
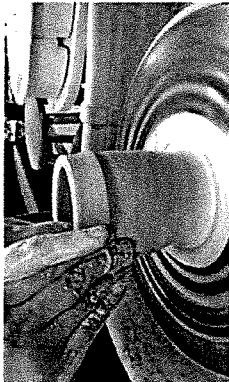

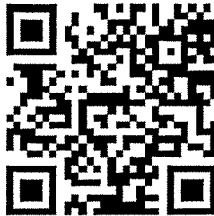
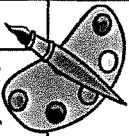


# Art & Design Knowledge Organiser – 1

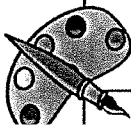
<p><b>Week 1</b> Mary O'Malley Ceramicist   Art History 101   University of YouTube By Trifirestudios <a href="https://www.youtube.com/watch?v=ZHG1bdW5v1g">https://www.youtube.com/watch?v=ZHG1bdW5v1g</a></p>		<p><b>The Key Knowledge You Need to Know After This Video:</b> -How is her work described? Functional surrealism. -What is her series of work called? The bottom feeder series. -What are the number of issues she looked at for this series? The romanticising of nature. The representation of nature as it turns into something kitsch. Conservation. -What was one of her aims for this series of work? To confuse function and aesthetics. -Although it is un likely that someone will put tea in her tea pot what is important to her? That is pours well and the spout/handle are integrated well into the design. That it can function. -What two things has she combined in her pieces? Classical table wear and sea shore debris.</p>	<p><b>Week 4</b> Writing your thoughts and opinions about a drawing by the artist.</p> 	<p><b>Word Bank:</b> COLOUR: Rusty red / Porcelain white / Gold trim / Glossy / Matt. LINE: Curved / Leading / Wiggly / Wavy / Naturalistic / Curling / Flowing / Fluid. LIGHT: Shiny / Crisp / Shadow / Depth. TEXTURE: Rough / Bumpy / Spiky / Smooth / Dimpled / Indented. COMPOSITION: One sided / Overlapping / On the edge / Movement / Motion / Concealed / Layered / Hidden TYPE OF ART: Sculptural / Clay / Pottery / Three dimensional / Naturalistic / Cup / Saucer / Bowl / Functioning / Serialism MEDIUM: Clay / Slip / Potter's Wheel / Rolling Pin / Tools / Gauge / Glaze FEELING: Awkward / Uneasy / Sea sick / Intrigued / Explorative / Confused</p> 
<p><b>Week 2</b> Pottery throwing - How to Make a Pottery Tea Mug with plate #80 By: Sifounios Pottery – (Artemisio) <a href="https://www.youtube.com/watch?v=BpYJUXNXGdU">https://www.youtube.com/watch?v=BpYJUXNXGdU</a></p>		<p><b>Watch and learn something new.</b></p> 	<p><b>Week 5</b> Annotating your own work.</p> 	<p>All Saints VLE Art &amp; Design GCSE Y9 –Y11 GCSE Literacy How to annotate booklet.</p> 
<p><b>Week 3</b> Key terms and Vocabulary Definition finding.</p> 	<p><b>The Key Terms You Need to Know Are:</b> Goal: What do you want your piece of work to look like? Do you want it to convey a particular message? Summary: Bring together and focus the main points of what you want to say. Attitude: How you feel about a particular piece of art work/ artist. Style or technique. How you approach your own work – I can do this be possible. Concentrate: Focus in order to be accurate and capture detail in your work. Challenge: Practice and refine a skill over and over again in order to get better – Something you find challenging at first. Clay: Mud that can be moulded and made into a sculpture. Slip: A paste made by adding water to clay used to help stick pieces together. Tile: A thin rolled out square shaped piece of clay. Pinch Pot: A small simple pot made by pinching the clay into shape. Hollow Out: Dig out clay using tools to form a tunnel or a hole. Sculpture: A three dimensional piece of art work. Pottery: Anything made from clay. Porcelain: This clay is specialist and very expensive, once fired it is very delicate and pure white.</p>	<p><b>Week 6</b> Practice &amp; Develop Your Skills Further.</p> 	<p>Air dry clay sculpture part 1 By Mark D Maker <a href="https://www.youtube.com/watch?v=3ifdtpvMNgE">https://www.youtube.com/watch?v=3ifdtpvMNgE</a></p> 	 
<p><b>Challenge Yourself:</b> Remember in Y9 innate practice / inspired practice / Repeating practice / Direct observation practice / Deconstruction and simplifying an object practice &amp; finally Teaching yourself through a tutorial marathon? <b>Now Try.....</b> Construction Construction is taking the simple representation of a complicated object, such as the human form or an animal, and filling in the blanks. When you look at a fantastic piece by your favorite artist, all you see is the finished product. It is easy to look at something like that and convince yourself you can't do that. However, most artists start with the basic shapes and framework, before refining and polishing everything to produce the final outcome. You have likely seen the human form broken down into basic shapes. It is easier to manipulate these shapes to create the pose you want, and then add the details, such as muscle structure, later. Deconstruction is about finding the simple shapes that make up a complicated form. Construction is about understanding to reconstruct the same object in any way you wish.</p>				



# Y10

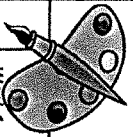
# Art & Design Knowledge Organiser – 2

<p><b>Week 1</b></p> <p>Mr. &amp; Mrs. Tutti Atomic By William Taylor</p> <p><a href="https://www.youtube.com/watch?v=B5OJ9m1GstQ">https://www.youtube.com/watch?v=B5OJ9m1GstQ</a></p>	 <p><b>The Key Knowledge You Need To Know After This Video:</b></p> <ul style="list-style-type: none"> <li>-What is her objective?</li> <li>-For people to feel good when they look at her pots.</li> <li>-What does she say gives her pleasure?</li> <li>-The changes that happen to the clay.</li> <li>-What was her objective when making Mrs. Tutti Fruit?</li> <li>-To symbolise life force and show the strength and sense of growth, wonder that is in nature.</li> <li>-What does she say is very difficult to do?</li> <li>-Make a perfect sphere that is hollow.</li> <li>-What did she want to achieve with the attachment of the spheres?</li> <li>-A sense of delicacy.</li> <li>-What coloured glaze did she want for the inside of "Mr Atomic"?</li> <li>-Green like Ivan.</li> <li>-The sense of power and joy of Mrs Tutti Fruit was hard to balance how did she accomplish that? Height, Strong surface sense of calm and wisdom to Mr Tutti Fruit. He needed to be radically different to her.</li> </ul>	<p><b>Week 4</b></p> <p>Writing your thoughts and opinions about a drawing by the artist.</p> 	<p><b>Word Bank:</b></p> <p>COLOUR: Bright / Simple / Bold / Primary / Secondary / Tertiary / Contrasting / Complementary.</p> <p>LINE: Curved / Organic / Natural / Simplistic / Rounded.</p> <p>LIGHT: Reflective / Creating Form.</p> <p>TEXTURE: Rough / Smooth / Bumpy / Nubbled / Bobbly / Mottled / Crackle glaze / Cracked.</p> <p>COMPOSITION: Balanced / Equal / Spread / Even / Circular.</p> <p>TYPE OF ART: Sculptural / Clay / Pot / Vassa / Container/ Pottery / Three dimensional / Abstract.</p> <p>MEDIUM: Clay / Slip / Potter's Wheel / Rolling Pin / Tools / Gauge / Glaze</p> <p>FEELING: Calm / Still / Intrigued / Interested / Submerged / Confused.</p> 
<p><b>Week 2</b></p> <p>How to make a Coil Pot</p> <p>By: Cora K</p> <p><a href="https://www.youtube.com/watch?v=aIQ5FG903CQ">https://www.youtube.com/watch?v=aIQ5FG903CQ</a></p>	 <p><b>Watch and learn something new.</b></p>  	<p><b>Week 5</b></p> <p>Annotating your own work.</p> 	 <p>All Saints VLE Art &amp; Design GCSE Y9 –Y11 GCSE Literacy How to annotate booklet.</p> 
<p><b>Week 3</b></p> <p>Key terms and Vocabulary Definition finding.</p> 	<p><b>The Key Terms You Need To Know Are:</b></p> <p>Whereas: "Kate Malone's work is quite simplistic where as Mary O'Malley's work is much more textured and detailed".</p> <p>Symbol: A shape or a sign to represent something</p> <p>Reflect: Don't use a certain material of technique because it would not fit for your purpose. Don't continue or developing a idea for a final piece because the idea is weak.</p> <p>Perspective: Making your drawings look three dimensional and ensuring that the elements are to scale. OR Looking at a piece of art work from different points of view.</p> <p>Modify: Make changes to your work in order to improve its quality.</p> <p>Subtle: A small change. Delicate.</p> <p>Malleable: Clay can be pressed into different shapes.</p> <p>Mould: Clay can be formed into shape. "...This long piece will form the tentacle".</p> <p>Lather head: The feel of clay once it begins to be un work able more brittle and likely to break. This is the perfect into the surface of your object/sculpture.</p> <p>Function: What an item is used for.</p>	<p><b>Week 6</b></p> <p>Practice &amp; Develop Your Skills Further.</p> 	 <p>Kate Malone   In the Studio By Adrian Sassoon Gallery</p> <p>Kate Malone   In the Studio By Adrian Sassoon Gallery</p>  
<p><b>Challenge Yourself: Experiment</b></p> <p>Once you have started to gain a firm understanding of the structure and form of an object, you can start to experiment with it. Play with variations of a forms shape and structure.</p> <p>What if you change the shape of the face? Create a face that is square, and another that is long.</p> <p>What if you played with the proportions of the figure? Give them long arms and shorter legs.</p> <p>Make certain features bigger and others smaller.</p> <p>This can be a lot of fun, and a laugh. What's more, is it can help you develop your own unique style.</p> <p>Trying new things and having a ton of fun is essential to getting better at drawing.</p> <p>The key here is trial and error. Experimenting is a journey of discovery. You are going to try something, and it will look horrible. Don't worry too much about it; start your next experiment and see what it looks like. If you have practiced using the previous exercises, you will have the speed to quickly create these "experiments" and consistent play with new ideas easily.</p>    			



