Wadham School

A Church of England Community School

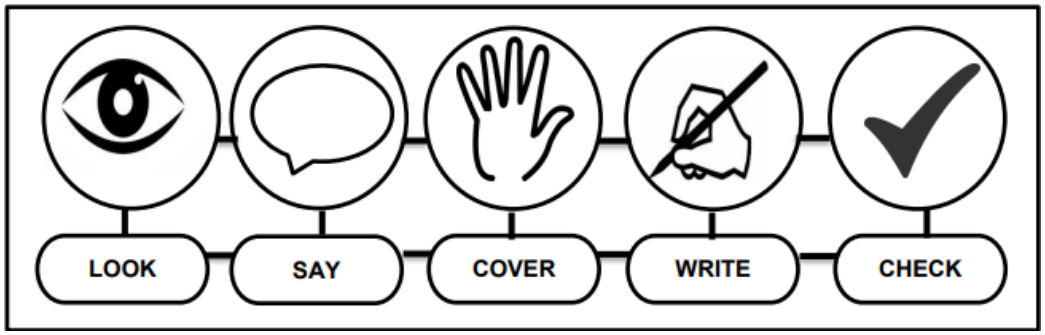
Knowledge Organisers
Year 10
Term 5 & 6
2024-2025

Name.....

Tutor group.....

"Life in all its fullness" John 10:10

Using Your Knowledge Organiser



Look-Say-Cover-Write-Check

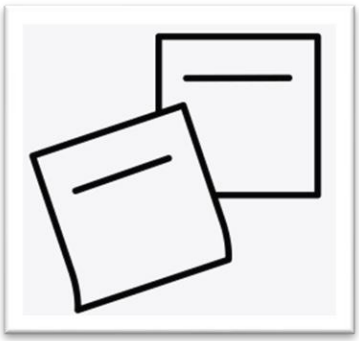
Retrieval practice using the look-say-cover-write-check technique, when done in regular small chunks, is one of the best ways you can learn relevant knowledge over time.

Working in Independent mode:

- Look at the first bullet point or sentence
- Read through it three to five times
- Cover
- Write it out exactly
- Remove and check what you wrote and tick if correct
- Repeat
- When you get it 100% right, move on to the next chunk of information

Flash Cards

Make flast cards with the definition on one side and key word on the other.

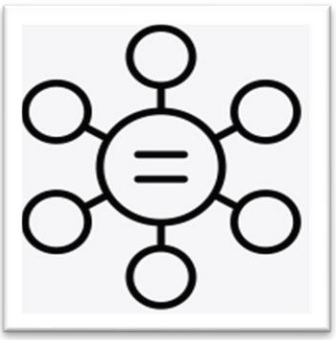


Self Quizing

Write quizzes with answers to test yourself in the future.

Mind maps

Create mind maps linking key information you need to remember.



Drawing from Observation

1. **Don't trace.** This shows minimal skill and teaches you very little.

2. **Draw from real objects rather than photographs.** You cannot simulate the changing light conditions, rich textures views from different angles as well as information from other senses. It results in more authentic drawings.

3. **Use grids, guidelines or rough forms** to get the proportions right before you add details.

4. **Look at what you are drawing.** The only way to record shape, proportion and detail accurately is to look at the source of information. Human memory does not suffice!

5. **Understand perspective.** Objects get smaller as they get further away.

6. **Use mark-making to convey surface quality and texture.** Strike the paper in different ways to create a variety of effects.

7. **Include a range of tones.** Observe where the light and dark areas are.

8. **Include/omit detail as necessary.** It can be disheartening when drawing very complex subjects like trees but it is not necessary to replicate every leaf or stick. Sometimes a certain area of a drawing is rendered in full, with other parts trailing away.

9. **Be wary of ellipses** (the oval shapes that are visible at the top of cylindrical objects. Frequently a 'trip up' point.

10. **Keep the outlines light.** Real objects do not have dark lines running around every edge.

Art, Craft and Design

Assessment objectives

AO1 Develop ideas through investigations, demonstrating critical understanding of sources

AO2 Refine work by exploring ideas, selecting and experimenting with
appropriate media, materials, techniques and processes

AO3 Record ideas, observations and insights relevant to intentions as
work progresses

AO4 Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language

A01
Critical studies:
Natural Forms
Andy Goldsworthy
Biomimicry

AO2/AO3/AO4

Developing practical skills:
Exploring cardboard manipulation and mod roc castings.

Exploration of materials in response to students chosen area of study.

Keywords:
Colour
Line
Form
Texture
Tone

Andy Goldsworthy

Areas of study:
- **Graphic communications**
- **Three Dimensional Design**
- **Textile Design**

AO1/A04 Analysis through critical studies

Context: When, where and why the work was created. Is the work characteristic of an artistic style, movement or time period?

Composition: Does the work communicate an action, narrative or story? Are there abstract elements? Has text been used? Does the title affect the way you interpret the work?

Shape and form: What is the overall size, shape and orientation of the artwork? Is there a dominant visual language within the shapes and forms? Are there any three-dimensional forms? How does this affect the work from different viewpoints?

Tone and contrast: Are there any reflective or transparent surfaces? Are shadows depicted in the work? What are the light sources within the artwork?

Colour: colour schemes? Contrasts? Colour palette?

Texture and pattern: Are there textural, tactile or surface qualities within the work? How are these created?

Materials and techniques: What materials have been used and why? Any specific properties? Whats sills or processes have been used?

Personal Response: What is your emotional response to the piece? How does it connect to your work and how are you going to be inspired by the artwork.

Beliefs and World Views

Topic 3: Ethical Issues in Human Rights

1	**Human Rights**	A right or freedom given to every person
2	**Examples:**	Right to: education, privacy, free speech, a fair wage, religion,
3	**Universal Declaration**	List of Human Rights created by the UN
4	**United Nations**	Group of nations working together to improve life around the world
5	**Equality**	Human rights are for all people, equally.

6	**Prejudice**	Judging someone as inferior based on race, gender, religion etc.
7	**Discrimination**	Treating someone differently due to prejudice
8	**Liberal Freedoms**	How free and open a country is
9	**Capitalism**	Social system focused on private wealth

10	**Censorship**	Government use of control over media
11	**Free Speech**	Right to able to promote your views and beliefs without restriction

12	**Racism**	Prejudice and Discrimination against people of different races or nationalities
13	**Black Lives Matter**	Modern group aiming to bring greater equality and challenge racism

14	**Democracy**	Government by the people through elected representatives
15	**Free Elections**	AN election free form interference and corruption

Topic 4: Inspiring Individuals

1	**Martin Luther King Jr.**	civil rights leader in the U.S. who advocated for racial equality through nonviolent protest.
2	**Nonviolent Resistance –**	Protesting unfair laws peacefully.
3	**Civil Rights**	The rights of individuals to equal treatment.
4	**Mahatma Gandhi**	Indian leader who led the struggle for India's independence from British rule using nonviolent methods.
5	**Ahimsa**	The principle of non-harming and nonviolence.
6	**Vivienne Westwood**	British fashion designer known for shaping punk fashion and challenging social norms.
7	**Haute Couture**	High-end, custom-made fashion.
8	**Mother Teresa**	Catholic nun who dedicated her life to helping the poor and sick, founding the Missionaries of Charity.
9	**Charity**	Helping those in need without expecting anything in return
10	**Compassion**	Deep concern for the suffering of others.
11	**Dietrich Bonhoeffer**	German pastor and theologian who opposed the Nazis and was executed for his resistance.
12	**Theology**	The study of religious beliefs and God.
13	**Martyr**	A person who dies for their beliefs.

Business

3:1 The Role of Human Resources

Human resources: are the people who so the work for a business. They are the employees.

Human resource plan
A plan detailing the workers a business will need i.e. how many, when, full time or part time and the skills they need

Functions
Different types of work that need to be done in a business i.e. Marketing, production and finance

Human resource planning - things for a business to think about

- The number of workers needed
- The number of workers who will work full-time or part-time
- The number who should be employed on zero-hour contracts
- The number of workers to hire as contractors as and when needed
- When workers will be needed - times of the day, days of the week
- Where the workers will work - finance, production, marketing
- The skills the workers will need to have
- The need to manage and supervise some of the workers
- The age, gender, ethnicity of the workers
- How many staff members the business can afford to employ

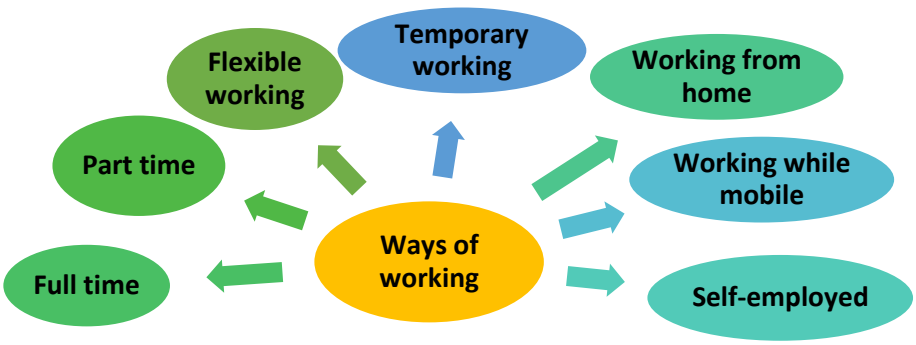
When might a business need to review its human resource needs?

- Workers may have to be replaced i.e. because they have left, retired or been promoted
- The business may grow or shrink so may need more or fewer workers
- The business may change its method of production so may need more or fewer skilled workers
- The business may decide to relocate so may have to recruit workers who live nearby - they could still take their current workforce
- The budget available for paying staff. If the budget is decreased they will need fewer staff and vice versa
- Changes in the law may affect employment i.e. Minimum wage which will impact on the budget

3:2 Organisational Structures

There are two different types of organisation structure:

Advantages of a tall structure	Advantages of a flat structure
▪ The span of control is likely to be narrower meaning that he does not have as many people to look after ▪ There will be plenty of opportunities for workers to gain promotion which will motivate them to work harder	▪Lines of communication are clear - communication will be quicker from top to bottom because there is not as many layers ▪ Fewer mistakes in communication will be made because there is fewer levels ▪ People at the bottom may be encouraged to share ideas ▪ wider span of control means tht managers can delegate work



Organisation chart
A diagram to show how workers are organised in a business
Authority
The power that one person has to make decisions
Chain of command
The order of authority from top to bottom
Span of control
The number of people a manager is in charge of
Delegation
Giving someone else permission to make a decision

Business

Communication is:
The transmission of a message from a sender to a receiver

Written communication
Communication by written words i.e. Text, email, letters
Verbal communication
Communication by speaking ie. telephone or meetings
Formal communication
Communication using the official channels within a business
Informal communication
Communication outside the official channels within business

3:3 Communication in Business

	Pros	Cons
Verbal	• Can check for understanding • Can emphasise points through tone and body language • Can use diagrams and pictures to help explain	• If lots of people not all may understand • Receiver may disrupt the message if they don't like it • No permanent record of the message • Some forms can be expensive
Written	• There is a record of the message • Receiver can re-read the message multiple times • Can be sent to multiple people at the same time • Can avoid confrontation	• Cant check immediately if the message was understood • The success depends on the clarity of the message • Risk of computer viruses •Emails could go to spam
Social media	• Huge numbers of users • Info can be updated regularly • Visual images can help explain • Can be cheaper to advertise • Customers can be involved by allowing feedback	• There is a cost in managing and updating the information • Can be difficult to measure the effectiveness of the business' use of social media

3:4 Recruitment and Selection

Businesses can recruit internally (from within the business i.e. promote an existing employee) or externally (someone from outside the business)

Methods of advertising

Businesses need to think about the costs of advertising for a job but can use the following:

- Websites
- Social media
- Local newspapers
- National newspapers
- Specialist magazines i.e. horse riding
- Job centres
- Word of mouth

Methods of selection

Business can use a range of methods to select the best candidate:

- Letter of application
- Application form
- CV
- Interviews
- Tests and presentations
- Group activities
- References

Selection
The process of choosing between applicants for a job
Job description
Lists the main duties, tasks and responsibilities of a worker
Person specification
Lists the qualities, qualifications and knowledge that a person should have
Interviews
Sessions where the people making the appointment ask questions of the applicants

Design and Technology -
Mechanisms and electronics

1.Types of motion	• Rotary • Reciprocal • Oscillating • Linear
2.Types of mechanism	• Cam and follower • Rack and pinion • Gear train • Spring • Linkages • Levers • Pulleys and belts
3. Input devices	• Temperature sensor • Light sensor • Switch
4. Output devices	• Speaker • Buzzer • Motor • Light
5. Microcontrollers	A programmable electric component
6. Solder	Solder is used a connect the wires in a circuit to eachother.
7. Hardwood	Hardwoods come from **deciduous** trees, which have large flat leaves that fall in the autumn.
8. Softwood	Softwoods come from **coniferous** trees. These often have pines or needles, and they stay evergreen all year round - they do not lose leaves in the autumn.

AQA English Language – Paper 1

Question Guidance (do the paper backwards):

Q5 – use the 'Here > There > Then > Now' frame. Old Person Attic story example:

Here I am in our creaky old attic watching the motes of dust spark through the shivering light. It is evening outside and I can hear the birds prattling on with their warbling lullabies. Golden arcs of the aging sun lance through our small grimy window illuminating the detritus of our lives. The musty scent of aged photo albums almost breathe out their last willing themselves to be witnessed. It is stuffy here but comforting, like being held by you.

There is a painting, one of yours, I never really understood your work but the light falls on it now and…

Then, memories rush back of our time together and it slams into me like a dark ocean cascading upon my head. When we met, the idiotic beautiful accident as we both got on the wrong bus. Our first dance under melting moonlight. The long walks over misty moors. Your laugh that spread through any room like a song. Our wedding day with the fierce rain and your drunken collapsing uncle. The kids filling this old house with young life and love. They flew the nest, you always felt that loss harder than I. Holding your soft frail hand whilst you fiddled with my wedding ring. That glint of amusement in your eye that I was the one crying.

Now I sit here in this attic, alone. I can still see the tubes tangling from your skin feeding into machines monitoring your fragile heart. The endless trips back and forth to hospital. The not knowing and then the horrible certainty. Every second was everything yet it slips away like the tide and all I am left with are dry sobs. The light is fading and falls away from your painting but outside I can still hear evening birdsong and the last embers of the dying sun ripple across the sky. You filled this world with so much beauty.

I miss you my love.

Q4 (20 marks, 25m) – identify the key bits of the statement, agree then add and analyse (use quotations and analyse language and structure repeatedly):

Your evaluation – consider the statement and other interpretations (although, whilst, despite, etc.)
Neat evidence – use precise quotations
Additional – use more precise quotations (at least 6)
Language – analyse word choice, imagery and other methods
Structure and form – analyse perspective, pace, tone and other methods
Intentions of writer – consider WHY the writer wrote it and the impact upon readers

Q3 (8 marks, 10m) – structural methods (start-middle-end):

Start-middle-end
Neat evidence – use precise quotations
Structure and form – analyse perspective, pace, tone and other methods such as repetition, motif, cliffhanger, contrast, development, syntax, etc.

Q2 (8 marks, 10m) – language methods (imagery, word choice and other methods):

Imagery – always analyse this.
Neat evidence – as precise as possible – focus on word choices etc.
Additional – get a wide range of quotations
Language – analyse word choices, imagery and other methods such as metaphor, simile, personification, oxymoron, emotive language and syntax.

Q1 (4 marks, 5m) - identify 4 things.

AQA English Language – Paper 2

Question Guidance (do the paper backwards):
Q5 – use the Presently, Personally, Publicly, Predictably frame to structure your response:
[Form feature: IF Article: headline & subheading
IF Letter: Dear Mr ???,

I am writing to you about…
IF Speech: 'Today I am here to talk to you about…']
Presently, we are like mindless addicts; preferring the heady rush of flippant fools and funny failures. Today's society is so immersed in the blizzard of triviality that [link to topic].

Personally, my own children, Edward and Alice, [link to topic]. It is easy to dismiss this as unimportant but the noxious influence of [topic] is as pervasive as it is dangerous.

Publicly, they (like so many their age) have [link to topic]. According to figures from Exeter University, over 75% of people [link to topic]. Professor Hill, who co-authored the report, stated: 'The issue with [topic] is a different kind of epidemic; causing untold damage. It is arguably worse because there is no vaccine.'

We must stop this!

