Amount of air inhaled per breath

Lactic Acid Waste product that builds up during exercise

VO_2 Max Maximum amount of oxygen the body can use

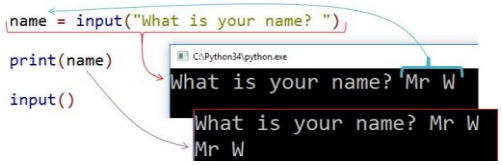
Computer Science

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" .

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

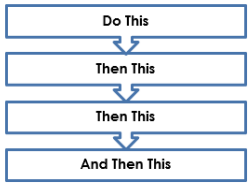
var = "9" var = int(var)	The variable var begins storing the string '9'. Then, the variable's data is cast to an integer type and reassigned to the variable 'var'.

Casting an integer to a string

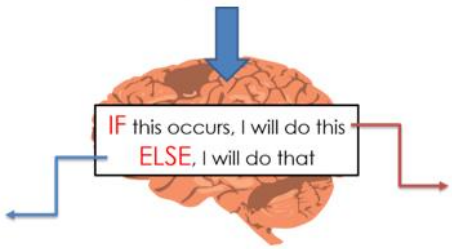
var = 9 var = str(var)	The variable var begins storing the integer **9**. Then, the variable's data is cast to a string type and reassigned to the variable 'var'.

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.

Vocabulary

Variable
A named memory location that stores a value which can change while a program is running.

Constant
A value stored in memory that cannot be changed during the execution of a program.

Data Type
A classification that defines what kind of value a variable can store (e.g. integer, string, Boolean).

Casting
Converting a value from one data type to another (e.g. string to integer).

Selection
A programming construct where the program makes a decision (e.g. using IF/ELSE statements).

Iteration – The process of repeating a set of instructions multiple times, often using loops.

Computer Science

Week 4

Operator
An operator is something which will perform an action on some data.