# Art & Design Knowledge Organiser – 3

<p><b>Week 1</b>          "The Clay Process: Firing Clay in the Kiln"          By Art With Miss H  <a href="https://www.youtube.com/watch?v=X7biPvN24Q">https://www.youtube.com/watch?v=X7biPvN24Q</a></p>		<p><b>The Key Knowledge You Need To Know After This Video:</b></p> <ul style="list-style-type: none"> <li>-What does a kiln do? Takes a fragile piece of clay and makes it hard like stone.</li> <li>-How do you now if your clay is ready to fire or not? It changes in colour from dark grey to light grey.</li> <li>-Why do you have to be careful once your clay has dried out to be light grey? It is easy to break.</li> <li>-How long does it take roughly for a piece to dry out so all the water is gone? A week.</li> <li>-What will happen to your piece if it still has water trapped in it? The water will turn to steam and your piece will explode.</li> <li>-What does it mean to clean the clay? To sand it and smooth it to get a polished finish.</li> <li>-Why do you need a little bit of space in-between the pieces in the kiln? To allow the air to circulate.</li> <li>-What is the hottest temperature the kiln will get close to? 2000 degrees.</li> </ul>	<p><b>Week 4</b>          Writing your thoughts and opinions about a drawing by the artist.</p>	<p><b>Word Bank:</b>          COLOUR: White / Porcelain / Terracotta / Sandy / Light Brown.          LINE: Curved / Organic / Natural / Simplistic / Curved.          LIGHT: Reflective / Creating Form.          TEXTURE: Holes / Rough / Un even / Broken / Stony / Rocky / Bumpy / Rugged.          COMPOSITION: Descending in size / Irregular / Un even / Circular / Unbalanced.          TYPE OF ART: Sculptural / Clay / Pottery / Three dimensional / Abstract / Coral formation / Germ / Cell.          MEDIUM: Clay / Slip / Potter's Wheel / Rolling Pin / Tools / Gauge / Glaze          FEELING: Intrigued / Interested / Frightened / Submersed / Uneasy.          Cracked.</p>
<p><b>Week 2</b>          How to make a Pinch Pot          By: Jennifer Cave  <a href="https://www.youtube.com/watch?v=KlhnLu36i4A">https://www.youtube.com/watch?v=KlhnLu36i4A</a></p>		<p><b>Watch and learn something new.</b></p>	<p><b>Week 5</b>          Annotating your own work.</p>	<p>All Saints VLE          Art &amp; Design          GCSE Y9 –Y11          GCSE Literacy          How to annotate booklet.</p>
<p><b>Week 3</b>          Key terms and Vocabulary          Definition finding.</p>	<p><b>The Key Terms You Need To Know Are:</b>          Contact: E.g. In printing, one surface makes contact with another.          Ratios: E.g. The amount of red paint that needs to be mixed with yellow paint to make the orange you need.          Images: Something we look at.          Express: Uncover something.          Throwing: The act of throwing a piece of clay onto a potter's wheel then molding it into the desired form.          Built: Type of clay – Given its name from the color it appears once it has been fired.          Sprig/fitter: A technique used to decorate clay pieces by scratching into it.          Shrinkage: The process of clay getting smaller as it loses water as it dries out.          Decoration: A way of making an object look more visually attractive – patterns.          Imprint: Push something into the surface of clay to leave an indentation / imprint.          Petrie: The name given to the process of tidying up the finish to a clay piece.          Carved: Using a tool to take away from the clay form.          Slab: A large thick square piece of clay.          Pull Clay: The action of stretching clay out. A technique that is often used to make handles for things.</p>	<p><b>Week 6</b>          Practice &amp; Develop Your Skills Further.</p>	<p>Making a clay sphere          By Jonanne Davies  <a href="https://www.youtube.com/watch?v=Hb_6d4hzhuG8">https://www.youtube.com/watch?v=Hb_6d4hzhuG8</a></p>	
<p><b>Challenge Yourself:</b>          Tackle Your Flaws          Don't avoid the scary things. Attack them head on.          Ever sat down and started drawing a character, and when it came to drawing the hands you feel the urge to just skip it for now, or just put a simple shape as a placeholder? It is common to be fearful and avoid doing things we are not good at. However, this attitude can be damning in the long run.          Ultimately, it makes you less capable as an artist and hinders your progress.          I do recommend spending a dedicated amount of time (such as an entire weekend) tackling your weaknesses.          Find easy to follow drawing tutorials or books around what you want to approve.          It is a very constructive and productive way to develop your skills.</p>				



# Y10

## Art & Design Knowledge Organiser – 4

### Week 1

**Kwong—How do you see the future of ceramic art?**  
 By AMACO Brent  
<https://www.youtube.com/watch?v=5tDNd4yVVtQ>

**Eva Kwong—What are your major influences?**  
 By AMACO Brent  
<https://www.youtube.com/watch?v=AXY6KwLW17s>



**The key Knowledge You Need To Know After This Video:**

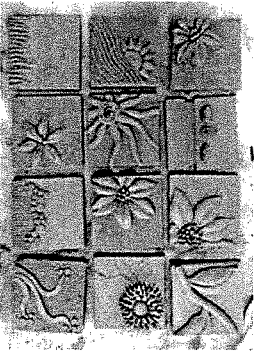
- What reasons does she think that we have always made things from clay? It is identical and accessible. Instinctual.
- What was the silk road? A way for goods to travel and be traded across the world.
- Who does she say she learned how to make things from? Her grandmother who lived with her.
- How does she describe ceramics to be different to painting? The material (Clay) goes through physical transformations in the kiln.
- What two jobs did she have? Working in the nature lab. Working for an eccentric old lady cataloguing her nature collection.
- What did this enable her to do? See hundreds of different objects, handle and study them.
- She says nothing in nature is...? Flat.

### Week 2

**Making a Clay Tile Demo**  
 By: amandafrankling  
<https://www.youtube.com/watch?v=5ekN8XOKYkY>

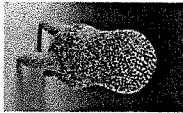
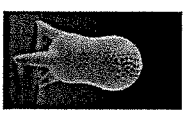


### Watch and learn something new.



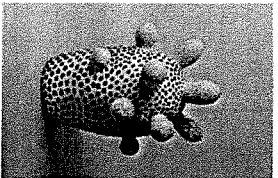
### Week 3

**Key terms and Vocabulary Definition finding.**

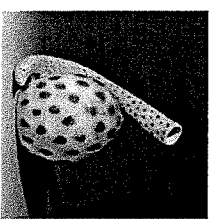
**The key Terms You Need To Know Are:**

- Expand:** E.g. add to your written answer to explain in more detail.
- Energy:** A piece of art work can have energy and movement.
- Version:** E.g. An idea for a final piece can be developed and so you can have several "versions".
- Objective:** A goal.
- Amend:** Make changes.
- Vessels:** A hollow sculpture.
- Thermal Shock:** A sudden change in temperature causing your piece to crack or explode.
- Fragile:** Easily broken.
- Top Heavy:** The top of the sculpture is heavier than the bottom so it may fall over.
- Pierced:** Has holes in it.
- Stack:** Pile up.
- Strengthen:** Make stronger.
- Sanding:** Smooth the surface.
- Smoothing:** Giving the surface a flat appearance.
- E.g. Using water or tools when working in clay.**
- Balanced:** Make sure something does not fall.



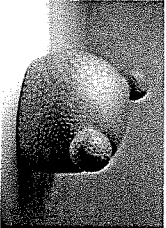
### Week 4

**Writing your thoughts and opinions about a drawing by the artist.**



### Week 5

**Annotating your own work.**

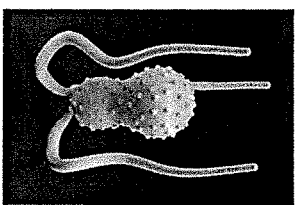


### Word Bank:

**COLOR:** Primary / Secondary / Tertiary / Blended / Tonal / Bright / Bold / Subtle / Contrasting.  
**LINE:** Curved / Simplistic / Wavy / Bumpy / Lumpy.  
**LIGHT:** Reflective / Forming / Casting shadows.  
**TEXTURE:** Smooth / Silky / Curvy / Wavy / Rippled / Knobby / Bobble.  
**COMPOSITION:** Use of three – Grouped / One sided / Un balanced / Balanced / Top heavy.  
**TYPE OF ART:** Sculptural / Clay / Pottery / Three dimensional / Abstract / Coral formation / basic / Germ / Cell / Microscopic.  
**MEDIUM:** Clay / Slip / Potter's Wheel / Rolling Pin / Tools / Gauge / Glaze  
**FEELING:** Intigued / Interested / Frightened / un-Nerved / Submersed / Confused / Uneasy / Comical / Un nerved / Challenged.

### All Saints VLE Art & Design GCSE Y9 – Y11 GCSE Literacy

**How to annotate booklet.**

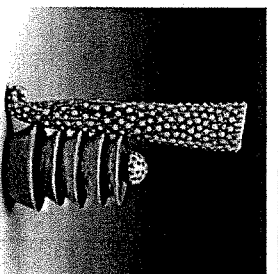
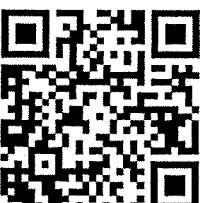


### Week 6

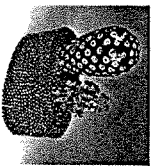
**Practice & Develop Your Skills Further.**



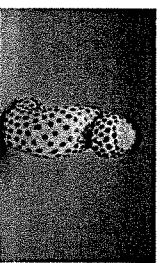
**HOW TO MAKE A VASE | Air Dry Clay Pinch Pot Vase. Pottery For Beginners.**  
 By Naomi's Space  
<https://www.youtube.com/watch?v=2kVrUHHGc>

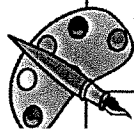


**Challenge: You aren't Don't!** Just the One Type Of Drawing Possible.  
 All of the different practices we have looked at in this and the year have their benefits, but honestly, trying to just use one can make you feel drained and unappreciated. Over time you will see your passion and spirit, see your practice.  
 Practising when you are inspired is exciting, but you can quickly burn out. It can come in bursts, and other inspiration is not enough to see you through an entire project.  
 It can take for the most exciting and you to learn more about how to grow as an artist. All of these types of drawing practices are important.  
 No one is better than the other.  
 The easiest way to practice is to take on something that uses all three types of practice.



**Put A Project That It Done Over A Period Of Time.**  
 It can be a series of drawings or character designs.  
 Choose something that inspires you.  
 Have you recently learned how to use a new tool or technique you have been talking to put into practice?  
 It is on a topic that excites you!  
 Make sure the project challenges you in some way.  
 Does it require a skill that you haven't used before?  
 Is the project bigger than what you usually do?  
 In the project itself, make sure you include all the challenges you and inspires you, make sure you complete it all the way from the beginning to the end.  
 When you look back, you can see the progress you've made.





# Art & Design Knowledge Organiser – 5

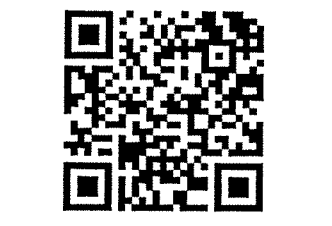
clay	tile	dry	buff clay	decoration	fettle	vessels	experimenting
slip	texture	air pocket	porcelain	in print	surfaces	Thermal shock	firm
smooth	tool	set	surface	texture	carved	crack	lid
attach	kiln	leather hard	pottery	layer	depth	fragile	negative space
secure	soft	reduction	process	hollow out	Three dimensional	broken	positive space
pinch pot	supple	firing	throwing	base	slab	decorative	clay gun
hollow	malleable	functional	form	mould	coil	support	sanding
clay body	mount	making	graffito	attach	pull	top heavy	smoothing
roll	form	ceramics	shrinkage	handmade	stretch	balanced	finish
bowl	make	pottery	piece	fire	compression	pierced	stack
round	harden	glazes	handle	base	build	joining	strengthen

**Week 4**  
**Word Bank**

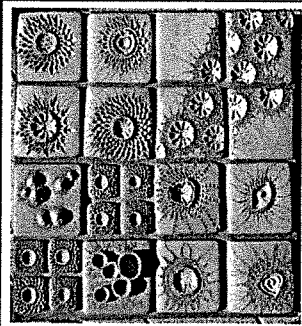
Watch and learn something new.