Predictably, some people will… [consider opposing view] but this only perpetuates the problem. We have two options: continue with this intolerable situation or move forward to a future where we [positive link to topic]. Which would you rather choose?
[Form feature:
IF Article: do not add anything - end on the rhetorical question.
IF Letter: Yours sincerely,
[Your Name]
IF Speech: Thank you for listening.]

Q4 (16 marks, 20m) - compare writer's perspectives
Make links
Neat evidence – use precise quotations
Additional – link quotations across both sources
Language – analyse imagery, word choice and other methods
Structure and form – analyse perspective, tone and other methods
Intentions of writer – consider why it has been written and the impact on the reader
Your evaluation – consider which text demonstrates more or less of something

Q3 (12 marks, 15m) - analyse language
Imagery – always analyse this.
Neat evidence – as precise as possible – focus on word choices etc.
Additional – get a wide range of quotations
Language – analyse word choices, imagery and other methods such as metaphor, simile, personification, oxymoron, emotive language and syntax.

Q2 (8 marks, 10m) - summarise an idea across both texts
Make links, use neat evidence (borrow from Q4) and infer considering impact on reader.

Q1 (4 marks, 5m) - identify 4 true statements from a list of 8.

AQA English Literature – A Christmas Carol

Prepared Introduction (learn this):

Dickens presents _____ to criticise misanthropy in Victorian London. As a philanthropist, Dickens uses his didactic allegorical novella to demonstrate the importance of kindness. Dickens crafts this through Scrooge's redemption arc as he progresses from a 'covetous old sinner' to being 'quite a baby' symbolising his rebirth.

Make sure that you replace _____ with the focus of the question.

Key quotations to learn – prioritise the first 3 pairs.		
1	**'solitary as an <u>oyster</u>'**	**'his own <u>heart</u> laughed'**
2	**'I wear the <u>chain</u> I forged in life'**	**'light as a <u>feather</u>'**
3	**'decrease the surplus <u>population</u>'**	**'are there no <u>prisons</u>?'**
4	**'biting** weather' 'freezing fog'	**'Golden** sunlight; Heavenly sky'
5	'gruff old **bell** was always peeping slily down at Scrooge'	'merry **bells**'
6	**'Want** is keenly felt, and **Abundance** rejoices.'	**'Ignorance'** & **'Want'** 'Beware … on his brow … **Doom'**
7	'Another idol has displaced me … a **golden** one'	'as good as **gold'**
8	**'tight-fisted** hand at the grindstone'	'apoplectic **opulence'**
9	'If these **shadows** remain unaltered by the Future, the child will die.'	'to Tiny Tim, who did not die, he was a **second father.**'
10	'a strange figure—like a **<u>child</u>**: yet not so like a child as like an **<u>old</u>** man'	'a **<u>jolly</u>** Giant, glorious to see; who bore a glowing torch…Girded round its middle was an antique scabbard; but no sword was in it'	'a solemn **<u>Phantom</u>**, draped and hooded, coming, like a **<u>mist</u>** along the ground, towards him.'

AQA English Literature – An Inspector Calls

Prepared introduction (learn this):

Priestley presents _____ to criticise capitalist culture within Edwardian England. As a socialist, Priestley wanted to inspire the younger generation in his WW2 audience to progress to a fairer and more equal society. Priestley crafts this through the cyclical structure to subvert the murder mystery genre so that rather than believing 'a man has to mind his own business' we realise that 'we are all responsible for each other'.

Make sure that you replace _____ with the focus of the question.

Key quotations to learn – prioritise the first 3 pairs.

1.	**'Burnt** her inside out'	**'Fire** and blood and anguish'
2.	**'unsinkable**, absolutely unsinkable'	'we're all in it – up to the **neck'**
3.	'obscene fat **carcass'**	'We are members of one **body'**
4.	'A **chain** of events'	'He's giving us the **rope** - so that we'll hang ourselves'
5.	'I'd give **thousands** - yes, thousands'	**'Millions** and millions and millions of Eva Smiths'
6.	'Look – **mummy** – isn't it a beauty?' / 'I'm sorry, **daddy'**	'Don't interfere, please, **father'** / **'Mother** - stop - stop!'
7.	'(with sharp sarcasm)...You were the wonderful **Fairy Prince**.'	'young and **fresh** and charming''
8.	'Girls of that **class**-' / 'Girls of that **sort'**	'You mustn't try to build up a kind of **wall** between us and that girl'
9.	'she was pretty and a good **sport'**	'Just used her…as if she was an **animal**, a thing, not a person'
10.	'it's better to ask for the **earth** than to take it.'	'To ask some – **questions'**

English Literature

ANALYSIS	
Argument	The writer presents [topic] to…
Neat evidence	The phrase '…' shows…
Additional	Additionally, the phrase '…' adds to…
Language	The imagery suggests…
Your evaluation	A reader may also understand...
Structure and form	Structurally, the... tone emphasises...
Intentions of writer	The writer's intentions may have been to…
Society and context	Contextually, the writer may be reflecting…

POETIC POEMS	Definition
Personification	Giving something human characteristics
Oxymoron	Contradictory phrase
Enjambment	Continuing a line of poetry
Tone	Mood or atmosphere
Imagery	Descriptive language
Contrast	Very different things put together
Perspective	Viewpoint
Onomatopoeia	Words that sound like the thing
Extended	Carrying on
Metaphor	Saying something is something else
Simile	Saying something is like something else

A PERSUADER	Definition
Alliteration	Repeating same sound at starts of words
Points	Clear reasons to add to your argument
Exaggeration	Overstating
Repetition	Saying the same thing over and over
Statistics	Using numbers to represent facts
Unique ideas	Unusual or ways of approaching an issue
Anecdote	A short story used to make a point
Direct address	Talking to the audience
Emotive language	Appealing to people's feelings
Rhetorical questions	Questions not intended to be answered.

A Christmas Carol

Key words	Definition
Miser	Someone who hoards money (Scrooge)
Misanthrope	Someone who hates people (also Scrooge)
Philanthropist	Someone who loves people
Avarice	Greed
Moralising	Teaching good and bad
Supernatural	Ghosts and unexplainable phenomena
Paradox	Contradictory things
Patriarchy	Male dominated society
Idolatry	Worshiping something
Benevolence	Goodness
Prosperity	Becoming rich
Idealistic	Seeing things as perfect
Didactic	Teaching
Allegory	A story that teaches
Morbid	Relating to death
Arrogance	Believing yourself to be better than others
Immorality	Not doing the right thing
Anagnorisis	A revelation or moment of truth
Peripeteia	A sudden change in fortune
Redemption	Becoming good.

AQA English Literature – Power and Conflict Poetry

Learn Exposure and Poppies in detail:

Title: Exposure - Wilfred Owen (1893-1918)
Overview: A soldier is in the trenches suffering from the cold. Nothing happens but the soldiers go home and then just go back to war.
Quotations:
'Merciless iced east winds that **knive** us' - personification
'But **nothing** happens' - refrain
'Slowly our **ghosts** drag home' - metaphor
Structure and form:
Rhyme scheme throughout (slant rhymes)
Collective first person ('our')
Shift in tone - from boredom, to despair to bitterness.
Context:
As a soldier he wanted to 'expose' the true horrors of war. He died a week before Armistice day. He was opposed to war despite being a soldier and returning to the front line.

Title: Poppies - Jane Weir (1963-present)
Overview: Mother sending off her child (probably to war) and remembering them.
Quotations:
"**spasms** of paper red, disrupting a **blockade**" - imagery (word choice - semantic field of injury and war).
"a single **dove**" - symbolises hope and peace + "The dove **pulled freely** against the sky / an ornamental stitch" - oxymoronic metaphor
"Leaned against it like a **wishbone**." - (memorial) - simile
Features:
Perspective is 1st person (mother addressing child) - a persona
Enjambment and caesuras throughout.
Time shifts both specifically and generally.
Context:
Could be inspired by Wilfred Owen's mother receiving news of his death around Armistice day and the impact of poppies as a symbol of remembrance. Weir also uses a lot of sensory language possibly due to having run a textiles business.

Know the rest of the poems:

Poet	Title
Percy Bysshe Shelley	Ozymandias
William Blake	London
William Wordsworth	Extract from The Prelude
Robert Browning	My Last Duchess
Alfred Lord Tennyson	The Charge of the Light Brigade
Wilfred Owen	**Exposure**
Seamus Heaney	Storm on the Island

Poet	Title
Ted Hughes	Bayonet Charge
Simon Armitage	Remains
Jane Weir	**Poppies**
Carol Ann Duffy	War Photographer
Imtiaz Dharker	Tissue
Carol Rumens	The Emigrée
John Agard	Checking Out Me History
Beatrice Garland	Kamikaze

Film Studies

Film Studies – Timeline of key developments in film and film technology	
THE EMERGENCE OF WIDESCREEN TECHNOLOGIES	
1950s	Emergence of widescreen and 3D technologies as a response to the growth of television and the corresponding decline in cinema attendance.
1952	Cinerama is unveiled by film bosses who decide that size really does matter. Unfortunately, they soon find that huge pictures mean huge costs. Cinerama eventually becomes obsolete.
Late 1952	The Golden era of 3D began with the release of the first colour stereoscopic feature, 'Bwana Devil' produced by Arch Oboler.
Late 1950s	Although not the first examples, lightweight, portable cameras were produced suitable for hand-held use (which had an immediate impact on documentary filmmaking and were used by a new generation of directors in France – French 'new wave' directors).
1970s	Steadicam technology developed by cinematographer Garrett Brown (a stabilising device for hand-held cameras to keep the image 'steady' whilst retaining fluid movement). First introduced in 1975 and was first used in the 1976 film 'Bound for Glory'.
1990s onwards	More widespread use of computer-generated imagery resulted in a move away from filmed 'special effects' to visual effects created digitally in post-production to the computer-generated imaging (CGI) of characters in films.
THE MOVE INTO MODERN CINEMA	
1995	First CG (computer generated) feature length cartoon – 'Toy Story' directed by Jon Lasseter for Pixar Animation Studios.
2000s	Technology available to ordinary people makes significant strides due to developments with lightweight cameras and mobile phone technology, seeing a rise in 'citizen filmmaking'.
2007	Netflix – the first legal streaming service for film and TV is launched.
2010s	Successful feature length films shot entirely on I-phones now released – notable releases include 'Tangerine' (Baker, 2015) and 'Unsane' (Soderberg, 2018).
2017	Film and TV streaming and download sites such as Netflix, Sky, Amazon and Apple overtake DVD sales for the first time increasing by 23% in one year.
2018	'Avengers: Infinity War' becomes the first Hollywood film to ever be shot entirely with IMAX cameras.

Film Studies

Film Studies – Timeline of key developments in film and film technology	
THE EMERGENCE OF WIDESCREEN TECHNOLOGIES	
1950s	Emergence of widescreen and 3D technologies as a response to the growth of television and the corresponding decline in cinema attendance.
1952	Cinerama is unveiled by film bosses who decide that size really does matter. Unfortunately, they soon find that huge pictures mean huge costs. Cinerama eventually becomes obsolete.
Late 1952	The Golden era of 3D began with the release of the first colour stereoscopic feature, 'Bwana Devil' produced by Arch Oboler.
Late 1950s	Although not the first examples, lightweight, portable cameras were produced suitable for hand-held use (which had an immediate impact on documentary filmmaking and were used by a new generation of directors in France – French 'new wave' directors).
1970s	Steadicam technology developed by cinematographer Garrett Brown (a stabilising device for hand-held cameras to keep the image 'steady' whilst retaining fluid movement). First introduced in 1975 and was first used in the 1976 film 'Bound for Glory'.
1990s onwards	More widespread use of computer-generated imagery resulted in a move away from filmed 'special effects' to visual effects created digitally in post-production to the computer-generated imaging (CGI) of characters in films.
THE MOVE INTO MODERN CINEMA	
1995	First CG (computer generated) feature length cartoon – 'Toy Story' directed by Jon Lasseter for Pixar Animation Studios.
2000s	Technology available to ordinary people makes significant strides due to developments with lightweight cameras and mobile phone technology, seeing a rise in 'citizen filmmaking'.
2007	Netflix – the first legal streaming service for film and TV is launched.
2010s	Successful feature length films shot entirely on I-phones now released – notable releases include 'Tangerine' (Baker, 2015) and 'Unsane' (Soderberg, 2018).
2017	Film and TV streaming and download sites such as Netflix, Sky, Amazon and Apple overtake DVD sales for the first time increasing by 23% in one year.
2018	'Avengers: Infinity War' becomes the first Hollywood film to ever be shot entirely with IMAX cameras.

Good food hygiene and safety practices

Good food hygiene practices are necessary in order to produce, make and supply food that is safe to eat. This involves more than just being clean. A simple way to remember is the **4Cs**:

- **cleaning;**
- **cooking;**
- **chilling;**
- **cross-contamination.**

Cleaning

Cleaning the kitchen is important to keep food safe and prevent bacteria from spreading. 'Clean as you go' means people make sure that they clean the area and utensils they have been working in or with, as they prepare food. This avoids build-up of mess and leads to better hygienic conditions. Areas which need particular attention are:

- surfaces that come into contact with food, e.g. chopping boards, utensils;

Cleaning – personal hygiene and getting ready to cook

Good personal hygiene is essential to reduce the risk of food poisoning.

- **Hands**: Thoroughly wash and dry hands before and after touching food and regularly throughout cooking.
- **Clothing**: Clean clothing should be worn. Long sleeves should be rolled up and a clean apron or chef's jacket worn over outside clothes. Enclosed, non-slip, shoes should be worn in the kitchen.
- **Jewellery**: All jewellery, including a watch, should be removed (piercings should be covered if they cannot be removed).
- **Skin**: Cuts and wounds should be covered with a coloured, waterproof dressing. The plasters are often blue in colour so they can be easily identified if they fall into food.
- **Face**: Do not cough or spit near or over food, taste food with fingers, bite nails, eat, chew or smoke, touch nose, or remove earrings.

Cooking

To reduce the risk of food poisoning, hot food must be served steaming hot, that is above **63°C**.

- Bacteria will begin to die when the temperature rises above **60°C**.
- Some foods change colour when they are cooked.
- Cooking food thoroughly to a minimum core temperature of **75°C** will ensure most bacteria is destroyed.
- When cooking burgers, sausages, portions of pork and chicken, there should be no pink meat. They should also be steaming hot inside and the juices should run clear when cooked.
- Steak or other cuts of beef or lamb can be eaten less well done as long as they have been properly sealed. Sealing the meat will kill any bacteria on the outside.
- Leftovers should be cooled as quickly as possible within two hours and then stored in the fridge below **5°C**. When leftovers are re-heated, they need to be steaming hot. Leftovers should not be re-heated more than once and should be used within 48 hours from when it was made (24 hours for rice dishes).

Cross-contamination

The process by which bacteria are transferred from one area to another is known as **cross-contamination**. The main carriers of bacteria and causes of cross contamination are:

- humans;
- rubbish;
- pests and other animals;
- food, e.g. raw meat or poultry.

Cross contamination – raw meat

- Keep raw meat separate from ready-to-eat food.
- Do not let raw meat drip onto other food.
- Never use the same chopping board for raw meat and ready-to-eat food without washing the board (and knife) thoroughly in between. Ideally use a red board.
- Do not wash meat before cooking it.

Chilling

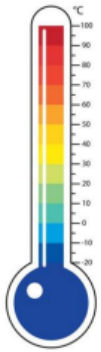
The temperature between **5°C– 63°C** is known as the 'danger-zone'. Bacteria will multiply most rapidly within this temperature range. Reducing the temperature below **5°C** slows the reproduction of microorganisms. Cold temperatures do not kill bacteria.

High-risk food, such as such as meat, fish and dairy products plus opened bottles, jars or tubes, should be stored below 5°C. Eggs should be stored in a cool, dry place. Ideally, eggs should be stored in the fridge.

Temperatures to remember

To reduce the risk of food poisoning, good temperature control is vital:

- 5-63°C – the danger zone where bacteria grow most readily.
- 37°C – body temperature, optimum temperature for bacterial growth.
- 8°C – maximum legal temperature for cold food, i.e. your fridge.
- 5°C (or below) – the ideal temperature your fridge should be.
- 75°C – if cooking food, the core temperature, middle or thickest part should reach at least this temperature.
- 75°C – if reheating food, it should reach at least this temperature. In Scotland food should reach at least 82°C.