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.

```
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.

Vocabulary

Operator
A symbol or keyword used to perform a calculation or action on data (e.g. +, -, *, /).

Relational Operator
A type of operator used to compare two values and return a Boolean result (true or false).

String Manipulation
The process of changing, analysing, or combining text data using built-in functions.

Concatenation
Joining two or more strings together to form a single string.

File Handling
The process of creating, opening, reading, writing, and closing files in a program.

Iteration (Loop in file writing)
Repeating a set of instructions (e.g. writing multiple lines to a file using a loop).

Computer Science

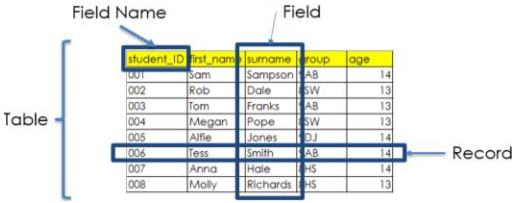
Week 7

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).



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.

Vocabulary

Table
A collection of related data about a specific entity, organised in rows and columns.

Record
A single row in a table that contains all the data about one entity (e.g. one student).

Field
A single piece of data within a record, representing one attribute (e.g. surname).

SQL (Structured Query Language)
A language used to create, read, update and delete data in a database.

Subroutine
A named block of code that performs a specific task and can be reused when called.

Input Validation
The process of checking that input data meets specific rules before it is accepted by a program.

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.

Vocabulary

Testing
The process of checking a program works correctly and meets the needs of the user.

Black Box Testing
Testing a program using inputs and outputs without looking at the internal code.

White Box Testing
Testing that examines the internal structure and logic of the code to ensure all paths work correctly.

Syntax Error
An error in the code where the rules of the programming language have not been followed.

Logic Error
An error where the program runs but produces incorrect or unexpected results.

Run-time Error
An error that occurs while the program is running, often causing it to stop unexpectedly.

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.

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	Pros	Cons
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	
Info graphics	Easier for people to recall	

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	Information is entered twice and compared e.g. changing password.

Vocabulary

Table
A database table is an organized set of data arranged in rows and columns.

Record/row
A database record is a single row in a table that holds all the data for one item.

Qualitative information
This is descriptive, non-numerical data that captures qualities or characteristics.

Quantitative information
This is data expressed in numbers or measurable amounts.

Digital Information Technology

Week 4

Data Collection

Method	Pros	Cons
Interviews	Fit for purpose, qualitative, captures gestures, no travel via video	Costly, harder to analyse, face-to-face needs travel
Question-naire	Easy to analyse, cheap	May not be returned, time to do
Surveys	Large samples give more accurate data	Small samples give less accurate data

Source	Pros	Cons
Websites/ Forums/ blogs	Some high quality sites	Un-reliable sites
Books/ journals	High quality data	Very pricey
Booking systems	Automated, quantitative data	Setup costs

Week 5

Quality of Information

Factors affecting Quality	Considerations
Source/ Collection method	Some sources are more trusted
Accuracy	Automatic data collection is accurate
Age	Data may be out of date within seconds
Completeness	Offer alternative time to collect data, use other sources of data to fill gaps.
Amount of detail	Too much data is hard to sort through to find important data to produce good information.
Format/ Presentation	Label to help understanding.

Week 6

Sectors That Use Data Modelling

Sector	Data	Action
Banking	Footfall	Close branches
Construct	Land registry	Land costs
Education	Admissions	Time-tabling
Entertain	Number of viewers	Continue broad casting
Government	Births	Demand for new schools
Health care	Patients numbers	Nurse/ Doctor staffing
Health & safety	Accidents	First aid training
Retail	Stock levels	Ordering stock
Sport & fitness	Sale price	Future sales
Transport	Passengers	Ticket price

Vocabulary

Interpolation
Used to calculate missing data.

Format
To make it easier to read.

Volume
Size of survey and number returned, large volumes require more storage space and time to process.

Primary data
This is information collected first-hand for a specific purpose.

Secondary data
This is information collected by others and reused for your purpose.

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

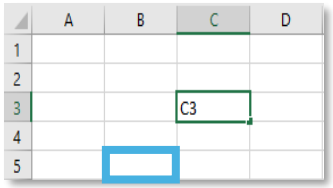
There are several threats to individuals who have data stored about them.

Threat	Details
Invasion of privacy	CCTV and social media data can reduce crime and provide evidence, but they can also be used for blackmail.
Identity theft	You can prove who you are with personal documents, but others can use this information to pretend to be you.
Targeting vulnerable groups of people	Fraudsters target the elderly, young and disabled people.
Inaccurate data could be stored	Data becomes inaccurate over time e.g. mobile number.

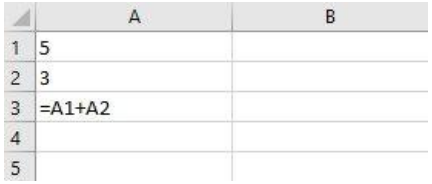
Week 8

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.

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.

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.

Vocabulary

Filtering
Used to show and hide records.

Fraud
Crime where people are deceived e.g. identity theft.

AND, OR, NOT
These are logical operators.

Text to Columns
This spreadsheet feature will split a name in one column e.g. 'Oliver Smith' into two columns e.g. 'Oliver' and 'Smith'.

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. 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 3 types: list, type and length.

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.

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 pro.
Data summaries: totals, counts and percentages	Use functions to calculate totals e.g. =SUM(B16:D16)

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.

Vocabulary

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.

Sparklines
Show trends clearly.

Drama

Week 1

What is component 2?

- Component 2 focuses on developing acting skills through rehearsal and performance.
- Key skills: voice, physicality, characterisation.
- You are assessed on your **process and final performance.**
- A successful performer shows focus, energy, and clear character choices.

Week 2

Script analysis

- Scripts must be understood before performing.
- Key questions:
  - Who is my character?
  - What do they want? (objective).
  - Who are they talking to?
- Subtext = what a character really means beneath the words.

Week 3

Character development

- Characterisation = creating a believable person.
- Consider:
  - Voice (accent, tone, pace).
  - Physicality (movement, posture, gesture).
  - Emotions and motivation.
- Backstory helps make performances more realistic.

Week 4

Rehearsal techniques

- Rehearsal techniques help explore characters and scenes.
- Examples:
  - Tableau: showing a moment physically.
  - Thought tracking: speaking a character's thoughts.
  - Improvisation: making up dialogue/actions.
- These develop understanding and creativity.

Week 5

Rehearsal techniques

- Refining performance requires focus on detail.
- Vocal skills:
  - Projection (volume).
  - Pace (speed).
  - Tone (emotion in voice).
- Physical skills:
  - Facial expression.
  - Body language.
  - Use of space.

Week 6

Relationships & status

- Characters interact through relationships.
- Status = power between characters (high/low).
- Shown through:
  - Eye contact.
  - Body position.
  - Voice control.
- Strong performances show clear relationships.

Vocabulary

Characterisation: Creating a believable character.
Objective: What a character wants.
Subtext: Hidden meaning behind words.
Rehearsal: Practice before performance.
Improvisation: Making up acting without a script.
Tableau: A still image showing a moment.
Thought Tracking: Speaking a character's thoughts out loud.
Projection: Making your voice loud and clear.

Drama

Week 7

Responding to feedback

- Feedback helps improve performance.
- Performers must:
  - Listen carefully.
  - Make changes.
  - Reflect on strengths and weaknesses.
- Improvement is part of the assessment.

Week 8

Artistic intention

- Artistic intention = why you make choices.
- You should explain:
  - How you want the audience to feel.
  - Why you use certain movements or voice.
- Clear intentions create stronger performances.

Week 9

Production elements

- Performances can include:
  - Costume.
  - Props.
  - Staging.
- These support character and meaning.
- Must be appropriate and not distract.

Vocabulary

Pace:
Speed of speaking.
Tone:
Emotion in the voice.
Physicality:
How you use your body.
Gesture:
Movement of hands/ body.
Posture:
The way you hold your body.
Status:
Power relationship between characters.
Artistic Intention:
The purpose behind your acting choices.
Evaluation:
Reflecting on your performance.

Week 10

Performance skills

- A strong performance includes:
  - Focus and concentration.
  - Energy and commitment.
  - Clear communication with the audience.
- Staying in role is essential.

Week 11

Performing to an audience

- Audience awareness is important.
- Consider:
  - Projection.
  - Timing.
  - Reactions.
- Confidence improves performance quality.

Week 12

Evaluation

- Evaluation = reflecting on your work.
- You should:
  - Identify strengths.
  - Identify areas to improve.
  - Explain how rehearsal techniques helped.
- This prepares you for Year 11 coursework.

Engineering Design

Weeks 1 & 2

Manufacturing Considerations in Design

You need to plan how your product will be made before designing it.

Scale of Manufacture

Type	Description	Example
One-off	A single product made once	Custom prototype
Batch	Small groups of products made together	School workshop projects
Mass	Large quantities made using automated processes	Phone cases

Why Scale Matters

- **Cost** - Making one product is expensive; making many lowers the cost per unit
- **Time** - Mass production is faster per unit than one-off
- **Materials** Larger batches may use cheaper materials or less waste
- **Manufacturing process** Some processes only work for mass production

Design for manufacture – designing with production in mind
Production scale – how many will be made
Prototype – first version of your product
Manufacturing constraints – limits that affect production

One-off = expensive, Mass = cheap per unit

Weeks 3 & 4

Materials & Shapes

Things to think about - Cost, strength, durability, availability, sustainability, finish

Forms of Materials

Shape/Form	Example
Sheet	Acrylic sheet
Rod	Metal rod
Tube	Aluminium tube
Block	Wood block

Material Types

Engineering Materials
Metals - Strong, durable, can be shiny or painted
Polymers (plastics) - Lightweight, easy to mould
Woods - Natural, easy to shape, aesthetic
Composites - Combination materials (e.g., carbon fibre + resin) – strong

Material properties - Things like strength, flexibility, and durability
Stock form - The shape the material comes in before making
Sustainability -How eco-friendly the material is
Durability - How long it lasts without breaking

Vocabulary

Design for manufacture – designing with production in mind

Production scale – how many items will be made

Prototype – first version of a product

Manufacturing constraints – limits that affect how you make something

Material properties – characteristics like strength or flexibility

Stock form – the shape the material comes in (sheet, rod, block…)

Sustainability – how environmentally friendly it is

Durability – how long it lasts

Engineering Design

Weeks 5 & 6

Process Types

Process	What it does	Example
Wasting	Remove material	Cutting, drilling
Shaping	Cut into shape	Sawing wood
Forming	Change shape without cutting	Bending plastic
Joining	Put parts together	Glue, screws
Finishing	Improve look or protection	Sanding, painting
Assembly	Build the final product	Putting parts together

Different processes are used to turn materials into products. The process affects how strong, correct and expensive the product is.

Why it Matters

Affects strength, look, cost, and how long it takes
Tolerance – how exact a part is
Accuracy – how correct measurements are
Quality control – checking for mistakes
Manufacturing method – the process used

Standards & Legislation

British Standards Institution (BSI)
International Organisation for Standardisation (ISO)

Legislation (Laws)

Health and Safety at Work Act 1974 – keeps people safe
Consumer Rights Act 2015 – products must be fit for purpose

Weeks 7 & 8

Production Costs

Types of Costs

Labour - Paying workers
Capital - Cost of machines and equipment
Other Costs - Materials, energy, transport, packaging

Mass production reduces cost per unit because the work is shared over many products

Unit cost - Cost to make one product

Manufacturing efficiency - How well the production process works

Automation -: Using machines to make products faster

Third Angle Orthographic Projection

Third angle projection is a standard method used in engineering to stand for a 3D object using 2D views.
Each view shows the object from a different direction.
Front view - what you see looking directly at the object
Plan (top) view - what you see from above
Side view - what you see from the side

Line Type	Appearance	Use
Visible outline	Thick continuous line	Shows edges you can see
Hidden detail	Dashed line	Shows edges you cannot see
Centre line	Thin chain	Shows centres of holes/circles
Dimension line	Thin line with arrows	Shows measurements
Extension line	Arrowheads must be Thin and full	Extends from object to dimension
Construction line	Light line	Used for layout, not final drawing

Vocabulary

Tolerance – How precise a measurement or part needs to be
Accuracy – How close a part is to the intended measurement
Quality control – Checking products to make sure they meet standards
Manufacturing method – The process used to make the product (cutting, forming, joining, etc.)
nit cost – Cost to make one product
Manufacturing efficiency – How well a process uses time, materials, and labour
Automation – Using machines to make products faster and cheaper

Engineering Design

Weeks 9 & 10

Modelling in Engineering Design

Models are used to **test ideas before making the real product**, saving time and materials.

Why Use Models
- **Test proportions -** Check if the size is right
- **Test scale -** Make sure dimensions are correct
- **Test function -** Make sure it works properly

Types of Modelling

Virtual Modelling
- Using **CAD software** to make digital prototypes
- Quick to change, no waste

Physical Modelling
- Using foam, cardboard, MDF, or 3D printing
- Can test strength and look

Benefits
- Spot mistakes early
- Improve design before full production

Weeks 11 & 12

Manufacturing and Evaluation

Safe Manufacture
- Follow a **production plan**: pick correct tools, measure carefully, work safely, check quality

Evaluating the Prototype
- Compare final product to **design brief** and **specification**

Questions to Ask
- Does it hold the phone securely?
- Is it stable?
- Is it well finished?
- Does it meet the design requirements?

Possible Modifications
- Make joints stronger
- Improve finish
- Make it easier to use (ergonomics)
- Try a different material

R038 Exam Knowledge – Design Process

- Identify problem
- Research
- Generate ideas
- Develop designs
- Model prototypes
- Manufacture
- Evaluate

Communicating Ideas
- **Annotated sketches** – sketches with notes
- **CAD drawings** – accurate digital designs
- **Exploded diagrams** – shows all parts separated
- **Orthographic drawings** – front, top, side views

R040 NEA Skills

Product Evaluation
- Identify strengths
- Identify weaknesses
- Suggest improvements

Modelling Skills
- Make virtual models
- Make physical models
- Test and improve designs

Vocabulary

CAD (Computer-Aided Design) – Software used to make digital models of products
Prototype – First version of a product used for testing ideas
Iterative design – Designing in steps, improving each version
Simulation – Testing how a product will work without building it physically
Specification – Detailed description of what the product must do
Evaluation – Checking if a product meets its goals
User feedback – Opinions from people who use the product
Design improvement – Changes made to make the product better

English

Week 1

Language Paper 2
Non-fiction: A form of writing that is based on real events. English Language Paper 2 focuses only on writing that is based on real life events and real people.
Perspective: an attitude or point of view on something. Because English Language Paper 2 is based on non-fiction, writer's tend to express their perspectives on real life events.
Question 1:
- Find four true statements out of eight.
- Statements A-H run in chronological order.
- 4 marks – do this question first.

Question 2:
- The inference question. The similarities/differences between the two things presented.

Question 3:
- Analysis of writer's use of language to describe a particular thing
- Use a clear thesis statement and explore.
- 12 marks – do this question second.

The Magic Three:
- **Semantic field:** a group of words that all relate to one particular meaning or idea
- **Juxtaposition:** a contrast between two things
- **Deliberate verb choice:** a writer's deliberate use of words that show action

Writer's methods: the ways in which writers create effect and meaning e.g. simile. This is relevant when you are answering question 3 and question 4 on Paper 2, where you need to identify and explore the methods the writers use to create effects and express their perspectives towards something.
Challenge yourself with the following language techniques:
- Simile, Metaphor, Personification, Zoomorphism, Oxymoron, Paradox, Adverb, Adjective, Determiners.

Week 2

Literature paper 2 – Power and Conflict poetry

***Charge of The Light Brigade* by Lord Alfred Tennyson.**

- Miscommunication from the generals of the British saw the Light Brigade charge in head first into the Russian cannons.
- Hundreds of British soldiers died in the catastrophe.
- **Glorification:** describing something as admirable, especially something that isn't. This is clear in the poem because the men have been wrongfully sent to their deaths.
- Lord Alfred Tennyson criticised how people blindly, bravely and catastrophically follow orders from powerful people.

Key themes:
- War
- Life and death (loss)
- Sacrifice
- Conflict
- Memory
- Religion

Key Quotations:
- Someone had blundered
- Into the valley of death
- Jaws of death
- Mouth of hell
- Honour the charge they made!

Key Structure:
- Ballad
- Refrain
- Dimeter
- Allusion

Week 3

Language Paper 2
Selecting references: Lifting examples from the text.
Comparing: evaluating the similarities and differences of something. This is relevant for English Language Paper 2 (Q2 and Q4) and Power and Conflict Poetry.
Inference: a conclusion reached through evidence and reasoning. This is the skill assessed on English Language Paper 2 Question 2 and is used to explore what something might suggest. For example, we can infer that something described as "shiny" might be new, expensive and valuable.
Question 2:
- You need to refer to **both sources**
- Read both sources carefully
- Comparison (similarities or differences)
- You must use quotations
- You must explore inferences on the quotations
- You are only comparing the quotations and what you can infer from them

Question 4:
- You need to refer to **both sources**
- Read both sources carefully
- Comparison (similarities or differences)
- You are comparing the similarity/differences in the writer's perspectives and ideas
- Perspective = someone's view on something
- You must use quotations
- You compare **how** these perspectives are made through writer's methods
- You will need to **analyse** these methods

Vocabulary

Glorification
Elevating something to a high status.

Rhythm
Arrangement of sounds in poetry to form a pattern

Rhyme
Repetition of similar sounding words at the end of sentences

Metaphor
Directly comparing two unrelated things without using like or as

Inference
Reading for the deeper meaning behind chosen words and phrases.

English

Week 4

Literature Paper 2
***Bayonet Charge* by Ted Hughes**

- About a nameless soldier going over the top in the trenches. Soldiers would have bayonets attached to the end of their rifles and would use them to stab enemy soldiers.
- The nameless soldier in the poem seems to become more a weapon than a man, rushing toward the enemy. It is not clear at the end whether he dies but there is definitely a change in him.
- Ted Hughes was a former RAF serviceman and includes a great amount of natural and historical ideas in his poems.
- **Dehumanisation:** the act of being stripped of what makes you human. The soldiers on the frontline in this poem are dehumanised.
- **Agency:** the ability to affect something. The soldiers lack this.

Key Themes:

- **Vulnerability –** the state of being exposed to attack or harm. The soldier are vulnerable.
- **Transformation** – the quality of changing from one thing to another. The soldier is transformed from human to animal.

Key Quotations:

- Patriotic tear had brimmed/sweating like molten iron from the centre of his chest
- Listening between his footfalls for the reason
- King, honour, human dignity etc
- Then the shot-slashed furrows/Threw up a yellow hare that rolled like a flame

Key Structure:

- Disorganised and chaotic
- Three stanzas and blank verse with no set structure.

Week 5

Language Paper 2
Opinionated writing: a type of writing in which the author expresses their thoughts, feelings, point of view and attitude towards a particular topic. This is what you write for English Language Paper 2 Question 5.
Purpose: the reason for writing something e.g. persuade, inform, entertain.
Audience: the person/people a piece of writing is aimed towards e.g. a politician.
Form: the type of writing e.g. letter, article, speech, leaflet, essay.
Writing structure:

1. Anecdotal – set the scene
2. Define the steer – be hyperbolic
3. Historical paragraph
4. Scientific paragraph
5. And so, finally… - be cyclical, return to the start line but juxtapose it.

Poetry: *Exposure* by Wilfred Owen

- About the weather and conditions of living in the trenches rather than any fighting.
- Nature can still do more harm than anything else.

Key Quotations:

- The iced east winds that knive us
- With sidelong flakes that flock, pause and renew
- On us the doors are closed
- For God's invincible Spring our love is made afraid

Key Structure:

- Refrain
- Rhetorical questions
- Half rhyme
- Chaotic, uncertain

Week 6