**DOS**      **DON'TS**

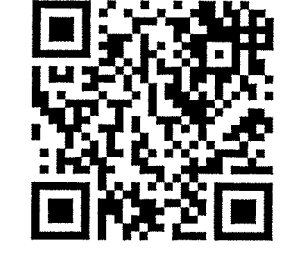
**WITH CLAY**



**Week 1**  
Clay Dos and Don'ts  
By Doodles and Scribbles  
<https://www.youtube.com/watch?v=d8FOPZ4kWKI>



All Saints VLE  
Art & Design  
GCSE Y9 –Y11  
GCSE literacy  
How to annotate  
booklet.

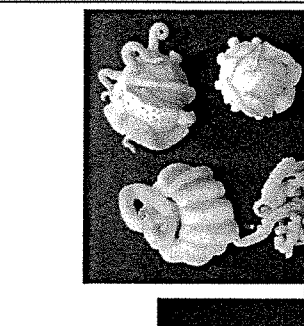


**Week 5**  
Annotating your own work.

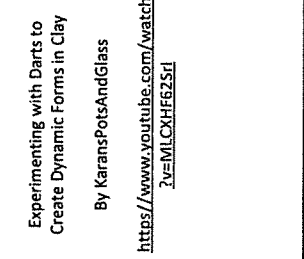
Watch and learn something new.



**Week 2**  
<https://www.channel4.com/programmes/the-great-pottery-throw-down>

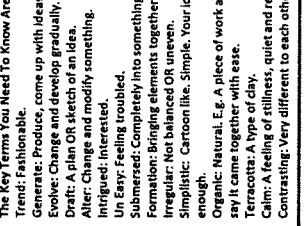


Experimenting with Darts to Create Dynamic Forms in Clay  
By KaransPotsAndGlass  
<https://www.youtube.com/watch?v=MLCXHF625rI>

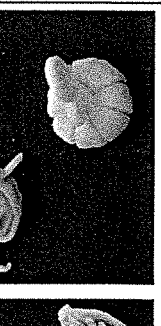


**Week 6**  
Practice & Develop Your Skills Further.

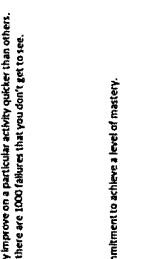
The Key Terms You Need To Know Are:  
Trends: Fashionable.  
Generate: Produce, come up with ideas for pieces of work. OR Create and make pieces of work.  
Evolve: Change and develop gradually. E.g. An idea for a final piece.  
Draft: A plan OR sketch of an idea.  
Alter: Change and modify something.  
Intrigued: Interested.  
Un Easy: Feeling troubled.  
Submerged: Completely into something. E.g. I was so submersed in my painting I didn't realise where the time had gone.  
Formation: Bringing elements together to form an idea for example.  
Irregular: Not balanced OR uneven.  
Simplistic: Cartoon like. Simple. Your idea is too superficial. Your written work needs to be added to and developed. Not detailed enough.  
Organic: Natural. E.g. A piece of work and organically come together and grow, one decision leading to another – Often a way to say it came together with ease.  
Terracotta: A type of clay.  
Calm: A feeling of stillness, quiet and relaxed.  
Contrasting: Very different to each other E.g. Black Vs White, Opposites.



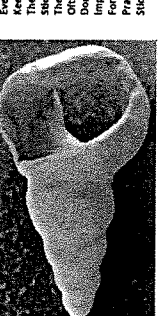
**Week 3**  
Key terms and Vocabulary Definition finding.

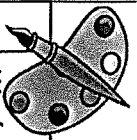


Everyone is at a different level, and some people just naturally improve on a particular activity quicker than others. Keep in mind, for every great picture you see of other artists; there are 1000 failures that you don't get to see. Stick To It.  
One key to success is the ability not to give up. Others will feel in pain with your drawing. Don't expect results straight away. Improvement is a slow and gradual process. For most artists, it can take years of rigorous practice and commitment to achieve a level of mastery. Practice is a process. Stick with it and enjoy the process.



**Challenge Yourself:**  
Practice Pitfalls  
How well you improve with practice will depend on some factors such as how often you practice and the type of feedback that is available.  
Seek Out Feedback! Engage with the post it notes in your sketchbook – action what your teacher has told you to do. If you do not receive feedback.  
You could post your work up online for the specific purpose of receiving constructive feedback.  
If you do not practice enough, you can often forget what was learned.  
It is likely you will forget what you have learned, so be sure to create a habit.  
It is likely you will forget what you have learned, so be sure to spend 7 hours drawing in one huge chunk on the weekend.  
Don't Compare Yourself To Others.





# Y10

# Art & Design Knowledge Organiser – 6

## Week 1

Pressing Textures into Clay  
By Jeff Viniugerra

<https://www.youtube.com/watch?v=F-m-vPwiv0Y>

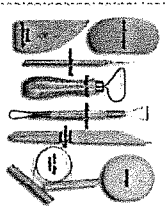


Watch and learn something new.

## Week 4

### Word Bank

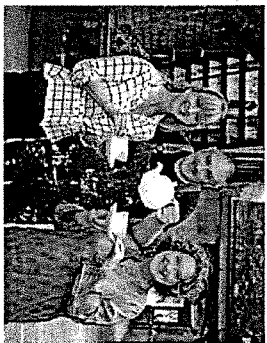
ceramics vocabulary



clay	tile	dry	buff clay	decoration	lattice	vessels	experimenting
slip	texture	air pocket	porcelain	in print	surfaces	thermal shock	firm
smooth	tool	set	surface	texture	carved	crack	lid
attach	kiln	leather hard	pottery	layer	depth	fragile	negative space
secure	soft	reduction	process	hollow out	Three dimensional	broken	positive space
pinch pot	supple	fling	throwing	base	slab	decorative	clay gun
hollow	malleable	functional	form	mould	coil	support	sanding
dry body	mount	making	seglino	attach	pull	top heavy	smoothing
roll	form	ceramics	shrinkage	handmade	stretch	balanced	finish
bowl	make	pottery	piece	fire	compression	pierced	stack
round	harden	glazes	handle	base	build	joining	strengthen

## Week 2

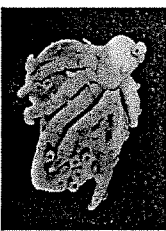
<https://www.channel4.com/programmes/the-great-pottery-throw-down>



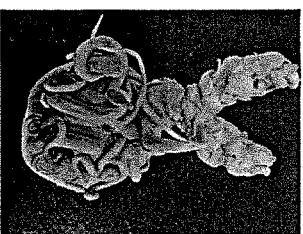
Watch and learn something new.

## Week 5

Annotating your own work.

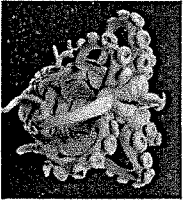


All Saints VLE Art & Design GCSE Y9 – Y11 GCSE Literacy How to annotate booklet.

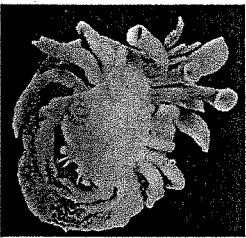


## Week 3

Key terms and Vocabulary Definition finding.



The Key Terms You Need To Know Are:  
Facilitate: Make something easy. E.g. the teacher gave out the black pens in order to facilitate the student lesson.  
Precise: Very accurate and detailed.  
Exect: In proportion and scale.  
Adjust: Change or modify something in order to make it better.  
Abstract: A piece of art that does not look like the thing/object, not a realistic image.  
Attach: Add on something else.  
Evolve: E.g. An idea for a final piece can evolve over time.  
Moderate: Mark and grade work using the exam boards standards.  
Refine: Make better, improve by removing unwanted mistakes or impurities.  
Chips: Firm clean edge.  
Evaluate: Form an opinion.  
Look at your work be able to see WWW or EBI's.  
Expand: E.g. Add more detail to an annotation.  
Extend: Make something larger.  
Reflective: E.g. To be reflective is to think deeper about yours and other work.  
Practitioner: A person who makes art for a living.  
Craftsman: A very skilled artist in a technique/material.



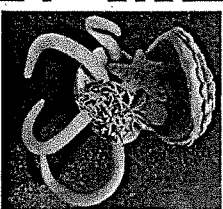
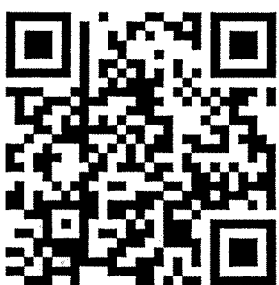
## Week 6

Practice & Develop Your Skills Further.



Clay How to Make Octopus Tentacles

By Sherri Patten Ceramics  
<https://www.youtube.com/watch?v=TBAN54MxvNQ>



## Challenge Yourself:

Research into how to glaze a piece of clay.  
[https://www.youtube.com/watch?v=vhYKVBvM\\_nVk](https://www.youtube.com/watch?v=vhYKVBvM_nVk)  
By Corvallis Schools Art Departments



## 30 Artists Taking Pottery To The Next Level

By Insider

<https://www.youtube.com/watch?v=z2APU5ob9Og>

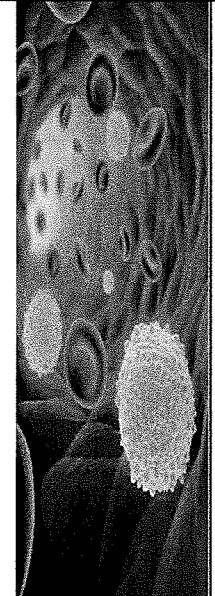


## Handmade CORAL OCEAN.

By Bell de la Vega Arte.

[https://www.youtube.com/watch?v=5\\_MarB0Vqz0](https://www.youtube.com/watch?v=5_MarB0Vqz0)