Safe use of a food probe

Digital probes can be used to check the temperature of food. To use a food probe:

- clean with a disinfectant wipe before and after use;
- insert the probe into the core (centre) or the thickest part of the food;
- do not touch the bottom of the pan or cooking dish.

Key terms

Best-before-date: Relates to the quality of the food. Food may still be eaten beyond this date.

Cross-contamination: The transfer of bacteria from one source to another. Usually raw food to ready-to-eat food but can also be the transfer of bacteria from unclean hands, equipment, cloths or pests. Can also relate to allergens.

Danger zone: Bacteria will multiply most rapidly between 5-63°C.

Optimum temperature: Bacteria that cause food poisoning reproduce around body temperature (37°C).

The 4Cs: Cleaning, cooking, chilling and cross-contamination.

Use-by-date: Relates to the safety of the food. Food must be eaten by this date.

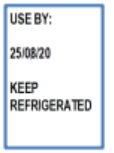
Food labelling

Food labels help consumers make healthier choices. Some information also helps to reduce the risk of food poisoning or other adverse reactions to food:

- date marks;
- list of ingredients with allergens in **bold**, highlighted, underlined or in *italics*;
- storage and preparation conditions.

Use-by-date

You have until the end of this date to use or freeze the food before it comes too risky to eat.



Best-before-date

You can eat food past this date but it might not be at its best quality.

Name: Date:

Food spoilage, contamination and food poisoning

Food spoilage: Autolysis – enzymes
Enzymes are chemicals which can cause food to deteriorate in three main ways:
- **ripening** – this will continue until the food becomes inedible, e.g. banana ripening;
- **browning** – enzymes can react with air causing certain foods to discolour, e.g. apples;
- **oxidation** – loss of nutrients, such as vitamin C from food, e.g. over boiling of green vegetables.

Food spoilage: Microbial spoilage
Spoilage can be caused by the growth of:
- **bacteria** – single celled micro-organisms which are present naturally in the environment;
- **yeasts** – single celled fungi;
- **moulds** – fungi which grow as filaments in food.

Food contamination
Food contamination can lead to food poisoning. There are three ways which food can be contaminated: **bacterial**, **chemical** and **physical**.

Chemical contamination
Chemical contamination can occur in a variety of ways at different stages of food processing and production. For example, chemicals from the farm; cleaning products used in the processing plant and fly spray used in the kitchen.

Physical contamination
This can occur in a variety of ways at different stages of food processing and production. Some examples are:
- soil from the ground when harvesting;
- a loose bolt from a processing plant when packaging;
- a hair from a chef in the kitchen.

Bacterial contamination
Most bacteria are harmless but a small number can cause illness. These are known as pathogenic bacteria. Food which is contaminated with pathogenic bacteria can look, taste and smell normal.
Bacteria can be transferred onto food through cross-contamination, via equipment, people or pests, or can be naturally present in the food. Some bacteria can produce toxins which can cause food poisoning.

Micro-organisms
Micro-organisms need conditions to survive and reproduce these can include:
- temperature;
- moisture;
- food;
- time;
- oxygen and pH level.

Temperature
Bacteria need warm conditions to grown and multiply.
- The ideal temperature for bacterial growth is 30°C – 37°C.
- Some bacteria can still grow at 10°C and 60°C.
- Most bacteria are destroyed at temperatures above 63 °C.
- Bacterial growth danger zone is 5°C - 63°C.

At very cold temperatures, bacteria become dormant – they do not die, but they cannot grow

Moisture
Where there is no moisture bacteria cannot grow. However, bacteria and moulds can both produce spores which can survive until water is added to the food.

Food
Bacteria need a source of food to grow and multiply, these food are usually high in moisture, fat and protein, and may be ready to eat. Food where bacteria rapidly multiply in is called a **high risk food**. For example:
- meat, meat products and poultry;
- milk and dairy products;
- eggs – uncooked and lightly cooked;
- shellfish and seafood;
- prepared salads and vegetables;
- cooked rice and pasta.

Time
Given the right conditions, one bacterium can divide into two every 10-20 minutes through a process called binary fission.

People at high risk of food poisoning
Elderly people, babies and anyone who is ill or pregnant needs to be extra careful about the food they eat.

Symptoms of food poisoning
Food poisoning can be mild or severe. The most common symptoms are:
- feeling sick;
- being sick;
- diarrhoea;
- abdominal pain.

Campylobacter
Sources
Raw and undercooked poultry, unpasteurized milk, contaminated water.
Signs and symptoms
Onset 2 – 5 days (can be longer). Fever, headache and dizziness for a few hours, followed by abdominal pain.

E Coli 0157
Sources
Raw and undercooked meat and poultry. Unwashed vegetables. Contaminated water.
Signs and symptoms
Onset usually 3-4 days. Diarrhoea, which may contain blood, can lead to kidney failure or death.

Listeria
Sources
Unpasteurised milk and dairy products, cook-chill foods, pâté, meat, poultry and salad vegetables.
Signs and symptoms
Onset 1-70 days. Ranges from mild, flu-like illness to meningitis, septicaemia, pneumonia.

Salmonella
Sources
Raw meat, poultry and eggs. Flies, people, sewage and contaminated water.
Signs and symptoms
Onset 6-48 hours. Headache, general aching of limbs, abdominal pain and diarrhoea, vomiting and fever. This usually lasts 1 – 7 days, and rarely is fatal.

Staphylococcus aureus
Sources
Humans: nose, mouth and skin. Untreated milk.
Signs and symptoms
Onset 1 – 6 hours. Severe vomiting, abdominal pain, weakness and lower than normal temperature.
This usually lasts 6 – 24 hours.

Key terms
Bacteria: Small living organisms that can reproduce to form colonies. Some bacteria can be harmful (pathogenic) and others are necessary for food production, e.g. to make cheese and yogurt.
Binary fission: The process that bacteria uses to divide and multiply.
Cross-contamination: The transfer of bacteria from one source to another. Usually raw food to ready-to-eat food but can also be the transfer of bacteria from unclean hands, equipment, cloths or pests. Can also relate to allergens.
Food spoilage: The action of enzymes or microorganisms which make the food unacceptable to consume.
Food poisoning: Illness resulting from eating food which contains food poisoning micro-organisms or toxins produced by micro-organisms.
Toxin: A poison produced by some bacteria which can cause food poisoning.

Allergens
Allergenic ingredients can cause adverse reactions in some people. Care must be taken at each stage of food processing to prevent contamination.

Desirable food changes
Desirable changes that can be caused by micro-organisms include:
- bacteria in yogurt and cheese production;
- mould in some cheeses, e.g. Stilton;

Food choice

Food choice

Food choices for a balanced diet depend on many factors, such as:

- advertising and other point of sale information;
- cost and economic considerations;
- cultural or religious practices;
- environmental and ethical considerations;
- food availability;
- food preferences;
- food provenance;
- health concerns;
- individual energy and nutrient needs;
- portion size;
- social considerations.

Consumer information

Information can help consumers make informed choices, including:

- advertising and marketing;
- media, online blogs/forums;
- packaging, nutrition and health claims;
- point of purchase information and product placement;
- recipe ideas.

Cost and economic considerations

The cost of food and money available will influence people's food choices. If money is limited, people may choose to buy more basic items. Luxury items might then be selected for special occasions.

Food prices

Food prices can and do change throughout the year and over time. This may be due to a variety of reasons, including:

- climate and weather patterns;
- crop failure;
- crop disease;
- seasonality;
- consumer demand;
- agricultural costs increase;
- fuel prices go up;

Budgeting

There are many things that we can do to spend money wisely on food. Examples can include:

- eating the seasons;
- stocking up on food with a long shelf-life;
- taking time to plan meals and write a shopping list;
- cooking using one pot;
- making fake-aways rather than buying takeaways;
- using leftovers;
- replacing branded items with cheaper items;
- comparing prices and shop around to find the cheapest items;
- growing your own food.

Cultural or religious practices

People around the world choose to eat or avoid certain food due to their cultural or religious practices.

Religion	Pork	Beef	Lamb	Chicken	Fish
Islam	x	Halal only	Halal only	Halal only	✓
Hinduism	x	x	✓	✓	✓
Judaism	x	Kosher only	Kosher only	Kosher only	✓
Sikhism	x	x	✓	✓	✓
Buddism (strict)	x	x	x	x	x
Seventh-day Adventist Church	x	x	x	✓	✓
Rastafari movement	x	x	x	x	x

Environmental and ethical considerations

Some considerations when buying food might be:

- fair trade;
- local food;
- genetically modified (GM) food;
- organic food;

Food availability

Buying food when it is in season will often mean that the price is lower. Technology and the importation of food has allowed food to be available all year round.

Personal preferences

A number of factors can influence personal preferences, including:

- colour, size and shape of crockery and cutlery used;
- portion size;
- serving style;
- taste, aroma, texture, appearance, shape and colour of food.

Food provenance

Food provenance is about where food is grown, caught or reared, and how it was produced. Food certification and assurance schemes guarantee defined standards of food safety or animal welfare. There are many in the UK, including:

Red Tractor

The British Lion mark

Marine Stewardship Council

Health concerns

People may choose their food based on their own or their family's health and wellbeing:

- allergy and intolerance, e.g. lactose intolerance, coeliac disease, wheat allergy, diary allergy;
- body image;
- health issues, e.g. coronary heart disease, type 2 diabetes, inflammatory bowel disease, over or under malnutrition;
- mental health.

Individual energy and nutrient needs

The amount of energy and nutrients needed differs between different age groups and between males and females.

Energy needs also depend on activity levels. For example, athletes will have much higher energy requirements due to their high level of physical activity.

Key terms

Advertising: Advertising is a form of communication for marketing and used to encourage, persuade, or manipulate an audience to continue or take some new action.
Ethical: Relating to personal beliefs about what is morally right and wrong.
Food certification and assurance schemes: Defined standards of food safety, quality or animal welfare.
Food provenance: Knowing where food was grown, caught or reared and how it was produced.
Marketing: Promoting and selling products or services, including market research and advertising.
Religion: A particular system of faith and worship.
Seasonal food: Food grown at a particular time of year.

Portion size

Having a healthy, balanced diet is about getting the right types of foods and drinks in the right amounts.

Social considerations

- Body image and peer pressure.
- Development of ready meals and a wider range of convenience foods.
- Development of labour saving devices.
- Lack of competence and confidence in the kitchen.
- Lack of time.
- Living arrangement (e.g. living alone).

Food labelling and health claims

Food labelling

Manufacturers include a range of information on food labels. Some of which is legally required and some of which is useful to the consumer or supermarket.

Nutrition information helps consumers make healthier choices. Back-of-pack nutrition information is legally required on food packaging.

NUTRITION
When heated according to instructions

Typical values	Per 100g	Each pack (390g**)
Energy	457kJ 109kcal	1781kJ 424kcal
Fat	3.9g	15.2g
of which saturates	1.9g	7.5g
Carbohydrate	12.1g	47.1g

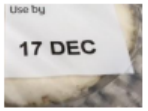
Legally required information

- Name of food or drink.
- List of ingredients (including water and food additives), in descending order of weight.
- Weight or volume.
- Date mark (Best-before and use-by).
- Storage and preparation conditions.
- Name and address of the manufacturer, packer or seller.
- Country of origin and place of provenance.
- Nutrition information.

Date marks

Best-before-date: The date after which foods may not be at their best, although probably safe to eat if stored according to instructions.

Use-by-date: The date given to foods that spoil quickly, such as cooked meats. It is unsafe to eat foods beyond their use-by-date.



Beetroot salad
Keep refrigerated. Once opened consume within 24 hours and by the 'use-by' date shown.

Additives

Food additives must be shown clearly in the list of ingredients on food labels, either by the additive's name or E number. Additives are added to ensure safety, increase shelf life or improve the taste, texture or appearance of food. Additives need to be approved before they can be used. Additives are given an 'E number' to show that they have been rigorously tested for safety and have been approved for use in food by the European Commission. An example is E100 or curcumin, made from turmeric.

Another example is caramel (E150), a synthetic colouring commonly used to

Key terms

Additives: Are added to ensure safety, increase shelf life or improve the taste, texture of appearance of food. They must be shown clearly on food labels.

Allergen labelling: Allergens must be clearly shown in **bold**, highlighted, underlined or in *italics*.

Back-of-pack labelling: Is legally required and can help consumers make healthier choices.

Claim: Any statement about the nutrient content or health benefit of a food product.

Front-of-pack labelling: Is voluntary but must provide certain information and can use red, amber and green colour coding.

Labelling: The term given to the information about the product which is displayed on the packaging.

Nutrition information: Helps consumers make healthier choices.

Front-of-pack labelling

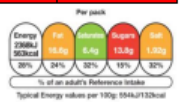
Front-of pack-nutrition information is voluntary but if a food business chooses to provide this, only the following information may be provided:

- energy only;
- energy along with fat, saturates, sugar and salt.

Red, amber and green colours, if used, show at a glance whether a food is high, medium or low for fat, saturates, sugars or salt. The colour coding can be used to compare two products.

Nutrient	Low	Medium	High	
Fat	≤3.0g/100g	>3.0g to ≤ 17.5g/100g	>17.5g/100g	>21g/portion
Saturates	≤1.5g/100g	>1.5g to ≤5.0g/100g	>5.0g/100g	>6.0g/portion
(Total sugars)	≤5.0g/100g	>5.0g and ≤22.5g/ 100g	>22.5g/100g	>27g/portion
Salt	≤0.3g/100g	>0.3g to ≤1.5g/100g	>1.5g/100g	>1.8g/portion

Note: Portion size criteria apply to portion sizes/servings greater than 100g.



Allergen labelling

An allergic reaction to a food can be described as an inappropriate reaction by the body's immune system to the ingestion of a food.

By law, food, drink and ingredients that are known to contain allergens are required to be in **bold**, highlighted, underlined or in *italics*.

Celery (and celeriac)
Cereals containing gluten
Crustaceans
Eggs
Fish
Lupin
Milk
Molluscs
Mustard
Nuts
Peanuts
Sesame
Soybeans
Sulphur dioxide

INGREDIENTS
Water, Carrots, Onions, Red Lentils (4.5%), Potatoes, Cauliflower, Leeks, Peas, Cornflour, **Wheat** flour, Cream (**milk**), Yeast Extract, Concentrated Tomato Paste, Garlic, Sugar, **Celery** Seed, Sunflower Oil, Herb and Spice, White Pepper, Parsley
ALLERGY ADVICE
For allergens, see ingredients in **bold**

Nutrition and health claims

Nutrition and health claims are controlled by European regulations. Claims on a food or drink should have been authorised and listed on the European register of claims and have met certain conditions.

Nutrition claims

A nutrition claim describes what a food contains (or does not contain) or contains in reduced or increased amounts. Examples include:

- Low fat (less than 3g of fat per 100g of food);
- High fibre (at least 6g of fibre per 100g of food);
- Source of vitamin C (at least 15% of the nutrient reference value for vitamin C per 100g of food).

Health claims

A health claim states or suggests there is a relationship between a product and health. In order to make a claim, the amount present of the nutrient, substance or food must fulfil the specific conditions of use of the claim. The types of health claims are:

- 'Function Health Claims';
- 'Risk Reduction Claims';
- Health 'Claims referring to children's development'.

Year 10 French Module 7: Mon petit monde à moi (1).