Literature paper 2
***Kamikaze* by Beatrice Garland**

- About a kamikaze pilot who does not go through with his job of flying his plane into the enemy.
- It was considered a great honour in Japan to die for your country.
- The pilot returns home and is rejected by his family forever after, his own wife refusing to speak to him.
- The poem is written both from a narrator and the daughter of the pilot.

Honour: high respect.
Futility: pointlessness or uselessness. The poem explores the futility of avoiding fate.
Key Themes:

- The power of memory
- The importance of home
- The question of loyalty

Key Quotations:

- A shaven head full of powerful incantations
- Little fishing boats/Green blue translucent sea/Flashing silver
- He must have wondered which had been the better way to die

Key Structure:

- Recount/narrative
- Composed of only three sentences/No rhyme
- Shift from third person subjective to first person plural

Vocabulary

Futility
Pointlessness (for example – of war)

Patriotism
Feeling

Propaganda
Deliberate spread of biased or misleading information to influence behaviour

Viewpoint
The way a writer/speaker or poet sees the subject – often influenced by experience and situation

Agency
Having control and ownership of one's own life. The soldiers in WW1 felt a lack of agency – powerlessness.

English

Week 7

English Language Paper 2 "Big Ideas"

- Nature
- Economics
- Technology
- Society
- Culture
- Psychology
- Religion
- Politics
- Identity
- Morality and Ethics/race/culture
- Gender
- Health and wellbeing
- Environment
- Science/History
- Geography

Big ideas: When answering Question 2, you can boost your answer by linking your inference to these big ideas and explaining it effectively.

English Language Paper 2 Question Order:

1. Question 1
2. Question 3
3. Question 2
4. Question 4

Judicious quotation:

- A quotation that proves your idea
- A quotation that allows you to say something detailed in your analysis
- A quotation that allows you to pick out single word quotations to layer analysis
- A quotation that allows you to identify sophisticated subject terminology
- A quotation that compliments and reinforces other quotations/interpretations

Week 8

Literature Paper 2

***Remains* by Simon Armitage**

- Written from the perspective of a soldier stationed in Iraq or Afghanistan.
- The solider cannot leave the memory behind and carries this dead man with him in his mind.

Disassociation: the act of separating one thing and another. Soldiers at war are disassociated from the normality of life.

Guilt: the fact of having committed a crime. The soldier in the poem believes he has murdered the man while on patrol.

Colloquial: writing that is informal and sounds conversational.

Volta: when there is a clear change in the tone of something.

Monologue: a long speech made by one person. This poem is an example of a dramatic monologue as it is told through the soldier.

Key Quotations:

- Probably armed possibly not
- I see every round as it rips through his life
- His blood shadow stays on the street
- His bloody life in my bloody hands

Key Structure:

- Colloquial
- Volta at "but"
- En medias res
- Enjambed
- Free verse
- There is a loose set of rhymes in the poem and used to give an almost childish aspect to the horror of the warzone. It perhaps suggests how numb this soldier is to what is happening.

Week 9

Literature paper 2

***War Photographer* by Carol Ann Duffy**

- About a war photographer who has returned home and is developing his photos.
- The poem is also looking at the contrast between the war zones and safety of being back home and the way people just do not understand the truth, after all a single photo cannot show everything.
- War photographers do a very dangerous job, many are killed and injured as they must get in harm's way to get the photos they are after.
- The **moral challenge** faced by the war photographer.
- The **fragility** of human life.
- **Fragility:** the quality of being easily broken or damaged.

Key Themes:

- Conflict
- Internal conflict

Key Quotations:

- Spools of suffering…ordered rows
- Running children in a nightmare heat
- A hundred agonies

Key Structure:

- Rigid structure and rhyme scheme – orderly
- Rhyming couplets
- The regular structure/ordered rows that juxtaposes the chaos.

Vocabulary

Dramatic monologue
A poem or speech in the form of a character or specific speaker – the poet writes in the form of another person but in the first person..

Volta
A dramatic mood shift or change of perspective in poetry.

Colloquial
Informal or conversational language to make communication seem more authentic or relaxed.

English

Week 10

English Language Paper 2 Question Order and Timings (Extra Time)

1. Question 1 – 5 minutes (6 minutes)
2. Question 3 – 15 minutes (18 minutes)
3. Question 2 – 12 minutes (15 minutes)
4. Question 4 – 23 minutes (28 minutes)
5. Question 5 – 53 minutes (1 hour and 3 minutes)

Question 3 Answer Structure (At least two analytical paragraphs)
Clear thesis statement:

- *The writer presents <u>the steer</u> as…; it is almost as if…*

New Paragraph – explore language

- *For example the writer…*
- *Which is clear when the writer describes <u>the steer</u> as…"_____"*
- *The writer has done this to emphasise/promulgate the idea that/illustrate/illuminate…*

Question 3 Success Criteria

- Clear and ambitious thesis statement
- Embedded, judicious quotations
- Subject terminology
- Analysis using "the writer"
- Layered analysis
  - Analyse single words
  - Multiple interpretations using connectives

Question 2 Answer Structure:

- Whilst the thing in source A is …the thing in source B is…It is almost as if…
- For example, in source A we learn that "quote" infer. Also "quote" infer and develop inference.
- Whereas in source B we learn that "quote" infer. Also "quote" infer and develop inference.

Week 11

Question 2 Success Criteria:

- Opening comparative thesis statement
- First person plural pronoun: we
- Source A exploration
  - Judicious quotations
  - Explore and develop inference
- Comparative connective: similarly; whereas
- Source B exploration
  - Judicious quotations
  - Explore and develop inference

Question 4 Answer Structure:

- Whilst the writer of source A feels….the writer of source B feels……
- For example, in source A, the writer is…and feels…… This is shown when we learn that "quote". The metaphor depicts the idea that……..,
- Whereas in source B the writer is…and feels…This is shown when we learn that "quote". The metaphor depicts the idea that…..

<u>Question 4 success criteria:</u>

- Opening comparative thesis statement referring to feelings and perspectives
- First person plural pronoun: we
- Source A exploration
  - Subject terminology
  - Effect
  - Writer purpose – link this to their feelings and perspective
- Comparative connective: similarly; whereas
- Source B exploration
  - Subject terminology
  - Effect

Week 12

Literature Paper 2
***Poppies* by Jane Weir**

- The poem looks at a mother of a son who has grown up and gone to war.
- The poem is based very heavily around the idea of Poppies as memorials and **Armistice**, and therefore the idea of memory.
- It is an **ambiguous** poem because it is unclear whether the son died at war or has at least not yet returned home and is now missed by the mother who fears the worst.

Armistice: An agreement between two countries at war to stop fighting.
Ambiguous: something that is unclear.
Key Themes:

- **Conflict**
- **Memory**

Enjambment: when one line continues onto the next in poetry.

Key Quotations:

- Spasms of paper red
- Gelled blackthorns
- Released a songbird
- Like a wishbone

Key Structure:

- Dramatic monologue
- Extended metaphors of stitching and sewing
- Free verse
- The poem uses a lot of enjambment and familiar nouns to enhance the idea of natural tone and the mother's voice.

Vocabulary

Remembrance
The act of honouring and remembering the service and sacrifice of those how died in conflict.

Armistice
The end of war – the decision to stop fighting

Enjambment
A poetic device where a sentence, phrase or thought runs over from one line or stanza to the next (Originates from the French to "step over").

Extended metaphor
Literary device that sustains a comparison between two unlike things over several lines or paragraphs.

Food

Week 1

Basic Mixtures

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

Experiment

Investigate which type of milk is best for a traditional rice pudding by comparing the flavour of **fresh milk, processed milk and UHT milk**.
Rice Pudding:
A sweet dish made by cooking rice with milk and sugar.
Key Terms:

- **UHT Milk** – Milk heated at a very high temperature so it can be stored unopened at room temperature.
- **Evaporated Milk** – A processed milk where some water has been removed.
- **Lactose** – The natural sugar found in dairy milk.
- **Caramelisation** – The browning process that occurs when sugar is heated.

Week 2

Practical: Red Pepper and Lentil Soup

Identify key ingredients such as red peppers (fruit vegetables), onions and garlic (bulb vegetables), lentils (pulses) and bacon (reared animal product). Practise safe knife and hob skills, avoid **cross-contamination**, and understand cooking processes such as simmering to preserve vitamins and the **Maillard reaction** which browns bacon and adds flavour. **Pulses** – Edible seeds from legume plants, such as lentils, beans, and peas, rich in protein and fibre. Rapid boiling is best - Boiling can break down the vegetables too much and destroy **water-soluble vitamins** (like B & C)

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.
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.

Week 3

Introduction to NEA

NEA1 – Food Investigation (15%)
Students investigate the scientific principles of food by completing a practical investigation set by the exam board. They plan and carry out experiments, record results, and analyse what happens to ingredients during cooking. Students must explain the **science behind the results** and evaluate their findings clearly.

Vocabulary

NEA Vocabulary
Hypothesis – A prediction that can be tested through an investigation.
Aim – The purpose or goal of the investigation.
Variables – Factors that can change in an investigation.
Method – The step-by-step process used to carry out the investigation.
Results – Data or information collected from the investigation.
Analysis – Examining results to identify patterns or trends.
Conclusion – Final judgement based on the results.
Evaluation – Reflection on the investigation and suggestions for improvement.
Reliability – How consistent results are if repeated.

Food

Week 4	Week 5	Week 6	Vocabulary
Introduction to NEA continued **NEA2 – Food Preparation Assessment (35%)** **Students respond to a set brief** by researching dishes and planning a menu. They then prepare, cook and present **three dishes in a three-hour practical exam**, showing a range of **technical cooking skills, organisation and presentation**. This task also includes planning, time management, and evaluation.	**Introduction to NEA continued** **Key Skills for Success** **Both NEAs require research, planning, practical cooking skills and evaluation**. Students must show clear **decision making**, demonstrate a range of **food preparation techniques**, and explain their **understanding of food science and nutrition** throughout their work.	**Heat Transfer** **Heat transfer** is the process of heating food using appliances such as a stove, fryer, microwave, or oven. **Conduction** is heat transfer through direct contact between molecules, such as when a hot pan cooks food. **Convection** is heat transfer through the movement of liquids or gases, such as hot air circulating in an oven. **Radiation** is heat transfer through electromagnetic waves without direct contact, such as heat from a grill or microwave. **Food Safety** **Pathogenic bacteria** are bacteria that cause disease and make food unsafe to eat. **Practical: Butter Crunch Biscuits** A **biscuit** is a small baked product that is usually flat, crisp, and sweet. **Bicarbonate of soda** is a raising agent that produces carbon dioxide, helping baked goods rise and creating the cracked surface on buttercrunch biscuits. To **preheat** means heating the oven to the correct temperature before baking so food cooks properly. To **reactivate** means to make something active again after it has stopped. Buttercrunch biscuits can quickly become overbaked, so they should be watched carefully and removed when the edges turn lightly golden brown.	**NEA Vocabulary** **Sensory testing** – Evaluating food using the senses. **Taste** – Sweet, salty, sour, bitter and umami. **Texture** – The physical feel of food (e.g., crisp, smooth). **Aroma** – Smell of food. **Appearance** – Colour and presentation of food. **Star profile** – A chart used to record sensory results.

Food

Week 7

Cooking Methods

Dry heat methods cook food without water and include baking, roasting, grilling, and toasting.
Frying methods cook food in hot fat or oil and include shallow frying, deep frying, and stir-frying.
Moist heat methods cook food using water or steam and include boiling, simmering, poaching, stewing, braising, pressure cooking, sous vide, blanching, and steaming.
Baking is cooking food in an oven using dry heat that surrounds the food evenly.
Roasting is cooking food in an uncovered pan in the oven, which creates a golden-brown crust and rich flavour.

Practical: Quiche

Shortening is a solid fat used in baking that gives foods, such as pastry, a crumbly and crisp texture.
Shortcrust pastry is a simple pastry made with about half the amount of fat to flour and has a crisp, crumbly texture.
Coagulation in eggs happens when eggs are heated and the runny yolk and white turn solid as the proteins thicken.

Week 8

Food Science 1

Plasticity is the ability of fat to soften over a range of temperatures so it can hold its shape or be easily shaped and spread.
Shortening is the ability of fat to shorten gluten strands in mixtures such as pastry or shortbread, creating a crumbly texture. Fats such as **butter or lard** are often used.
Aeration is the process of incorporating air into a mixture to make it lighter in texture.
Triglycerides are fat molecules that have different melting points, meaning some fatty acids stay solid longer than others, which gives fat its plasticity.
Emulsions occur when tiny drops of one liquid are spread evenly through another liquid. An **emulsifier**, such as egg yolk, helps keep the mixture stable.

Practical: Flatbread

Leavened bread contains raising agents such as yeast, baking powder, or baking soda that cause the dough to rise and create a light texture.
Unleavened bread is made without raising agents such as yeast or sodium bicarbonate.
Kneading is the process of mixing and working dough to develop strength and structure.

Week 9

Food Science 2

Coagulation is when denatured proteins set during heating or when the pH changes.
Denaturation happens when the chemical bonds in protein foods break.
Foam formation occurs when gases, usually air, are trapped inside a liquid to form a foam.
Gluten formation happens when the wheat proteins **gliadin** and **glutenin** combine with water. Gluten develops further when the dough is **kneaded**.

Practical: Chocolate Cornflake Bars

Ganache is a mixture made from **chocolate and double cream**.
Desiccated coconut is made by shredding the soft flesh of a coconut and then drying it.
Baking is cooking food in a hot oven using **convection and conduction heat**.
Mixing is combining two or more ingredients together so they become one mixture.

Vocabulary

Dry Heat Methods – Cooking foods **without water**, using heat from the air or fat, such as **baking, roasting, grilling, or toasting**.
Moist Heat Methods – Cooking foods using **water or steam**, including **boiling, simmering, poaching, stewing, braising, and steaming**.
Coagulation – When **proteins set or thicken** during heating or a pH change, such as **eggs turning solid when cooked**.
Shortening – **Fat that prevents gluten formation** in dough or pastry, giving a **crumbly texture**.
Aeration – The process of **incorporating air into a mixture** to make it **lighter in texture**.
Denaturation – When **chemical bonds in proteins break**, changing the **structure and texture** of the food.

Food

Week 10

Food Science 3

Dextrinisation happens when starch is exposed to dry heat and breaks down into smaller glucose molecules, causing foods such as toast to turn brown.
Gelatinisation occurs when starch granules are heated with liquid, causing them to swell, burst, and thicken the mixture.
The Maillard Reaction is a chemical reaction between sugars and amino acids in proteins that creates browned foods with a rich flavour.
Caramelisation happens when sugar is heated and the sucrose molecules break down, changing the colour, flavour, and texture as it turns brown and forms caramel.

Practical: Garlic Chicken Pasta

Deglazing is loosening the browned juices stuck to the bottom of a pan by adding liquid.
The **danger zone** is the temperature range between **5°C and 63°C** where bacteria multiply rapidly.
Coagulation is when denatured protein molecules join together during heating or a change in pH, causing an irreversible change in texture and appearance.
Drain means pouring liquid or fat away from food through a **strainer or colander**, such as after cooking pasta.

Week 11

Food Science Concepts

pH is a scale that measures how acidic or alkaline a substance is, ranging from **0 to 14**.
Heat is the level of temperature used when cooking or heating food. Heat changes the **flavour, texture, volume, and appearance** of foods because it affects proteins, fats, starch, and water in the food.
Acids can help with **leavening in baking** and can also **tenderise foods**, especially proteins.

Raising Agents

Raising agents are substances that produce gases in dough or batter, causing it to **rise and become light and fluffy**.
Mechanical aeration is a process that incorporates **air into mixtures**, helping them rise.
Steam is the vapour produced when **water is heated**, which can help food rise during cooking.
Yeast is a microscopic fungus made of single cells that **ferments sugar to produce carbon dioxide and alcohol**, helping bread dough rise in the right conditions.

Week 12

Experiment: Bread Making

This experiment investigates **which flour produces the best bread roll based on sensory qualities**.
When **flour is mixed with water**, the gluten swells and forms a network of fine strands. This network gives **bread dough its structure**, making it **elastic and extensible**.
Types of Flour
Gluten-free flour is flour made without gluten and is used as an alternative to regular flour.
Strong white bread flour is made from hard wheat varieties that are **high in gluten**, making it suitable for bread making.
Elasticity is the ability of dough to **return to its original shape after being stretched**.
Sensory properties are the qualities of food that can be judged using the senses, such as **smell, appearance, texture, mouthfeel, and colour**.

Commodity Exam

Vocabulary

Dextrinisation – When starch is heated with **dry heat** and breaks into smaller sugars, causing foods like **toast to turn brown**.
Gelatinisation – When **starch is heated with liquid**, causing the granules to **swell, burst, and thicken** a mixture.
Maillard Reaction – A **chemical reaction between sugars and proteins** during heating that produces **browning and rich flavours** in foods.
Caramelisation – When **sugar is heated** and breaks down, changing **colour, flavour, and texture** to form caramel.
Coagulation – When **proteins change structure during heating or pH change**, causing food to **set or thicken** (e.g., eggs cooking).
Danger Zone – The **temperature range between 5°C and 63°C** where **bacteria grow quickly**, making food unsafe if left too long.

French

Year 10 French : The Twelve-Point Check

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

1. Time frame	2. 'I' form of a verb	3. we/ he/ she verb form	4. Negation	5. Conjunctions	6. Justified opinion
at the weekends – les weekends **on Thursdays –** Tous les jeudis **when I am on holiday**- quand je suis en vacances **when I am relaxing** – Quand je me repose **if it is cold** – S'il fait froid **when I was in Mexico**- quand j'étais au Mexique **in summer** - en été **in winter** - en hiver	**I am** – je suis **I have** – j'ai **I go / I am going** – je vais **I want** – je veux **I do** – je fais **I did** – j'ai fait **I went –** je suis allé (e) **I saw** – j'ai vu **I liked** – j'ai aimé **I will go** – j'irai **I will watch** – je regarderai	**he / she goes** – il/elle va **we go** – nous allons **he/ she went** – il/elle est allé (e) **we went** – nous sommes allés (e) **it was** – c'était **he / she will go** – il/elle ira **we go** – nous irons **it will be** – ce sera **there was** - había	**not / don't** – Ne…pas **nobody** – personne **no /none /not any** – aucun/e Example: There is nobody at home – il n'y a personne à la maison I **didn't** buy **any** flowers – je n'ai pas acheté de fleurs	**that's to say** – c'est à dire **specifically** – en particulier **despite** – malgré **even so** – même si **above all** – surtout **not only… but also** – non seulement … mais aussi **because** – vu que	**an advantage is that –** un avantage c'est que **a disadvantage is that –** un désavantage c'est que **because** – puisque **s/he says that** – elle/il dit que **s/he told me that** – elle/il m'a dit que…. **according to** – selon moi **s/he would say that** – elle/il dirait que

7. Contrasting opinion	8. Comparative	9. Superlative phrase	10. Additional tense	11. WOW-phrase	12. Proofread for ….
Example: My aunt likes Greece **because** it's very historic **even so** my cousin doesn't like it **because** <u>according to him</u> it is not interesting. Ma tante aime la Grèce **puisque** c'est très historique **même si** mon cousin ne l'aime pas **vu que** selon lui ce n'est pas intéressant	**more…than** – plus…que **as …as** – aussi…que **less..than** – moins…que **better than** – meilleur/e que **worse than** – pire que **Example:** WhatsApp is **better than** SnapChat – Whatsapp est meilleur que SnapChat	**what I like the most** – ce que j'aime le plus **what I like the least** – ce que j'aime le moins **Examples:** **What I like the most** is sunbathing– **ce que j'aime le plus** c'est me bronzer **What I like the least** is travelling by boat **– ce que j'aime le moins** c'est voyager en bateau	**yesterday** - hier **last Sunday** – dimanche dernier **I went** – je suis allé (e) **I saw / watched** - j'ai vu/regardé **I listened** – j'ai écouté **Tomorrow** – demain **When I am older** – quand je serai plus vieux/vieille **I am going to + verb** – je vais + any infinitive verb **I would like to + verb** – je voudrais + any infinitive verb	**if I were millionaire – s**i j'étais millionnaire+ conditional (I would) **if I were more** – si j'étais plus+ conditional (I would) **if I had more –** si j'avais plus + conditional (I would) I am thinking of – je pense + infinitive verb **I fancy (doing something**) –j'ai envie de + infinitive verb	• Repetition • Missing accents(**SP**) • Missing words (**^**) • Spelling errors (**SP**) • Adjective agreement (**A**) • Syntax errors (**WO**) • Verb agreement (**VP**) • Tense agreement (**VT**) • Tenses match time frame (**WW**) • Vocabulary errors (**WW**) • Included all the features of the twelve-point check