<p><b>1. KEY TERMS</b></p> <p><b>Communicable:</b> A disease that can be transmitted. E.g. chicken pox, common cold and HIV.</p> <p><b>Non-communicable:</b> A disease that cannot be transmitted. E.g. cancer, diabetes and heart disease.</p> <p><b>Pathogens:</b> A micro-organism which can cause disease. Examples include: bacteria, viruses, fungi and protists.</p>	<p><b>4. FUNGAL DISEASES</b></p> <p><b>Rose black spot</b>- purple or black spots develop on leaves, which then turn yellow and drop early. This reduces the rate of photosynthesis which affects plant growth. The fungus is spread by water/wind and can be treated using fungicides and destroying affected leaves.</p> <p><b>5. PROTIST DISEASES</b></p> <p><b>Malaria</b>- The pathogens that cause malaria are protists. The malarial protist has a life cycle that includes the mosquito. Malaria causes fever and can be fatal. The spread of malaria can be controlled by: preventing mosquitos from breeding and using mosquitos nets to avoid being bitten.</p>	<p><b>Infection and Response-B3</b></p> <p><b>7. VACCINATIONS</b></p> <p>The spread of pathogens can be reduced by immunising a large proportion of the population.</p> <ol style="list-style-type: none"> <li>Inject a small quantity of an inactive form of the pathogen into the body. This pathogen will have antigens on its surface.</li> <li>White blood cells are stimulated to produce antibodies which are complimentary to the antigens.</li> <li>The antibodies bind to the antigens and cause the pathogens to clump together.</li> <li>Phagocytes engulf the pathogens.</li> <li>Memory cells are produced.</li> <li>If the pathogen now enters the body, the white blood cells can respond quickly and prevent infection- the person is now <b>immune</b>.</li> </ol>
<p><b>2. VIRAL DISEASES- Viruses live and reproduce inside cells, causing cell damage.</b></p> <p><b>Measles</b>- A serious illness with symptoms of fever and a red rash. The virus is spread by sneezing and coughing.</p> <p><b>HIV</b>- Initial flu-like symptoms. If unsuccessfully controlled with antiretroviral drugs, HIV attacks the body's immune cells. AIDS occurs when the immune system can no longer deal with infections/cancers. HIV is spread by bodily fluids.</p> <p><b>obacco mosaic virus (TMV)</b>- Gives a mosaic pattern of discoloration of the leaves which reduces photosynthesis and affects plant growth.</p>	<p><b>6. HUMAN DEFENSE SYSTEMS</b></p> <p><b>Non-specific defence system:</b></p> <ul style="list-style-type: none"> <li>skin • nose • trachea and bronchi • stomach</li> </ul> <p><b>Specific defence system:</b></p> <ul style="list-style-type: none"> <li>If a pathogen enters the body the immune system tries to destroy the pathogen. White blood cells help to defend against pathogens by: <ul style="list-style-type: none"> <li>phagocytosis</li> <li>antibody production</li> <li>antitoxin production.</li> </ul> </li> </ul>	<p><b>8. ANTIBIOTICS AND PAINKILLERS</b></p> <p><b>Antibiotics</b>- Cure bacterial diseases by killing bacteria inside the body. Specific bacteria are treated by specific antibiotics.</p> <p><b>Painkillers</b>- Treat the symptoms of a disease but do not kill pathogens.</p> <p><b>9. DISCOVERY AND DEVELOPMENT OF DRUGS</b></p> <p>Traditionally drugs were extracted from plants and micro-organisms. Most new drugs are synthesised by chemists in the pharmaceutical industry.</p> <ul style="list-style-type: none"> <li><b>Digitalis</b>- heart drug- originated from foxgloves</li> <li><b>Aspirin</b>- painkiller- originated from willow</li> <li><b>Penicillin</b>- antibiotic- originated from penicillium mould (discovered by Alexander Fleming)</li> </ul> <p>New drugs must be tested for toxicity, efficacy and dose.</p> <p><b>Preclinical testing</b>- in a laboratory using cells, tissues and live animals.</p> <p><b>Clinical testing</b>- using healthy volunteers and patients</p> <p>In <b>double blind-trials</b> some patients are given a placebo (a drug which does not contain the active ingredient). Neither the patient or observer knows whether they have been given the drug or the placebo.</p>
<p><b>3. BACTERIAL DISEASES</b></p> <p><b>Salmonella</b>- Causes fever, abdominal craps, vomiting and diarrhoea. The pathogen is spread by bacteria ingested in food or on food prepared in unhygienic conditions. Poultry can be vaccinated against salmonella.</p> <p><b>Gonorrhoea</b>- Has symptoms of a thick yellow or green discharge from the vagina or penis and pain when urinating. It is sexually transmitted disease and can be prevented by using condoms and can be treated with antibiotics.</p>		

10. HEALTH ISSUES	11. DISEASE RISK FACTORS	12. CANCER
<p>Health is the state of physical and mental wellbeing</p> <p><b><u>Causes of ill health:</u></b></p> <ul style="list-style-type: none"> <li>• Communicable diseases</li> <li>• Non-communicable diseases</li> <li>• Poor diet</li> <li>• Stress and life situations</li> </ul> <p><b><u>Different types of disease may interact.</u></b></p> <ul style="list-style-type: none"> <li>• Defects in the immune system mean that an individual is more likely to suffer from infectious diseases.</li> <li>• Viruses living in cells can be the trigger for cancers.</li> <li>• Immune reactions initially caused by a pathogen can trigger allergies such as skin rashes and asthma.</li> <li>• Severe physical ill health can lead to depression and other mental illness.</li> </ul>	<p>A causal mechanism has been proven for some risk factors, but not in others. Many diseases are caused by the interaction of a number of factors.</p> <ul style="list-style-type: none"> <li>• The effects of diet, smoking and exercise on cardiovascular disease.</li> <li>• Obesity as a risk factor for Type 2 diabetes.</li> <li>• The effect of alcohol on the liver and brain function.</li> <li>• The effect of smoking on lung disease and lung cancer.</li> <li>• The effects of smoking and alcohol on unborn babies.</li> <li>• Carcinogens, including ionising radiation, as risk factors in cancer.</li> </ul>	<p>Cancer is caused by a random mutation which changes cells, leading to uncontrolled growth and division.</p> <p><b><u>Benign tumours</u></b> are growths of abnormal cells which are contained in one area, usually within a membrane. They do not invade other parts of the body.</p> <p><b><u>Malignant tumours</u></b> are cancers. They invade neighbouring tissues and spread to different parts of the body in the blood where they form secondary tumours.</p> <p>Scientists have identified lifestyle risk factors for various types of cancer. There are also genetic risk factors for some cancers.</p>



# Homeostasis and Response B5

## 1. HOMEOSTASIS

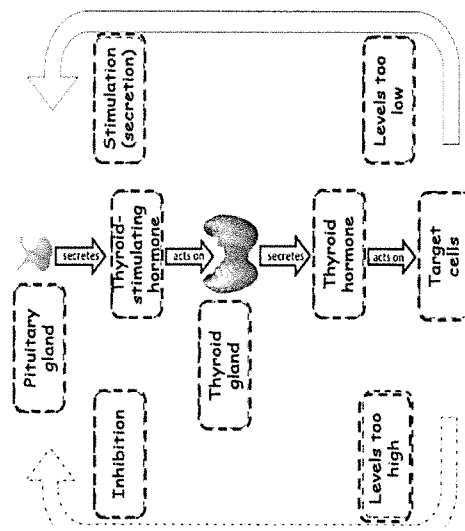
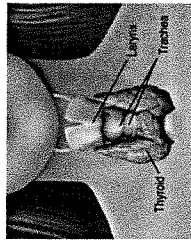
Homeostasis is the regulation of the internal conditions of a cell or organism to maintain optimum conditions for cell/enzyme function in response to internal and external changes.

Processes controlled by homeostasis include:

- Blood glucose concentration
- Body temperature
- Water levels

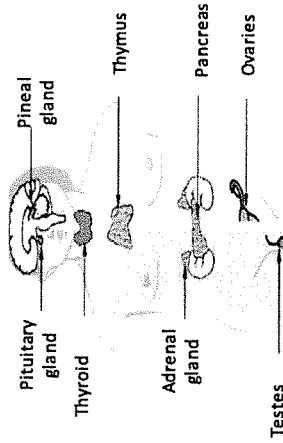
## 3. NEGATIVE FEEDBACK (HT)

Thyroxine is controlled by negative feedback. It is released from the pituitary gland and stimulates basal metabolic rate, therefore plays an important role in growth and development.



## 2. ENDOCRINE SYSTEM AND HORMONES

Composed of glands which secrete chemicals messengers called hormones directly into the bloodstream.



Name of gland	Hormone released	Function of hormone
Pituitary	'master gland'- several hormones	Stimulate other hormones to be released
Pancreas	Insulin	Control blood glucose concentration
Thyroid	Thyroxine	Control metabolism
Adrenal	Adrenaline	Fight or flight/ coping with stress
Ovaries	Oestrogen	Controls female sexual characteristics
Testes	Testosterone	Controls male sexual characteristics

## 4. NERVOUS SYSTEM

The nervous system enables humans to react to their surroundings and to coordinate their behaviour. Messages are passed through neurones as electrical impulses. Actions can be conscious (involving the brain) or reflex actions, which do not involve the conscious part of the brain. Reflex actions are automatic and rapid, to protect you from harm.

### CONSCIOUS ACTION

Stimulus -> receptor cells -> sensory neurone -> coordinator -> motor neurone -> effector -> response.

### REFLEX ACTION

Stimulus -> receptor cells -> sensory neurone -> relay neurone -> motor neurone -> effector -> response

### Keyword

### Definition

Stimulus	Change in environment
Receptor	Cells which detect the stimulus
Sensory neurone	Carries the electrical impulse from the receptor to the CNS (brain/spinal cord)
Relay neurone	Allows electrical impulse to travel between the sensory and motor neurone
Motor neurone	Carries the electrical impulse from the coordinator to the effector
Effector	Muscle or gland which carries out the response

### SYNAPSE



1. An electrical impulse travels along
2. This triggers the nerve-ending of a neurone to release chemicals called neurotransmitters.
3. These chemicals diffuse across the synapse and bind with receptor molecules on the membrane of the next neurone.
4. The chemicals bind to the specific receptors on the next neurone. This stimulates the second neurone to transmit the electrical impulse.

## 5. NERVOUS VS ENDOCRINE SYSTEM

System:	Nervous system	Endocrine system
How are the messages carried?	Nerve impulses which are electrical signals	Hormones which are chemical signals
Target	Carried by nerves to specific locations, e.g. muscle.	Carried in blood to all organ but affects the target organ only.
Response	Rapid and precise	Slower but acts for longer

# Homeostasis and Response B5

## 6. CONTROLLING BLOOD GLUCOSE CONCENTRATION



Blood glucose concentration goes too high:  
 Pancreas detects high glucose concentration  
 Pancreas releases insulin  
 Insulin converts glucose into glycogen, in the liver  
 Blood glucose concentration decreases back to normal

- Blood glucose concentration goes too low (HT):
- Pancreas detects low glucose concentration
  - Pancreas releases glucagon
  - Glucagon converts glycogen back into glucose, in the liver
  - Blood glucose concentration increases back to normal

## 7. DIABETES- unable to regulate blood glucose concentration

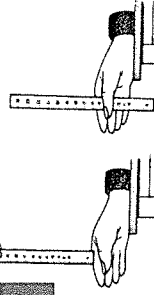
Type 1 diabetes	Type 2 diabetes
Pancreas fails to produce sufficient insulin, leading to high blood glucose levels.	The body cells no longer respond to insulin produced by the pancreas.
Insulin injections	A carbohydrate controlled diet and an exercise regime are common treatments.

## 8. HORMONES IN THE MENSTRUAL CYCLE

<b>Follicle stimulating hormone (FSH)</b>	Causes maturation of an egg in the ovary.	(HT) FSH stimulates ovaries to produce oestrogen.
<b>Luteinising hormone (LH)</b>	Stimulates release of an egg (ovulation)	(HT) Oestrogen stops FSH production and stimulates LH production in pituitary gland.
<b>Oestrogen and progesterone</b>	Maintain uterus lining, for implantation	

## 9. REACTION TIMES

An increased reaction time means that it will take you longer to react to a situation.  
 Reaction times can be measured using the ruler drop test.



## 10. METHODS OF CONTRACEPTION

Contraception	Hormonal?	How it works
Oral contraceptives	Hormonal	Contain hormones to inhibit FSH production so that no eggs mature.
Injection, implant	Hormonal	For slow release of progesterone to inhibit the maturation and release of eggs for months or years.
Barrier methods	Non-hormonal	Prevent the sperm coming into contact with the egg
Intrauterine devices	Hormonal	Prevent implantation of an embryo or release a hormone.
Spermicidal agents	Non-hormonal	Kill/disable sperm
Abstaining	Non-hormonal	Avoiding intercourse during the ovulation period
Surgery	Non-hormonal	Male or female sterilisation

## 11. TREATMENT OF INFERTILITY (HT)

FSH and LH can be given as a fertility drug to woman, so she is able to naturally conceive (become pregnant). If this method is unsuccessful, a couple may choose to have IVF (in vitro fertilisation).