Qu'est-ce que tu penses de cet appartement?	*What do you think of this apartment?*
Il y a combien de pièces?	*How many rooms are there?*
Est-qu'il y a un/une ...?	*Is there a ...?*
Il y a ...	*There is ...*
un accès pour les personnes handicapées.	*access for disabled people.*
un ascenseur / un balcon.	*a lift / a balcony.*
une chambre / une cuisine équipée / une douche.	*a bedroom / an equipped kitchen / a shower.*
une entrée / une pièce / une salle de bains.	*an entrance hall / a room / a bathroom.*
Il n'y a pas de jardin / d'ascenseur.	*There is no garden / lift.*
À mon avis, c'est ...	*In my opinion, it is ...*
assez / trop / un peu ...	*quite / too / a bit ...*
petit / cher.	*small / expensive.*

Là où j'habite	*Where I live*
Est-ce que tu habites dans une ville ou un village?	*Do you live in a town or a village?*
Où se trouve ta ville / ton village?	*Where is your town / village?*
Tu y habites depuis quand / combien de temps?	*How long have you lived there?*
Ta ville / Ton village est comment?	*What is your town / village like?*
Tu aimes y habiter? Pourquoi (pas)?	*Do you like living there? Why (not)?*
J'habite dans...	*I live in...*
un petit village / une grande ville / à Londres.	*a small village / a large town / in London.*
près de la capitale	*near the capital city*
J'habite à / en ... depuis ans / mois.	*I have lived in... for years / months.*
Vivre à la campagne / en ville est (parfait pour moi).	*Living in the countryside / town is (perfect for me).*
Je n'aime pas y habiter.	*I don't like living there.*
J'adore y habiter.	*I love living there.*
J'aimerais mieux habiter en ville.	*I would prefer to live in town.*
On peut y voir / trouver ...	*You can see / find... there.*
une vieille ville historique.	*an old historic town*
une ville moderne et industrielle.	*a modern and industrial town*
de nombreux bâtiments modernes / vieux.	*lots of modern / old buildings*
une des plus grandes villes avec de belles maisons traditionnelles.	*one of the largest towns with beautiful, traditional houses.*
peu de magasins	*few/not many shops*
un bel endroit	*a nice / beautiful place*
sans pollution / trop de bruit	*without pollution / too much noise*

Il/Elle se trouve dans...	*It is in...*
le nord / le nord-est / l'est	*the north / northeast / east*
le sud-est / le sud	*the southeast / south*
le sud-ouest / l'ouest	*the southwest / west*
le nord-ouest	*the northwest*
...de l'Angleterre / de la France.	*...of England / France*
en Angleterre / en France	*in England / in France*
L'année dernière, j'ai visité (York).	*Last year, I visited (York).*
J'y suis allé(e) avec ma famille / mes parents.	*I went there with my family / my parents.*
J'aimerais habiter (à Paris).	*I would like to live (in Paris).*

Sur la bonne route	*On the right track*
Pour aller à la bibliothèque / la boulangerie, s'il vous plaît?	*How do you get to the library / bakery, please?*
Allez / Continuez tout droit.	*Go / Continue straight ahead.*
Tournez à gauche / à droite.	*Turn left / right.*
Traversez la place / le pont / aux feux.	*Cross the square / the bridge / at the traffic lights.*
Prenez la première / la deuxième rue à gauche / à droite.	*Take the first / the second road on the left / right.*
C'est loin de / près d'ici?	*Is it far from / near here?*
C'est à côté de / en face de...	*It's next to / opposite...*
C'est devant / derrière / entre...	*It's in front of / behind / between...*
Dans mon village...	*In my village...*
À Paris...	*In Paris...*
Là où j'habite...	*Where I live...*
Au centre de ma ville...	*In the centre of my town...*
On peut acheter... à la boulangerie / à la pharmacie / aux magasins.	*You can buy... at the bakery / at the pharmacy / at the shops.*
Il faut visiter le parc / le théâtre / le musée.	*You must visit the park / the theatre / the museum.*
Il n'y a aucun espace vert.	*There are no green spaces.*
Il n'y a ni gare ni station de métro.	*There is no train station or underground station.*
Il n'y a pas de... mais il y a...	*There is/are no... but there is/are...*
Il n'y a personne de mon âge.	*There is nobody my age.*
Il n'y a plus de cinéma.	*There is no longer a cinema / there isn't a cinema anymore.*
Il n'y a que quelques petits magasins.	*There are only a few small shops.*
Il n'y a rien.	*There is nothing / there isn't anything.*
Ce n'est jamais calme.	*It is never quiet.*
Il manque...	*It is missing...*

Year 10 French Module 7: Mon petit monde à moi (2).

Tendances et shopping	*Trends and shopping*
Vous cherchez quelque chose en *particulier?	*Are you looking for something in *particular?*
Je peux vous aider?	*Can I help you?*
Vous aimez cette chemise?	*Do you like this shirt?*
Vous l'aimez?	*Do you like it?*
Il/Elle coûte combien, s'il vous plaît?	*How much does it cost, please?*
Je peux payer *par carte?	*Can I pay by card?*
La caisse est là-bas.	*The till is over there.*
Je voudrais échanger ce *tee-shirt.	*I would like to exchange this tee-shirt.*
Quel est le problème?	*What is the problem?*
Malheureusement, il est trop petit.	*Unfortunately, it is too small.*
Désolé(e). Je n'en ai plus dans cette couleur.	*Sorry. I don't have any more of them in this colour.*
Avez-vous la même chose en (noir)?	*Do you have the same thing in (black)?*
Je peux l'essayer, s'il vous plaît?	*Can I try it on, please?*
Pas de problème.	*No problem.*
J'ai acheté...	*I bought...*
ce chapeau / ce pantalon / ce *tee-shirt / cette jupe	*this hat / these trousers / this tee-shirt / this skirt*
cette chemise / cette cravate	*this shirt / this tie*
ces chaussettes	*these shoes*
blanc(he)(s) / jaune(s) / rose(s) / orange / rouge(s) / vert(e)(s)	*white / yellow / pink / orange / red / green*
joli(e)(s) / beau(x) / belle(s) pour la fête / l'anniversaire de (mon copain / ma mère)	*pretty / beautiful for (my friend's / mum's) party / birthday*
J'ai trouvé / vu ça.	*I found / saw that...*
Il/Elle a coûté...	*It cost...*
Ils/Elles ont coûté...	*They cost...*
Malheureusement...	*Unfortunately...*
il/elle est... / ils/elles sont trop grand(e)(s) / trop petit(e)(s).	*it is / they are too big / too small.*
Je n'aime pas la couleur.	*I don't like the colour.*
La prochaine fois, j'achèterai / je choisirai / j'essayerai / j'irai	*Next time, I will buy / choose... / I will try / go...*

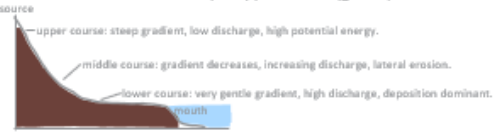
La maison de mes rêves	*The house of my dreams*
Comment serait ta maison idéale?	*What would your ideal house be like?*
Moi, si j'avais le choix, j'aimerais habiter dans...	*If I had the choice, I would like to live in...*
Si j'étais riche, j'habiterais dans...	*If I were rich, I would live in...*
un château ancien à la campagne.	*an ancient castle in the countryside.*
un bel appartement tout neuf.	*a beautiful, brand-new apartment.*
J'aurais...	*I would have...*
Il y aurait...	*There would be...*
une cuisine propre, moderne et bien *équipée.	*a clean, modern and well-equipped kitchen.*
un bon accès pour les personnes handicapées en fauteuil roulant.	*good access for disabled people in a wheelchair.*
ma propre chambre, calme et confortable.	*my own calm and comfortable bedroom.*
de grandes fenêtres, pour profiter de la lumière naturelle.	*big windows, to make the most of the natural light.*
de nombreuses pièces, avec beaucoup d'espace.	*lots of rooms, with a lot of space.*
un ascenseur *ou lieu d'un escalier.	*a lift instead of a staircase.*
un joli jardin plein de fleurs et d'arbres.	*a pretty garden full of flowers and trees.*
de bons voisins avec qui je peux parler et rire.	*good neighbours with whom I can talk and laugh.*
une télévision à grand écran à chaque étage.	*a large-screen TV on every floor.*
un cinéma privé pour voir les derniers films.	*a private cinema to watch the latest films.*
un sauna *ou un jacuzzi dehors.	*a sauna or a jacuzzi outside.*
une maison à quatre / plusieurs étages.	*a house with four / several floors.*
au *sous-sol	*in the basement*
au *rez-de-chaussée	*on the ground floor*
au troisième étage	*on the third floor*

As-tu déjà visité Paris?	*Have you already visited Paris?*
Quand est-ce que tu iras à Londres?	*When will you go to London?*
As-tu déjà visité le Royaume-Uni / la France?	*Have you ever visited the United Kingdom / France?*
Pourquoi veux-tu visiter Paris?	*Why do you want to visit Paris?*
Comment est-ce que tu voyageras?	*How will you travel?*
Quel pays / Quelle ville voudrais-tu visiter un jour?	*Which country / town would you like to visit one day?*
Qu'est-ce que tu feras pendant ta visite?	*What will you do during your visit?*
Je crois que tu as reçu de bonnes *nouvelles.	*I think you have received some good news.*
J'ai gagné un concours.	*I won a competition.*
Je n'y suis jamais allé(e).	*I have never been there.*
J'ai toujours voulu visiter Paris.	*I have always wanted to visit Paris.*
Paris est une belle ville historique et culturelle.	*Paris is a beautiful historic and cultural city.*
J'ai envie de (visiter la tour Eiffel).	*I want to (visit the Eiffel Tower).*
J'irai...	*I will go...*
le week-end prochain.	*next weekend.*
bientôt à Londres.	*to London soon.*
à un spectacle son et lumière.	*to a sound and light show.*
Je voyagerai...	*I will travel...*
en avion première classe.	*first class by plane.*
en train.	*by train.*
Je ferai...	*I will do...*
le tour de la ville en *bateau-mouche sur la Seine.	*a boat tour of the city on the Seine.*
une visite *guidée de la tour Eiffel et du musée du Louvre.	*a guided visit of the Eiffel Tower and the Louvre museum.*
Je voudrais aller à / visiter...	*I would like to go to / visit...*

UK River Landscapes

1. River Profiles

Long profile Describes the gradient of a river from source (steep) to mouth (gentle).



Cross profile The river's cross-section at a particular point. The channel cross-profile includes only the river itself. The valley cross profile includes the river channel, valley floor, and the valley sides.

upper	middle	lower
Narrow, V-shaped valley, steep sides, shallow channel.	Wider valley floor, channel becomes wider and deeper, gently sloping sides.	Very wide, flat valley floor, meanders, floodplains.

2. Processes

Erosion Wearing away of land by a river.

Abrasion: sediment scrapes against bed and banks.

Attrition: sediment particles knock into each other, becoming smaller/rounded.

Hydraulic action: water enters cracks, air compressed, rock breaks apart.

Solution: soluble minerals dissolve in river water.

Transportation The process by which a river carries its load.

Traction: large boulders rolled along the riverbed.

Saltation: smaller pebbles "bounced" along.

Suspension: fine sediment carried in the water column.

Solution: dissolved materials carried invisibly in water.

Deposition The process by which a river drops its load.

Occurs when a river loses energy (e.g., shallower water, decrease in velocity, or during low flow), e.g. during flooding, at the base of a waterfall, the inside of a meander, and at the mouth where it meets another body of water.

3. Landforms Of Erosion

Waterfalls and gorges

1. Occur where hard rock overlies softer rock.
2. Undercutting of softer rock by hydraulic action and abrasion.
3. Undercutting leads to collapse of cap of more resistant rock.
4. Waterfall retreats upstream leaving a gorge.

Interlocking spurs

Projecting ridges of high land that alternate from each valley side where the river winds around more resistant rock in the upper course.

4. Landforms of erosion and deposition

The river flows through alternating pools and riffles creating variations in velocity that begin to direct the river's flow side to side, initiating a bend.

The bend becomes more pronounced because ongoing outer bend erosion and inner bend deposition create a deeper curve.

Continued erosion (hydraulic action and abrasion)on the outer banks narrows the meander's neck, bringing opposite bends closer together.

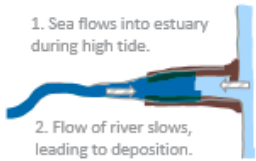
In a high flow or flood event, the river may cut through the narrow neck, forming a new, straighter channel.

Deposition seals off the old loop, leaving an oxbow lake isolated from the main river.

5. Depositional Landforms

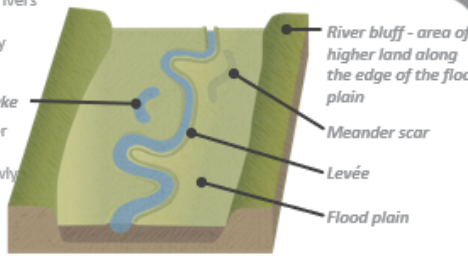
Levées: Naturally raised riverbanks formed by coarse sediment deposited close to the channel edge during floods.

Estuary: A wide, sheltered body of water found at a river's mouth, where it broadens into the sea.



Flood plain: Flood plains are associated with rivers in their middle and lower course. They are extensive, flat areas of land covered mainly by grass. Flood plains are formed during flood conditions.

The width of the flood plain is due to meander migration. The outside bends erode laterally into the edge of the valley. Their position slowly moves downstream.



Notes

Quizzes

internet geography

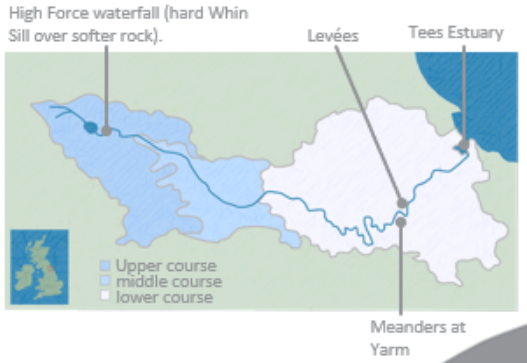
UK River Landscapes

6. UK River Valley

TEES

Northeast England | 137 km (85 miles)

The River Tees flows east from its source in the Pennines to its mouth on the North Sea coast.



7. Flood Risk

An increase in discharge causes river levels to increase. Flooding occurs when the bank full capacity of a river is exceeded (water spills over the banks of the river). Human and physical factors cause flooding.

Physical Factors

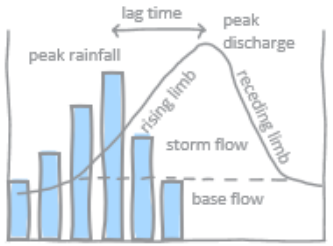
- Heavy rainfall, prolonged rainfall (saturated ground), snowmelt, geology (impermeable rock), relief (steep slopes increase run-off).

Human Factors

- Urbanisation (impermeable surfaces), deforestation (less interception), agriculture (reduced vegetation cover).

8. Hydrographs

Hydrograph A graph which shows the discharge of a river, related to rainfall, over a period of time.



Flashy hydrographs have a steep rising limb and a small lag time. This indicates that river discharge increases rapidly over a short period, indicating rainwater reaches the river very quickly. This means the river is more likely to flood.

A **gentle hydrograph** shows the river is at low risk of flooding. These types of hydrographs have a gentle rising limb and a long lag time, which means it takes longer for the peak rainfall to reach the river channel, so the river discharge is increasing slowly.

Factors affecting the shape of a hydrograph:

- Basin shape
- Slope
- Land use
- Soil type
- Vegetation.

9. Hard Engineering

Hard engineering Involves the building of entirely artificial structures using various materials such as rock, concrete and steel to reduce, disrupt or stop the impact of river processes.

Strategies	Advantages	Disadvantages
Dams and reservoirs	Store water, can generate hydroelectric power, controls flow.	Expensive, displaces people, can affect ecosystems downstream.
Channel straightening	Speeds flow away from flood-prone areas.	Can increase flooding downstream, expensive, unnatural.
Embankments	Increases channel capacity.	Risk of severe flooding if they fail.
Flood-relief channels	Diverts water away from high-value areas.	Expensive, requires significant maintenance.

10. Soft Engineering

Floodplain zoning: Controls what can be built on floodplains to reduce damage.

✓ Low cost, reduces future damage.

✗ Restricts land use, may not be an option in existing urban areas.

Planting trees (afforestation): Increases interception, reduces surface runoff.

✓ Improves environment, reduces flood risk.

✗ Takes time for trees to mature.

River restoration: Allows river to return to natural state (re-meandering, removing hard defences)

✓ creates habitats, aesthetically pleasing, can slow flow.

✗ Can conflict with existing land use, initial costs.

11. Flood Management

Jubilee River Flood Relief Channel | River Thames | Funded by the EA - £330 million

The Jubilee River is a flood relief channel. It was constructed to reduce the risk of flooding high-value areas such as Windsor and Eton by diverting water from the River Thames.

Management strategy:

- An 11.7 km artificial channel diverts excess water from the Thames.
- Designed to reduce flood risk for vulnerable communities.

Issues:

- Social: Protects thousands of homes but raises fairness concerns for downstream areas.
- Economic: High construction and maintenance costs (~£110 million), though can reduce insurance premiums.
- Environmental: Blends natural features but alters river habitats downstream.

Notes

Quizzes

internet geography

Year 10 German Module 5: Meine Ecke (1).