Classroom language	
Français	**Anglais**
Comment dit-on en français/anglais ?	How do you say… in French/ English?
Comment ça s'écrit…?	How do you spell…?
Comment prononce-t-on …?	How do you pronounce (it)?
Passe-moi …. , s'il te plaît?	Can you give me…?
Tu peux répéter?	Can you repeat that?
Je peux aller à ma leçon de musique?	Can I go to my music class?
Je ne comprends pas.	I (don't) understand
Je suis désolé(e).	I'm sorry
J'ai (presque) fini.	I have (almost) finished
S'il te plaît / s'il vous plaît	please
merci	thank you
Objets en classe	**Classroom objects**
un stylo	a pen
une règle	a ruler
un portable	a mobile phone
un cahier	an exercise book

Describing the weather	
Aujourd'hui…	Today ...
il y a du soleil	it's sunny
il fait froid	it's cold
il fait chaud	it's hot
il y a du vent	it's windy
il fait beau	it's good weather
il fait mauvais	it's bad weather
il pleut	it's raining
il nège	it's snowing
il y a des nuages	it's cloudy

Saying what the weather is like today :

Aujourd'hui, il y a du soleil et il fait beau. Cependant il y a des nuages.

Days and dates	
Aujourd'hui c'est…	Today is...
lundi	Monday
mardi	Tuesday
mercredi	Wednesday
jeudi	Thursday
vendredi	Friday
samedi	Saturday
dimanche	Sunday
janvier	January
février	February
mars	March
avril	April
mai	May
juin	June
juillet	July
août	August
septembre	September
octobre	October
novembre	November
décembre	December

Saying the date:
Aujourd'hui c'est lundi vingt-deux septembre deux mille vingt-cinq

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

The alphabet	
letter	
a	ah
b	beh
c	seh
d	deh
e	uh
f	eff
g	zheh
h	ahsh
i	ee
j	zhee
k	kah
l	ell
m	em
n	en
o	Oh
p	peh
q	koo
r	air
s	ess
t	teh
u	ooh
v	veh
w	doo-bla-veh
x	eeks
y	Ee-grek
z	zed

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
D'un côté....d'autre côté	On one hand...on the other hand
D'une part...d'autre part	

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 petite 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
sortir avec des amis	go out with friends
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
Pourquoi tu l'aimes (ou pas)?	**Why do you like it(or not)?**
Ça me fait rire	It makes me laugh
Ça me fait penser	It makes me think
Ça me fait pleurer	It makes me cry
Ça m'ennuie	It bores me
Ça m'intéresse	It interests me
Quelle horreur!	How awful!
Quel bonheur!	What happiness!

French

Week 4 – Arranging to go out

Tu veux aller au cinema?	Do you want to go to the cinema?
Tu veux aller au spectacle?	**Do you want to go to the show?**
ça t'intéresse?	are you interested?
tu es libre?	are you free?
Tu viens?	Are you coming?
d'accord je veux bien	ok I would like to
oui, merci, c'est gentil	yes, thank you, that's kind
non, désolé(e), je ne peux pas	no sorry I can't
je (ne) suis (pas) libre	I am (not) free
la séance de trois heures	the three o'clock showing
deux billets s'il vous plaît	2 tickets please
Deux adultes	Two adults
Trois enfants	Three children
On se rencontre	Let's meet
À dix-huit heures	At 6 o'clock
devant le cinéma	in front of the cinema
à la gare	at the station
À bientôt!	See you soon!

Week 5 - 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 grâce à	He/she becamse famous thanks to
sa personnalité / son courage / son talent	His/her personality / courage / talent
Un bon modèle est quelqu'un qui	A good role model is someone who
aide les autres	helps others
inspire les autres	inspires others
encourage l'égalité	encourages equality
se comporte bien	behaves well

Week 6 – Relationships and identity

Qu'est-ce qui fait ton identité?	What defines your identity?
Ce qui fait mon identité c'est...	
mes amis	my friends
ma religion	my religion
mon genre	my gender
ma langue	my language
ma personnalité	my personality
la communauté	community
le courage	courage
l'amitié	friendship
Un bon ami, c'est quelqu'un de...	A good friend is someone...
fidèle	loyal
fier(ière) de moi	proud of me
travailleur(euse)	hard-working
proche	close
Je m'entends bien avec	I get on well with
Je m'occupe de	I look after
On s'amuse	We have fun
On s'excuse	We say sorry
On s'encourage	We look after each other
J'ai besoin de quel qu'un qui...	I need someone who...
m'écoute	listens to me
m'offre de l'aide	offers me help
me fait rire	makes me laugh

French

Tasks 1 and 2

Task 1: Read aloud (12 marks)
You will read a short text out loud.
The teacher will listen to check your pronunciation.

Afterwards, you will have a short, unprepared conversation about the topic of the text.

These questions are always:
Qu'est-ce que tu aimes…? (relating to topic)
Always say: J'aime (+ something related to the topic)
Que penses-tu de…? (relating to topic)
Always answer this by saying an opinion even if you don't understand it!
E.g. ***J'aime beaucoup*** (I really like it)
or **Je n'aime pas du tout** (I don't like it at all)

In this part, you get 2 marks for a clear answer- one-word answers are not enough to get 2-marks

Task 2: Role Play (10 marks)
You will take part in a short role play.
It will be based on a real-life situation (e.g. shopping, asking for directions, at a café).
You will need to give short simple answers
In this part, you get 2 marks for a clear answer- one-word answers are not enough to get 2-marks

Task 3: Picture task (12 marks)

People	Les gens
In the photo there are many people / three people / a man / a woman / three children	**Sur la photo il y a** beaucoup de gens / trois personnes / un homme / une femme / trois enfantss
I think it is a family / a group of friends / students	**Je pense que c'est** une famille / un groupe d'amis / des étudiants
The person on the left / right **has** brown / blonde / grey / black **hair**	**La personne à** gauche / droite **a les cheveux** bruns / blonds/ gris / noirs
They are wearing jackets, uniform, summer / winter clothes	**Il(s) porte(nt)** une veste, un uniforme, des vêtements d'été / d'hiver
Location	**Où sont-ils?**
It is / They are outside / inside	**Ils sont** à l'intérieur / dehors
It is / They are in the countryside / in the city / at home	**Ils sont** à la campagne / en ville / à la maison
It is beautiful / ugly / modern / old / big / small	**C'est** beau / moche / moderne / vieux / grand / petit
I think it is summer / winter **because** it is sunny / cold / hot / bad weather	**Je pense que c'est** l'été / l'hiver **vu que** il fait beau / froid / chaud/ mauvais
There is / There are (not)	**Il (n') y a (pas) (de)...**
Activity	**Qu'est-ce qu'ils font?**
They are talking / smiling / eating	**Il** parle /sourit / mange / joue / travaille
However, they are **not** talking / smiling / eating	**Cependent il ne** parle / sourit / mange **pas**

Task 4: General conversation

You will then be asked 2 compulsory questions followed by conversation questions.
They are **always in the present tense** or use ***Voudrais-tu?*** - answer this with **Oui je voudrais** or **Non je ne voudrais pas**.
You are often asked: ***Que penses-tu de…?*** (What do you think of…?) Always answer this by saying an opinion even if you don't understand it! E.g. ***J'aime beaucoup*** (I really like it) or **je n'aime pas du tout** (I don't like it at all)
The other is more general, e.g. what do you like, or where do you prefer to ..
How could you answer these questions? You don't need to say a lot. Just a clear simple sentence is enough to get 2/2
You will then have a conversation for an additional 3 minutes.
In this part of the exam, you want to **develop** your answers as much as possible.
You will need to speak accurately in the past present and future.
Use your non-negotiable verbs!!!

Past	
Je suis allé(e)	I went
J'ai vu	I saw/watched
C'était	it was
Il y avait	there was/ were
Je me suis bien amusé	I had agood time
Future	
Je vais aller	I am going to go
Je vais voir	I am going to see/ watch
Je vais visiter	I am going to visit
Ce sera	it is going to be
Il y aura	there will be
Present	
Je vais	I go
Il y a	there is / are
J'aime	I like
Il / elle aime	s/he likes

Geography

Week 1

What causes cliff retreat along coastlines?

Cliffs retreat due to the combined effects of erosion, weathering, and mass movement.

Wave formation occurs when wind blows across the sea, transferring energy into the water. The **fetch**—the distance the wind travels over water—affects wave size and strength.

Erosional processes weaken cliffs: **Hydraulic action** forces air into cracks, breaking rock. **Abrasion** occurs when rock fragments grind against the cliff. **Attrition** happens as rocks collide, breaking into smaller, smoother pieces. **Solution** dissolves rocks in seawater.

Weathering processes: **Mechanical**: Freeze-thaw widens cracks. **Chemical:** Carbonation dissolves limestone. **Biological:** Plant roots and animals break rock.

Mass movement includes landslides, rockfalls, and slumping, influenced by geology, climate, and human activity.

Over time, these processes cause cliff retreat, shaping coastal landforms such as bays, headlands, wave-cut platforms, and stacks.

Week 2

How does erosion create coastal landforms?

Headlands and Bays: On **discordant** coastlines, soft rock erodes faster forming bays, leaving harder rock as headlands. **Wave refraction** concentrates energy on headlands, increasing erosion. Concordant coastlines erode slower due to continuous hard rock layers.

Wave-Cut Notches, Platforms, and Rock-Pools: Waves erode the base of cliffs, forming wave-cut notches. Over time, the cliff collapses, leaving a wave-cut platform. Depressions in the platform can form rock-pools.

Caves, Arches, Stacks, and Stumps: Cracks in headlands enlarge into caves, which may form arches. Collapse of arches creates stacks, which erode into stumps.

Processes include hydraulic action, abrasion, attrition, and solution, influenced by rock type, climate, and human activity. Small-scale features like bedding planes control where erosion occurs. These landforms develop over time, demonstrating the interaction of waves, geology, and coastal processes.

Week 3

How does LSD create depositional landforms?

Beaches form where waves lose energy, depositing sediment carried from eroded cliffs and headlands. Sediment size varies - heavy pebbles near the top, fine sand at the bottom.

Long-shore drift (LSD) transports sediment along the coast. Waves hit the shore at an angle (**swash**) and return at 90° (**backwash**), moving material in a zig-zag pattern. LSD links all coastal transport processes: **traction, saltation, suspension, and solution.**

Spits form when LSD carries sediment past a bend in the coastline or into an estuary, depositing it in low-energy water. Changing wind direction can create a hooked end, and storms may partially destroy spits. Over time, mudflats or saltmarshes can develop behind the spit in sheltered areas.

These depositional landforms demonstrate the interaction of erosion, transportation, and deposition, influenced by geology, wave energy, and time.

Vocabulary

Concordant: a coastline where rock layers run parallel to the shore.
Discordant: a coastline where rock layers run at right angles to the shore, creating headlands and bays.

Wave refraction: the bending of waves as they approach the shore, concentrating energy on headlands and spreading it in bays.

Bedding planes: layers of rock that separate different strata, often weaknesses where erosion can occur.

Swash: the movement of water up the beach after a wave breaks.
Backwash: the movement of water back down the beach toward the sea after a wave breaks.

Geography

Week 4

How are coastlines managed?

Coastlines are managed using **hard and soft engineering** strategies to reduce flooding and erosion.

Hard engineering uses man-made structures such as sea walls, groynes, rock armour, and flood barriers. These are often expensive and long-lasting, protecting coasts but may have **unintended consequences**, such as disrupting sediment movement or reducing beach access.

Soft engineering works with natural processes and includes beach replenishment, dune regeneration, managed retreat, and flood warnings. These are usually cheaper and more **sustainable** but may need frequent maintenance and only protect certain areas.

Management decisions consider flood frequency, magnitude, land use, stakeholder opinions, and cost-benefit analysis. Hazard mapping, monitoring, and early warning systems help reduce risk by identifying vulnerable areas and preparing emergency plans.

Week 5

What affects landform change in the UK?

Geology
- Hard rock (e.g., granite) erodes slowly → low rate of change
- Soft rock (e.g., clay, sandstone) erodes quickly → high rate of change
- Bedding planes and faults influence where cliffs collapse

Climate
- Storms increase wave energy → faster erosion
- Seasonal variations in wind and rainfall affect cliff retreat
- Low pressure systems can trigger rapid changes

Human Activity
- Hard engineering (sea walls, groynes) slows erosion locally
- Soft engineering (beach replenishment, dune regeneration) alters sediment movement
- Coastal development and land use can increase vulnerability

Examples of Landform Change:
- Rivers: Severn at Tewkesbury and Shrewsbury
- Coasts: London Gateway, Crantock

Week 6

Why is climate and human activity important causes of landform change?

Climate
Prevailing wind direction influences wave direction, longshore drift, and sediment movement along coasts. Fetch affects wave size and energy, determining rates of erosion. Seasonal variations in river discharge change erosion and deposition in river landscapes. Extreme weather events, such as winter storms, can cause rapid and catastrophic landform change in rivers and along coasts.

Human Activity
Management of rivers and coasts, including sea walls, groynes, and beach replenishment, reduces erosion but can create unintended consequences, such as accelerated erosion downstream or disrupted sediment movement. Urban development and land use can increase vulnerability to erosion.

Impact on Landform Change
The interaction of climate and human activity determines the rate and pattern of landform change. Rates vary depending on local geology, management strategies, and weather conditions.

Vocabulary

Hard engineering: building structures like sea walls to control natural processes and protect the coastline.
Soft engineering: using natural methods, like planting vegetation to protect the coastline.

Unintended consequences: unexpected results of an action or decision that were not planned or intended.

Sustainable: meeting present needs without harming the environment or using up resources needed by future generations.

Prevailing wind: the most common wind direction in an area.

Geology: the study of rocks, Earth's structure, and how it changes over time.

Geography

Week 7

Why are only some coastlines protected?

Coasts can be protected using hard engineering or soft engineering. Hard engineering includes sea walls, groynes, and rock armour. These structures prevent erosion and flooding by absorbing or deflecting wave energy but are expensive to build and maintain and can look unattractive.

Soft engineering works with nature, using methods like beach nourishment, dune regeneration, or mangrove planting. These are cheaper, more sustainable, and help reduce wave energy, but need regular maintenance and may only protect small areas.

Hold the Line maintains existing defences, supported by residents and businesses, while **managed retreat** allows low-value land to flood, creating new habitats but affecting farmland.

Cost-benefit analysis helps decide which strategy to use. **SMPs** coordinate protection at regional levels, while monitoring, hazard mapping, and emergency planning reduce flood risks. Social and economic value influences which coasts are defended.

Week 8

Why are some coastal communities more vulnerable than others?

Physical Factors
Geology: Soft rock coasts (like clay) erode faster than hard rock.
Coastal features: Low-lying land, wide beaches, and steep cliffs increase flood risk.
Weather events: Storm surges, high tides, and strong waves can cause sudden flooding.
Climate change: Rising sea levels and more frequent extreme weather events increase erosion and flood risks.

Human Factors
Settlement location: Communities built close to the coast are more exposed.
Coastal development: Ports, homes, and tourism infrastructure can reduce natural protection.

Social and Economic Factors
LICs: Limited resources mean weaker flood defences and less emergency planning, making people more vulnerable.
NICs: Growing populations and industry increase exposure, but some defences exist.
HICs: Wealth allows strong defences, early warning systems, and insurance, reducing vulnerability.

Week 9

How are governments managing future sea level rise?

Sea Level Rise and Environmental Refugees
Rising sea levels, caused by melting ice sheets and **thermal expansion** of oceans, can flood low-lying areas. People living in these regions may be forced to leave their homes, becoming **environmental refugees**. This is especially a risk in coastal cities and small island nations, where land loss threatens homes, farmland, and freshwater supplies.

Responses by Governments
- LICs (Low-Income Countries): Often lack resources to protect coastlines, so many rely on relocation programmes or international aid.
- NICs (Newly Industrialised Countries): Use a mix of flood defences, urban planning, and early warning systems to manage risks.
- HICs (High-Income Countries): Can afford advanced sea walls, managed retreat, and sophisticated monitoring, aiming to protect populations and infrastructure.

Vocabulary

Managed retreat: allowing the coastline to move inland naturally by stopping or removing sea defences.

Costs-benefit analysis: a method used to compare the costs of a project with the benefits it will bring.

SMPs - Shoreline Management Plans are plans that decide how different parts of the coast should be managed to deal with erosion and flooding.

Thermal expansion: when water warms, it expands, causing sea levels to rise.

Environmental refugee: a person forced to leave their home because of environmental problems like floods, droughts, or storms.

Geography

Week 10

What is the evidence for climate change?

Weather vs Climate
Weather is the short-term conditions of the atmosphere, such as temperature, rainfall, and wind over hours or days. Climate is the average weather of a place measured over a long period, usually 30 years or more. Climate change refers to long-term changes in these average conditions.

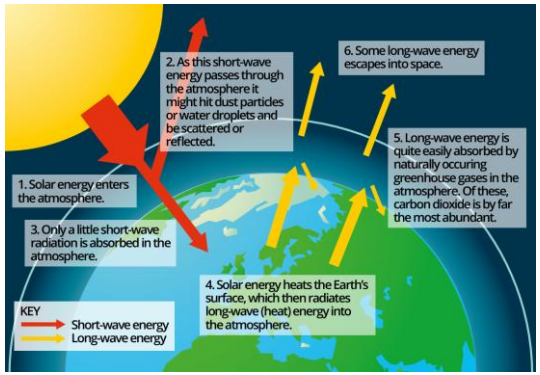
Climate Change Over Time
During the **Quaternary Period**, climate has changed naturally through glacial (cold) and interglacial (warm) cycles. These cycles show that climate has naturally warmed and cooled over thousands of years.

Evidence of Climate Change
Evidence includes ice cores, tree rings, historical records, and temperature records. Ice cores provide long-term data on past CO_2 levels and temperatures, while recent temperature records show a rapid rise in the last 100 years.

Week 11

How does the enhanced greenhouse effect work?

The enhanced greenhouse effect describes the process where increasingly large volumes of greenhouse gasses in the atmosphere (such as CO2) caused by human activities (such as burning fossil fuels) absorb even more of the escaping long wave energy and cause our atmosphere to warm up. This heat is re-radiated back to the planet causing global warming.

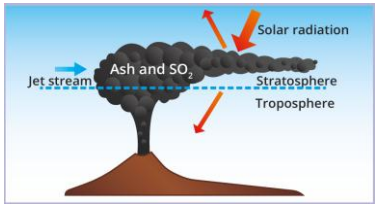


Week 12

What are the causes of climate change?

Human Causes
Human activities increase greenhouse gases in the atmosphere. Burning **fossil fuels** for energy releases large amounts of CO_2. **Deforestation** reduces the number of trees that absorb CO_2 and releases stored carbon. **Agriculture** produces methane from livestock and nitrous oxide from fertilisers. **Landfill** waste decomposes and releases methane. These gases strengthen the greenhouse effect and cause global warming.

Natural Causes
Large volcanic eruptions can cause short-term cooling. Ash and sulphur dioxide are blasted into the stratosphere where winds spread them around the Earth. These particles reflect sunlight back into space, reducing solar radiation and lowering temperatures, as seen after the eruption of Mount Pinatubo.



Vocabulary

Quaternary Period: the most recent geological period, covering the last 2.6 million years, marked by ice ages and the rise of humans.

Fossil fuels: energy sources like coal, oil, and gas formed from the remains of dead plants and animals over millions of years.

Deforestation: the clearing of forests, usually to make land for farming, cities, or roads.

Agriculture: the practice of growing crops and raising animals for food, fuel, or other products.

Landfill: a site where waste is buried in the ground.

Graphics

Week 1

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...

Week 2

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...

Week 3

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

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...

Week 5

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

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...

Vocabulary

Concept - The overall idea, message, or theme behind a design.

Hierarchy - The organisation of elements (especially text) to show importance and guide the viewer's attention.

Saturation - The intensity or strength of a colour (from dull to vivid).

Composition - The arrangement of visual elements (text, images, shapes) within a design.

Proximity - How close or far apart elements are placed to show relationships between them.

Resolution - The level of detail in an image, usually measured in pixels per inch (PPI).

Graphics

Week 7

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...

Week 8

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

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

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...

Week 11

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

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...

Vocabulary

Iteration - The process of creating multiple versions of a design to improve it over time.

Refinement - Making careful adjustments to improve and perfect a design.

Critique - A detailed evaluation of a design, identifying strengths and weaknesses.

Adaptation - Changing or improving a design based on feedback or testing.

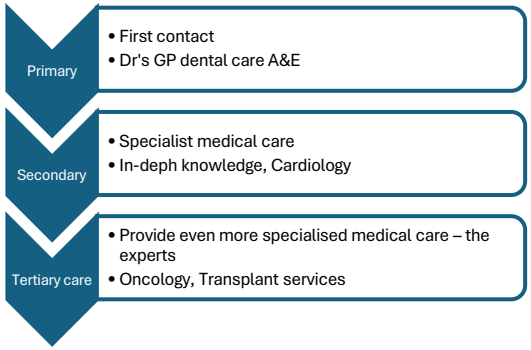
Accessibility - Designing so that all users (including those with disabilities) can understand and use it.