### IVF process

1. FSH and LH are given to the woman, to stimulate egg maturation

2. The eggs are collected from the mother and fertilised by the fathers sperm, in the laboratory

3. The fertilised eggs develop into embryos

4. One or two embryos are inserted into the mother's uterus

Disadvantages of IVF: it is emotionally and physically stressful, the success rates are not high and decrease with age, it can lead to multiple births which are a risk to both the babies and mother

# PHYSICS 0 - WAVES

## Definitions

- Transverse** – Oscillations (vibrations) are perpendicular to the direction of wave travel

**Longitudinal** – Oscillations are parallel to the direction of wave travel

**Time Period** – Time taken for 1 complete wave

**Frequency** – Number of waves per second.

**Wavelength** – Distance from a point on a wave to the same point on the next wave

**Amplitude** – Maximum displacement of a point on a wave from its undisturbed position.

**Absorb** – Transfer all energy

**Transmit** – Pass through

**Reflect** – Bounce off

**Refract** – Change direction when changing medium.

## Waves Facts

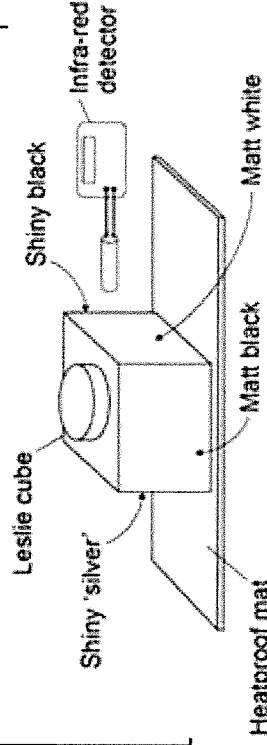
- Waves transfer energy without transferring matter.

Light is a transverse wave

Sound is a longitudinal wave

## Instructions

- Fill the silver and black cans with equal volumes of water.
- The water in each can must be the same temperature at the start of the experiment.
- Record the temperature of each can every 2 minutes for 20 minutes.
- As you are taking results, on graph paper, plot both sets of results on one graph (use a different colour for each can, time on x-axis, temperature on y-axis).
- Add a line of best fit for each set of results and label.
- Sketch the shape of your graph on the axes on this sheet.
- Write your conclusion in the box below



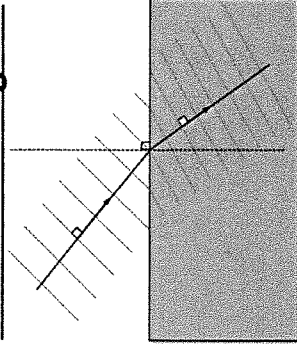
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## Refraction Explanation (Higher Tier)

One side of the wavefront changes speed when it enters the new substance. This causes the wave to change direction.

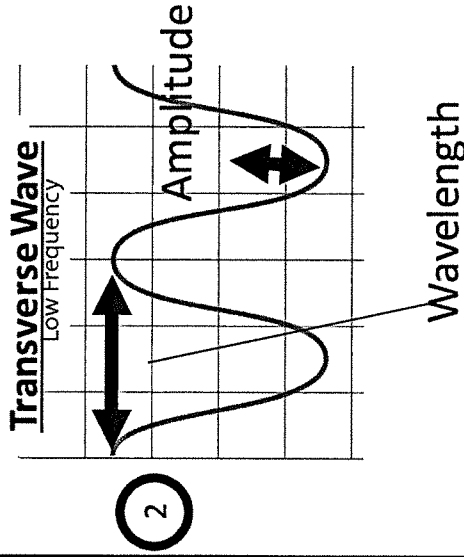
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## Refraction Diagram



## Oscilloscope

### Trace



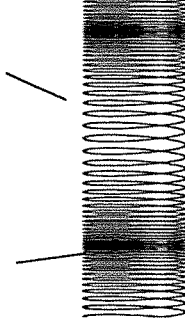
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3

## Longitudinal Waves

Compression

Rarefaction



## Equations to Learn

Wave Speed = Frequency x Wavelength

4

## Equation Sheet Equations

Time Period =  $1 \div$  Frequency

7

## Units

Wavelength: m

Frequency: Hz

Wave Speed: m/s

Time Period: s

# EM Spectrum

8

<u>Gamma Rays</u>	<u>X Rays</u>	<u>Ultraviolet</u>	<u>Visible Light</u>	<u>Infrared</u>	<u>Microwaves</u>	<u>Radio Waves</u>
Short Wavelength						
High frequency						
Radiotherapy	X-Rays	Sunbeds	Fibre Optics	Thermal Cameras	Satellite Communication	TV and Radio

Long Wavelength

Low Frequency

## All EM Waves:

Transfer energy – (Infra-red is radiated heat)  
Travel at the same speed – The speed of light

Are transverse

### Dangers

**Gamma and X rays:** Ionising radiation that can lead to mutation of genes and cancer.

**Ultraviolet:** Premature skin ageing and skin cancer

### Different Substances (Higher Tier)

Depending on wavelength, different substances will absorb, transmit or reflect different EM waves.

### Radio Waves (Higher Tier)

A conductor with an Alternating Current will emit radio waves  
When a conductor absorbs radio waves, it creates an AC with the same frequency as the wave,

## Measuring Waves

1. Set up the ripple tank as seen in the diagram and switch on both the overhead lamp and the electric motor.

2. Adjust the speed of the motor so that low frequency water waves are produced.

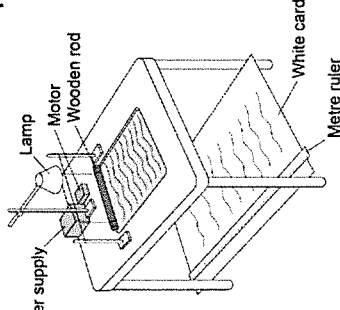
3. Adjust the height of the lamp so that the pattern can be clearly seen on the card on the floor.

4. Place a 30cm ruler at right angles to the waves shown in the pattern on the card. Measure across as many waves as possible then divide that length by the number of waves. **This gives the wavelength of the waves.**

5. Count the number of waves passing a point in the pattern over 10 seconds. Then divide the number of waves counted by 10. **This gives the frequency of the waves.**

6. Calculate the speed of the waves using the equation:

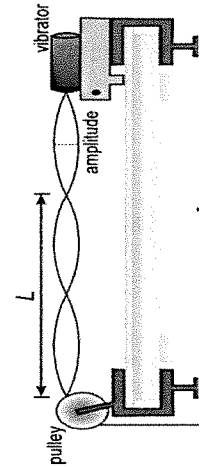
$$\text{wave speed} = \text{frequency} \times \text{wavelength}$$



11

## Standing waves

- Switch on the vibration generator. A clear wave pattern should be seen and the nodes should look like they are stationary.
- Use a metre ruler to measure across as many half wavelengths as possible, record the total length:
- Divide the total length by the number of half waves - This will give you the length of each half wave
- Double the length of the half wave to work out the wavelength.**
- Calculate the speed of the wave using the equation:  
wave speed = frequency x wavelength.



## C3 Knowledge Organiser

### 1. CONSERVATION OF MASS

The law of conservation of mass states that no atoms are lost or made during a chemical reaction so the mass of the products equals the mass of the reactants. In other words, if we have 150g of reactants, we will form 150g of products.

E.g. Copper sulphate + Iron → Iron sulphate + Copper  
 $648\text{kg} + ? \rightarrow 617\text{kg} + 258\text{kg}$

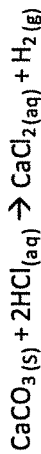
Products = 875kg.

Reactants = 648 + ? = 875kg

Therefore, ? = 227kg.

Some reactions may appear to involve a change in mass but this can usually be explained because a reactant or product is a gas and it's mass has not been taken into account.

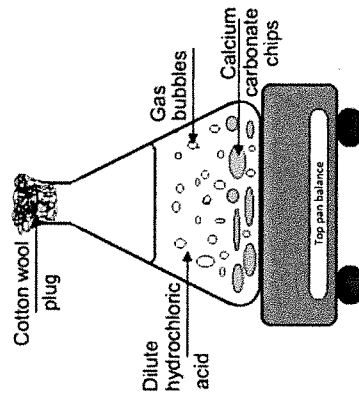
For example, the reaction of calcium carbonate with hydrochloric acid reacts in the equation given below:



As you can see in the equation above, hydrogen gas is produced, which would leave the conical flask, resulting in the mass on the top pan balance decreasing.

This is due to the hydrogen leaving the conical flask and escaping into the atmosphere.

Note: Cotton wool is used to ensure none of the liquid escapes as the reaction takes place.



### 2. RELATIVE FORMULA MASS (RFM)

The relative formula mass of a compound is the sum of the relative atomic masses of the atoms (top number on the periodic table) in the numbers shown in the formula.

E.g.  $\text{H}_2\text{SO}_4 = \text{H} = 1, \text{S} = 32, \text{O} = 16$  so  $(1 \times 2) + 32 + (16 \times 4) = 98$

$\text{CO}_2 = \text{C} = 12, \text{O} = 16$  so  $12 + (16 \times 2) = 44$

$\text{CuSO}_4 = \text{Cu} = 63.5, \text{S} = 32, \text{O} = 16$  so  $63.5 + 32 + (16 \times 4) = 159.5$

### 3. CALCULATING % MASS OF ELEMENT IN A COMPOUND

$$\frac{\text{RFM of all the atoms of the required element}}{\text{RFM of the whole compound}} \times 100$$

Modelled Example #1 - Calculate the % by mass of Na in NaCl  
 Mass of Na = 23      Mass of NaCl = 58.5

$$\frac{23}{58.5} \times 100 = 39.3\%$$

Modelled Example #2 - Calculate the % by mass of O in  $\text{H}_2\text{SO}_4$   
 Mass of O =  $16 \times 4 = 64$       Mass of  $\text{H}_2\text{SO}_4 = 98$

$$\frac{64}{98} \times 100 = 65.3\%$$

### 4. Calculating Moles - higher

Chemical amounts are measured in moles. The symbol for the unit of mole is 'mol'.

The following equation is used to calculate moles =  $\frac{\text{relative formula mass (Mr)}}{\text{mass (g)}}$

The mass of one mole of a substance in grams is numerically equivalent to its relative atomic mass.

E.g. 1 mol of  $\text{CO}_2 = 44\text{g}$  as the relative formula mass of  $\text{CO}_2$  is 44.

2 mol of  $\text{CO}_2 = 88\text{g}$  as the relative formula mass of  $\text{CO}_2$  is 44, but  $2 \times 44 = 88\text{g}$ .

1 mol of  $\text{KOH} = 56\text{g}$  as the relative formula mass of  $\text{KOH}$  is 56.

2 mol of  $\text{SO}_2 = 128\text{g}$  as the relative formula mass of  $\text{SO}_2$  is 64, but  $2 \times 64 = 128\text{g}$ .