Wo spricht man Deutsch?	*Where is German spoken?*
Die *deutschsprachigen Länder	*German-speaking countries*
Deutschland	*Germany*
Österreich	*Austria*
die Schweiz	*Switzerland*
der Einwohner	*inhabitant, resident*
der Fluss	*river*
der höchste *Punkt	*the highest point*
die Hauptstadt	*capital city*
das Land	*country, land, state*

Wo wohnst du?	*Where do you live?*
Wo ich wohne...	Where I live...
Ich wohne...	I live...
in einem Dorf.	in a village.
in einer Kleinstadt.	in a small town.
in einer Großstadt.	in a city.
in der Stadtmitte.	in the town / city centre.
in den Bergen.	in the mountains.
am Stadtrand.	on the outskirts.
auf dem Land.	in the countryside.
an einem See.	by a lake.
an der Küste.	on the coast.
Das liegt ...	It lies / is situated ...
im Norden von ...	in the north of ...
im Osten von ...	in the east of ...
im Süden von ...	in the south of ...
im Westen von ...	in the west of ...
Der Ort ist ...	The place/location/town is ...
Der Bereich ist ...	The area is ...
Die Gegend ist ...	The region, area is ...
Die Landschaft ist ...	The countryside/scenery/ landscape is ...
Die Region ist ...	The region is ...
Die Umgebung ist ...	The surroundings are ...
besonders	particularly, especially
echt/extrem	really/extremely
ganz/relativ	quite/relatively
alt/neu.	old/new.
sauber/schmutzig	clean/dirty.
schön.	beautiful.
historisch/modern	historic/modern.
ruhig/laut.	quiet/noisy.
sicher.	safe.
Es gibt ...	There is ...
(k)einen Flughafen.	no airport / an airport.
(k)eine Bank.	no bank / a bank.
(k)eine Bibliothek.	no library / a library.
(k)eine Post.	no post office / a post office.
(k)eine Schule.	no school / a school.
(k)eine Universität.	no university / a university.
(k)ein Fitnesszentrum.	no gym / a gym.
(k)ein Geschäft.	no shop / a shop.
(k)ein Kino.	no cinema / a cinema.
(k)ein Krankenhaus.	no hospital / a hospital.
(k)ein Museum.	no museum / a museum.
(k)ein Schloss.	no castle / a castle.
(k)ein Schwimmbad.	no swimming pool / a swimming pool.
(k)ein Stadion.	no stadium / a stadium.
(k)ein Theater.	no theatre / a theatre.
viel Verkehr.	a lot of traffic.

Das Verkehrsmittel	*Means of transport*
Man kann ...	You can ...
Man muss ...	You have to, must ...
Man soll ...	You should, are supposed to, ought to ...
fahren	go (by transport), drive
fliegen	fly
reisen	travel
Ich fahre / Wir fahren ...	I/we go ...
mit dem Auto/Wagen ...	by car
mit dem Boot/Schiff ...	by boat/ship
mit dem Bus ...	by bus
mit dem *Elektroauto ...	by electric car
mit dem Fahrrad ...	by bicycle, bike
mit dem Fahrzeug ...	by vehicle
mit dem Flugzeug ...	by aeroplane
mit dem *Reisebus ...	by coach
mit dem Zug ...	by train
mit der Bahn ...	by rail
mit der Straßenbahn ...	by tram
in die *USA	to the USA
in die Stadtmitte	to the town/city centre
nach Hause	home
zum Bahnhof	to the station
zum Flughafen	to the airport
zur Schule	to school
weil ...	because ...
ich um die Ecke wohne.	I live around the corner.
wir weit weg von der Schule wohnen.	we live far / a long way from (the) school.
die Schule ganz nah ist.	the school is quite near/close.
es eine lange Fahrt ist.	It is a long journey.
die Fahrt nur zehn Minuten dauert.	the journey only takes ten minutes.
die Reise sehr lange dauert.	the journey takes a long time.
es am schnellsten geht.	It is the quickest way.

Year 10 German Module 5: Meine Ecke (2).

Nach Informationen fragen	*Asking for information*
Ich möchte eine Fahrkarte nach ... bitte.	*I would like a ticket to ... please.*
Einfach oder *hin und zurück?	*Single or return?*
Eine Rückfahrkarte, bitte.	*A return ticket, please.*
Was kostet das?	*How much does it cost?*
Wann fährt der Zug ab?	*When does the train leave?*
Wann kommt der Zug an?	*When does the train arrive?*
Gibt es ... in der Nähe?	*Is there (a) ... nearby?*
Gehen Sie geradeaus.	*Go straight ahead here.*
Nehmen Sie die erste Straße links/rechts.	*Take the first street on the left/right.*
...liegt auf der linken/rechten Seite.	*... (it) is on the left/right-hand side.*
Ich brauche ...	*I need ...*
einen warmen Pullover.	*a warm pullover.*
eine schwarze Hose.	*black trousers.*
ein blaues Hemd.	*a blue shirt.*
ein tolles Kleid.	*a great/terrific dress.*
Schuhe.	*shoes.*
Er/Sie/Es ist ... / Sie sind ...	*It is ... / They are ...*
zu	*too*
ein bisschen	*a little*
nicht	*not*
ziemlich	*rather*
groß.	*big.*
klein.	*small.*
kurz.	*short.*
lang.	*long.*
billig.	*cheap.*
teuer.	*expensive.*
eng	*narrow/tight.*
weit.	*wide.*
Wo kann ich (ihn/sie/es) anprobieren?	*Where can I try (it) on?*
Wo kann ich (ihn/sie/es) zurückbringen?	*Where can I return (it)?*
Was kostet das?	*How much does it cost?*
Was kosten sie?	*How much do they cost?*
Das kostet (5) Euro.	*It costs (5) euros.*
Sie kosten (5) Franken.	*They cost (5) francs.*
Ich nehme ihn/sie/es (nicht).	*I will (not) take it.*
Wir nehmen ihn/sie/es (nicht).	*We will (not) take it.*

Einkaufen	*Shopping*
die Apotheke	*chemist, pharmacy*
die Bäckerei	*bakery*
die Bank	*bank*
das Käsegeschäft	*cheese shop*
das Kleidungsgeschäft	*clothes shop*
das *Schmuckgeschäft	*jewellery shop*
das Schreibwarengeschäft	*stationery shop*
das Uhrengeschäft	*watch/clock shop*
In meinem Dorf / In meiner Stadt gibt es ...	*In my village/town there is/are ...*
keine Geschäfte.	*no shops.*
einige *Second-Hand-Läden.	*some second-hand shops.*
viele Cafés.	*a lot of cafés.*
einen großen Supermarkt.	*a large supermarket.*
ein großes Einkaufszentrum.	*a large shopping centre.*
Ich kaufe (nicht) gern ... ein, im Einkaufszentrum mit einer App online.	*I (don't) like shopping ... in the shopping centre, with an app online.*
weil das ... ist.	*because it is ...*
einfach(er)	*easy (easier)*
praktisch(er)	*practical (more practical).*
teuer (teurer)	*expensive (more expensive).*
Man kann Zeit sparen.	*You can save time.*
Man kann schöne Sachen finden.	*You can find beautiful things.*
Man kann Kleidung anprobieren.	*You can try clothes on.*
Man kann Waren einfach zurückschicken.	*You can simply/easily return goods.*
Man kann Waren sofort zurückschicken.	*You can return goods immediately.*
Man bekommt bessere ... Informationen.	*You get better ... Information.*
*Rabatte.	*discounts.*
Preise.	*prices.*
Die Waren kommen direkt nach Hause.	*The goods come direct/straight to your house.*
Die Preise sind reduziert.	*The prices are reduced.*

Wo würdest du am liebsten wohnen?	*Where would you prefer to live?*
Wo würdest du gern leben?	*Where would you like to live?*
Wie wäre deine ideale Umgebung?	*What would your ideal area be like?*
Was hätte dein idealer Wohnort?	*What would your ideal place to live have?*
grün	*green*
alt	*old*
hell	*light*
der Baum	*tree*
der Wohnort	*place to live, place of residence*
die Großstadt	*city*
die Hauptstadt	*capital city*
die Kleinstadt	*small town*
die Umgebung	*surroundings*
die Wohnung	*flat*
das Dorf	*village*
das Fitnesszentrum	*gym*
das Haus	*house*

Zimmer zu Hause	*Rooms at home*
Im Badezimmer wasche ich mir die Haare.	*I wash my hair in the bathroom.*
Im Büro / Im *Arbeitszimmer arbeite ich.	*I work in the office/study.*
Im Esszimmer / In der Essecke esse ich (zu Mittag / zu Abend)	*I eat (lunch/dinner) in the dining room / dining area.*
In der Garage *parken wir das Auto.	*We park the car in the garage.*
Im Garten lese ich.	*I read in the garden.*
In der Küche *frühstücke ich.	*I have breakfast in the kitchen.*
Im Schlafzimmer schlafe ich.	*In the bedroom I sleep.*
Im Wohnzimmer spiele ich auf der Spielkonsole.	*In the living room I play on the games console.*

Section 2: Challenges to Elizabeth at Home and Abroad 1569-88

1	Elizabeth faced many serious threats both within England and from aboard. Many still wanted Mary Queen of Scots on the throne. Philip II of Spain also wanted to remove Elizabeth from the throne. Spain and England were religious and political rivals. There was particular tension when Drake tried to challenge Spanish dominance in the New World.
Key events	
2	**1492** Discovery of the New World
3	**1567** Spanish travel to Netherlands to crush Protestant revolt.
4	**1568** Mary Queen of Sots arrives in England
5	**1569** Revolt of the Northern Earls
6	**1570** Elizabeth excommunicated
7	**1571** The Ridolfi Plot
8	**1572** Elizabeth hired Drake as a privateer
9	**1576** Spanish Fury and Pacification of Ghent
10	**1577-80** Drake circumnavigated the globe.
11	**1583** Throckmorton Plot
12	**1584** Treaty of Joinville
13	**1585** Act of Preservation of the Queen's Safety/Treaty of Nonsuch
14	**1586** Babington Plot
15	**1587** Mary Queen of Scots executed
16	**1587** Attack on Cadiz
17	**1588 Spanish Armada**

History

Section 2: Challenges to Elizabeth at Home and Abroad 1569-88

Key Words/Events/People		
18	New World	North and South America.
19	Revolt of the Northern Earls	When northern earls encouraged Catholics to rebel.
20	Mary Queen of Scots	Supported the plan to marry the Duke of Norfolk.
21	Conspiracy	A secret plan with the aim of ding something illegal.
22	Papal Bull	A written order by the Pope.
23	Council of the North	Used to implement Elizabeth's laws and authority in the North of England.
24	Ridolfi Plot	Plan to murder Elizabeth, launch a Spanish attack and put Mary Queen of Scots on the throne.
25	Throckmorton Plot	Planned for the French Duke of Guise to invade England, free Mary , overthrow Elizabeth and restore Catholicism in England.
26	Babington Plot	The Duke of Guise (France) would invade England and put Mary on the throne.
27	Sir Francis Walsingham	Elizabeth's Secretary of State.
28	Act of Preservation of the Queen's Safety	In the event of Elizabeth's assassination, Mary would be banned from the succession.
29	Foreign Policy	The aims of objectives that guide a nation's relations with other states.
30	Privateer	Individuals with their own armed ships that capture other ships for their cargo, often with the support of the Queen.
31	Francis Drake	Elizabeth hired him as a privateer.
32	Circumnavigate	To travel all the way around the world.
33	Spanish Fury	The Spanish rampaged through Dutch provinces as they left.
34	Pacification of Ghent	Spanish troops expelled from Netherlands, political autonomy to be returned and end of religious persecution.
35	Mercenary	A soldier who fights for money rather than a nation or a cause.
36	Treaty of Joinville	The King of France and the King of Spain became allies against Protestantism.
37	Treaty of Nonsuch	Effectively put England and Spain at war.
38	Singeing of the King of Spain's beard	Drake sailed into Cadiz harbour, Spain's most important Atlantic port, and over 3 days destroyed 30 ships.

History

Section 3: Elizabethan Society in the Age of Exploration 1558-88

1	Elizabeth's I's reign was a time of expansion with growth in many different areas of society and life.
Key events	
2	**1563** Statute of Artificers
3	**1570** Norwich Survey
4	**1572** Vagabonds Act
5	**1576** Poor Relief Act
6	**1580** Drake returns from circumnavigating the globe with spices, treasure and tales of Nova Albion.
7	**1584** Raleigh begins planning new colonisation attempt by sending a fact finding mission to Virginia.
8	**1585** Colonists set sail for North America and begin the English colonisation of Virginia.
9	**1586** Surviving colonists abandon Virginia and return to England
10	**1587** New group of colonists arrive in Virginia and establish colony at Roanoke
11	**1590** English sailors arrive at Roanoke only to find it abandoned
Key Concepts	
12	**Education** – Expanded during Elizabeth's reign but it was expensive and mostly for boys. The large majority of people were illiterate.
13	**Pastimes** – Theatre thrived. Elizabethan leisure was similar to modern day but sport was much more violent.
14	**Population Growth** – During the reign of Elizabeth, population grew by as much as 35%. Food prices rose, wages fell and enclosure brought problems. The urban poor grew and poverty was a real problem.
15	**Exploration** by Drake led to conflict with Spain over the New World.
16	**Attitudes** – Unemployment was recognised as a genuine issue.
17	**Poverty** was an issue that Elizabeth wanted to address.

Section 3: Elizabethan Society in the Age of Exploration 1558-88

Key Words/Event/People		
18	Social mobility	Being able to change your position in society.
19	Humanists	Believed that learning was important in its own right and not for just practical reasons.
20	Grammar schools	Private schools set up for boys considered bright who largely came from well off families in towns.
21	Apprentice	Someone learning a trade or a skill.
22	Petty schools	Set up in a teacher's home. For boys.
23	Dame schools	Set up in a teacher's home. For girls.
24	Mystery plays	Plays base on the Bible and saints' stories.
25	Globe	Shakespeare's theatre.
26	Alms	Charity
27	Poor relief	Financial help.
28	Enclosure	The process of replacing large, open fields that were farmed by villages with individual fields belonging to one person.
29	Vagabonds	Homeless people without jobs who roamed the countryside begging for money or perhaps committing crimes.
30	Deserving poor	People unable to work because of illness or old age.
31	Idle poor	People who were fit to work but didn't.
32	Triangular trade	Route from Europe to Africa to the Americas.
33	Quadrant/ Astrolabe	Used by sailors to help with navigation at sea.
34	Cartographer	Map maker.
35	Galleons	Ships that were much larger than traditional trading ships.
36	Nova Albion	Region named by Drake, probably north of modern day San Francisco.
37	Walter Raleigh	Explorer who encouraged colonists to Virginia.
38	Manteo and Wanchese	Two native American Indians who came back to England.
39	Native Americans	People who lived in the New World before the colonists.

Mathematics

10.12 Non-calculator methods…….

Key words	
Truncate	to shorten, to shorten a number (no rounding), to shorten a shape (remove a part of the shape)
Round	making a number simpler, but keeping its place value close the what it originally was
Credit	money that goes into a bank account
Debit	money that leaves a bank account
Profit	the amount of money after income - costs
Tax	money that the government collects based on income, sales and other activities
Balance	The amount of money in a bank account
Overestimate	Rounding up - gives a solution higher than the actual value
Underestimate	Rounding down - gives a solution lower than the actual value

Sparx codes for this topic	
U417, U478, U417, U478	Addition/subtraction
U127, U293, U453, U868	Multiplication/division
U736, U793, U293, U544, U538	Four operations with fractions
U319, U627	Exact values
U480, U298, U731, U965	Rounding
U102, U225, U299	Estimation
U657, U301	Limits of accuracy

Division methods

Short division

$$\begin{array}{r} 5\ 1\ 2 \\ 7\,\overline{)\,3\ {}^{3}5\ 8\ {}^{1}4} \end{array}$$

3584 ÷ 7 = 512

Complex division

÷ 24 = ÷ 6 ÷ 4

Break up the divisor using factors

Division with decimals

The placeholder in division methods is essential – the decimal lines up on the dividend and the quotient

24 ÷ 0.02 → 24 ÷ 0.2 → 240 ÷ 2

All give the same solution as represent the same proportion. Multiply the values in proportion until the divisor becomes an integer

Multiplication methods

Long multiplication (column)

Grid method

Repeated addition

Less effective method especially for bigger multiplication

Multiplication with decimals

Perform multiplications as integers eg 0.2 x 0.3 → 2 x 3

Make **adjustments** to your answer to match the question: 0.2 x 10 = 2, 0.3 x 10 = 3

Therefore 6 ÷ 100 = <u>0.06</u>

Four operations with fractions

Addition and Subtraction

$\frac{4}{5} - \frac{2}{3}$

$\frac{12}{15} - \frac{10}{15} = \frac{2}{15}$

Multiplication

$\frac{3}{4} \times \frac{2}{3}$

$= \frac{6}{12} = \frac{1}{2}$

Division

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

$\frac{2}{5} \times \frac{4}{3}$

Multiplying by a reciprocal gives the same outcome

$= \frac{8}{15}$

Exact Values

Leave in terms of π

$= \frac{120}{360} \times 36\pi$

$= \frac{1}{3} \times 36\pi = \underline{12\pi}$

Leave as a surd

$\tan 30 = \frac{1}{\sqrt{3}}$

Rounding

2.46192 (to 2dp) - Is this closer to 2.46 or 2.47

2.46 | 192

This shows the number is closer to 2.46

Significant Figures

370 to 1 significant figure is 400

37 to 1 significant figure is 40

3.7 to 1 significant figure is 4

0.37 to 1 significant figure is 0.4

0.00000037 to 1 significant figure is 0.0000004

SF: Round to the first nonzero number

Estimation

Round to 1 significant figure to estimate

21.4 x 3.1 ≈ 20 x 3 ≈ 60

The equal sign changes to show it is an estimation

This is an **underestimate** because both values were rounded down

It is good to check all calculations with an estimate in all aspects of maths – it helps you identify calculation errors.