DPI (Dots Per Inch) - A measurement of print quality—higher DPI means better detail in printed designs.

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

hronic 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

Vocabulary

Primary Care – First point of contact (e.g. GP, dentist, A&E)
Secondary Care – Specialist treatment (e.g. hospital care)
Tertiary Care – Highly specialised care (e.g. oncology)
Allied Health Professionals – Specialists who support recovery (e.g. physio)
Multidisciplinary Team – Different professionals working together
Coronary Heart Disease – Blocked arteries reducing blood flow to the heart
Stroke – Blood supply to the brain is cut off
Type 2 Diabetes – Body cannot properly control blood sugar levels
Dementia – Decline in brain function affecting memory and thinking

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 awarenes s	Not knowing symptoms, not knowing about services available, may diagnose at late stage = awareness campaigns / posters and leaflets to educate
Differing cult ural beliefs	Different needs, specific diets, prayer times, preference for person treatment, l 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 stigm a	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 indep endence	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

Vocabulary

Disability – A condition that affects a person's ability to do daily tasks
Sensory Impairment – Loss or difficulty with sight or hearing
Long-term Health Condition – Illness that lasts a long time (e.g. dementia)
Residential Care – Living full-time in a care home
Domiciliary Care – Care provided in a person's own home
Respite Care – Short-term care to give carers a break
Informal Care – Unpaid care from family or friends
Voluntary Care – Support from charities or community groups

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.

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

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 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,

Vocabulary

Language Barrier – Difficulty communicating due to different languages

EAL (English as an Additional Language) When English is not a person's first language

Speech Impairment Difficulty speaking or being understood

Text Barrier Written information that is difficult to read or understand

Financial Barrier When cost prevents access to services

Underfunding Not enough money to support services

Burnout Physical and emotional exhaustion from work

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.

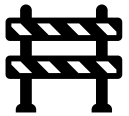
Addiction – people can become addicted to substances such as alcohol, nicotine and drugs. May become dependent, experience withdrawal symptoms, hard to admit, worried about judgements and experience cravings.

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



Vocabulary

Care – Supporting individuals to meet their needs
Compassion – Showing kindness and understanding
Competence – Having the skills and knowledge to do the job well
Communication – Sharing information clearly
Courage – Doing the right thing, even when it's difficult
Commitment – Being dedicated to providing high-quality care
Addiction – Dependence on substances (e.g. alcohol, drugs)
Dignity – Being treated with respect
Confidentiality – Keeping personal information private

History

Week 1

Weimar and Nazi Germany Checklist

Impact of World War One on Germany
Early challenges for Weimar 1919 to 1923
Hyperinflation
Golden Recovery 1923 29 Stresemann
Changes in society in Weimar
Early development of Nazi Party (NSDAP)
Munich Putsch
Lean years of the Nazis 1923 until 1929
Growth in support for Nazis 1929 until 1932
How did Hitler become Chancellor Jan 1933 How did Hitler become Fuhrer Aug 1934 Creation of dictatorship
How did the Nazis control people
Opposition to the Nazis Church & Youth
Women in Nazi Germany
Youth policy of the Nazis
Economy and Hitler's economic policies Persecution of minorities from 1933 to 1939


Pearson Edexcel GCSE (9–1)
Tuesday 10 June 2025
1HI0/31
History
PAPER 3: Modern depth study
Option 31: Weimar and Nazi Germany, 1918–39
2612RA
Pearson

Week 2

Practise 12 Mark Question:

Explain why there were economic problems for the Weimar Republic from 1919 – 1923.
You may use the following in your answer:
• reparations
• The French occupation of the Ruhr
You must also use your own information (12 Marks)

Reparations: (Stated factor)
Reparations of £6.6 billion placed huge strain on Germany's economy, forcing the government to borrow and print money, which led to hyperinflation, destroying savings and reducing living standards significantly.

Ruhr occupation: (Stated factor)
The French occupation of the Ruhr in 1923 halted industrial production; passive resistance meant workers were paid to strike, increasing government spending and making hyperinflation much worse across Germany.

Government actions: (Own Knowledge)
The Weimar government printed excessive amounts of money to pay debts and support striking workers, causing the value of the mark to collapse and prices to rise uncontrollably.

Week 3

Practise 12 Mark Question:

Explain how Gustav Stresemann was able to bring about recovery in Germany, 1924-29. You may use the following in your answer:
• The Dawes Plan
• The Locarno Pact You must also use your own information (12 Marks)

Dawes Plan (Stated factor):
The Dawes Plan reorganised reparations and brought American loans into Germany, boosting industry, creating jobs, and stabilising the economy, allowing Germany to recover from hyperinflation and rebuild confidence.

Locarno Pact (Stated factor):
The Locarno Pact improved relations with France and Belgium by agreeing Germany's western borders, increasing trust and encouraging foreign investment, which supported economic recovery and strengthened Germany's international position.

Currency reform (own knowledge):
Stresemann introduced the Rentenmark in 1923, ending hyperinflation by making the currency more stable, restoring confidence in money, encouraging trade, and allowing businesses and workers to work more normally.

Vocabulary

The terms of the Treaty of Versailles:

Reparations; set at £6.6 billion

Army Limited; Army limited to 100,000 men

War Guilt; Article 231 of the Treaty of Versailles made Germany accept blame for starting the war

De-militarised the Rhineland; No soldiers allowed in this area

End of German-Austrian Union;

Arms Limitations; Germany was only allowed six battleships and no Airforce

Land Lost. 10% of population and 13% of territory, 50% of iron and 15% of coal reserves.

History

Week 4

Explain why there was increased support for the NSDAP between 1929 and 1933.
You may use the following points in your answer to help you:
• 'Hitler Over Germany' Propaganda Campaign
• The role of the SA
You must also use information of your own. (12 Marks)

Propaganda (Stated factor):
The 'Hitler Over Germany' campaign used planes, posters and radio to present Hitler as a strong leader, spreading Nazi messages widely and appealing to different groups across Germany.

The role of the SA (Stated factor):
The SA used intimidation and violence to weaken opposition, disrupt rival meetings, and create fear of communism, making the Nazis appear strong and able to restore order in Germany.

Weakness of Weimar (own knowledge):
Weimar governments were unstable, relying on coalitions and emergency powers, making them seem ineffective, which increased support for the Nazis as a party promising strong, decisive leadership. The government found it impossible to deal with the effects of the Wall Street Crash.

Week 5

Explain why Hitler was able to become Chancellor in January 1933
You may use the following in your answer:
• The Depression
• The role of Hitler
You must also use your own information (12 Marks)

Role of Hitler (Stated factor):
Hitler was a powerful speaker who inspired hope and confidence, presenting himself as a strong leader who could restore Germany, which attracted widespread support across different social groups.

Depression (Stated factor):
The Great Depression caused unemployment and hardship, increasing support for extremist parties like the Nazis and weakening support for Weimar governments, creating conditions for Hitler's rise to power.

Weakness of Weimar (own knowledge):
Weimar political instability, with frequent elections and reliance on emergency powers known as Article 48, showed weakness, making democracy seem ineffective and increasing support for strong leadership like Hitler's.

Week 6

Explain why Hitler was able to increase his power between January 1933 and August 1934.
You may use the following information in your answers:
• The Reichstag Fire
• Night of the Long Knives
You must also use your own information (12 Marks)

Reichstag Fire (stated factor):
The Reichstag Fire in February 1933 allowed Hitler to blame communists and introduce the Reichstag Fire Decree, suspending civil liberties and arresting opponents, increasing Nazi control.

Night of the Long Knives (stated factor):
In June 1934 Hitler ordered the murder of SA leaders like Röhm to remove threats and gain army support, strengthening his control and eliminating opposition within the Nazi Party.

Enabling Act (own knowledge):
The Enabling Act of March 1933 allowed Hitler to pass laws without Reichstag approval, effectively giving him dictatorial powers and enabling him to dismantle democracy legally.

Vocabulary

Aryan – the master race who Nazi's believed should dominate lesser races
Mein Kampf – Hitler's book about his political beliefs
SA – "brownshirt" private Nazi army, led by Rohm
SS- Hitler's elite personal bodyguards, led by Himmler
Stab in the back – idea that the Weimar politicians let down the German people by signing Treaty of Versailles

Key People

Adolf Hitler- Leader of the Nazi Party

Josef Goebbels- Developed propaganda techniques in order to promote the Nazis.

History

Week 7

Explain why the Nazi Party introduced new policies towards women in the years 1933-39.
You may use the following in your answer:
• Family • Employment
You must also use your own information (12 Marks)

Employment (stated factor):
Women were pushed out of jobs such as law and medicine to reduce unemployment and ensure men had work, while encouraging women to focus on home, children, and traditional domestic roles.

Ideology (own knowledge):
Nazi ideology believed women should follow "Kinder, Küche, Kirche," focusing on children, kitchen, and church, reinforcing traditional gender roles and ensuring women supported the needs of the state.

Preparation for war (own knowledge):
Increasing the population was important for future war, as more children meant more soldiers and workers, so policies towards women aimed to strengthen Germany's long-term military and economic power. By the end of the 1930's, women were being encouraged to join the workforce to build weapons.

Week 8

Explain why the police state was a success in removing opposition to the Nazi regime.
You may use the following information in your answers:
• Concentration camps
• The Gestapo
You must also use your own information (12 Marks)

Concentration camps (Stated factor):
Concentration camps imprisoned political opponents without trial, creating fear across society, as people knew resistance could lead to harsh punishment, deterring opposition and strengthening Nazi control.

Gestapo (Stated factor):
The Gestapo secretly monitored citizens, arrested suspects, and relied on informants, making people fearful of speaking out, as anyone could be reported, increasing control and reducing open opposition.

Informants (own knowledge):
Ordinary Germans reported neighbours, friends, and colleagues to authorities, often for personal reasons, creating a culture of mistrust and fear, which prevented people from openly opposing the Nazi regime. This led to great fear and often stopped people from opposing the Nazis.

Week 9

Explain how the Nazis were able to solve the problems of unemployment between 1933-39
You may use the following information in your answers:
• The RAD • Rearmament
You must also use your own information (12 Marks)

RAD (Stated factor):
The Reich Labour Service (RAD) provided jobs in public works like building roads and draining land, reducing unemployment figures while promoting discipline and preparing men for military service.

Rearmament (Stated factor):
Rearmament created jobs in factories producing weapons, vehicles, and equipment, significantly reducing unemployment while preparing Germany for war and boosting industrial production across the country.

Hidden unemployment (own knowledge):
Unemployment figures were reduced artificially by removing women, Jews, and opponents from jobs, and by introducing conscription, meaning fewer people were counted as unemployed.

Vocabulary

Ideology – a set of beliefs guiding Nazi policies

Propaganda – information used to influence opinions

Indoctrination – teaching people to accept ideas without questioning

Persecution – treating a group unfairly or cruelly

Repression – controlling people by force or fear

Militarisation – building up armed forces for war

Autarky – aiming for economic self-sufficiency

Volksgemeinschaft – Nazi idea of a united "people's community"

History

Week 10

Explain why the Nazis tried to control the Church in Germany
You may use the following in your answer:
• Roman Catholic Church
• German Faith Movement
You must also use information of your own (12 Marks)

Roman Catholic Church (stated factor):
The Catholic Church was powerful and could oppose Nazi policies, so Hitler signed a Concordat to limit its influence, then broke it by restricting priests and Catholic organisations.

German Faith Movement (stated factor):
The German Faith Movement aimed to replace Christianity with a Nazi-friendly religion, promoting loyalty to Hitler and weakening traditional churches that could challenge Nazi beliefs and authority.

Opposition (own knowledge):
Church leaders like Pastor Niemöller criticised Nazi policies, showing churches could inspire opposition, so the Nazis acted to control or silence religious figures who challenged their authority.

Week 11

Explain why there were changes in the lives of young people of Germany in the years 1933-39
• Nazi Ideals • Education
You must also use your own information (12 Marks)

Education (stated factor):
Education was controlled to teach Nazi ideas, with subjects like history and biology promoting racism and nationalism, while teachers were expected to support and spread Nazi beliefs. Teachers had to be members of the National Socialist Teachers' League.

Youth organisations (own knowledge):
Groups like the Hitler Youth and League of German Girls trained young people in Nazi values, discipline, and physical fitness, preparing them for roles as soldiers or mothers. Membership from age 10 was made compulsory in 1936 and by 1939 90 per cent of German boys aged 14 and over were members.

Preparation for future roles (own knowledge):
Young people were prepared for specific roles, with boys trained for the army and girls encouraged to become mothers, supporting Nazi aims of strengthening Germany's future.

Week 12

Explain why there were changes to the lives of Jewish people in Nazi Germany in the years 1933-9.
You may use the following information in your answers:
• The Nuremburg Laws, 1935
• Kristallnacht, 1938 (sometimes known as the November Pogrom)
You must also use your own information (12 Marks)

1933 (Own knowledge):
In 1933, Nazis began persecution through boycotts of Jewish shops and laws removing Jews from jobs like the civil service, starting their exclusion from economic and public life.

1935 (stated factor):
In 1935, the Nuremberg Laws removed Jewish citizenship and banned marriage with Germans, legally defining Jews and increasing discrimination, isolating them further from German society and reducing their rights.

1938 (stated factor):
In 1938, Kristallnacht saw violent attacks on Jewish homes, businesses, and synagogues, with arrests and destruction showing a shift to open violence and forcing many Jews to emigrate

Vocabulary

Concordat
An agreement between the Nazi government and the Catholic Church.

Boycott
Refusing to buy from a shop or business as a protest.

Anti-Semitism
Hatred or discrimination a against Jewish people.

Pogrom
A violent attack against Jewish people and their property.

Scapegoat
A person or group blamed for problems they did not cause.

Eugenics
The idea of improving people by controlling who can have children.

Maths Foundation

Week 1

Rounding

Write 0.8529 correct to 1 decimal place.

0 • 8 | 5 2 9

5 or more?

Yes → 0.9

Write 20.4521 correct to 2 decimal places.

2 0 • 4 5 | 2 1

5 or more?

No → 20.45

The digit to the **right** of the **first significant figure** is the **second significant figure**, even if it is a zero.

The next digit to the right is the **third significant figure**, and so on.

The **first significant figure** of a number is the **non-zero digit** in the **highest place value**.

Significant figures

1st 2nd 3rd

8045

1st 2nd 3rd

0.03206

leading zeros

Round **75,406** to 2 significant figures.

7 5 | 4 0 6

5 or more?

No → 75,000

Write **0.09265** correct to 3 significant figures.

0 • 0 9 2 | 6 5

5 or more?

Yes → 0.0927

Write **30.28341** correct to 4 significant figures.

3 0 • 2 8 | 3 4 1

5 or more?

No → 30.28

Week 2

Error Intervals

For a rounded value, the **error interval** is the set of all possible values that it could have been before it was rounded.

It is usually shown using a **three-part inequality**.

A number n is rounded to the nearest ten. The result is 60

Write down the error interval for n.

The smallest possible value for n is 55

n can be up to, but not including, 65

40 50 60 70 80

Write using inequality symbols

$55 \leq n < 65$

The height of a bottle is measured as 21.8cm, correct to 1 decimal place.

Write down the error interval for the height of the bottle.

21.6 21.7 21.8 21.9

21.75 cm ≤ height < 21.85 cm

Week 3

Linear Graphs

Linear graphs can be straight horizontal or vertical lines.

$y = a$ — If the equation is 'y = a number' the graph is a straight **horizontal** line passing through the y axis.

$x = a$ — If the rule is 'x = a number' the graph is a straight **vertical** line passing through the x axis.

Plot the graph of $y = 2x + 1$

First create some co-ordinates where $y = 2x + 1$ then plot them..

x	y
-2	-3
-1	-1
0	1
1	3
2	5

Week 4

gradients and y=mx+c

The equation of a straight line graph is given by the equation $y = mx + c$

The y-intercept for this line is 1

In the equation $y = mx + c$, m is the **gradient** of the line. For example in the line $y = 7x - 2$, the gradient is 7. In the line $y = 3 + 4x$, the gradient is 4. It is the coefficient of x.

In the equation $y = mx + c$, c is the point where the line crosses the y axis, called the **y-intercept.**

The equation of this line is $y = 2x + 1$

To find the gradient of the line on the right:

1. Choose two points on the line that sit exactly on the grid lines.
2. Draw a right angled triangle between them
3. Work out the horizontal and vertical distance
4. Divide and decide if negative: $-\frac{3}{5}$

Given the gradient of a line and the coordinates of a point on the line (x, y):

1. Start with the general equation of a line $y = mx + c$
2. Substitute m for the gradient of the line.
3. Substitute the x- and y-values of the point into the equation and solve for the value of c.

Week 5

A line has equation $3y + x = 10$

Find the equation of another line that is **parallel** to this line.

$3y + x = 10$

$3y = 10 - x$

$y = \frac{10}{3} - \frac{1}{3}x$

The gradient is $-\frac{1}{3}$

Any parallel line has gradient $-\frac{1}{3}$

A parallel line is: $y = -\frac{1}{3}x + 4$

Parallel lines have the same gradient.

solving (simultaneous) equations graphically

By plotting graphs, find estimates for the solution to the simultaneous equations:

$y = 2x + 4$ and $y = 5 - 3x$

First create tables of values and plot each function:

x	y
-1	2
0	4
1	6
2	8

x	y
-1	8
0	5
1	2
2	-1

They cross when x is approximately 0.2 and y is approximately 4.2, so $x \approx 0.2$, $y \approx 4.2$ is an estimate of the solution.

Week 6

Angles

Adjacent angles on a straight line add up to 180°

Opposite angles are equal

Adjacent angles around a point add up to 360°

double arcs indicate equal angles

examples

XY is a straight line. Calculate angle **a**.

80° 60° a X Y

80 + 60 = 140

180 - 140 = 40°

Calculate angle **y**.

150° y

150 + 150 = 300

360 - 300 = 60°

recall Angles in triangles add up to 180°

Isosceles triangles have 2 equal sides and 2 equal angles

Equilateral triangles have 3 equal sides & 3 equal angles of 60°

Triangle ABC is isosceles. Work out angle **y**.

A y y B 52° C

Base angles are equal, so this angle is 52°

180 - 52 - 52 = **76°**

Angles in quadrilaterals add up to 360°

In a parallelogram, opposite angles are equal.

Work out angle **y**.

88° y

Angles add up to 360° in a quadrilateral.

360 - 88 - 88 - 90 = **94°**

Vocabulary

Significant figures- The number of significant figures in a number

Error interval – The set of possible values that a number could have been before being rounded.

Linear – An expression or equation where the variable is to the power of one, for example x or y.

Gradient – The rate of increase or decrease of a graph, How 'steep' the line is.

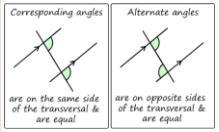
Parallel lines – two or more lines that have the same gradient, therefore they do not ever intersect (cross each other)

Simultaneous Equations – two or more equations that have two or more variables, where each corresponding variable has the same value in all equations.

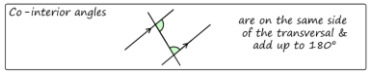
Maths Foundation

Week 7

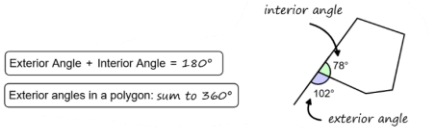
angles & parallel lines



Transversal: a line crossing two or more straight lines.



angles & polygons



Week 8

Ratio

Share £90 in the ratio 2 : 4 : 3
Total number of parts: 2 + 4 + 3 = 9
Value of each part: £90 ÷ 9 = £10
Shares: 2 × £10 = £20, 4 × £10 = £40, 3 × £10 = £30

Grace and Issy share some money in the ratio 4 : 7.
Grace gets £160.
Work out how much Issy gets.
4 parts = £160
1 part = £40
Issy gets £40 × 7 = £280

Jack and Jill share some money in the ratio 1:5.
Jill gets £44 **more** than Jack.
How much did Jack get?
Jill gets 4 parts more.
4 parts = £44,
so 1 part = £11
Jack received 1 part, so he got £11

a) **2 : 3** in the form **1 : n**
2 : 3
1 : 1.5 (÷2)
Divide both parts of the ratio by the number on the side that you need to equal 1

b) **2 : 5** in the form **n : 1**
2 : 5
2/5 : 1 (÷5)
(or 0.4 : 1)

c) **0.5 : 2** in the form **1 : n**
0.5 : 2
1 : 4 (×2)
Here you could times both parts by 2, or divide by 0.5

connected ratios

example

The ratio $a : b$ is 4 : 3
The ratio $b : c$ is 2 : 5
Work out the ratio $a : c$

b is common to both ratios. Write equivalent ratios with b having the same number of parts.

$a : b$ = 4 : 3 (×2) = 8 : 6