One mole of a substance contains the same number of the stated particles, atoms, molecules or ions as one mole of any other substance – this value is known as 'Avogadro's constant' which is  $6.02 \times 10^{23}$ .

Therefore 1 mol of  $\text{CO}_2$  would contain  $6.02 \times 10^{23}$  molecules of  $\text{CO}_2$ . Likewise, 1 mol of Carbon (12g) would contain  $6.02 \times 10^{23}$  atoms of C.

Chemical equations can be interpreted in terms of moles. For example:



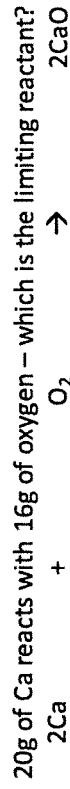
This equation shows that one mole of magnesium reacts with two moles of hydrochloric acid to produce one mole of magnesium chloride and one mole of hydrogen gas.

## C3 Knowledge Organiser

### 4. LIMITING REACTANTS – HIGHER TIER ONLY

In a chemical reaction involving two reactants, it is common to use an excess of one of the reactants to ensure that all of the other reactant is used. The reactant that is completely used up is called the **limiting reactant** because it limits the amount of products.

#### Modelled Example #1



Step 1: Calculate mols:  $20/40$   $16/32$

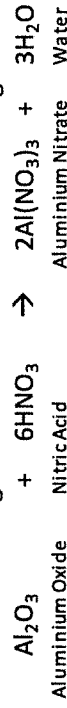
**0.5**  
2 mols of Ca reacts with 1 mol of Oxygen.

Therefore 0.5 mols of O<sub>2</sub> (calculated in Step 1) will react with 1 mol of Ca.

Step 3: Decide which is in excess and which is the limiting reactant  
Since there is only 0.5 mols of Ca, when we need 1 mol of Ca, Ca is the limiting reactant

#### Modelled Example #2

1.02 g of Aluminium Oxide reacts with 0.63g of nitric acid – which is the limiting reactant?



Step 1: Calculate mols:  $1.02/102$   $0.63/63$   
**0.01**      **0.01**

Step 2: Compare ratios  
1 mol of Al<sub>2</sub>O<sub>3</sub> reacts with 6 mol of HNO<sub>3</sub>.  
Therefore 0.01 mols of Al<sub>2</sub>O<sub>3</sub> (calculated in Step 1) will react with 0.06 mol of HNO<sub>3</sub>.

Step 3: Decide which is in excess and which is the limiting reactant  
Since there is only 0.01 mols of HNO<sub>3</sub>, when we need 0.06 mol of HNO<sub>3</sub>, HNO<sub>3</sub> is the limiting reactant

### 5. CONCENTRATION OF SOLUTIONS

Many chemical reactions take place in solutions. The concentration of a solution can be measured in mass per given volume of solution e.g. grams per dm<sup>3</sup> (g/dm<sup>3</sup>)

The formula below is how to calculate the concentration of solution:

$$\text{Concentration (g/dm}^3\text{)} = \frac{\text{Amount of solute (g)}}{\text{Volume of solution (dm}^3\text{)}}$$

To convert cm<sup>3</sup> → dm<sup>3</sup> = ÷ 1000      e.g. 10cm<sup>3</sup> = 0.01 dm<sup>3</sup>

### 6. RESOLUTION

The resolution of a measuring instrument is the smallest change in a quantity that gives a change in the reading that can be seen.

A thermometer with a mark at every 1.0°C has a resolution of 1.0°C. It has a higher resolution than a thermometer with a mark at every 2.0°C.

### 7. UNCERTAINTY

Uncertainty is the interval within which the true value of a quantity can be expected to lie.. The uncertainty of a measuring instrument is estimated as plus or minus (±) half the smallest scale division. For a thermometer with a mark at every 1.0°C, the uncertainty is ± 0.5°C.

To calculate % uncertainty, the following equation is used:

$$\% \text{ uncertainty} = \frac{\text{Half the smallest scale division on apparatus}}{\text{Reading taken on apparatus}} \times 100$$

E.g. On a thermometer where the smallest scale division is 1°C a temperature of 25°C is recorded. Calculate the % uncertainty.

$$\% \text{ uncertainty} = \frac{0.5}{25} \times 100 = 2\%$$

## 4.9 Chemistry of the Atmosphere

### 1. EARTH'S EARLY ATMOSPHERE

Main gas in Earth's early atmosphere was carbon dioxide. The gases in the Earth's early atmosphere were due to volcanic eruptions. There was no oxygen.

Name of gas	How changed over time	Reasons for changes
Carbon dioxide	Decreased	<ul style="list-style-type: none"> <li>Plants evolved and use carbon dioxide for photosynthesis</li> <li>Carbon dioxide dissolved in the oceans when they formed (due to water vapour cooling and condensing)</li> <li>Carbon dioxide gets locked up in sedimentary rocks</li> </ul>
Oxygen	Increased	<ul style="list-style-type: none"> <li>Plants evolved and carried out photosynthesis which produced oxygen</li> </ul>
Nitrogen	Increased	<ul style="list-style-type: none"> <li>Ammonia reacts with oxygen to produce nitrogen</li> <li>Denitrifying bacteria</li> </ul>

### 2. COMPOSITION OF EARTH'S ATMOSPHERE TODAY

Gas	Percentage
Nitrogen	80%
Oxygen	20%
Argon	1%
Carbon dioxide	0.04%

### 3. GREENHOUSE GASES

Names of greenhouse gases	Causes of these gases
Carbon dioxide	Burning of fossil fuels, deforestation
Methane	Raising livestock, using landfills

#### What is the greenhouse effect?

Short wave radiation enters the atmosphere, it is absorbed by the Earth and re-emitted as long wave radiation however the greenhouse gases prevent all this radiation escaping back to space causing the temperature of Earth to increase

### 4. Effects of climate change

- Rising sea levels
- Extreme weather events such as severe storms
- Change in amount and distribution of rainfall
- Changes to distribution of wildlife species with some becoming extinct

### 5. Atmospheric pollutants

Released when fuels undergo complete or incomplete combustion

Name of pollutant	Effects of pollutant
Carbon dioxide	Greenhouse gas Leads to climate change
Carbon monoxide (produced as a result of incomplete combustion)	Toxic gas
Sulphur dioxide	Acid rain Respiratory problems in humans
Nitrous oxides (produced when nitrogen reacts with oxygen in car engines at high temperatures)	Acid rain Respiratory problems
Particulates / soot (produced as a result of incomplete combustion)	Global dimming Health problems for humans

### 6. Relevant equations for topic

Photosynthesis: carbon dioxide + water  $\rightarrow$  glucose + oxygen

Complete combustion: fuel + oxygen  $\rightarrow$  carbon dioxide + water

Incomplete combustion: fuel + oxygen  $\rightarrow$  carbon monoxide + water (occurs when not enough oxygen is present)

Forming sulphur dioxide: sulphur (impurity in fuel) + oxygen  $\rightarrow$  sulphur dioxide

Forming nitrous oxides: nitrogen + oxygen  $\rightarrow$  nitrous oxides (reaction only occurs at high temperatures)

1

Structure of an Atom

The nuclear model of the atom consists of a nucleus containing protons and neutrons. Electrons orbit in shells around the nucleus.



3 Protons, 4 Neutrons, 3 Electrons

3

Isotopes

Isotopes of an element have the same number of protons, but different numbers of neutrons.

Electrons

If electrons gain energy, they can move further from the nucleus. They can return to their original level by emitting electromagnetic radiation.

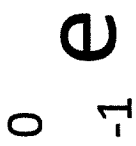
5

Nuclear Equations

Alpha decay



Beta Decay



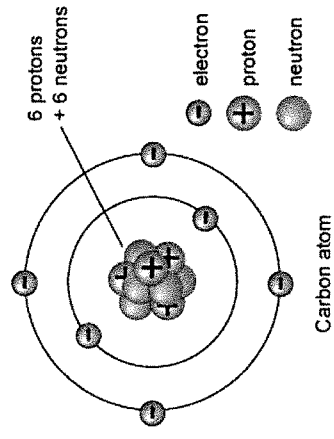
- Write in the alpha or beta particle.
- Make the top row add up.
- Make the bottom row add up.

2

Useful Definitions

- Radioisotope: An atom with an unstable nucleus.
- Radioactive Decay: A radioisotope emitting radiation from its nucleus.
- Radioactivity is a random process: We can't predict when the next decay will happen.
- Radioactive decay produces nuclear radiation – radiation emitted from the nucleus.
- The nuclear radiation emitted may be an alpha particle, beta particle, gamma ray or a neutron. Neutron radiation: the release of a high-speed neutron from the nucleus.
- Alpha particles: A helium nucleus made up of 2 protons and 2 neutrons.
- Beta particles: A neutron in the nucleus emits an electron and becomes a proton.
- Gamma rays: Emitted from a nucleus. These are very high-energy electromagnetic waves. They have no charge and no mass.

**Atom: Structure**



4

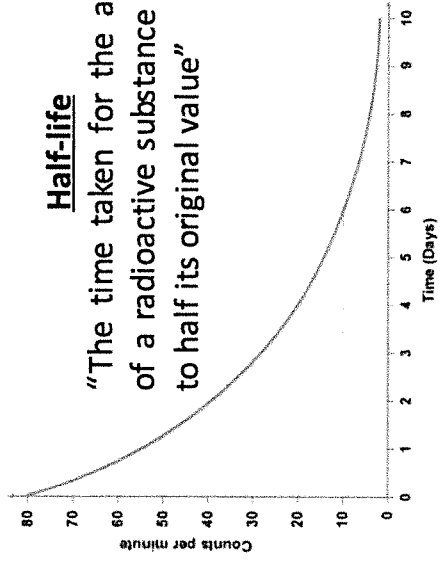
**Properties of Radiation**

Type of Radiation	Ionising Power	Penetrating Power	Absorbed by
Alpha ( $\alpha$ )	Most	Least	Paper, skin, a few cm of air
Beta ( $\beta$ )	Moderately	Moderately	Thin aluminium, a few m of air
Gamma ( $\gamma$ )	Least	Most	Thick lead, concrete

6

Half-life

“The time taken for the activity of a radioactive substance to fall to half its original value”



7

Half-life (Higher Tier)

The proportion of the original activity changes as follows:

- 1 half life = 1/2
- 2 half lives = 1/4
- 3 half lives = 1/8

To calculate the proportion remaining after x half lives:  $1/2^x$



**8** Uses of Ionising Radiation in Medicine

- X-rays are used to check for broken bones.
- Medical Tracers are injected and travel round the body in the blood.
- Radiotherapy is the use of gamma rays to kill cancer cells.

Any additional exposure to ionising radiation increase the risk of cancer, but the benefits of these treatments outweigh the risks.

**9** Nuclear Fission

- A large, unstable nucleus absorbs a neutron.
- It becomes more unstable and splits into two smaller nuclei
- This releases energy
- Additional neutrons are released.

The additional neutrons can lead to more fissions, this is a **chain reaction**.

The diagram shows a neutron (represented by a small black circle) hitting a large U-235 nucleus. The U-235 nucleus splits into two smaller nuclei, Kr-89 and Ba-144, and releases energy (represented by a wavy line) and additional neutrons.

**10** Hazards of Radiation

Ionising Radiation  
Damages cells which leads to mutations. This can cause cells to become cancerous.