Limits of accuracy

A width w has been <u>rounded</u> to 6.4cm correct to 1dp.

< 6.35 the values would round to 6.3 | Error interval | ≥ 6.45 the values would round to 6.5

The error interval: $6.35 \leq w < 6.45$

Any value within these limits would round to 6.4 to 1dp

A width w has been <u>truncated</u> to 6.4cm correct to 1dp.

< 6.4 the values would truncate to 6.3 | Error interval | ≥ 6.5 the values would truncate to 6.5

$6.4 \leq w < 6.5$

Any value within these limits would <u>truncate</u> to 6.4 to 1dp

Addition/ Subtraction

Modelling methods for addition/ subtraction

- Bar models
- Number lines
- Part/ Whole diagrams

Addition is commutative

6 + 3 = 3 + 6

The order of addition does not change the result

Subtraction the order has to stay the same

360 – 147 = 360 – 100 – 40 – 7

- Number lines help for addition and subtraction
- Working in 10's first aids mental addition/ subtraction
- Show your relationships by writing fact families

Formal written methods

H	T	O
1	8	7
+ 5	4	2

H	T	O
4	2	7
− 2	4	9

Remember the place value of each column. You may need to move 10 ones to the ones column to be able to subtract

Decimals have the same methods remember to align the place value

Mathematics

10.13 Types of number & sequences…….

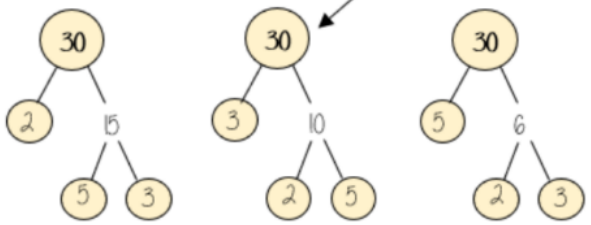
Key words	
Factor	numbers we multiply together to make another number
Multiple	the result of multiplying a number by an integer
HCF	highest common factor. The biggest factor that numbers share
LCM	lowest common multiple. The first multiple numbers share
Arithmetic	a sequence where the difference between the terms is constant
Geometric	a sequence where each term is found by multiplying the previous one by a fixed nonzero number
Sequence	items or numbers put in a pre-decided order

Sparx codes for this topic	
U211, U236	Multiple, factors & primes
U739	Product of prime factors
U529, U751, U250	Finding HCF & LCM
U213, U498, U958, U206	Arithmetic/geometric sequences
U680, U978, U206	Other sequences
U498, U530	Finding the nth term

Product of prime factors

R

Multiplication part-whole models



All three prime factor trees represent the same decomposition

30 = 2 x 3 x 5 ← Multiplication of prime factors

Using prime factors for predictions

eg 60	30 x 2	2 x 3 x 5 **x 2**
150	30 x 5	2 x 3 x 5 **x 5**

Finding the HCF and LCM

R

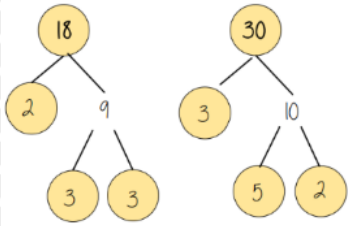
HCF – Highest common factor

HCF of 18 and 30

18: 1, 2, 3, 6, 9, 18

30: 1, 2, 3, 5, 6, 10, 15, 30

6 is the biggest factor they share → HCF = 6



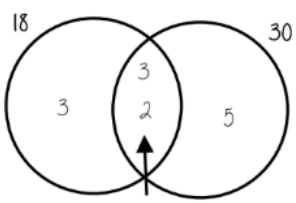
LCM – Lowest common multiple

LCM of 18 and 30

18: 18, 36, 54, 72, 90

30: 30, 60, 90

The first time their multiples match → LCM = 90



LCM = 90

HCF = 6

Multiples

The "times table" of a given number

R

All the numbers in this lists below are multiples of 3

3, 6, 9, 12, 15... (This list continues and doesn't end)

3x, 6x, 9x ... (x could take any value and as the variable is a multiple of 3 the answer will also be a multiple of 3)

Non example of a multiple: 4.5 is not a multiple of 3 because it is 3 x 1.5 ← Not an integer

Factors

R

Arrays can help represent factors

5 x 2 or 2 x 5

10 x 1 or 1 x 10

Factors of 10: 1, 2, 5, 10

The number itself is always a factor

Factors and expressions

6x × 1 OR 6 × x

2x × 3

3x × 2

Factors of 6x: 6, x, 1, 6x, 2x, 3, 3x, 2

Prime numbers

R

- Integer
- Only has 2 factors and itself

The first prime number

The only even prime number → 2

Learn or how-to quick recall...

2, 3, 5, 7, 11, 13, 17, 19, 23, 29...

Arithmetic/ Geometric sequences

Arithmetic Sequences change by a common difference. This is found by addition or subtraction between terms

Geometric Sequences change by a common ratio. This is found my multiplication/ division between terms.

Term to term rule – how you get from one term (number in the sequence) to the next term

Position to term rule – take the rule and substitute in a position to find a term. E.g. Multiply the position number by 3 and then add 2.

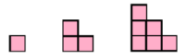
Other sequences

Fibonacci Sequence

1, 1, 2, 3, 5, 8 ...

Each term is the sum of the previous two terms

Triangular Numbers – look at the formation



1, 3, 6, 10, 15 ...

Square Numbers – look at the formation

1, 4, 9, 16...

Sequences are the repetition of a patten

Finding the nth term

R

This is the 4 times table → 4, 8, 12, 16, 20....

4n

7, 11, 15, 19, 22

This has the same constant difference – but is 3 more than the original sequence

4n + 3

This is the constant difference between the terms in the sequence

This is the comparison (difference) between the original and new sequence

'Life in all its fullness'

Mathematics

10.14 Indices & roots.....

Key words	
Standard (index) Form	a system of writing very big or very small numbers
Commutative	an operation is commutative if changing the order does not change the result
Base	The number that gets multiplied by a power
Power	The exponent - or the number that tells you how many times to use the number in multiplication
Exponent	The power - or the number that tells you how many times to use the number in multiplication
Indices	The power or the exponent
Negative	a value below zero
Coefficient	The number used to multiply a variable

Sparx codes for this topic	
U851	Powers and roots
U330, U534, U161	Standard form
U985, U694	Zero & negative indices
U235	Powers of powers
U330, U290, U264	Standard form calculations
U985, U772, U662	Further indices revision

Standard form

Any integer

Any number between 1 and less than 10

$$A \times 10^{n}$$

0.001
1 x $\frac{1}{1000}$
1 x 10^{-3}

10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
10^{1}	10^{0}	10^{-1}	10^{-2}	10^{-3}
10	1	0.1	0.01	0.001

Any value to the power 0 always = 1

Negative powers do not indicate negative solutions

Example

3.2×10^{4}
$= 3.2 \times 10 \times 10 \times 10 \times 10$
$= 32000$

Non-example

0.8×10^{4}

$5.3 \times 10^{0.7}$

Numbers in standard form with negative powers will be less than 1

$3.2 \times 10^{-4} = 3.2 \times \frac{1}{10} \times \frac{1}{10} \times \frac{1}{10} \times \frac{1}{10} = 0.00032$

Addition/ Subtraction Laws

$$a^{m} \times a^{n} = a^{m+n}$$

$$a^{m} \div a^{n} = a^{m-n}$$

Square and cube numbers

Square numbers

1, 4, 9, 16...

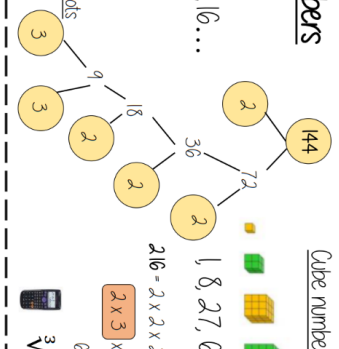
$144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$

$2 \times 2 \times 3$ x $2 \times 2 \times 3$

12 x 12

Prime factors can find square roots

$\sqrt{144} = 12$



Cube numbers

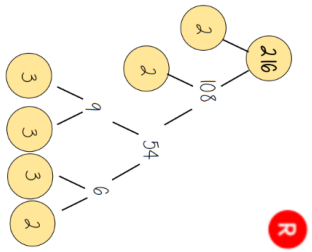
1, 8, 27, 64, 125...

$216 = 2 \times 2 \times 2 \times 3 \times 3 \times 3$

2×3 x 2×3 x 2×3

6 x 6 x 6

$\sqrt[3]{216} = 6$



Higher powers and roots

$\sqrt[n]{x}$ — Finding the nth root of any value

x^{n} — n – power (number of times multiplied by itself)

x – the base number

Zero and negative indices

$$x^{0} = 1$$

Any number divided by itself = 1

$$\frac{a^{6}}{a^{6}} = a^{6} \div a^{6}$$

$$= a^{6-6} = a^{0} = 1$$

Negative indices do not indicate negative solutions

$2^{2} = 4$
$2^{1} = 2$
$2^{0} = 1$

$2^{-1} = \frac{1}{2}$

$2^{-2} = \frac{1}{4}$

Looking at the sequence can help to understand negative powers

Powers of powers

$$(x^{a})^{b} = x^{ab}$$

$(2^{3})^{4} = 2^{3} \times 2^{3} \times 2^{3} \times 2^{3}$

The same base and power is repeated Use the addition law for indices

$(2^{3})^{4} = 2^{12}$ ← $a \times b = 3 \times 4 = 12$

NOTICE the difference

$(2x^{3})^{4} = 2x^{3} \times 2x^{3} \times 2x^{3} \times 2x^{3}$

The addition law applies ONLY to the powers. The integers still need to be multiplied

$(2x^{3})^{4} = 16x^{12}$

Standard form calculations

Addition and Subtraction

Tip: Convert into ordinary numbers first and back to standard from at the end

$6 \times 10^{5} + 8 \times 10^{5}$

Method 1

$= 600000 + 800000$
$= 1400000$
$= 1.4 \times 10^{5}$

This is not the final answer

Method 2

$= (6 + 8) \times 10^{5}$
$= 14 \times 10^{5}$
$= 1.4 \times 10^{1} \times 10^{5}$
$= 1.4 \times 10^{5}$

Multiplication and division

$\frac{1.5 \times 10^{5}}{0.3 \times 10^{3}}$ ← Division questions can look like this

$(1.5 \times 10^{5}) \div (0.3 \times 10^{3})$

$1.5 \div 0.3 \times 10^{5} \div 10^{3}$

$= 5 \times 10^{2}$

For multiplication and division you can look at the values for A and the powers of 10 as two separate calculations

Personal Development

Year 10 Knowledge Organiser – Online Issues	
Social media	Websites and applications that enable users to create and share content or to participate in social networking.
Marketing	The activity or business of promoting and selling products or services, including market research and advertising.
Advertising campaign	An organised course of action to promote a product or service.
Algorithms	A process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer.
The Bechdel Test	A way of evaluating whether or not a film or other work of fiction portrays women in a way that is sexist or characterized by gender stereotyping. To pass the Bechdel test a work must feature at least two women, these women must talk to each other, and their conversation must concern something other than a man.
Data collection	Ways that data is gathered and stored.
Data protection	Keeping people's data safe and confidential.
Data sharing	Sharing data with others.
Data use	Using data to make decisions.
Interaction	Another word for communication.
Peer pressure	Someone is influenced by a group or individual.
Cyberbullying	Abuse given or received on an online platform.
Screen addiction	Screen addiction refers to excessive and compulsive use of digital devices, such as smartphones, tablets, computers, and televisions. It can impair normal daily functioning and affect relationships, confidence, and responsibilities.
Gaming addiction	Gaming addiction, also known as video game addiction or internet gaming disorder, is a psychological addiction characterised by compulsive use of video games that results in significant impairment to an individual's ability to function in various life domains over a prolonged period of time.
Computer viruses	A computer virus is a malicious software application or authored code that can attach itself to other programs, self-replicate, and spread itself onto other devices.
Inappropriate content	Inappropriate content refers to material that infringes applicable laws or rights, including anything that is obscene, indecent, libelous, or offensive. It often includes themes that are unsuitable for children, such as violence, sexual content, illegal activity, or hate speech. Additionally, it can be any material that is upsetting or disturbing, particularly for young audiences.

Personal Development

Year 10 Knowledge Organiser – Online Issues	
Online grooming	Online grooming is a term used to describe the tactics abusers deploy through the internet to sexually exploit children. It is the act of sending an electronic message, series of messages or engaging over an online platform with content that may be of an indecent nature, with the intention of procuring the recipient to engage in or submit to sexual activity with another person, including but not necessarily the sender. Grooming is a word used to describe people befriending children in order to take advantage of them for sexual abuse and other forms of child abuse.
Pornography	Printed or visual material containing the explicit description or display or sexual organs or activity, intended to stimulate sexual excitement.
Online reputation	Online reputation is the image of a brand or company that is projected on the internet. It is the consensus public opinion of an individual or organisation based on their online presence.
Identity theft/Fraud	The fraudulent practice of using another person's name and personal information in order to obtain credit, loans, etc.

REPORT REMOVE TOOL

Report Remove is here to help young people under 18 in the UK to confidentially report sexual images and videos of themselves and remove them from the internet.

GCSE PE

1.1.d. Respiratory System Key Terms		
1	**Aerobic capacity**	The maximum amount of oxygen your body can take in and use, measured with the V02 max test
2	**Aerobic Exercise/ Activity**	When oxygen is used for the duration of exercise to make energy, usually at moderate intensity at a continuous rate.
3	**Alveoli**	Small air sacks in the lungs which are the site of gas exchange.
4	**Anaerobic Exercise/ Activity**	'Without oxygen'. High intensity exercise for short periods of time where oxygen is <u>not</u> predominantly used to produce energy
5	**Breathing rate**	Number of breaths taken per minute
6	**Gas exchange**	The movement of O2 and CO2 between the alveoli and capillaries and the working muscles and capillaries.
7	**Minute ventilation**	(minute volume) Then volume of gas inhaled OR exhaled from the lungs in 1 minute
8	**Mitochondria**	the place in each muscle cell where energy is produced
9	**Respiratory Muscles**	Muscles which help air move in and out of the lungs (diaphragm and intercostals)
10	**Respiration system**	gets oxygen into the body and removes carbon dioxide. It's made up of the mouth/nose – bronchi- bronchioles and alveoli
11	**Tidal volume**	The amount of air breathed in or out in one breath. Measured in ml
12	**Trachea (windpipe)**	The pipe which connects the nose/mouth to the bronchi

1.2.c. Preventing Injury in Physical Activity and Training		
1	**Cool Down**	Low intensity exercise and stretching after strenuous exercise to slowly decrease, breathing rate and heart rate and muscle temperature to resting levels
2	**Hazards**	something which presents a risk that could cause and injury
3	**Personal Protective Equipment (PPE)**	All equipment/clothing which is intended to be worn/held to reduce the chance of injury
4	**Risk**	The chance that someone will be harmed by a hazard
5	**Risk Assessment**	When you measure the risk of something happening, anticipate what the consequences could be and plan actions to prevent it
6	**Warm Up**	Physical activity to prepare the body physically and mentally for exercise to prevent injury

1.2.a. Components of Fitness Key Terms

Agility the ability to change the direction of the body at speed, whilst maintaining control

Balance the ability to stay upright or stay in control of the body movement

Cardiovascular Endurance (Stamina) The ability to continue exercising whilst getting energy for muscular movement from the aerobic energy system

Coordination The ability to use two or more body parts together to complete a skill under control, smoothly and efficiently

Fitness The ability to meet the demands of your environment. It can be tested and improved.