$b : c$ = 2 : 5 (×3) = 6 : 15

You can then combine the ratios to give $a : b : c$ or $a : c$

$a : b : c$ = 8 : 6 : 15 and $a : c$ = 8 : 15

Week 9

Proportion

Jenny buys 6 apples.
The total cost is £1.50

First divide to find the cost of a smaller number of apples. Use a common factor of the numbers of apples involved.

a) Work out the cost for 9 apples

6 apples cost £1.50
(÷2) 3 apples cost £ 0.75 (÷2)
(×3) 9 apples cost £ 2.25 (×3)

b) Work out the cost for 5 apples

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

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

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

5 machines would take 30 minutes
(×2) 10 machines would take 15 minutes (÷2)

Week 10

speed

Speed measures how far an object travels in 1 unit of time (1 hour, or 1 minute etc.)

Generally, speed = distance / time

Examples of units of speed are m/s or km/h, where the / is read 'per'. We also use mph, standing for miles per hour.

density

The density of an object is its mass per unit volume.
The units for density are g/cm³ or kg/m³.

Density = Mass / Volume

A cube has side lengths of 4cm and a mass of 83g.
Work out the density of the cube corrrect to 2 significant figures.

Density = Mass ÷ Volume
= 83 ÷ 64
= 1.296875
= 1.3 g/cm³ (2 s.f.)

A silver coin has a mass of 6.5g and density 10.5g/cm³.
Work out the volume of the coin to 3 significant figures.

Density = Mass / Volume → Volume = Mass / Density
Volume = 6.5 / 10.5 = 0.619cm³

Week 11

translations

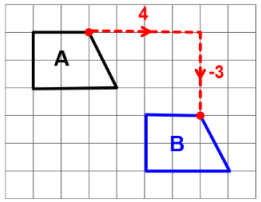
When a shape is **translated**, it is **moved to a different position**, without being turned or flipped.

Vectors such as $\begin{bmatrix} 4 \\ -3 \end{bmatrix}$ are used to describe translations

The **top** number is the **horizontal** movement:
← *left if negative* or *right if positive* →

The **bottom** number is the **vertical** movement:
↓ *down if negative* or *up if positive* ↑

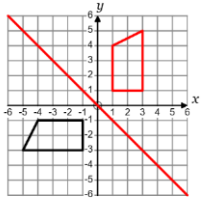
Translate shape A by the vector $\begin{bmatrix} 4 \\ -3 \end{bmatrix}$



reflection

When a shape is **reflected** in a **mirror line**, the shape is **flipped**.

The **perpendicular distance to the mirror line is the same** for each point of the original shape and the reflected shape.



Reflect the shape in the line with equation $y = -x$.

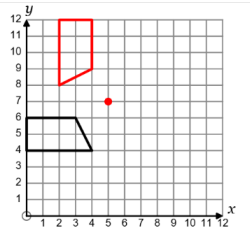
Week 12

rotation

To describe a **rotation** of a shape, three things are required:
1. The centre of rotation
2. The angle of turn
3. The direction: clockwise or anti-clockwise

Clockwise

Anti-clockwise



Rotate the shape 270° anti-clockwise about the point with coordinates (5, 7).

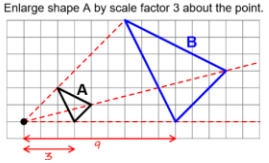
enlargement

An **enlargement** is a change in size by a given **scale factor**.

Ray lines can be drawn from the **centre of enlargement**, through each vertex of the shape.

The **distance from the centre** to each point is **multiplied by the scale factor** to give the point on the enlarged shape.

Enlarge shape A by scale factor 3 about the point.



Vocabulary

Transversal line - A line that crosses two or more straight lines

Corresponding angles – Angles on the same side of the parallel lines and the same side of the transveral line, they are therefore equal.

Alternate angles- Angles on opoosite sides of the prarllel lines and opposite sides of the transversal line, they are also equal.

Polygon- A 2D shape with 3 on more straight sides that are connected.

Regular Polygon – A polygon with equal side, lengths, equal interior angles and equal exterior angles.

Mass – A measure of how much matter is contained in a body of an item. This is normally measured using weight.

Capacity – The amount of space a body of an item takes up, this is normally measured as a volume.

Density – A measure of mass per unit of volume of an item.

Speed – How far an objects travels in a unit of time.

Maths Higher

Week 1

Error Intervals

For a rounded value, the **error interval** is the set of all possible values that it could have been before it was rounded.

It is usually shown using a **three-part inequality**.

A number n is rounded to the nearest ten. The result is 60

Write down the error interval for n.

The smallest possible value for n is 55

n can be up to, but not including, 65

40 50 60 70 80

Write using inequality symbols

$55 \leq n < 65$

The height of a bottle is measured as 21.8cm, correct to 1 decimal place.

Write down the error interval for the height of the bottle.

21.6 21.7 21.8 21.9

$21.75 \text{ cm} \leq \text{height} < 21.85 \text{ cm}$

Week 2

calculations with bounds

Formula	We want	Calculation
$a = b \times c$	Upper bound of a.	$b_{upper} \times c_{upper}$
$a = \frac{b}{c}$	Lower bound of a.	$\frac{b_{lower}}{c_{upper}}$
$a = b + c$	Lower bound of a.	$b_{lower} + c_{lower}$
$a = b - c$	Upper bound of a.	$b_{upper} - c_{lower}$
$a = \frac{b}{c - d}$	Upper bound of a.	$\frac{b_{upper}}{c_{lower} - d_{upper}}$
$a = \frac{1}{\sqrt{b}}$	Lower bound of a.	$\frac{1}{\sqrt{b_{upper}}}$

Week 3

Circle Theorems

Tangent : a straight line that touches a curve at exactly one point. The tangent and the curve have the same gradient at the point where they meet.

Radius : a straight line from the centre of a circle to the circumference. The plural is radii.

Diameter : a straight line from one point on the circumference to another, *passing through the centre*. A diameter is double the length of the radius.

A tangent meets a radius at 90°

Two radii create an isosceles triangle.

Chord : a straight line from one point on the circumference to another.

Arc : a fraction of the circumference.

Sector: a fraction of a circle, created by two radii.

Segment : part of a circle created by a chord.

minor segment

major segment

Subtended Angle : an angle created by drawing lines from the ends of an arc or line, to meet at a point, often on the circumference.

You can think of this angle as being subtended from, created by, or sat on, this arc.

Vocabulary

Error interval – The set of possible values that a number could have been before being rounded.

Tangent – The tangent to a circle, is a straight line that touches the circle at one exact point.

Chord – A straight line from one point on the circumference to another, that does not go through the centre.

Cyclic Quadrilateral – A four-sided shape where all 4 points are on the circumference of a circle.

Week 4

The angle in a semicircle is a right angle.

The angle at the centre is twice the angle at the circumference.

70° 140°

Angles in the same segment are equal.

51° 51°

Opposite angles of a cyclic quadrilateral sum to 180°.

$x + y = 180°$

The perpendicular line from the centre to a chord bisects the chord.

Tangents to a point are equal in length.

The angle between a chord and a tangent equals the angle in the **alternate segment**.

55° 55°

Week 5

Ratio

Share £90 in the ratio 2 : 4 : 3

Total number of parts: 2 + 4 + 3 = 9

Value of each part: £90 ÷ 9 = £10

Shares: 2 × £10 = £20, 4 × £10 = £40, 3 × £10 = £30

Grace and Issy share some money in the ratio 4 : 7. Grace gets £160. Work out how much Issy gets.

4 parts = £160

1 part = £40

Issy gets £40 × 7 = £280

Jack and Jill share some money in the ratio 1:5. Jill gets £44 **more** than Jack. How much did Jack get?

Jill gets 4 parts more.

4 parts = £44,

so 1 part = £11

Jack received 1 part, so he got £11

a) **2 : 3** in the form **1 : n**

2 : 3 → ÷2 → 1 : 1.5

b) **2 : 5** in the form **n : 1**

2 : 5 → ÷5 → $\frac{2}{5}$: 1 (or 0.4 : 1)

c) **0.5 : 2** in the form **1 : n**

0.5 : 2 → ×2 → 1 : 4

Divide both parts of the ratio by the number on the side that you need to equal 1

Here you could times both parts by 2, or divide by 0.5

Week 6

connected ratios

example

The ratio $a : b$ is 4 : 3

The ratio $b : c$ is 2 : 5

Work out the ratio $a : c$

b is common to both ratios. Write equivalent ratios with b having the same number of parts.

You can then combine the ratios to give a : b : c or a : c

a : b: 4 : 3 ×2 → 8 : 6

b : c: 2 : 5 ×3 → 6 : 15

a : b : c = 8 : 6 : 15 and a : c = 8 : 15

ratio and equations

If $a : b$ is equal to 2 : 5, then as a fraction, $\frac{a}{b} = \frac{2}{5}$

This can be rearranged to give the equation: $5a = 2b$

Similarly, given the equation $6a = 5b$, we can write the ratio $a : b = 5 : 6$

$a : b = 3 : 7$

Write an equation connecting a and b

$\frac{a}{b} = \frac{3}{7}$

$7a = 3b$

$2a + 3 : 4a - 1 = 2 : 5$

Work out the value of a.

$\frac{2a+3}{4a-1} = \frac{2}{5}$

$5(2a + 3) = 2(4a - 1)$

$10a + 15 = 8a - 2$

$2a = -17$

$a = -8.5$

Maths Higher

Week 7

direct proportion

If two variables are in directly proportion, one is always a constant multiple of the other.
The ratio between the variables is contstant for each pair of values.

The symbol $\propto$ is known as the **proportionality symbol**.
$y \propto x$ means 'y is directly proportional to x'

If $y \propto x$, the equation $y = kx$ can be formed, where k is the **constant of proportionality**.
The graph of this equation is a straight line through the origin with a gradient of k.

inverse proportion

If two variables are in **inverse proportion**, then as one increases, the other decreases, with their product remaining constant.

$y \propto \frac{1}{x}$ means 'y is inversely proportional to x'

If $y \propto \frac{1}{x}$, the equation $y = \frac{k}{x}$ can be formed, where k is the **constant of proportionality**.
The graph of this equation is part of a reciprocal graph.

Week 8

speed

Speed measures how far an object travels in 1 unit of time (1 hour, or 1 minute etc.)

Generally, speed = $\frac{\text{distance}}{\text{time}}$

Examples of units of speed are m/s or km/h, where the / is read 'per'. We also use mph, standing for miles per hour.

Jill drove 135 miles from Leeds to Warwick at an average speed of 60 mph.
She then drove 105 miles from Warwick to Newport in one and a half hours.

a) Work out how long it took Jill to drive from Leeds to Warwick.
Give your answer in hours and minutes.

Time taken = $\frac{135}{60}$
= 2.25 hours → **2 hours 15 minutes**

b) Work out Jill's overall average speed for her drive from Leeds to Newport.

Total distance = 135 miles + 105 miles
= 240 miles

Total time = 2 hrs 15 mins + 1 hr 30 mins
= 3 hrs 45 mins
= 3.75 hours

To find the overall speed, first work out the total distance and the total time

Speed = $\frac{240}{3.75}$
= **64 mph**

Week 9

density

The density of an object is its mass per unit volume.
The units for density are g/cm³ or kg/m³.

Density = $\frac{\text{Mass}}{\text{Volume}}$

combining densities

Use $D = \frac{M}{V}$ to work out the mass

Liquid A has a density of 1.06 g/cm³.
Liquid B has a density of 0.84 g/cm³.

2 litres of liquid A is mixed with
1 litre of liquid B to make liquid C.

Work out the density of liquid C.

	Density	Mass	Volume
A	1.06g/cm³	2120g	2000cm³
B	0.84 g/cm³	840g	1000cm³
C	0.99g/cm³	2960g	3000cm³

Fill in the table with all the information given, and work out any other values possible.

Recall that 1 litre = 1000cm³

The final density is the total mass divided by the total volume.

Week 10

translations

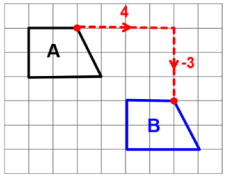
When a shape is **translated**, it is **moved to a different position**, without being turned or flipped.

Vectors such as $\begin{bmatrix} 4 \\ -3 \end{bmatrix}$ are used to describe translations.

The **top** number is the **horizontal** movement:
← *left if negative* or *right if positive* →

The **bottom** number is the **vertical** movement:
↓ *down if negative* or *up if positive* ↑

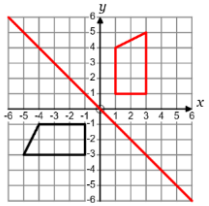
Translate shape A by the vector $\begin{bmatrix} 4 \\ -3 \end{bmatrix}$



reflection

When a shape is **reflected** in a **mirror line**, the shape is **flipped**.

The **perpendicular distance to the mirror line is the same** for each point of the original shape and the reflected shape.



Reflect the shape in the line with equation $y = -x$.

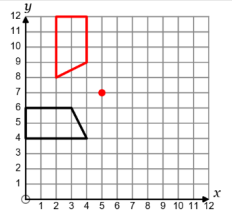
Week 11

rotation

To describe a **rotation** of a shape, three things are required:
1. The centre of rotation
2. The angle of turn
3. The direction: clockwise or anti-clockwise

Clockwise

Anti-clockwise

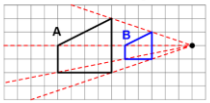


Rotate the shape 270° anti-clockwise about the point with coordinates (5, 7).

enlargement

When a shape is **enlarged by a scale factor between 0 and 1**, the shape becomes **smaller** and closer to the centre of enlargement.

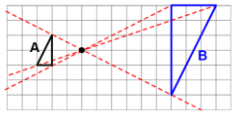
Enlarge shape A by **scale factor** $\frac{1}{2}$ about the point.



When a shape is enlarged by a **negative scale factor**, the enlarged image is on the **other side of the centre of enlargement**.

The enlarged image is in a different orientation to the original shape - the same as if had been rotated by 180°.

Enlarge shape A by **scale factor -3** about the point.



Week 12

describing transformations

To fully describe a tranformation, state the **type of transformation**, and the following:

Translation
Translation vector
Translation by the vector $\begin{bmatrix} 2 \\ -1 \end{bmatrix}$

Rotation
Angle of turn
Direction
Centre of rotation
Rotation by 90° clockwise about the point (4, 0)

Reflection
Equation of the mirror line
Reflection in the line y=x

Enlargement
Scale factor
Centre of enlargement
Enlargement by scale factor 3 centred on (1, 3)

Vocabulary

Mass – A measure of how much matter is contained in a body of an item. This is normally measured using weight.

Capacity – The amount of space a body of an item takes up, this is normally measured as a volume.

Density – A measure of mass per unit of volume of an item.

Speed – How far an objects travels in a unit of time.

Translation- Describes the movement of a shape vertically and horizontally.

Reflection-The movement of a shape over a mirror line

Rotation – The movement or a shape clockwise or anticlockwise around a given point

Enlargement – The change is size of the shape given a centre point.

Media

Week 1 + 2

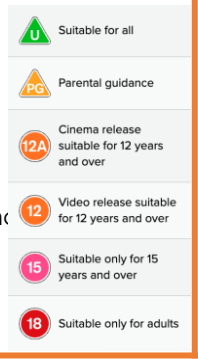
Advertising Terminology:

Commercial: selling goods or services primarily to make money.
Non-commercial: aim to educate, inform, and inspire the audience to take action towards social causes.
Mode of address: refers to the tone and style a media text uses to communicate with the audience
Intertextuality: when one text references another
Hard sell: A hard sell is an attempt to get the buyer to take action now.
Soft sell: A soft sell is a gradual approach .

FILM Regulation

Film releases in the UK are regulated by the BBFC.
When classifying films the BBFC consider:

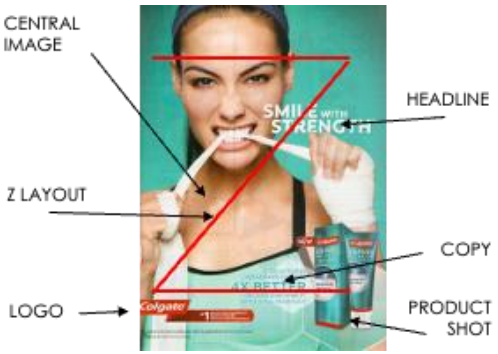
- Context
- Themes
- Tone and impact
- Depiction of discrimination
- Depiction of drug use
- Depiction of sex & nudity
- Use of language
- Depiction of threat & violen
- Depiction of imitable Behaviour



bbfc

Week 3 + 4

Advertising Layout & Design Terminology



- **FILM SET TEXT: James Bond: No Time To Die** You will need to be able to talk about the following areas:

- Production Information
- Distributor
- Marketing strategies
- Circulation information
- Rating and reasons for it
- Target Audience
- Audience appeals (film and marketing)
- Website
- Trailers
- Posters
- Release challenges and information
- Box office

Week 5 + 6

Quality Street Context: Quality Street sweets were made by Mackintosh in 1936. In the 1930s, only the wealthy could afford chocolate boxes, but the creator Harold Mackintosh aimed to sell them at a more reasonable cost to appeal to working families.

FILM Answering a 12 marker

- Aim for 3-4 paragraphs.
- Support your ideas with examples from the set text (NTTD)
- Try using **DEL** to help structure your ideas:

DESCRIBE - the technique used/ representation constructed

EXPLAIN - support with specific evidence - how has media language been used

LINK - to the overall context or meaning or the question

Vocabulary

Commercial
Selling a product or service with the main aim of making profit.

Mode of address
The way a media product communicates with its audience through tone, style, and language.

Intertextuality
When a media text references or links to another text to create meaning or appeal.

Target audience
The specific group of people a media product is designed to appeal to.

Audience appeal
The techniques used to attract and engage a specific audience.

Media language
The use of images, text, layout, and sound to create meaning in a media product.

Media

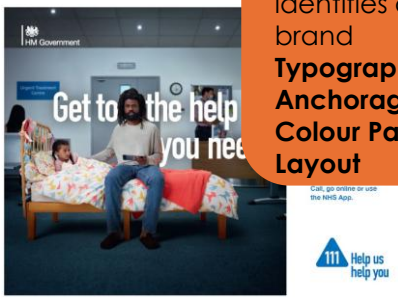
Week 7 + 8

Media Language in Advertising

PERSUASIVE LANGUAGE TECHNIQUES:

Rhetorical Question
Repetition
Alliteration
Celebrity endorsement
Emotive Language
Opinion as fact
Hyperbole
Facts & statistics
Direct address
Imperatives

Slogan: a short and striking or memorable phrase used to define the brand
Logo: a symbol made up of text and images that identifies a brand
Typography
Anchorage
Colour Palette
Layout



Set text: 111 advert
The advert is a public service announcement, which means it aims to inform or persuade the public about a specific issue, in this case, the NHS 111 service

Week 9 + 10

Analysing a text

Try using **DEL** to help structure your ideas:
DESCRIBE - the technique used/representation constructed
EXPLAIN - support with specific evidence - how has media language been used to construct this representation
LINK - to the overall context or meaning or question

Analysing representations

Archetype: A very typical example of a certain person or thing. E.g. a male archetype would be very masculine, tall, muscly, strong and powerful with short hair.
Dominant: Powerful for example men are seen as more dominant than women. Another meaning for dominant is the main idea. E.g. the dominant message in the media is that adults must work and pay their taxes.
Inferior: Lower in rank, status, or quality. E.g. women are usually seen as inferior to men (this is a stereotype).

Week 11 + 12

Media Perspectives (Theory)
LEVIS STRAUSS: Binary Oppositions
Binary opposites are a pair of related concepts which are opposite in meaning. E.g. good & bad, black & white, masculine & feminine.
PROPP: Character Types
Propp identified seven character archetypes: the villain, the donor, the helper, the princess, the dispatcher, the hero, and the false hero.
LAURA MULVEY: The Male Gaze
The male gaze refers to the way women are objectified by the camera lens because men are in control of the production process and make decisions that appeal to their own values and interests. The audience, including women, are then positioned to accept this narrow representation.
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

Vocabulary

Rhetorical question
A persuasive technique where a question is asked to engage the audience without expecting an answer.
Repetition
Repeating words or phrases to reinforce a message and make it memorable.
Direct address
Speaking directly to the audience using words like "you" to create engagement.
Archetype
A typical or recognisable example of a person or character that appears repeatedly in media.
Binary oppositions
The use of two contrasting ideas (e.g. good vs evil) to create meaning.
Male gaze
A theory that suggests women are often presented from a male perspective in media, focusing on appearance and objectification.

Music

Week 1

Component 2 – Music Skills Development

As a performer, producer or creator you need to continually develop your skills and techniques in order to be successful and secure a regular flow of gigs and commissions.
You will specialise in at least two of the following areas;

- Music Performance
- Creating Original Music
- Music Production

You will review your progress and consider how to make improvements.
You will learn how musicians share their work and collaborate with others.

Week 2

Professional Skills required;

You will need to evidence the following skills across Component 2.

- Time Management
- Self-Discipline
- Working with others
- Correct and safe use of equipment
- Identifying resources required
- Auditing existing skills
- Maintaining a development plan

Week 3

Planning and Communicating;

You must plan and evidence your development process.

Methods of capturing musical development;

- Digital portfolios – studio track sheets, production notes, rehearsal diaries, screenshots, reviews
- **Compositional Sketches**
- **Raw Recordings**
- Drafts
- Applications of **effects**
- Initial mixes

The aim is to show where you started and key points to the final product.

Week 4

Planning and Communicating;

How can you get feedback on your work?
Sharing music with other musicians;

Mixtapes
Demos
Remixing and Reworking
Jam sessions
Improvisation sessions
Sharing samples

Power of social media and music platforms such as Youtube, Soundcloud, Facebook, Tiktok etc

Musicians need to share and comment on work professionally.

Week 5

Development of Music Skills and Techniques;

It is important this is appropriate development of musical ideas for the style, genre and context of your music.

The importance of setting goals;
It allows you to have a clear direction of musical development and helps you to focus on specific areas for improvement.

Think about what **technical exercises** you could practice which will help with development, eg scales.

Ensure you stay organised so you can clearly demonstrate development of ideas.

Week 6

Music Development Techniques;

Timing and **Phrasing** -
Using **Rhythm** and **Pitch** –
Expression -
What equipment will you use?
Think about instruments or software appropriately.
Will you combine different instruments and sounds?
How will you use the software or instruments?
If you are composing or rearranging music from woodwind or brass instruments, are you taking into account the musicians will need to breathe? If you are using lots of effects or **plug ins** are they causing any lagging?

Vocabulary

Compositional Sketches – short recording of ideas to allow development.
Raw Recordings – a recording before any editing.
Mixtapes – compilation of songs (an unofficial album).
Demos – unpolished recording of a piece of music.

Remixing – an altered version of an original performance by adding, removing or rearranging musical elements.

Phrasing – dividing music into shorter "sentences".

Pitch – How high or low the notes are.

Expression – showing emotions through musical performance.

Effects – devices that alter, enhance or manipulate sound.
Plug ins – software to create, manipulate or enhance sound.

Music

Week 7

Developing Performance;

How will you develop your performance skills?
Learning **repertoire** and practice routines – rehearsal schedules would help with this.

Instrumental techniques;
Scales and **Arpeggios**
Rhythm practice with a **metronome** – this will improve timing and fluency.
Finger exercises – helps you to move between notes smoothly.

Vocal techniques;
Warm ups - lip trills, vocal range, breathing exercises, vocal runs, pitch matching.

Week 8

Developing Performance;

Being able to follow an accompaniment or other members of a band. How do you communicate with people both verbally and with physical cues through a performance?