Contamination:  
Radioactive materials on or in the body. This causes exposure to radiation over a long period of time until the materials are removed.

Contamination can be prevented by the use of safety clothing and equipment.

**11** Nuclear Fusion

Nuclear fusion is the joining of small, light nuclei to form a heavier nucleus. Fusion is the energy source for stars. So far we have not yet been able to produce the **temperature and pressure** conditions required for fusion to occur on Earth.

The diagram shows two smaller nuclei, Deuterium and Tritium, combining to form a larger Helium nucleus and a Neutron. Energy is released in the process.

**12** Rutherford's Alpha Particle Scattering Experiment

Rutherford aimed a beam of alpha particles at a thin sheet of gold foil.

- Most of the particles passed straight through showing most of the atom was empty space,
- Some were deflected showing mass and charge were concentrated in the nucleus.
- Very few were deflected by large amounts, showing the nucleus was very small in comparison to the atom.
- This provided **new evidence** in support of the **nuclear model** – the **Plum Pudding** model was rejected.

The diagram shows a beam of alpha particles (represented by small black circles) passing through a thin sheet of gold foil. Most particles pass straight through, some are deflected at small angles, and a few are deflected at large angles.

Irradiation:  
Exposure to radiation. This only happens when you are near a radioactive source and stops when you move away from it.

Irradiation can be reduced by shielding (see table on previous page) and protective clothing.

Key Terms for the Applied Catholic Paper 1, Unit 1 – Life and Death and Unit 2 – Sin and Forgiveness

LIFE AND DEATH

Key Term	Meaning	Key Term	Meaning
Death	The end of physical life. Catholics see death as a change rather than an ending.	Absolutism	The belief that there are certain actions which are always right or always wrong.
Eternal Life	Spiritual existence in heaven after the death of the body.	Eucharist	Meaning “thanksgiving”. The sacrament in which Roman Catholics remember the Last Supper.
Heaven	Eternal existence in God’s presence	Evangelisation	Literally means spreading the “Good News” which can be translated as “Gospel” The sharing of the Gospel and life of Jesus with others.
Hell	The lack of God for all eternity	Forgiveness	The act of pardoning someone for the offences they’ve caused you. Overlooking a person’s faults.
Judgement	Judging someone on their actions. Catholics believe God will judge people on how they have lived their lives.	Punishment	The consequences or penalty for someone that has committed a crime.
Magisterium	The teaching authority of the Roman Catholic Church that comes from the Pope and Bishops.	Relativism	The belief that certain actions are right or wrong depending on the situation or circumstances.
Resurrection	The raising of the body to life following death. Catholics believe Jesus rose from the dead on the third day.	Salvation	The belief that through Jesus’ death and resurrection humanity has achieved the possibility of eternal life with God.
Soul	The spiritual part of a human that can never die. The part created by God that lives on after the death of the physical body.	Sin	An act against God.

SIN AND FORGIVENESS

### Importance of Death and Respecting Life

**St. Paul** - "I declare to you, brothers and sisters, that flesh and blood cannot inherit the kingdom of God, We will not all sleep, but we will be changed." (1 Cor 15:50-51)

**Catholic belief** - Life is 'changed not ended' – death is a transition. Death can only be understood in a context of a belief in Eternal Life.

**Palliative Care:** Palliative Care provides comfort & control with the use of medicine for people in pain suffering from a terminal illness or a degenerative condition. It enables the individual to retain as much dignity and quality of life as possible. The Catholic Church support palliative care because it respects the integral value of every person until their natural death. **Pope Saint John Paul II** - 1) it respects the right to reject treatment that is burdensome. 2) It maintains dignity and some quality = proper processes of care.

### Euthanasia and Assisted Suicide:

- **Euthanasia:** a medical professional gives medication to end the life of a person with a prolonged incurable condition who is suffering.
- **Assisted Suicide:** This term is used to when an individual seeks help to end *their own* life. **The Catholic Church** - deliberate actions to end a life before natural death are wrong

### Why Catholics are AGAINST euthanasia:

All human life is SACRED. SANCTITY OF LIFE - life is a GIFT from God and should be respected and protected from CONCEPTION through to NATURAL DEATH, CCC 2280: 'We are stewards of the life God has entrusted to us. It is not ours to dispose of 'it goes against the **Ten Commandments 'Do not murder'**. 'Voluntary cooperation in suicide is contrary to the moral law'. CCC 2282 Suffering does have a purpose in helping us to learn about ourselves and others. Some people identify with the suffering of Jesus at the crucifixion.

**Liberal Christians** (e.g. The Church of England) focus on the compassion that Jesus showed in his healing miracles and in his teaching. They look in particular to **Jesus'** teaching to '**Love your neighbour as yourself'** and the **Golden Rule ('Do to others as you would have them to do to you')**. They would argue that truly loving others would permit euthanasia if an individual feels that the quality of their life has become completely diminished.

### The 'Right to Die' argument – Humanism (e.g. The British Humanist Association – BHA)

The British Humanist Association believe that the decision about quality of life and whether or not life is tolerable, **rests with the individual**. They **reject the sanctity of life**. All humans have dignity and any decision about prolonging or ending a life is part of the individual human right for self-determination. Legalised assisted dying would ensure that individuals would be free to make their **own choices** about their end-of-life care.

### Key Quotes:

"Love your neighbour as yourself." (Mark 12:31)

"I confirm that euthanasia is a grave violation of the law of God, since it is the deliberate and morally unacceptable killing of a human person." (Pope John Paul II)

"Thou shall not kill." (Exodus 20:13)



Key concept	Meaning
Death	The end of physical life. Catholics see death as a change rather than an ending.
Eternal Life	Spiritual existence in heaven after the death of the body.
Heaven	Eternal existence in God's presence
Hell	The lack of God for all eternity

## Life and Death Absolute Two

### Life after Death

**Resurrection:** In the Gospels, when Mary Magdalene went to anoint the body of Jesus on the Sunday – Jesus' body was gone. The Apostles along with other disciples tell of the events where they met the 'risen' Jesus. Jesus had died and risen from the dead. Resurrection of the body: This resurrection is promised to all because Jesus has defeated sin and death. St. Paul = a witness who met the risen Jesus, discusses this in 1 Corinthians 15.

**St. Paul:** Jesus is seen as the beginning of what will be a general resurrection of the dead: 'Paul makes a connection between the moral life that humans share through Adam and the immortal life that can be shared in Jesus who has redefined human nature by conquering death.

Resurrection = totally different order from our physical bodies " (1 Cor 15:44) The second coming of Christ, **the Parousia**, all will be transformed and raised up , God's kingdom will reign and 'God will be in all' (1 Cor 15:28)

### The Soul

Christians believe that the soul is the inner self of humans which is believed to survive death. Death is not the end – we have an eternal life after death. Our earthly physical identity is both body and soul; our heavenly spiritual body is both body and soul. The SOUL AND THE BODY ARE BOTH RESURRECTED. This is the same view held by Jews.

**Heaven:** Those who have accepted God's grace and forgiveness in this life will enjoy eternal existence in God's presence in the next life.. Heaven is to be totally at one with God.

**Hell:** Those who of their own free will, reject God's grace and forgiveness, have chosen to live eternally outside of God's presence. This total lack of God for all eternity is what is called 'hell'. The Unforgiving Servant and The Rich Man and Lazarus show it is the free choice to exclude themselves from God that led to the punishment. It is not that God chooses to punish. Jesus will come in glory at the end of time and the whole of creation will be judged. That imagery is in the Parable of the Sheep and the Goats (Matt 25:31-46)

**Purgatory (CATHOLIC BELIEF):** This term comes from the same root as 'to purge'. It means to cleanse or get rid of sins. Eternal life with God is about being in a state of perfection. Cleansing mistakes and errors enables a person to be fully in the presence of God. Rather than a "place", Catholics use the term purgatory to refer to a state of hope. This is why Catholics pray for the dead – for the purification and removal of sin so they can spend eternal life with God. Other Christians, such as Church of England, do not accept the idea of Purgatory. They believe that people either accept God or are in a state of grace with God, or they reject God.

### Factual Knowledge: Magisterium and Artefacts

**THE MAGISTERIUM:** The function of the Magisterium is to present Catholic teaching in the modern context with clarity and confidence. The Magisterium is given grace by the Holy Spirit to faithfully interpret the Scriptures and Tradition. Jesus promised the Apostles that the 'Spirit will lead you into all truth' (John 16:13). The Catholic Church has three distinct sources of authority to support its teaching about Christian beliefs: 1) The Bible, Tradition and Magisterium Jesus gave the apostles the authority to preach. Catholics believe that the present Pope and Bishops can trace their appointment back to the first apostles. This is called the **Apostolic Succession**.

**Ordinary Magisterium** = Advice about day to issues of faith affecting the Church e.g. Encyclicals such as **Laudato Si** (about the environment)

**Extraordinary Magisterium** = General Councils e.g. Vatican II – to explore matters of significance to the life of the Church – especially explaining matters of belief and practice in the Church.

**Second Vatican Council:** The 'Second Vatican Council' was the second General Council (1960s) in the Vatican, Rome. The Second World War ended in 1945. In the years that followed there was considerable change in society, technology and in politics. The Church wanted to respond to these changes addressing the issues of the modern world and encouraging more participation.

**The Four Key Documents: Dei Verbum** (Divine Revelation), **Sacrosanctum Concilium** (Sacred Liturgy), **Lumen Gentium** (The Church) and **Gaudium Et Spes** (The Church in the Modern World).

**Paschal Candle: The Paschal Candle- A symbol of Christ's Resurrection.** The 'Alpha' & 'Omega': first and last letters in the Greek alphabet. They symbolise Christ as the 'first' and the 'last'; the 'beginning' of all things and the 'end' of all things. **The Cross:** This is the symbol of Christian faith because it is due to the crucifixion of Christ that the resurrection was possible.

**The Five Wounds:** The five studs represent the five wounds Jesus received during his crucifixion. **The Year:** Each year the candle is dated to remind us that Jesus is the same for all time.

**Sarcophagi:** stone coffins that have carved images on them. One example is the Sarcophagus with Scenes of Jesus' Passion now in the Vatican, Rome. It has a variety of images that reinforce the belief that Jesus' death and resurrection was a triumph over sin and a sign of hope.

**Prayer**

**Prayer:** Communication with God and the *petition of good things from him in accord with his will*. There are many different prayers for different occasions: **Adoration:** God is wonderful and worthy of praise, **Thanksgiving:** People give thanks for wonderful things, **Repentance:** From sorrow – people repent their sins, **Intercession:** Asking God to respond to the needs of others. **Petitions:** Asking God to help themselves. **Formulaic – 'Set Prayers'** = prayers which have been said by Christians over centuries where the same words are said in the same way every time. They are often very well-known and a source of inspiration for many. For example, The Lord's Prayer. **Extempore prayers – 'Own Words'** = when Christians use their own words to pray.

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Resurrection	The raising of the body to life following death. Catholics believe Jesus rose from the dead on the third day.
Soul	The spiritual part of a human that can never die. The part created by God that lives on after the death of the physical body.

**Catholic Funeral Rite and Prayer**

**Faure's 'Requiem'** Gabriel Faure (1845-1924) composed a requiem that is full of beautiful melodies. Faure does not allow the natural sadness of grief to obscure faith in the resurrection.