Flexibility The range of movement at a joint

Muscular endurance the ability to repeatedly use your muscle and body without tiring

Power A type of fitness. The ability to exert maximal force in as shortest time possible

Reaction Time The ability to respond quickly to a stimulus

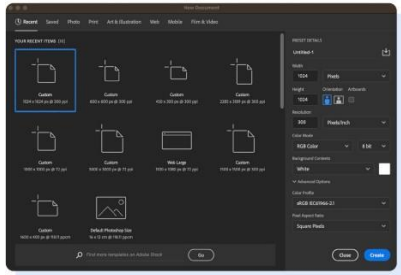
Speed The ability move part or the whole body quickly

Strength The maximum force a muscle or group of muscles can exert against a resistance

Photoshop Knowledge Organiser

Opening a file...

Open Adobe Creative Cloud and open Photoshop. Go to File >New
A box will appear. Choose a Name for your work, go to print and then choose a Preset to select your size of your canvas. Don't forget, 300 dpi (dots per inch).



Saving your work

Saving in Photoshop format **(.psd)** will retain layers, type, and other editable Photoshopproperties. It's best to save your image in PSD format while you're still working on it.
Select: File > Save
Saving in **JPEG (.jpg)** format will save as a standard image file that can be shared, opened by other programs due to its smaller file size. Saving your design as a JPEG (.jpg) will flatten layers.
Select: File > Save As then select 'JPEG' from the format drop down box.
When you're finished editing, save a copy in both of these formats.

REMEMBER! Click on 'This PC' and scroll down until you see your named server. Save in Graphics folder.

Photoshop toolbar

- Move & selection tools.
- Magic wand tool
- Crop & slice tools
- Measurement tool
- Retouching & painting tools
- Drawing & type tools
- Navigation tools
- Edit the toolbar
- Line & fill colour selector
- Quick mask tool
- Change screen mode

- Pointer V
- Rectangular Marquee Tool M
- Lasso Tool L
- Magic Wand Tool W
- Crop Tool C
- Frame Tool K
- Eyedropper Tool I
- Spot Healing Brush V
- Brush Tool B
- Clone Tool S
- Eraser Tool E
- History Brush Tool Y
- Paint Bucket Tool G
- Blur Tool
- Dodge Tool O
- Pen Tool P
- Type Tool T
- Path Selection A
- Rectangle Tool U
- Pan Tool H
- Zoom Tool Z

The toolbar's hidden tools

Each tool in the toolbar is represented by an icon, and there are many more tools available than what we see.

To view the additional tools, click and hold on the icon. Or right-click (Win) / Control-click (Mac) on the icon. A fly-out menu will open listing the other tools that are available.

Keyboard Shortcuts

Ctrl T Free Transform	Ctrl C Copy
Ctrl + Zoom in	Ctrl V Paste
Ctrl - Zoom out	Ctrl O Open
Ctrl A Select All	Ctrl N New file
Ctrl D Deselect	Ctrl J New layer

Made a mistake?

To undo the last thing you did, CTRL+Z

To redo the last thing you did, choose SHIFT CTRL+Z

Transform

The Free Transform command (Ctrl T) lets you apply transformations in one continuous operation.

- Move
- Scale
- Rotate
- Skew/distort
- Perspective
- Warp

Religion & Philosophy GCSE 10. 3 Islam Beliefs—CORE KNOWLEDGE

Topic 1: Nature of God	
Tawhid	Oneness of God
Shirk	Unforgivable Sin, worshipping other than Allah
Adalat	Divine Justice (*fairness*)
Transcendence	Beyond universe and understanding
Immanence	Throughout the universe (knowable, close)
Beneficence	Goodness (Allah's will)
Mercy	Compassion & Forgiveness
99 names of Allah	Describe Allah's nature: Beneficent, Merciful, The Great Forgiver, The Mighty One

Topic 2: Risalah	
Risalah	Prophethood—Messengers of God
Revelation	God's method of communication
Ibrahim	Restored worship of Allah alone, Rebuilt Kaba
Adam	First Man and prophet, built the Kaba
Muhammed (pbuh)	'Seal' of the Prophets - Man of integrity Restored worship of one true God
Isa (Jesus)	Born of a virgin & performed miracles

Topic 3: Malaikah	
Malaikah:	**Angels:** Beings of light with wings **Sunni:** no Free Will **Shia:** limited Free-will
Jibriel: (Gabriel)	**Angel**: Revealed the Qur'an to Muha.
Israfil: (Raphael)	**Angel**: Trumpeter to mark judgement day
Mika'ail	**Angel**: Nourishes. Protects places of worship

Topic 4: Akhirah	
Akhirah	'Afterlife'
Jannah	'Paradise' ("Garden of pleasure")
Jahannam	'Hell' ("Blazing Fire")
Barzakh	State of waiting until the day of judgement
Al Qadr	Belief in Predestination
Free Will	Ability to make choices for ourselves
"Insha'Allah"	*If God Wills it:* Emphasises everything is part of God's plan
Predestination	Allah has planned & knows all that will happened
Preserved Tablet:	Everything is already written in stone before time

Topic 5: Foundations of the Faith	
Sunni	Large denomination - 6 articles of faith Abu Bakr was the rightful Caliph
Six Articles	Tawhid, Malaikah, Risalah, Kutub, Al-Qadr, Akhira
Abu-Bakr	Muhammed's nephew, voted to lead by other Muslims

Shia	Smaller denomination (10%) 5 roots Ali was the rightful Caliph and first Imam
5 Roots	Tawhid, Adalat, Risalah, Imamate, Resurrection
Imamate	12 Leaders of Islam - Spiritual successors to Muhammed. First was Ali.
Ali	Successor to Muhammed and first Iman, chosen by Muhammed

Religion & Philosophy GCSE 10. 4 Islam PRACTICES and Islam EXTENSION

Topic 1: Five Pillars	
Shahadah:	Declaration of Faith
Salah	5 x daily prayer
Wu'du	Ceremonial cleansing before prayer
Ra'ka	Set movements before prayer
Zakat	Obligatory giving of %2.5 of wealth
Sawm	Fasting during the month of Ramadan
Ramadan	Month of Fasting
Hajj	Pilgrimage to Mecca – once in a Muslim's life
Pilgrimage	Sacred journey to a special place of religious interest
Mecca	Holy City in Saudi Arabia – Location of Ka'ba
Ka'ba	Building dedicated to Allah. Built by Adam, Rebuilt by Ibrahim and then Mohammed. Touch the Black Stone

Topic 2: Festivals	
Eid-ul-Fitr	Breaking of Fast: Feast at the end of Ramadan. Morning Prayers, Gifts and time with family
Eid-ul-Adha	Festival of Sacrifice: Remembers Abrahams willingness to sacrifice Isaac. Lamb is Sacrificed & shared
Ashura	Shia: Commemorates martyrdom of Hussain: Procession, Songs & Self Flagellation
Night of Power	The Qur'an revealed by Jibriil to Mohammed, in a cave. Celebrated towards the end of Ramadan

Topic 3: Jihad	
Jihad	'struggle'
Greater Jihad	Daily struggle to be a good Muslim
Lesser Jihad	Physical struggle in defence of Islam. Cannot force religion, or target civillians

Topic 4: 10 Obligatory Acts	
10 obligatory Acts (Shia)	Salah - Sawm -Zakah -Khums -Hajj -Jihad -Amr-bil-Ma'ruf -Nahi Anil Munkar -Tawalla - -Tabarra
Amr-bil-Ma'ruf	Encouraging good actions and moral behaviour.
Nahi Anil Munkar	Discouraging and preventing evil or sinful actions.
Tawalla	Expressing love & loyalty towards the Prophet & his family.
Tabarra	Disassociating from enemies of the Prophet & his family
Khums	Tax of 20% for Muslim leaders and the needy

KEY CONCEPTS	
Niyah	Intention - Done with the correct heart and mindset
Jummah	Communal Friday Prayers—led my Iman
Halal	'Permissible' acceptable actions, behaviours & items
Haram	'Forbidden' unacceptable actions, behaviours & items
Mosque	Islamic place of worship
Shariah	'Straight path' Law of Islam based on Qur'an
Ummah	Worldwide Muslim Community

EXTENSION:	
Kutub:	Sacred Texts of the Prophets
Injil:	'Gospel' Story of Jesus & morality
Zabur:	'Pslams' Davids songs of worship
Shaihfah:	'Scrolls' Abrahams Revelation
Tawat:	'Torah' Law of Moses
Sadakah:	Voluntary giving beyond Zakat
Ihram:	State of purity, entered into as part of Hajj
Reversion:	Becoming a Muslim, returning to their 'original state'
Jamarat	Pillars—Used to symbolise stoning of the de
Arafat	Mountain of Mohammeds last sermon— Symbolises forgiveness of Sins an Allah's mercy

Religion and Philosophy

Science – biology – Plant structures

CB6a – Photosynthesis

Word	Pronunciation	Meaning
biomass		The total mass in living organisms, usually shown as the mass after drying.
cellulose	***sell****-you-lOws*	Plant cell walls are made of tough cellulose, which support the cell and allow it to keep its shape.
chloroplast	***klor****-O-plast*	A green disc containing chlorophyll, found in plant cells. This is where the plant makes glucose through photosynthesis.
endothermic reaction		A type of reaction in which energy from the surroundings is transferred to the products, e.g. photosynthesis.
food chain		A diagram that uses arrows to show the flow of energy through organisms that depend on each other for food.
gas exchange		A process in which one gas diffuses across a membrane and another gas diffuses in the opposite direction.
glucose	***glue****-cO's*	The sugar produced by photosynthesis and needed for respiration.
guard cell	***gard sell***	A pair of guard cells open and close plant stomata.
lipid		A substance in a large group of compounds that includes fats and oils.
palisade cell	***pal****-iss-ayd* ***sell***	Tall, column-shaped cell near the upper surface of a plant leaf.
photosynthesis	*fOw-tow-****sinth****-e-sis*	A series of enzyme-catalysed reactions carried out in the green parts of plants. Carbon dioxide and water combine to form glucose. This process requires energy transferred by light.
polymer		A long-chain molecule made by joining many smaller molecules (monomers) together.
producer	*prod-****you****-ser*	An organism such as a plant that makes its own food using photosynthesis.
protein	***prO****-teen*	A polymer made up of amino acids.
protist	***prO****-tist*	An organism that belongs to a kingdom of eukaryotic and mainly single-celled organisms (also called a protoctist).
respiration	*res-per-****ay****-shun*	A series of reactions occurring in all living cells, in which glucose is broken down to release energy.
starch		A polymer carbohydrate that is made by the joining together of glucose molecules.
stoma	***stO****-ma*	A tiny pore in the lower surface of a leaf, which, when open, allows gases to diffuse into and out of the leaf. Plural is stomata.
storage organ		A plant organ used to store energy-rich substances such as starch – for example, a potato.
sucrose	***soo****-crO's*	The type of sugar found in the phloem of plants and used as table sugar.

CB6b – Factors that affect photosynthesis

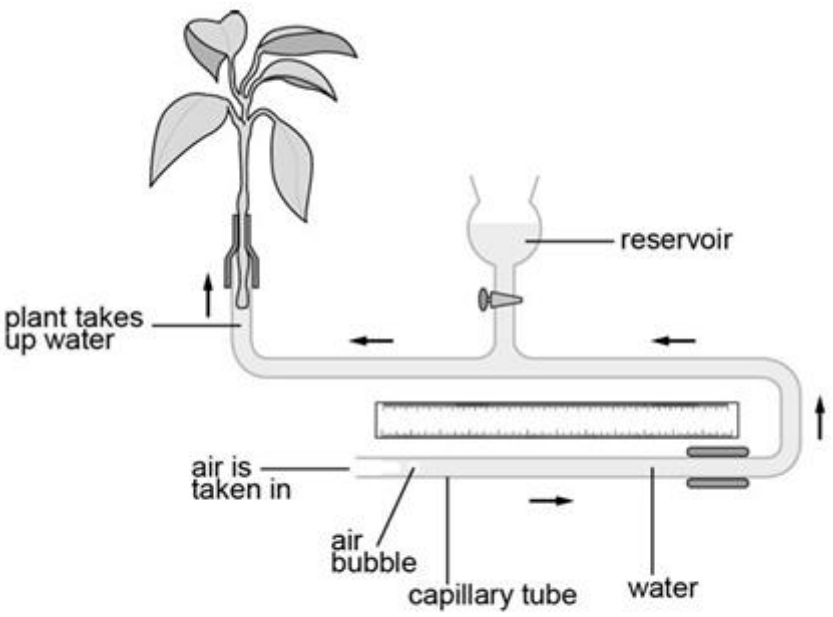
Word	Pronunciation	Meaning
concentration	*con-sen-**tray**-shun*	The amount of something found in a certain volume of another substance. For example, the amount of a solute dissolved in a certain volume of solvent.
direct proportion		A linear relationship in which the percentage change in a variable occurs with an equal percentage change in another variable. A direct proportion is seen as a straight line through the origin when the two variables are plotted on a graph.
inverse proportion		A non-linear relationship where one variable decreases in size at the same rate as another increases.
inverse square law		A mathematical relationship in which a quantity varies in inverse proportion to the square of the distance from the source of the quantity.
limiting factor		A single factor that, when in short supply, can limit the rate of a process such as photosynthesis.
linear relationship		A relationship between two variables (quantities) shown by a straight line on a graph.
rate	***rayt***	How quickly something happens.

CB6c – Absorbing water and mineral ions

Word	Pronunciation	Meaning
active transport		The movement of particles across a cell membrane from a region of lower concentration to a region of higher concentration (*against* the concentration gradient). This process requires energy.
concentration gradient	*con-sen-**tray**-shun* ***gray**-dee-ent*	The difference between two concentrations.
diffusion	*diff-**you**-shun*	The random movement and spreading of particles. There is a net (overall) diffusion of particles from regions of higher concentration to regions of lower concentration.
fluid		A liquid or a gas.
mineral ion		Ion from a naturally occurring salt.
nitrate	***ny**-trayt*	A compound that contains nitrogen in the form of a nitrate ion.
osmosis	*os-**mO**-sis*	The overall movement of *solvent* molecules in a solution across a partially permeable membrane, from a dilute solution to a more concentrated one.
partially permeable membrane		Describes a membrane that will allow certain particles to pass through it but not others. Another term for semi-permeable membrane.
protein	***prO**-teen*	A polymer made up of amino acids.
root hair cell		A cell found on the surface of plant roots that has a large surface area to absorb water and dissolved mineral salts quickly from the soil.
wilt		Drooping of parts of a plant caused by a lack of water.

CB6d – Transpiration and translocation

Word	Pronunciation	Meaning
companion cell		A specialised cell located in the phloem tissue of plants. They pump sucrose into sieve cells.
lignin		A type of polymer that is combined with cellulose in some plant cell walls to make the cells woody, e.g. in xylem cells.
phloem tissue	***flow***-*em*	Living tissue formed of sieve tubes and companion cells that transports sugars and other soluble compounds around a plant.
potometer	*pot*-***om***-*et-er*	A device used for measuring the rate of water uptake by a plant.
sieve tube/cell	***siv***	Tubes formed of phloem sieve cells (so called because the cells have holes in their ends). The tubes carry sugars and other soluble compounds around the plant.
translocation	*trans-low*-***kay***-*shun*	The transport of sugars (mainly sucrose) and other soluble compounds in the phloem tissue of a plant.
transpiration	*trans-per*-***ay***-*shun*	The flow of water into a root, up the stem and out of the leaves.
xylem vessel/cell	***zy***-*lem*	A long, thick-walled tube found in plants, formed from many dead xylem cells. The vessels carry water and dissolved mineral salts through the plant.



a potometer

Science – chemistry – electrolytic processes and obtaining and using metals

CC10a Electrolysis
CC10b Products from electrolysis

Word	Pronunciation	Meaning
anion	***an****-I-on*	A negatively charged ion, formed by gaining electrons (usually a non-metal ion).
anode		Positive electrode.
cathode		Negative electrode.
cation	***cat****-I-on*	A positively charged ion formed by losing electrons.
electrode		A rod made of a metal or graphite that carries the current into or out of the electrolyte.
electrolysis	*e-lek-**trol**-is-is*	The process in which energy transferred by a direct electrical current decomposes electrolytes.
electrolyte	*e-**lek**-trO-lite*	An ionic compound that is molten or dissolved in water.
half equation		An ionic equation showing the electrons gained or lost in oxidation or reduction reactions.
oxidation	*ox-id-**ay**-shun*	A reaction in which oxygen is added to a chemical substance; loss of electrons by an atom or negative ion.
reduction	*re-**duck**-shun*	A reaction in which oxygen is lost by a chemical substance; gain of electrons by an atom or negative ion.