Stage presence
How do you interact with the audience?
Where appropriate you need to think about your;
Confidence, Body Language, Facial Expressions, Eye Contact, Energy and Interaction with the audience.

This makes your performance more interesting and memorable.

Week 9

Developing Original Music;

Exploring and Extending Ideas – think about how musicians can develop their music.

Repetition but with a slight variation – change in rhythm, pitch, dynamics.
Sequencing
Adding Layers – new instruments, harmonies or backing vocals.
Changing **dynamics**
Modulation
Call and Response
Chord Progressions
Inversion
Retrograde
Adding chord extensions – 7ths, 9ths, sus4

Week 10

Developing Original Music;

Use of structure - how the piece of music is built - can make your composition stylistic of the genre.
Some common structures;
Verse – Chorus – used in popular music
ABA (Ternary Form) – Section A, a contrasting section B, Section A repeated with development
AB (Binary Form) – Often used in Classical Music.
The structure can also help you with time management and development of ideas, when to repeat, when to bring in new ideas, when to build or release tension, create contrast. Do you need and intro and outro?

Week 11

Developing Music Production;

How could you use music software to develop musical ideas?

- Different software instruments
- Recording and editing audio tracks
- How to structure music digitally – especially when remixing.

- Manipulation Techniques – **Looping, Slicing,** Layering, Reversing Audio.

- Using software effects – Reverb, Delay (Echo), EQ (Equaliser), Distortion and Overdrive, Automation.

Week 12

Digital Audio Workstation (DAW)
GarageBand Features

Creating a new project;
Software instruments (MIDI), Audio (Vocals/Guitar)
Recording;
Adding additional tracks
Editing;
MIDI – Double click region to open piano roll.
Move/ resize/ delete notes.
Quantise to fix timing. Trim by dragging region edges. Split track using Command T.
Mixing;
Adjusting track volume and **pan**. Use **EQ**.
Add **reverb**.
Adding Effects

Vocabulary

Repertoire – a selection of music ready for a performance.
Arpeggios – broken chords.
Panning – where you control the sound to left and right
EQ – Equaliser allows you to adjust, treble, mid and bass frequencies.
Reverb – adds spaces, makes it sound distant.
Dynamics – how loud or quiet
Modulation – changing key.
Inversion – where a melody is "flipped" upside down.
Retrograde – where a melody is played backwards.

Looping – repeat sections to build structure.

Slicing – cut and rearrange audio.

Distortion – adds grit/ intensity to sound.

Automation – changing dynamics gradually.

Photography

OCR GCSE Photography AssesSment Objectives

GCSE Photography is marked using four **Assessment Objectives (AOs).**

Students must show evidence of all four objectives in their sketchbook, photoshoots, edits, and final **outcome**.

AO1 – Develop Ideas: Research photographers and analyse their work. Explain how their style, themes, **composition**, and techniques influence your ideas.

AO2 – Refine Work: Experiment with camera settings, lighting, locations, editing techniques, and materials. Improve your ideas through testing and development.

AO3 – Record Ideas: Capture and document ideas through photoshoots, contact sheets, observations, and **annotation**. Show strong **composition**, lighting, and technical control.

AO4 – Present a Final Outcome: Create a final image or series that clearly links to your research, experiments, and development.

AO1 - Research

AO1 – Develop Ideas (Artist & Photographer Research)

Researching photographers, artists, and sources that connect to your **theme** and using them to inspire your ideas.

How to respond:
•Study photographers who use similar **theme**s, subjects, lighting, or editing styles.

•Analyse their work by explaining **composition**, lighting, colour, mood, and meaning.

•Show how their work influences your own photography.

What to do:
•Include artist images and written **analysis**.

•Annotate how they use camera angles, lighting, and **composition**.

•Create your own photographic response inspired by the artist (not a copy).

•Explain how their work helped develop your ideas.

AO2 Experimentation

AO2 – Refine Work (Experimentation & Development)

Testing and improving your ideas through **experimentation** with techniques and processes.

How to respond:
- Try different camera settings, lighting setups, editing techniques, and locations.
- Experiment with **composition**, perspective, colour, and depth of field.
- Show how your work develops and improves over time.

What to do:
- Take multiple photoshoots exploring different ideas.
- Experiment with editing software such as Photoshop or Lightroom.
- Try techniques such as double exposure, layering, colour grading, or texture overlays.
- Annotate what worked well and what could improve.

Vocabulary

Assessment Objective (AO) – The criteria used to mark GCSE Art work. Strong projects connect all four AOs together through research, **experimentation**, photography, and a final **outcome**.

Analysis – Explaining how and why a photograph works

Composition – Arrangement of elements in an image

Experimentation – Testing different ideas and techniques

Contact Sheet – A page showing all photos from a photoshoot

Photography

AO3 Recording Ideas

AO3 – Record Ideas (Photography & Observations)

Recording ideas through photography, observation, and visual exploration.

How to respond:

- Capture images that show strong **composition**, lighting, and focus.
- Record your thinking through **contact sheets,** sketches, and **annotation**.
- Show careful observation of subjects, textures, shapes, and details.

What to do:

- Take photoshoots linked to your **theme**.
- Include contact sheets to show all images taken.
- Select and annotate your strongest photographs.
- Demonstrate technical skills such as exposure control, focus, and framing.

AO4 Final Outcome

AO4 – Present a Final Outcome

Creating a final photograph or series of images that brings together all your research, **experimentation**, and ideas.

How to respond:

- Your final images should clearly link to your artist research and experiments.
- The **outcome** should communicate your **theme**, **concept**, or message.
- Presentation should be clear, creative, and well-planned.

What to do:

- Produce a final edited photograph or image series.
- Apply the techniques you explored earlier in the project.
- Present work in a strong layout (design board, digital presentation, or prints).
- Explain how your **outcome** developed from your earlier work.

Reflection and Evaluation

Reflection & Evaluation – Improving Your Work

Reflection and evaluation help you understand what worked well and what could be improved in your photography project. Strong students regularly review their work and make changes to **refine ideas, techniques,** and **outcomes**.

When evaluating your work you should:

- Explain what techniques or photos were most successful.
- Identify what could be improved and why.
- Link your evaluation to artist research, experiments, and photoshoots.
- Use your reflections to develop stronger ideas and **outcomes**.

Good evaluation shows critical thinking and helps you meet AO2 (refining work) and AO4 (final outcome).

Vocabulary

Refine – Improving work through development

Theme – The main idea of a project

Outcome – The final photograph or image series

Annotation – Written notes explaining ideas and decisions

Concept - The main idea or message behind your photographs.

Narrative - The story or meaning shown through an image or series of photos.

Context - The background information that explains why a photograph was made and who it is for.

PSHE

Week 1

What is Income Tax?
Income tax is a tax that people pay on the money they earn. The government collects this tax to pay for public services such as the NHS, schools, roads, police, and the armed forces.

Who Pays Income Tax in the UK?
You pay income tax if you earn above a certain amount in a tax year (6 April to 5 April the following year). This includes:

- **Employees** – people who work for an employer
- **Self-employed people** – people who run their own business
- **People with rental income** – if you rent out property
- **People with savings interest or investment income** – if you earn above the tax-free allowance

Week 2

How is Income Tax Collected?

For employees:

- Tax is deducted automatically from your wages through **PAYE (Pay As You Earn)**
- Your employer sends this money directly to HMRC (His Majesty's Revenue and Customs)
- You can see the deductions on your **payslip**

For self-employed people:

- You must complete a **Self Assessment tax return** each year
- You calculate and pay your own tax by 31 January

You do NOT pay income tax if:

- You earn below the Personal Allowance (£12,570 for 2025/26)
- You're under 16 (though you may still pay tax on savings interest in some cases)

Week 3

What is a Credit Rating?

A credit rating (also called a credit score) is a number that shows how reliable you are at borrowing and repaying money. It's based on your financial history and behaviour with credit.

Lenders (such as banks, credit card companies, and mortgage providers) use your credit rating to decide:

- Whether to lend you money
- How much they will lend you
- What interest rate they will charge you

A good credit rating means lenders see you as low risk and are more likely to lend to you at better rates.

A poor credit rating means lenders see you as high risk and may refuse to lend to you, or charge higher interest rates.

Week 4

Places to find help

Drugs and Alcohol
Talk to Frank

Childline

Week 5

Places to find help

Stepchange
Help with debt

Stonewall
Support for LBGTQAI+ teens

Week 6

Places to find help

Ben Kinsella Trust
Help with gang membership and violence

The NHS Website

Vocabulary

Income
Money you receive from work, investments, or other sources

Tax
Money paid to the government to fund public services

Personal Allowance
The amount you can earn before you start paying income tax (currently £12,570)

Tax Year
Runs from 6 April to 5 April the following year

PAYE (Pay As You Earn)
The system where tax is automatically taken from your wages by your employer

Tax Code
A code that tells your employer how much tax to deduct from your pay

National Insurance
A separate contribution paid alongside income tax to fund state benefits and pensions

RE

Week 1-2

Paganism

The pre-Christian worship of nature has had a strong presence in Cornwall since ancient times with many aspects of this traditional belief system still present today.

As one of the most important regions of Pagan traditions, Cornwall draws thousands of people every year to its shores as part of this belief system

Key Concept:
Nature Worship – The belief that the natural world is sacred and should be respected and protected.

Week 3-4

Cornish Myths and Legends

Cornwall is replete with myths and legends of heroes and monsters, passed down through the generations.
Some of these are rooted in history but have taken life of their own and become part of the folklore in these parts.

Key stories such as the Mermaid of Zennor, Giant Bolster and Cornish Piskies still have cultural relevance and help bring tourism and business to the region.

Key Concept:
Folklore – Traditional Cornish stories and beliefs about spirits, nature beings, and magical places.

Week 5-6

Cornish Festivals:

Cornwall has a rich history of festivals and celebrations.
From the contemporary to the ancient, these festivals bring communities together in celebration of the land and its people.

These festivals include Flora day in Helston, the Giant Bolster parade in St.Agnes and the May-Day celebrations in Padstow

Key Concept:
Seasonal Festivals – Pagan celebrations tied to the cycle of the year, such as Beltane (spring fertility) and Samhain (honouring the dead).

Week 7-8

Magic in Cornwall

Magic is understood as manipulation of natural forces and has a complicated and changing relationship with the Church.

Closely linked with Paganism and spiritualism, the presence of 'magic' in Cornwall has a long-standing tradition and continues to this day with over 200 businesses in Cornwall associated with spiritualism.

Key Concept:
Ritual – Ceremonial actions, such as offerings or seasonal celebrations, performed to honour deities, nature, or spirits.

Week 9-10

St. Piran

The patron Saint of Cornwall has a fascinating history and is a cultural icon for the region.

His story and influence have shaped how Cornish people understand their own identity and how the region understands Christianity.

Key Concept
Saint – A person recognised for living a life of exceptional holiness and faith, often believed to be close to God and worthy of honour or imitation.

Week 11-12

Christianity in Cornwall

Since its introduction to Cornwall in the 4th Century, Christianity has had a presence in our county however, it has taken a long time to become established in the way it is across much of the rest of England.

Cornwall is particularly connected with Methodism which was established in the 18th Century by John Wesley as its humble approach to faith appealed to the miners and fisherman of Cornwall.

Key Concept
Grace – The belief that God freely offers love, forgiveness, and salvation to everyone, emphasised in Methodism through the idea that all people can accept God's saving grace.

Vocabulary

Druidry – A modern spiritual movement inspired by the ancient Celtic druids, focusing on reverence for nature, seasonal rituals, and wisdom traditions.

Animism – The belief that spirits inhabit natural places and objects such as trees, rivers, stones, and landscapes.

The Goddess – A central divine feminine figure in many pagan beliefs, representing fertility, the earth, and cycles of life.

Standing Stones – Prehistoric stones erected in the landscape, often believed by modern pagans to have spiritual or ritual significance.

Sacred Sites – Natural or ancient places believed to hold spiritual power, such as stone circles, standing stones, and holy wells found across Cornwall.

Cathedral – Sacred Christian building, home of the 'cathedra' or, seat of the Bishop

Combined Science

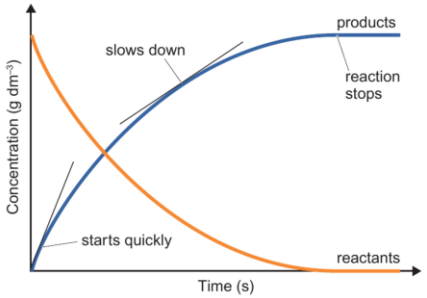
Week 1 Rates of reaction

Rate and Collision Theory

For a chemical reaction to happen:

- Reactants must collide.
- Particles 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:

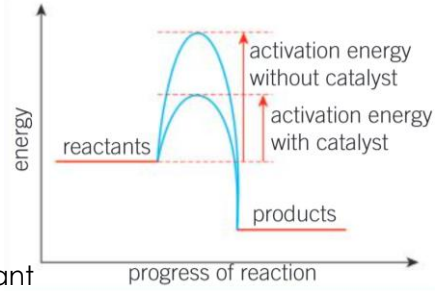
- Greater amount of reactant exposed leading to more frequent collisions.

Catalysts

Catalyst – a substance that increases the rate of a reaction by **decreasing the activation energy.**

Catalysts are not used up in a reaction.

An example is the use of **iron in the Haber process.**



Week 2 Rates of reaction

Reversible Reactions

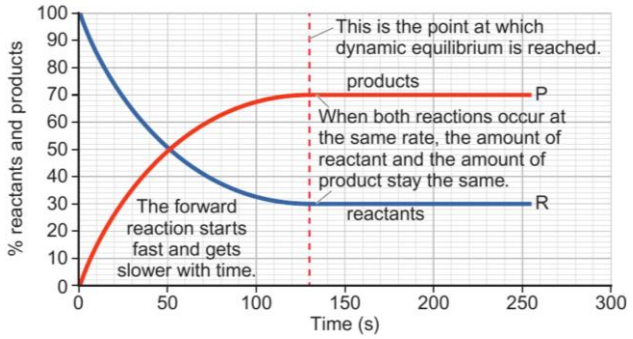
Reversible reactions are represented by the symbol ⇌.

e.g.

$$A + B \rightleftharpoons C + D$$

In a reversible reaction:

- In the **forward reaction**, A and B react to form C and D.
- In the **backward reaction**, C and D react to form A and B.
- If the forward reaction is **exothermic**, the backward reaction is **endothermic**.
- If the forward reaction is **endothermic**, the backward reaction is **exothermic.**



Condition change		Equilibrium shift
Temperature	Increases	Favours the endothermic direction
	Decreases	Favours the exothermic direction
Pressure	Increases	Favours the side with fewest molecules
	Decreases	Favours the side with most molecules
Concentration of reactants	Increases	Favours the forward reaction
	Decreases	Favours the backward reaction
Concentration of products	Increases	Favours the backward reaction
	Decreases	Favours the forward reaction

Vocabulary

Precipitation reaction – a reaction between 2 solutions in which an **insoluble solid** (the precipitate) forms.

Closed system - a reaction set up using equipment that will not allow any reactants or products to escape.

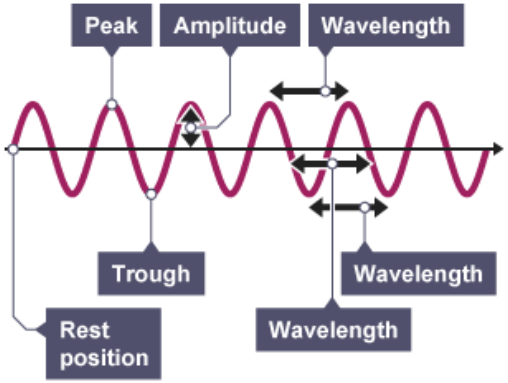
Dynamic Equilibrium – the state at which the rates of the forward and backward reactions are equal. The concentration of the reactants and products remain constant.

Le Chatelier's Principle - when a change in the conditions of a system at dynamic equilibrium occurs, the system responds to counteract the change.

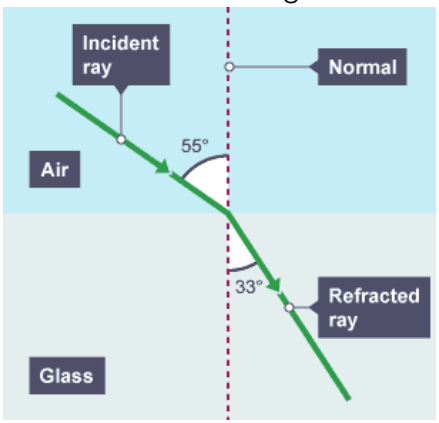
Combined Science

Week 3 Waves

Waves and the Electromagnetic spectrum



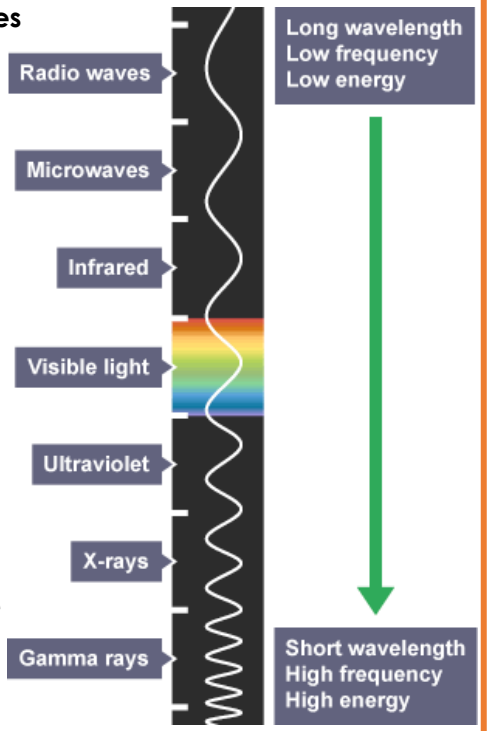
- At the **boundary** between two materials, a wave might be **absorbed, reflected or transmitted.**
- **Refraction** is a **change in the direction** of travel of an **electromagnetic wave** at a boundary as the wave **speed changes** in different media.
- **Sound** waves travel through **particle vibrations** in solids, liquids or gases.
- **Sound** waves travel **faster** through **more dense** media.



Week 4 Waves

Waves and the Electromagnetic spectrum

- Electromagnetic waves **travel faster in less dense** media.
- **Electromagnetic waves** form a continuous spectrum, with their **wavelength decreasing as their frequency increases**, radio waves having the longest wavelength and gamma rays the shortest.
- **Radiowaves** are produced by **oscillations in electrical circuits** and are used for communication and **broadcasting**. They can **also induce oscillations** in circuits.
- **Gamma rays** are produced by **changes in atomic nuclei.**
- Other electromagnetic waves are produced by changes **in the energies of electrons**.



Vocabulary

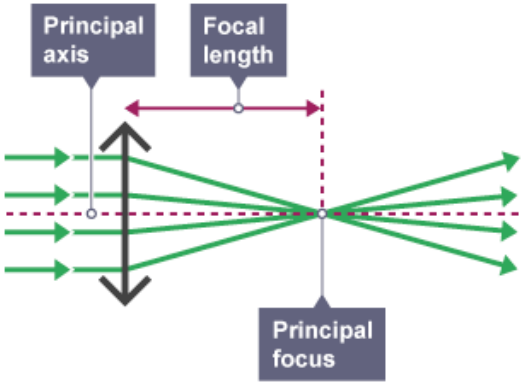
Waves transfer **energy** and **information**, but not matter.
Transverse waves oscillate **at right angles** to the direction of travel.
Longitudinal waves oscillate in the **parallel to** the direction of travel.
Wavelength (λ) is the distance between the same point on two adjacent waves.
Frequency is the number of complete waves passing a fixed point per second. The **unit** of frequency is the **Hertz** (Hz), where 1 wave per second = 1Hz.
The **period** of a wave is the time taken for **one complete wave** to pass a fixed point.

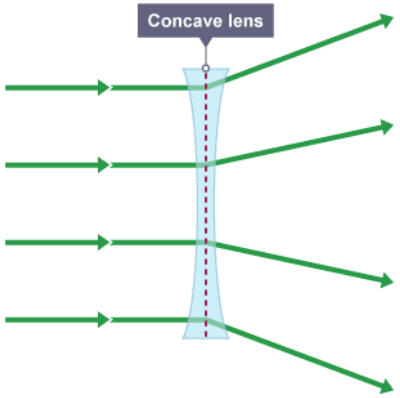
Triple Science

Waves extra content

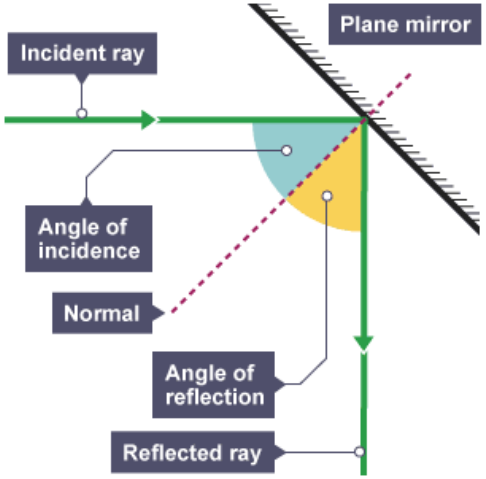
Lenses and visible light

Lenses **refract** light.

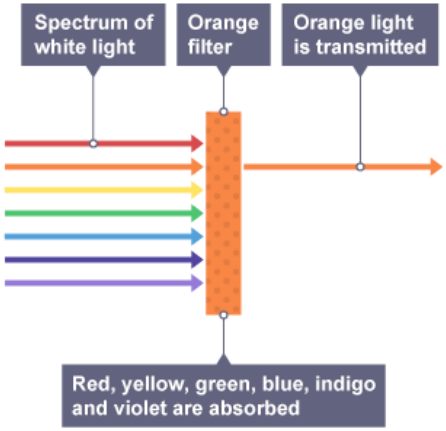




Mirrors **reflect** light.



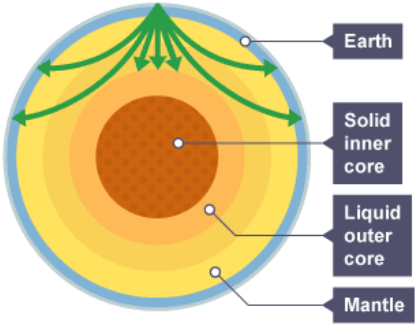
White light is made up of the colours of the rainbow.
Filters **absorb** differently coloured light but **transmit** the same colour.



Electromagnetic spectrum extra knowledge:

- All objects emit and absorb **infrared radiation.**
- A **perfect black body** absorbs **all the radiation** falling on it.
- The **intensity and wavelength** of **emissions** depends on the **temperature** of an object.
- A body in **thermal equilibrium** with its surroundings will have a **constant temperature** and is **emitting and absorbing radiation at the same rate.**
- **Microwaves** are used for **communication** and for **cooking food.**
- **Infrared** radiation is used for **heating, cooking food and thermal imaging.**
- **Visible** light is used in **fibre optic** communication.
- **Ultraviolet** radiation is used to detect **security inks** and in **tanning lamps.**
- **X rays** and **gamma** rays are both used in **medical imaging** and in **radiotherapy** treatment.

Seismic waves are produced by **earthquakes**. **P- waves** are **longitudinal** whilst **S-waves** are **transverse.**



Vocabulary

Convex lenses cause light to **converge** at the **principal focus.**
The **distance** from the **centre** of the lens to the **principal focus** is the **focal length.**
Concave lenses cause light to **diverge.**
Specular reflection occurs at **smooth** surfaces, the reflected light travelling in one direction only.
Diffuse reflection occurs at **rough** surfaces, the reflected light travelling in many directions.
Filters absorb some wavelengths of light and **transmit** those of the **same colour as the filter.**
The **colour** of opaque objects is determined by the **wavelengths of light they reflect**; other wavelengths are absorbed.

Combined Science

Week 5 Waves

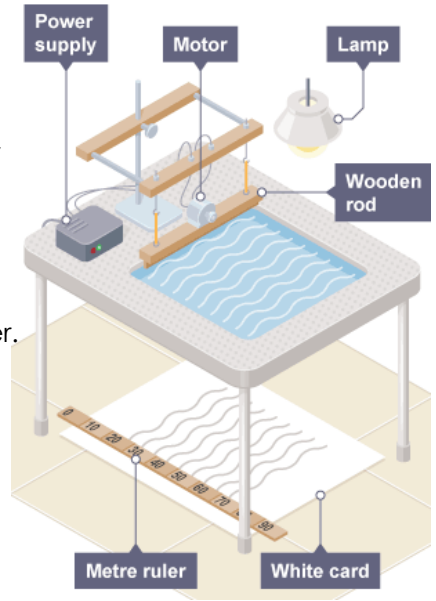
- Wave speed can be calculated using a **ripple tank.**

Aim of the experiment

- To measure the frequency, wavelength and speed of waves in a ripple tank.

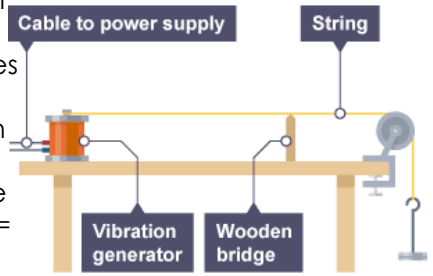
Method

1. Set up the ripple tank as shown in the diagram with about 5 cm depth of water.
2. Adjust the height of the wooden rod so that it just touches the surface of the water.
3. Switch on the lamp and motor and adjust until low frequency waves can be clearly observed.
4. Measure the length of a number of waves then divide by the number of waves to record wavelength. It may be more practical to take a photograph of the card with the ruler and take measurements from the still picture.
5. Count the number of waves passing a point in ten seconds then divide by ten to record frequency.
6. Calculate the speed of the waves using: wave speed = frequency × wavelength.

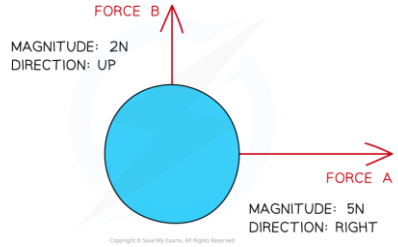


Standing waves

A string is attached to a vibration generator.
The wavelength of the standing wave produced can be measured.
The frequency is the frequency of the power supply.

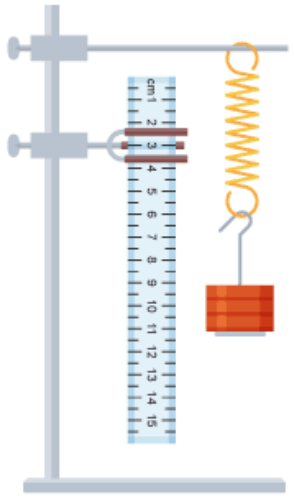


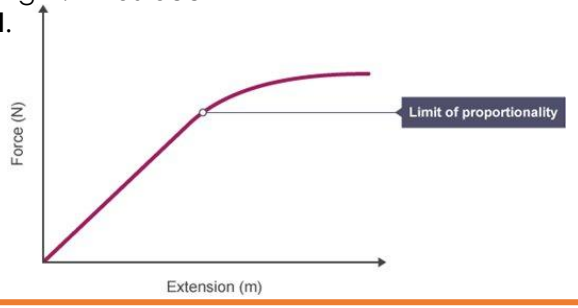
Week 6 Forces



- Free body diagrams show the forces acting on an object.
- The arrows show the **size and direction** of the forces.
- The **resultant force** is the sum of the horizontal or vertical forces acting.

- **Elastic** objects return to their **original shape** when any **force is removed**.
- **Inelasti**c objects can be **deformed**; they **do not** return to their original shape when force is removed.
- The **extension** of an elastic object (such as a spring) is **proportional to the force** applied to it. When it reaches its **limit of proportionality** it will **not** return to its original size.
- The **spring constant, k** can be found by calculating the **gradient of the linear part of a force-extension graph.**
- Beyond the **limit of proportionality** a stretched spring **will not** return to its original length. It has been **deformed**.





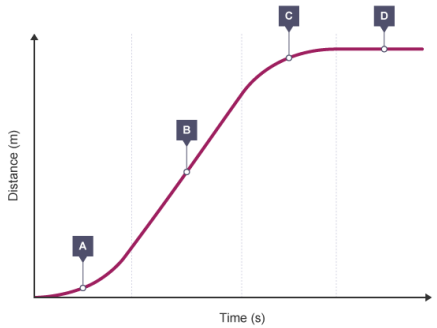
Vocabulary

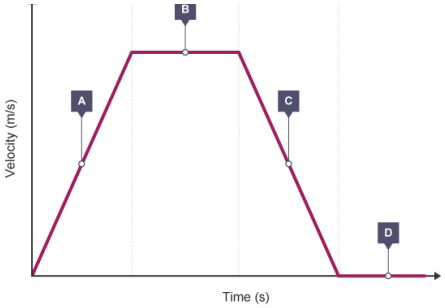
Contact forces act when objects **touch** (for example friction), whereas **non-contact forces** act **over a distance** (for example magnetism).
Mass is a measure of the amount of **matter** that makes up an object, measured in **Kg.**
Weight is the **force** (measured in **Newtons, N**) produced when a gravitational field (**symbol g**) acts on matter. On **Earth** the **value of g is 9.8 N/Kg.**
When the forces acting on an object are **balanced**, it is in **equilibrium**. The **resultant force** on the object is **zero**.