Word	Pronunciation	Meaning
discharged	*dis-**charged***	In electrolysis, an ion is discharged when it gains or loses electrons to form a neutral atom or molecule.
inert		An electrode that is unreactive, such as graphite or platinum.

Science – chemistry – obtaining and using metals.

CC11a Reactivity

Word	Pronunciation	Meaning
cation	***cat**-I-on*	Ion with one or more positive charges.
displaceme nt reaction		A reaction where a more reactive element takes the place of a less reactive element in a compound.
half equation		Ionic equation showing electron transfers in oxidation or reduction.
oxidation	*ox-id-**ay**-shun*	A reaction in which a substance gains oxygen or loses electrons.
reactivity series		A list of metals in order of reactivity with the most reactive at the top.
redox reaction		A reaction in which oxidation and reduction take place.
reduction	*re-**duck**-shun*	A reaction in which a substance loses oxygen or gains electrons.
spectator ions		Ions that do not change during a reaction.

CC11b Ores

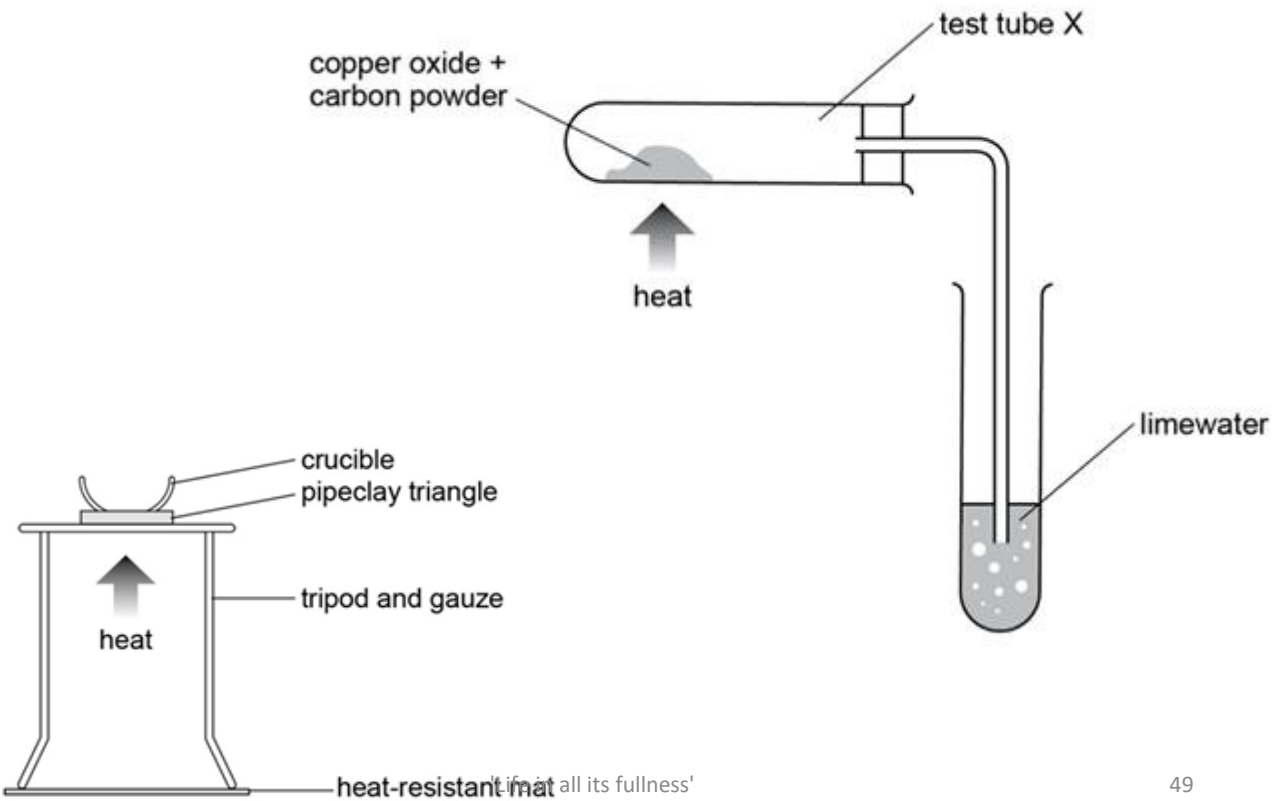
Word	Pronunciation	Meaning
bioleaching	***By**-Oh-leech-ing*	Using bacteria to extract metals from their ores.
electrolysis	*e-lek-**trol**-is-is*	A process in which electrical energy from a direct current supply decomposes electrolytes.
extraction		A process in which a metal is obtained from its ore.
leachate	***leech**-ate*	A solution produced when water or another solvent passes through a mixture of substances and dissolves some of them.
native state		A metal that occurs uncombined with any other element.
ore		A rock that contains a high concentration of a metal or metal compound.
phytoextraction	*fye-tow-ex-**track**-shun*	Using plants to extract metals from their ores.

CC11c Oxidation and reduction

Word	Pronunciation	Meaning
corrosion	*cor-**Oh**-shun*	A reaction in which a metal reacts with air and sometimes water to form a metal oxide or hydroxide.
oxidation	*ox-id-**ay**-shun*	A reaction in which a substance gains oxygen or loses electrons.
redox		A reaction in which reduction and oxidation take place.
reduction	*re-**duck**-shun*	A reaction in which a substance loses oxygen or gains electrons.
rusting		The reaction between iron, air and water to form hydrated iron(III) oxide (rust).
tarnish		A dull film on a metal's surface.

CC11d Life cycle assessment and recycling

Word	Pronunciation	Meaning
life cycle assessment (LCA)		A technique used to assess the environmental impact associated with all the stages in the life of a product from cradle to grave.
recycling		Converting waste materials into new products.



Physics – motion and forces – energy and forces

CP2a Resultant forces

Word	Pronunciation	Meaning
acceleration	*ack-**sell**-er-ate*	A measure of how quickly the velocity of something is changing. It can be positive if the object is speeding up or negative if it is slowing down.
balanced forces		When the forces in opposite directions on an object are the same size so that there is a zero resultant force.
resultant force		The total force that results from two or more forces acting upon a single object. It is found by adding together the forces, taking into account their directions.
scalar quantity		A quantity that has a magnitude (size) but not a direction. Examples include mass, distance, energy and speed.
speed		How fast something is moving. Often measured in metres per second (m/s), miles per hour (mph) or kilometres per hour (km/h).
unbalanced forces		When the forces in opposite directions on an object do not cancel out, to there is a non-zero resultant force.
vector quantity		A quantity that has both a size and a direction. Examples include force, velocity, displacement, momentum and acceleration.
velocity		The speed of an object in a particular direction. Usually measured in metres per second (m/s).

CP2b Newton's First Law

Word	Pronunciation	Meaning
centripetal force		A force that causes objects to follow a circular path. The force acts towards the centre of the circle.

CP2c Mass and weight

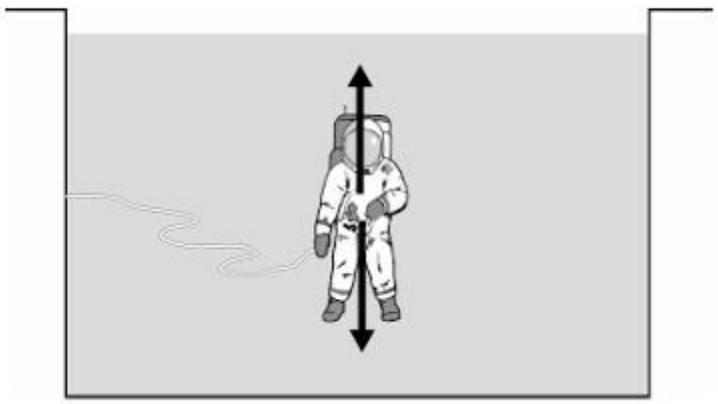
Word	Pronunciation	Meaning
mass		A measure of the amount of material there is in an object. The units are kilograms (kg).
weight	*w**ay**-t*	The force pulling an object downwards. It depends upon the mass of the object and the gravitational field strength. The units are newtons (N).
gravitational field strength	*grav-it-**ay**-shon-al*	A measure of how strong the force of gravity is somewhere. It is the force on a 1 kilogram mass, so the units are newtons per kilogram (N/kg).

CP2d Newton's Second Law

Word	Pronunciation	Meaning
inertial mass	*in-**err**-shall*	The mass of an object found from the ratio of force divided by acceleration. The value is the same as the mass calculated from the weight of an object and gravitational field strength.

CP2e Newton's Third Law

Word	Pronunciation	Meaning
action–reaction forces		Pairs of forces on interacting objects. Action–reaction forces are always the same size, in opposite directions, and acting on different objects. They are not the same as balanced forces.
balanced forces		Forces acting on the same object. Balanced forces are always equal, in opposite directions, and always act on the same object. They do not have to be the same type of force An object acted on by balanced forces will not change the way it is moving..
equilibrium		When a situation is not changing because all the things affecting it balance out.



CP7a Work and power

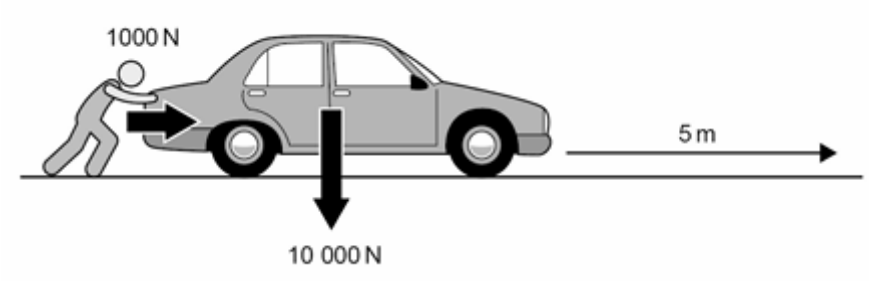
Word	Pronunciation	Meaning
energy		Something that is needed to make things happen or change.
power		The amount (rate) of energy transferred per second. The units are watts (W).
watts (W)		The unit for measuring power. 1 watt = 1 joule of energy transferred every second.
work done		A measure of the energy transferred when a force acts through a distance.

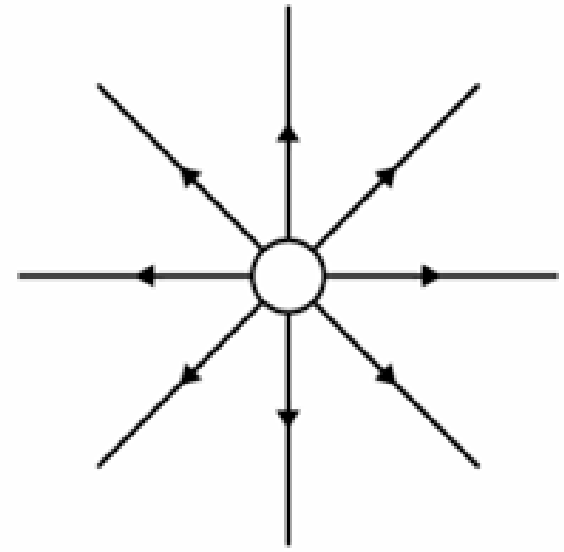
CP8a Objects affecting each other

Word	Pronunciation	Meaning
action−reaction forces		Pairs of forces on interacting objects. Action–reaction forces are always the same size, in opposite directions, and acting on different objects. They are not the same as balanced forces, which act on a single object.
contact forces		Forces where there needs to be contact between objects before the force can have an effect (e.g. friction or upthrust).
electric field/ electrostatic field		The space around an object with a charge of static electricity, where it can affect other objects.
force field		The space around something where a non-contact force affects things. Examples include magnetic fields and gravitational fields.
friction		A force between two surfaces that resists motion.
gravitational field		The space around any object with mass where its gravity attracts other masses.
magnet		An object that has its own magnetic field around it.
magnetic field		The area around a magnet where it can affect magnetic materials.
magnetic material		A material such as iron that is attracted to a magnet.
magnetism		The force caused by magnets or magnetic materials.
magnitude		The size of something, such as the size of a force or the measurement of a distance.
non-contact force		A force that can affect something from a distance (e.g. gravity).
normal contact force		A force that acts at right angles to a surface as a reaction to a force on that surface.
scalar quantity		A quantity that has a magnitude (size) but not a direction. Examples include mass, distance, energy and speed.
static electricity		Electric charges on insulating materials.
upthrust		A force that pushes things up in liquids and gases.
vector		A quantity that has both size and direction.

CP8b Vector diagrams

Word	Pronunciation	Meaning
component (forces)		One of two forces at right angles to each other, resolved from a single force.
free body force diagram		A diagram of an object showing all the forces acting on it and the size and direction of those forces.
net force		Another term for resultant force.
resolving (forces)		Representing a single force as two forces at right angles to each other.
resultant force		The total force that results from two or more forces acting upon a single object. It is found by adding together the forces, taking into account their directions. Another term for net force.
scale diagram		A way of working out the resultant forces or component forces by drawing a diagram where the lengths of arrows represent the sizes of the forces.
vector diagram		A diagram on which vectors are displayed (e.g. a scale diagram, a free body force diagram).





Statistics
2b: Continuous data

Histogram

- A **histogram** is similar to a bar chart but, because the data is continuous, there are no gaps between the bars.

H

- To draw a **histogram for unequal class intervals**, adjust the height of the bars so the **area** of the bar represents the frequency. The height of each bar represents the **frequency density**.
- Frequency density = $\frac{\text{frequency}}{\text{class width}}$
- You can compare data from histograms if they have the same class intervals and the same frequency density scales.

Frequency polygons

- A **frequency polygon** joins the midpoints of the tops of the bars of a histogram with straight lines. A frequency polygon may be drawn with or without a histogram.

Cumulative frequency

- **Cumulative frequency** is the running total of the frequencies from each class interval.
- For discrete data, you can draw a **cumulative frequency step polygon**. Plot the cumulative frequencies against the upper class boundaries. Join the steps with straight lines.
- For grouped continuous data, you can draw a **cumulative frequency diagram**. Plot the cumulative frequencies against the upper class boundaries. Join the points with a smooth curve or straight lines.
- Cumulative frequency diagrams can be used to estimate or predict other values.

Distributions

- The **shape of a distribution** is the shape formed by the bars in a histogram, or by a frequency polygon, or by the rows of a stem and leaf diagram.
- A **distribution** can be **symmetrical**, or have **positive skew** or **negative skew**.

Misleading diagrams

- **Three-dimensional diagrams** make comparisons difficult as data proportions appear distorted.
- Diagrams without clear scales, labels or keys may be misleading.

Statistics
3a: Measures of central tendency

Averages

- When the number of data values, $\boldsymbol{n}$, is odd the **median** is the value of the $\frac{1}{2}(\boldsymbol{n}+1)$**th** observation. When $\boldsymbol{n}$ is even, the median is the mean of the two middle values.
- **Mean** $= \bar{x} = \frac{\sum x}{n}$
  - $\bar{x}$ is the mean of all the x values.
  - $\sum x$ is the sum of all the x values.
- The **mode** is the data item with the highest frequency.
- The data in a frequency table is written in order. The median is the $\frac{1}{2}(n+1)$th value.
- The **modal class** is the class with the highest frequency.
- For grouped continuous data, or for large data sets, the median is the $\frac{1}{2}n$th value.
- For grouped data, estimated median $= L + \frac{\frac{n}{2} - F}{f} \times w$ where:
  - L is the lower boundary of the class containing the median
  - n is the total number of values
  - F is the cumulative frequency of the intervals before the one containing the median
  - f is the frequency of the median class interval
  - w is the width of the median class interval.
- When all the data values are increased (or decreased) by the same amount or percentage, the averages are increased (or decreased) by the same amount or percentage.