Work done is the amount of **energy** (in **Joules**) transferred when a **force moves an object**.

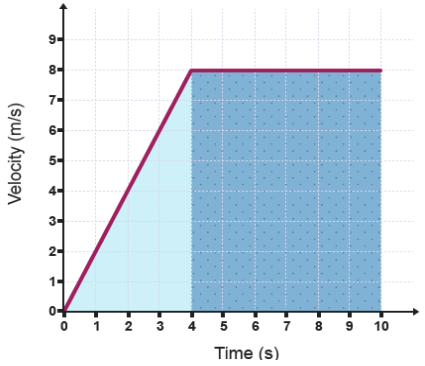
Combined Science

Week 7 Forces

- 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.**

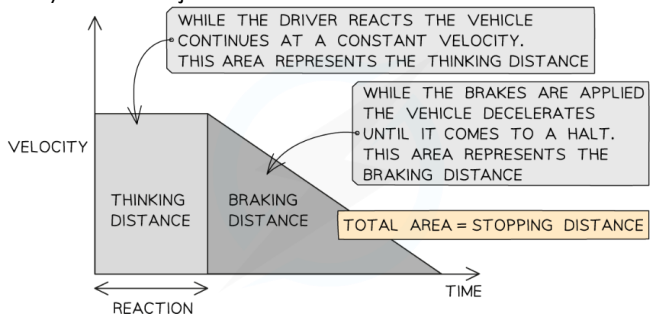


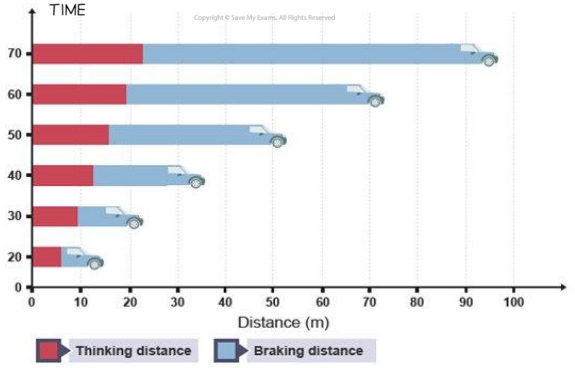




Week 8 Forces

- Acceleration is **inversely proportional** to mass. If the same force is applied to two masses, the smaller mass will accelerate more.
- The **stopping distance** of a vehicle is the distance travelled from the moment a driver **sees a hazard** to the moment it stops.
- **Stopping distance** is made up of **thinking distance** (the distance travelled while the driver reacts to the hazard) and **braking distance** (the distance travelled after the brakes are applied).
- Car seatbelts and airbags **improve safety by slowing the change** in momentum during an accident. A faster change in momentum involved larger forces.
- **Inertial mass** measures the difficulty in changing the velocity of an object.





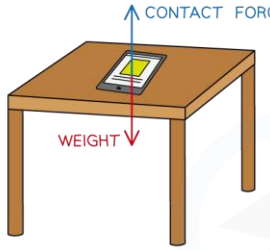
Vocabulary

The **stopping distance** of a vehicle is the distance travelled from the moment a driver **sees a hazard** to the moment it stops. **Stopping distance** is made up of **thinking distance** (the distance travelled while the driver reacts to the hazard) and **braking distance** (the distance travelled after the brakes are applied). **Momentum** is the tendency of a moving object to continue moving. **Momentum** is the product of the **mass and the velocity** of an object. In a **closed system**, where no external forces act, interacting objects maintain a **constant total momentum**. This is known as **conservation of momentum.**

Combined Science

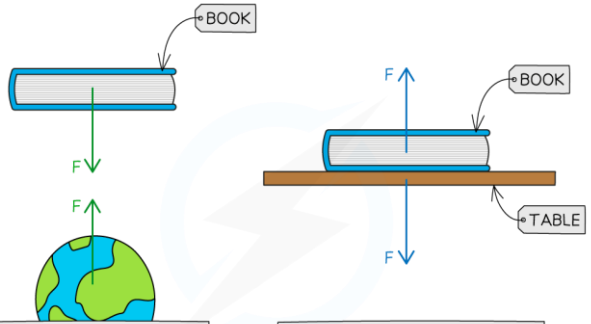
Week 9 Forces

According to **Newton's Third Law** of motion, whenever two objects interact, they exert **equal and opposite** forces on each other.
This is often worded as 'every action has an equal and opposite reaction'. However, it is important to remember that the forces act on two different objects at the same time.



A TABLET STAYS AT REST ON A DESK BECAUSE THE TWO FORCES ACTING ON IT ARE BALANCED

A COMET MOVES THROUGH INTERSTELLAR SPACE IN A STRAIGHT LINE AT CONSTANT SPEED BECAUSE THERE ARE NO RESULTANT FORCES ACTING ON IT

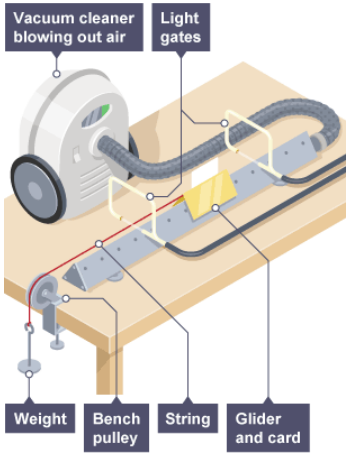


THE EARTH PULLS ON THE BOOK AND THE BOOK PULLS ON THE EARTH. THIS FORCE PAIR IS GRAVITATIONAL

THE TABLE PUSHES UPWARD ON THE BOOK AND THE BOOK PUSHES DOWNWARD ON THE TABLE. THIS IS A PAIR OF CONTACT FORCES

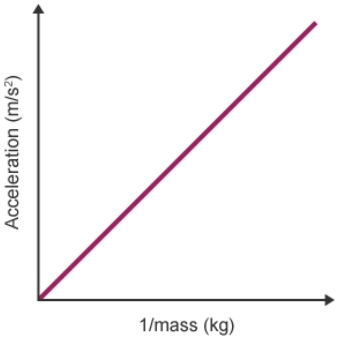
Week 10 Forces

Aim of the experiment:
To investigate the effect of **varying the force** on the **acceleration** of an object.



Method

1. Position an air track on a bench with a bench pulley at one end and two light gates above the track. Cut an interrupt card to a known length (such as 10 cm) and attach it to an air track glider.
2. Connect the glider to a hanging mass by a string the length of the air track passing over the bench pulley. Make sure the air track is level and that the card will pass through both gates before the mass strikes the floor.
3. Set the data logging software to calculate acceleration.
4. Add 5 × 20 g slotted masses (0.98 N of force) to the end of the string.
5. Release the glider, then record the weight and acceleration.
6. Repeat steps 4 and 5 two more times, and calculate a mean value for the acceleration.
7. Repeat steps 4 to 6, removing one of the slotted masses each time (giving forces of 0.78 N, 0.59 N, 0.39 N and 0.20 N



- Acceleration is **inversely proportional** to mass.
- This means that a graph of acceleration vs 1/mass will show **direct proportionality**

Vocabulary

According to **Newton's First Law** of motion, an object remains in the same state of motion unless a **resultant force** acts on it.
If the resultant force on an object is zero, this means:

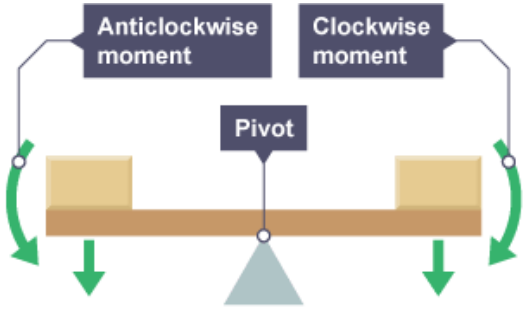
- a stationary object stays stationary
- a moving object continues to move at the same velocity

Newton's Second Law of motion can be described by this equation:
resultant force = mass × acceleration
This is when:

- force (*F*) is measured in newtons (N)
- mass (*m*) is measured in kilograms (kg)
- acceleration (*a*) is measured in metres per second squared (m/s²)

Triple Science

Forces extra content



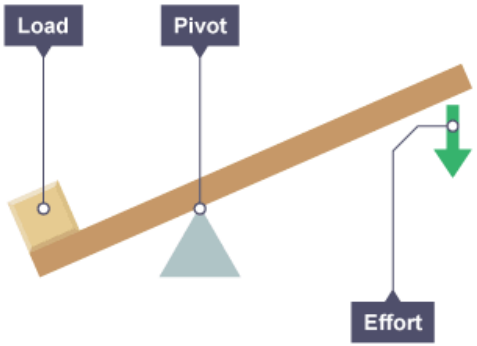
- A force or system of forces may cause an object to turn.
- A **moment** is the **turning effect** of a force.
- Moments act about a point in a **clockwise or anticlockwise** direction.
- The point chosen could be any point on the object, but the **pivot - also known as the fulcrum** - is usually chosen

The magnitude of a moment can be calculated using the equation:

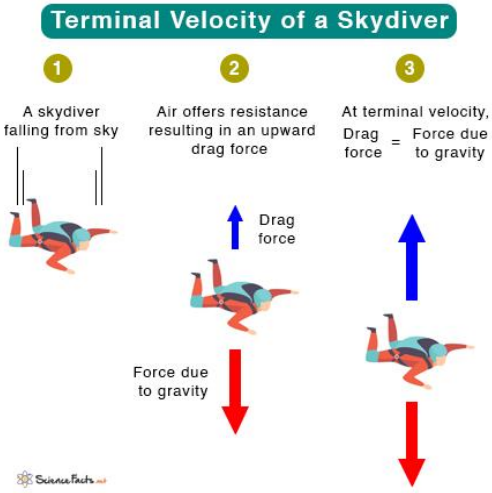
moment of a force = force × distance

This is when:

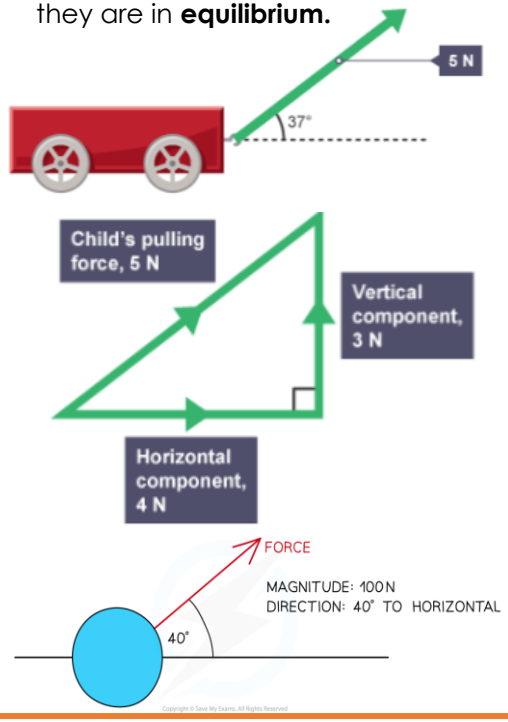
- moment (M) is measured in **newton-metres (Nm)**
- force (F) is measured in newtons (N)
- distance (d) is measured in metres (m)



- **Levers** make use of moments to **multiply the effort** to **increase the force on a load.**



- When forces act **at an angle** to an object they can be **resolved.**
- The force is divided into **two components at right angles** to each other.
- Using a **scale drawing** the lines representing the forces can be measured.
- The **angle** at which the force acts can be **measured.**
- If the forces acting form a **closed loop on a scale drawing** (as below) they are in **equilibrium.**



Vocabulary

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**.
Liquid pressure is produced by the column of liquid above a submerged object.
It can be calculated using: pressure = height of column × density of the liquid × gravitational field strength
Atmospheric pressure decreases as altitude increases.
This is because:

- the number of air molecules decreases
- the *weight* of the air decreases
- there is less air above a surface

Combined Science

Week 11 paper 1 review

Preparing for AQA paper 1 Biology Combined science.
Topic 1: Cell Biology
Topic 2: Organisation
Topic 3: Infection and response
Topic 4: Bioenergetics

Preparing for AQA paper 1 Chemistry Combined science.
Topic 1: Atomic structure and the Periodic table
Topic 2: Bonding, structure and the properties of matter
Topic 3: Quantitative chemistry
Topic 4: Chemical changes
Topic 5: Energy changes

Preparing for AQA paper 1 Physics Combined science.
Topic 1: Energy
Topis 2: Electricity
Topic 3: the particle model of matter
Topic 4: Atomic structure

Each paper carries 70 marks and you will have 1 hour and 15 minutes to complete each.
All of the above topics also apply to Triple science, but involve extra content within some topics.
Triple science papers carry 100 marks each and you will have 1 hour and 45 minutes to complete each.

Control variables – kept the same to achieve valid results
Independent variable – the variable you change; the variable being investigated
Dependent variable - the variable you measure; the variable affected by changes to the independent variable
Equipment – specific to the task; a balance for finding mass; a measuring cylinder for measuring volumes
Results/repeats - dependent variable data should be gathered at least three times to confirm reproducibility, anomalies removed and a mean calculated

Week 12 PPE review

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...

Vocabulary

When completing calculations:
In Physics, identify the key terms in the question and use them to identify the relevant equation on your equation sheet.
In Biology and Chemistry you will need to recall the equations if not given to you in the question.
Identify the variables – use 'give, give, want' to clarify what data you are calculating and what data you know.
Check for unit conversions – make sure the units are consistent. For example, if calculating density in Kg/m^3, the mass needs to be in Kg and the volume in m^3.
Show your working – a correct answer alone will only get 1 mark.

Spanish

Year 10 Spanish : The Twelve-Point Check

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

1. Time frame

at the weekends - los fines de semana

on Thursdays - los jueves

when I am on holiday- cuando estoy de vacaciones

when I am relaxing – cuando estoy descansando

if it is cold - si hace frío

when I was inMexico – cuando estaba en México

in summer - en verano

in winter - en invierno

2. 'I' form of a verb

I am – soy
I have – tengo
I go / I am going – voy
I want – quiero
I do - hago

I did – hice
I went - fui
I saw – vi
I liked – me gustó/ aron

I will go – iré
I will watch - veré

3. we/ he/ she verb form

he / she goes - va
we go – vamos

he/ she went - fue
we went – fuimos

It was – era / fue

he / she will go – irá
we go – iremos

it will be - será

there was - había

4. Negation

not / don't – no
nobody – nadie
no /none /not any – ningún/a

Examples:
There is nobody at home – ***No*** hay **nadie** en casa

I **didn't** buy **any** flowers – **no** compré **ninguna** flor

5. Conjunctions

that's to say – es decir

specifically – en concreto

despite – a pesar de

even so – aún así

above all – sobre todo

not only… but also – no solo … sino también

because – puesto que

6. Justified opinion

an advantage is that – una ventaja es que
a disadvantage is that – una desventaja es que

because – ya que

s/he says that – dice que
s/he told me that – me dijo que
according to – según
s/he would say that – diría que

7. Contrasting opinion

Examples:

My aunt likes Greece **because** it's very historic **even so** my cousin doesn't like it **because** <u>according to him</u> it is not interesting.

A mi tía le gusta Grecia **ya que** es muy histórica **aún así** a mi primo no le gusta **puesto que** <u>según él</u> no es interesante.

8. Comparative

more…than – más…que

as …as – tan…como

less..than – menos…que

better than – mejor que

worse than – peor que

Examples:

WhatsApp is **better than** SnapChat – WhatsApp es **mejor que** SnapChat

The hotel was **more** luxurious **than** the campsite – El hotel era **más** lujoso **que** el camping

9. Superlative phrase

what I like the most – lo que más me gusta

what I like the least – lo que menos me gusta

the best thing - lo mejor

the worst thing - lo peor

Examples:

What I like the most is sunbathing– **lo que más me gusta es** tomar el sol

What I like the least is travelling by boat – **lo que menos me gusta es** viajar en barco.

10. Additional tense

In fact yesterday … -

de hecho ayer…+ preterite tense

although when I was younger… -

aunque cuando era más joven… + imperfect tense

however tomorrow…

sin embargo mañana … + future tense

although when I am older …-

no obstante cuando sea mayor + pure future

11. WOW-phrase

If I were millionaire – Si fuera millonario/a + conditional (I would)

If I were more – si fuera más + conditional (I would)

If I had more – si tuviera más + conditional (I would)

I am thinking of – pienso + infinitive verb

I fancy (doing something) – tengo ganas de + infinitive verb

12. Proofread for ….

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

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

Describing the weather	
Hoy…	Today ...
hace sol	it's sunny
hace frío	it's cold
hace calor	it's hot
hace viento	it's windy
hace buen tiempo	it's good weather
hace mal tiempo	it's bad weather
llueve	it's raining
nieva	it's snowing
hay nubes	it's cloudy
Saying what the weather is like today: **Hoy hace sol y no** hace mal tiempo **pero** hay nubes.	

Days and dates	
Hoy es…	Today is...
lunes	Monday
martes	Tuesday
miércoles	Wednesday
jueves	Thursday
viernes	Friday
sábado	Saturday
domingo	Sunday
enero	January
febrero	February
marzo	March
abril	April
mayo	May
junio	June
julio	July
agosto	August
septiembre	September
octubre	October
noviembre	November
diciembre	December
Saying the date: **Hoy es** lunes, veintidós **de** septiembre **de** dos mil veinticinco.	

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

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

Spanish

Essentials!

Past	
fui	I went
vi	I saw/watched
fue/era	it was
había	there was/ were
lo pasé bomba	I had a blast
Future	
iré	I will go
veré	I will see/ watch
visitaré	I will visit
será	it will be
habrá	there will be
Describing what's happening	
está(n) hablando	he/she is (they are) talking
está(n) sonriendo	he/she is (they are) smiling
Present	
voy	I go
hay	there is / are
(no) me gusta	I like
(no) le gusta	s/he likes
Question words	
qué	what
cómo	how
por qué	why
dónde	where
adónde	where to
de dónde	from where
cuándo	when
cuánto/a	how much
cuántos/as	how many
cuál	which
quién	who
a qué hora	at what time

Revision for PPEs

Revision of School	
alumno	pupil
asignatura	subject
colegio	school
deberes	homework
director(a)	headteacher
escuela primaria	primary school
estudiante	student
examen	exam
instituto	secondary school
libro	book
regla	rule
fácil	easy
sacar buenas notas	to get good grades
sacar malas notas	to get bad grades
intercambio	exchange
presión	pressure
prueba	class test
enseñar	to teach
se me da bien (el español)	I am good at (Spanish)
se me da mal ...	I am bad at …

My personal revision list	

Interpersonal Relationships

Talking about relationships	
apoyar	**to support**
conocer	to meet/ know
dar consejos	to give advice
hacer reír	to make laugh
criticar	to criticize
juzgar	to judge
divertirse	to have fun
casarse	to get married
pelearse	to fight
parecerse	to seem
llevarse bien/mal	to get on well/ badly
Conjugating reflexive verbs	
me llevo	I get on
te llevas	you get on
se lleva	he/she gets on
nos llevamos	we get on
os lleváis	you(pl) get on
se llevan	they get on
Negation	
no … nada	not at all
no ... nunca	never
no … jamás	never ever
no ... ni ... ni	neither… nor…
no ... tampoco	neither
no ... ningún(a)	none
no ... nadie	no one

Spanish

Relationships

Talking about relationships	
concocer	to meet/to know
encontrar	to find
buscar	to search for
abrazar	to hug
chatear	to chat online
lograr	to achieve
discutir	to argue
desarrollar	to develop
compartir	to share
casarse	to get married
besar	to kiss
amar	to love
respetar	to respect
confiar	to trust/rely on
reírse	to laugh
novio/a	boyfriend/girlfriend
una cita	a date
un beso	a kiss
la pasión	passion
la confianza	confidence/trust
pareja	couple
el amor	love
hombre/mujer	man/woman
fiel	faithful
comportamiento	behaviour
la felicidad	happiness

Preparing for the Speaking PPE

Travelling	
Quisiera reservar	I want to reserve
alquilar	to rent
comprar	to buy
un billete de ida	a single ticket
un billete de ida y vuelta	a return ticket
¿A qué hora sale?	When does it leave?
salir	to leave/ depart
llegar	to arrive
salida	departure
llegada	arrival
la sala de espera	the waiting room
destino	destination
al lado de la ventana	next to the window
el horario	the timetable

Eating out	
una mesa	a table
para … personas	for.. People
a las…	at … o'clock
Quisiera sentarme…	I would like to sit…
en la terraza	on the terrace
Quisiera tomar…	I would like to have
tener sed	to be thirsty
tener hambre	to be hungry
la cuenta	the bill

In the shops	
¿Cuánto cuesta(n)?	How much does it/ they cost?
cuesta … euros	it costs ... Euros
¿Puedo probar…?	Can I try...?
La talla	The size
Quisiera cambiar	I would like to change
es/son demasiado…	it is/ they are too...

Preparing for the Speaking PPE

The role play – key verbs	
quisiera	I would like
pagar	to pay
sentarse	to sit
devolver	to return (an item)
volver	to return
quedarse/ alojarse	to stay
comprar	to buy
quejarse	to complain
cerrar	to close
abrir	to open
abre	it opens
cierra	it closes
empezar/ comenzar	to start
terminar/ acabar	to finish
empieza / comienza	it starts

The role play – key vocab	
tamaño / talla	size
intercambio escolar	school exchange
viaje	journey
almuerzo/ comida	lunch
cena	dinner
datos de contacto	contact details
fecha	date
paga	pay
número	Number
entrada	ticket (entry)
tarjeta	card
nombre	name
horario	timetable
vuelo	flight

Spanish – The speaking exam - Foundation

Tasks 1 and 2

Task 1: Read aloud (12 marks)
You will read a short text out loud.
The teacher will listen to check your pronunciation.

Afterwards, you will have a short, unprepared conversation about the topic of the text.

These questions are always:
¿Qué te gusta…? (relating to topic)
Always say: Me gusta (+ something related to the topic)
¿Qué piensas de…? (relating to topic)
Always answer this by saying an opinion even if you don't understand it!
E.g. ***me gusta mucho*** (I really like it)
or **No me gusta nada** (I don't like it at all)

In this part, you get 2 marks for a clear answer- one-word answers are not enough to get 2-marks

Task 2: Role Play (10 marks)
You will take part in a short role play.
It will be based on a real-life situation (e.g. shopping, asking for directions, at a café).
You will need to give short simple answers
In this part, you get 2 marks for a clear answer- one-word answers are not enough to get 2-marks

Task 3: Picture task (12 marks)

People	La gente
In the photo there are many people / three people / a man / a woman / three children	**En la foto hay** mucha gente / tres personas / un señor / una señora / tres niños
I think it is a family / a group of friends / students	**Pienso que es** una familia / un grupo de amigos / estudiantes
The person on the left / right **has** brown / blonde / grey / black **hair**	**La persona a la** izquierda / derecha **tiene el pelo** marrón / rubio / gris / negro
They are wearing jackets, uniform, summer / winter clothes	**Lleva(n)** chaqueta(s), uniforme, ropa de verano / invierno
Location	**Donde están**
It is / They are outside / inside	**Está(n)** fuera / dentro
It is / They are in the countryside / in the city / at home	**Está(n) en** el campo / en la ciudad / en casa
It is beautiful / ugly / modern / old / big / small	**Es** bonito / feo / moderno / antiguo / grande / pequeño
I think it is summer / winter **because** it is sunny / cold / hot / bad weather	**Pienso que es** verano / invierno **ya que** hace sol / frío / calor / mal tiempo
There is / There are (not)	**(No) hay**
Activity	**Haciendo**
They are talking / smiling / eating	**Está(n)** hablando / sonriendo / comiendo
However, they are **not** talking / smiling / eating	**Sin embargo**, **no está(n)** hablando / sonriendo / comiendo

Task 4: General conversation

You will then be asked 2 compulsory questions followed by conversation questions.
They are **always in the present tense** or use ***¿te gustaría?*** - answer this with **Sí, me gustaría** or **No me gustaría**.
You are often asked: ***¿Qué piensas de…?*** (What do you think of…?) Always answer this by saying an opinion even if you don't understand it! E.g. ***me gusta mucho*** (I really like it) or **No me gusta nada** (I don't like it at all)
The other is more general, e.g. what do you like, or where do you prefer to ..
How could you answer these questions? You don't need to say a lot. Just a clear simple sentence is enough to get 2/2

You will then have a conversation for an additional 3 minutes.
In this part of the exam, you want to **develop** your answers as much as possible.
You will need to speak accurately in the past present and future.
Use your non-negotiable verbs!!!

Past	
fui	I went
vi	I saw/watched
fue/era	it was
había	there was/ were
lo pasé bomba	I had a blast
Future	
voy a ir	I am going to go
voy a ver	I am going to see/ watch
voy a visitar	I am going to visit
va a ser	it is going to be
habrá	there will be
Present	
voy	I go
hay	there is / are
(no) me gusta	I like
(no) le gusta	s/he likes

Spanish – The speaking exam - Higher

Tasks 1 and 2

Task 1: Read aloud (12 marks)
You will read a short text out loud. The teacher will listen to check your pronunciation.

Afterwards, you will have a short, unprepared conversation about the topic of the text.

These questions are always:
1.¿Qué te gusta…? (relating to topic)
Always say: Me gusta (+ something related to the topic)
2.¿Qué piensas de…? / ¿Cuál es tu opinión de...? (relating to topic)
Always answer this by saying an opinion even if you don't understand it! E.g. ***me gusta mucho*** (I really like it) or **No me gusta nada** (I don't like it at all)

In this part, you get 2 marks for a clear answer- one-word answers are not enough to get 2-marks

Task 2: Role Play (10 marks)
You will take part in a short role play. It will be based on a real-life situation (e.g. shopping, asking for directions, at a café).
You will need to give short simple answers
You have to make three statements and ask two questions
In this part, you get 2 marks for a clear answer- one-word answers are not enough to get 2-marks

Task 3: Picture task (12 marks)

People	La gente
In the photo there are many people / three people / a man / a woman / three children	**En la foto hay** mucha gente / tres personas / un señor / una señora / tres niños
I think it is a family / a group of friends / students	**Pienso que es** una familia / un grupo de amigos / estudiantes
The person on the left / right **has** brown / blonde / grey / black **hair**	**La persona a la** izquierda / derecha **tiene el pelo** marrón / rubio / gris / negro
They are wearing jackets, uniform, summer / winter clothes	**Lleva(n)** chaqueta(s), uniforme, ropa de verano / invierno
Location	**Donde están**
It is / They are outside / inside	**Está(n)** fuera / dentro
It is / They are in the countryside / in the city / at home	**Está(n) en** el campo / en la ciudad / en casa
It is beautiful / ugly / modern / old / big / small	**Es** bonito / feo / moderno / antiguo / grande / pequeño
I think it is summer / winter **because** it is sunny / cold / hot / bad weather	**Pienso que es** verano / invierno **ya que** hace sol / frío / calor / mal tiempo
There is / There are (not)	**(No) hay**
Activity	**Haciendo**
They are talking / smiling / eating	**Está(n)** hablando / sonriendo / comiendo
However, they are **not** talking / smiling / eating	**Sin embargo**, **no está(n)** hablando / sonriendo / comiendo

Task 4: General conversation

You will then be asked 2 compulsory questions followed by conversation questions.
The first question is **always in the present tense**
You are often asked: ***¿Qué piensas de…?*** (What do you think of…?) Always answer this by saying an opinion even if you don't understand it! E.g. ***me gusta mucho*** (I really like it) or **No me gusta nada** (I don't like it at all)
The second question is always in the past tense
How could you answer these questions? You don't need to say a lot. Just a clear simple sentence is enough to get 2/2

You will then have a conversation for an additional 5 minutes.
In this part of the exam, you want to **develop** your answers as much as possible.
You will need to speak accurately in the past present and future.
Use your non-negotiable verbs!!!

Past	
fui	I went
vi	I saw/watched
fue/era	it was
había	there was/ were
lo pasé bomba	I had a blast
Future	
iré	I will go
veré	I will see/ watch
visitaré	I will visit
será	it will be
habrá	there will be
Present	
voy	I go
hay	there is / are
(no) me gusta	I like
(no) le gusta	s/he likes