**Symbols used during Funeral Rite:** The coffin is covered in a **white cloth**, called a **Pall**. This is a reminder of **Baptism** when the newly baptised is presented with a white garment as a symbol of being washed clean of sin.

The **Book of the Gospels** is placed on the coffin as a reminder that Christians live by the Gospel.

**A Cross** is often placed on the coffin. It is through the cross and resurrection that people are saved and can now be sure that death has been defeated by Christ.

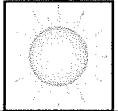
The **Paschal Candle** is often placed beside the coffin as a symbol of belief in the resurrection.

A Priest wears **white vestments** – it is the liturgical colour of the resurrection. The **coffin is sprinkled with holy water** as a reminder of the waters of Baptism and the gift of eternal life.

The **coffin is incensed** as a sign of **honouring the person, whose body was a temple of the Holy Spirit**. The incense also signifies the **prayers of those gathered rising up to God**.

**Prayers and Readings:** The **readings** from scripture are chosen to remind people of the **promise of resurrection and eternal life**. They provide a source of hope and comfort to those who are grieving. The prayers will refer to Baptism, to Easter and the Resurrection, **to the sacrifice on the cross and the hope of eternal life**.

## Half Term 3 – Holidays



### Quiz 3.1 Going on holiday present tense

Normalerweise fahre ich mit dem Flugzeug nach...	Normally I fly by plane to.....
Im Herbst / im Frühling...	In autumn / in spring
In den Ferien fahre ich nach.....	In the holidays I travel to....
um mich zu entspannen	In order to relax
, weil ich den Strand liebe	Because I love the beach
Ich schwimme gern im Meer	I like to swim in the sea

### Quiz 3.2 – Accommodation

mieten, übernachten, wohnen, bleiben	To rent, to stay overnight, to live, to stay
Ich <u>übernachte</u> auf einem Campingplatz	I stay overnight on a camp site
Normalerweise bleiben wir in einer Pension	Normally we stay in a B&B
Die Unterkunft ist schön und ordentlich	The accommodation is nice and tidy
WLAN, grillen, kostenfrei/kostenlos, erlaubt	Wifi, to bbq, free, allowed

### Quiz 3.3– Past tense

Ich habe einen Stadtbummel gemacht	I did a stroll around the town
Ich habe Volleyball am Strand gespielt	I play volleyball on the beach
Ich habe Zeit mit Familie verbracht	I spent time with family
Ich bin im Hotel geblieben	I stayed in the hotel
Wir <u>haben</u> Meeresfrüchte gegessen	We ate seafood
Wir <u>sind</u> zum Strand gegangen	We went to the beach

### Quiz 3.4 – Past tense and weather

Es war unglaublich sonnig	It was unbelievably sunny
Es hat nie geregnet	It never rained
Als es heiss war, bin ich zum Strand gegangen	When it was hot, I went to the beach
Das Wetter war jeden Tag herrlich	The weather was gorgeous every day
Wegen des Wetters habe ich gefaulenzt	Because of the weather I lazed around
Trotz des schlechten Wetters habe ich Eis gegessen	Despite the bad weather I ate ice cream

### Quiz 3.5 – Future / Conditional tense

Ich werde nach Deutschland fahren	I will travel to Germany
Dieses Jahr will ich in die Schweiz fliegen	This year I want to fly to Switzerland
Mein idealer <u>Urlaub</u> wäre in Amerika	My ideal holiday would be in America
Ich würde jeden Tag zum Strand gehen	I would go to the beach every day
Ich hätte mehr Zeit, <u>um mich zu entspannen</u>	I would have more time to relax
Wenn ich viel Geld hätte, würde ich nochmal hinfahren	If I had lots of money, I would go there again
Es wäre einfach <u>unvergesslich</u>	It would be simply unforgettable

## Parallel texts

Normalerweise auf Urlaub fahre ich mit meiner Familie nach Griechenland. Wir bleiben in einem schönen Hotel mit Freibad. Das gefällt mir, weil ich die Sonne liebe.

Letzten Sommer sind wir nach Mallorca geflogen. Es war unglaublich, weil das Wetter so sonnig war. Ich fand den Urlaub einfach super, weil ich gern Zeit mit meiner Familie verbringe.

Ich bin zum Strand gegangen und wegen des Wetters bin ich im Meer geschwommen. Das Wasser war einfach herrlich! Meines Erachtens war mein Familienurlaub unvergesslich!

Nächsten Sommer möchte ich nach Deutschland fahren, um Deutsch zu lernen. Jedoch wenn ich Geld hätte, würde ich in die Karibik fahren. Das wäre ausgezeichnet!

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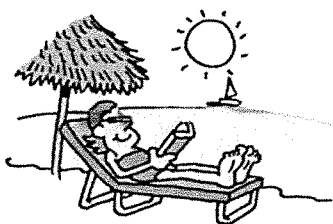
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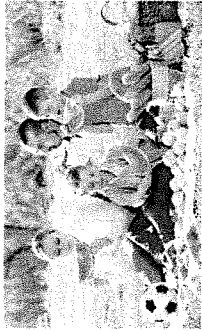
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### Key skills

1. To apply TMP correctly to sentences (both tenses)
2. To use new verbs in the present and past tense
3. To now to use 'nach' with the majority of countries
4. To know and apply both the future and the conditional 'würde'
5. To use the conditional (what call it...wäre)

## Half term 4 – Key exam knowledge for self quizzing

<p><b>Quiz 4.1 Writing foundation photo card</b></p> <p>Writing 4 sentences about a photo</p>  <ol style="list-style-type: none"> <li>1. Es gibt.....(eine Familie)</li> <li>2. Es gibt..... (Kinder)</li> <li>3. Sie <b>sind</b> glücklich</li> <li>4. Sie <b>sind</b> in einem Park / sie chatten / es ist sonnig</li> </ol>	<p><b>Quiz 4.2 Writing foundation. Responding to unknown words in a 40 word task. Eg</b> Taschengeld (pocket money)</p> <ol style="list-style-type: none"> <li>1. Meiner Meinung nach ist Taschengeld ganz prima denn es nützlich / super</li> <li>2. Ich finde Taschengeld total interessant</li> <li>3. Ich liebe Taschengeld, weil es sehr gut ist</li> <li>4. Ich denke, dass Taschengeld toll ist denn es ist fantastisch</li> </ol>	<p><b>Quiz 4.3 Generic tense examples for writing H/F</b></p> <p><b>Past</b></p> <ol style="list-style-type: none"> <li>1. Ich habe <i>Pizza und Salat</i> gegessen</li> <li>2. Ich habe <i>Computerspiele</i> gespielt</li> <li>3. Ich habe mit <i>Freunden</i> gechattet</li> <li>4. Ich habe Wasser getrunken</li> <li>5. Ich habe Musik gehört / heruntergeladen</li> <li>6. Ich bin mit meiner Familie in die Stadt gegangen</li> </ol>
<p><b>Quiz 4.4 Generic tense examples for writing H/F</b></p> <p><b>Future</b></p> <ol style="list-style-type: none"> <li>1. Ich werde Obst essen</li> <li>2. Ich werde ins Kino gehen</li> <li>3. Ich will radfahren</li> <li>4. Ich will einkaufen gehen</li> <li>5. Ich werde Freunde treffen</li> <li>6. Ich werde (<i>mein Handy</i>) benutzen</li> </ol>	<p><b>Quiz 4.5 Generic justified opinions for writing H/F</b></p> <p><b>Present</b></p> <ol style="list-style-type: none"> <li>1. Meiner Meinung nach ist das toll, <b>weil</b> es Spass macht</li> </ol> <p><b>Past</b></p> <ol style="list-style-type: none"> <li>2. Meiner Ansicht nach war das ganz prima, <b>da</b> es interessant war</li> </ol> <p><b>Future</b></p> <ol style="list-style-type: none"> <li>3. Ich finde das wäre super denn ich liebe.....</li> </ol>	<p><b>Quiz 4.6 High level imperfect tense examples to use in 150 word tasks</b></p> <p>Ich fand es.....I found it.....Ich bin in die Stadt gegangen aber ich fand es langweilig denn....</p> <p>Ich ging – I went.....Letztes Wochenende ging ich zum Park, um fit zu bleiben, weil ich sportlich bin</p> <p>Es gab – <b>there was / there were</b>...Letztes Jahr bin ich in einem Hotel in Spanien geblieben. Im Hotel gab es ein Freibad und.....</p>



High level conditional tense examples to use in 150 word tasks

1. **Wenn ich mehr Zeit hätte, würde ich nochmal hingehen** – If I had more time I would go again. Generic sentence to use whenever you have been somewhere! Don't forget the umlauts!
2. **Wenn ich viel Geld hätte, würde ich das öfter machen** – If I had a lot of money I would do that more often
3. **Wenn ich die Wahl hätte, würde ich + infinitive at end of sentence** – If I had the choice I would.....
5. **Das wäre ausgezeichnet** – that would be excellent
6. **Ich denke, dass es super wäre** – I think that it would be super

Little but important words

schon already  
früher previously / earlier  
fast almost  
erst not until  
nur only  
noch still / not  
wenig few / a little  
ohne without  
beide both  
eigene own  
jetzt now  
niemand no one  
sofort immediately  
bald soon  
leider unfortunately  
selten rarely  
unbedingt definitely

Time phrases per tense

Present

heute – today  
manchmal – sometimes  
normalerweise – normally  
ab und zu – now and again  
wenn ich Zeit habe – when I have time  
morgens – in the mornings

Past

gestern – yesterday  
gestern Abend – yesterday evening  
gestern Nachmittag – yesterday afternoon  
neulich – recently  
in letzter Zeit – recently

Future

morgen – tomorrow  
morgen Abend – tomorrow evening  
übermorgen – the day after tomorrow  
morgen Nachmittag – tomorrow afternoon

Quiz 4.7 Damals und Heute (see P41 of vocab book)

Back then was I fit	<u>Damals</u> war ich fit
When I was a child, I was very intelligent	Als ich Kind war, war ich sehr intelligent
Nowadays my life is fairly stressful	Heutzutage ist mein Leben ziemlich stressig
Back then I could never spend time with friends	Damals konnte ich nie Zeit mit Freunden verbringen
Now I can go out every weekend	Jetzt kann ich jedes Wochenende ausgehen

# GCSE Business All Saints' Absolutes

## Theme 1

### How you can use them

- Learn the information systematically, use look, cover, write check to help you do this
- Create questions and answers for each section
- Ask someone to ask you questions based on the information on the All Saint Absolute
- Complete the quiz's that accompany each of the absolutes which can be found on the VLE and student shared area
- DO NOT JUST SIT AND READ THEM YOU MUST BE ACTIVE WITH THE INFORMATION

## EXAM TECHNIQUE GUIDANCE

### 3 Mark explain a benefit or drawback questions P11/PEA (include Knowledge of key term in your answer)

Point: Identify a relevant point that answers the questions

Strand 1: Why is your point relevant?

Strand 2: What is a further impact on the business

Example Explain one benefit and one drawback to a business or using a bank overdraft as a source of finance

Trade credit will allow a business to sell their products to the customer before paying the supplier, this will allow money to flow out of the business at a slower rate, which will prevent a business a business from running out of cash

A 6 mark question will require 2 X P11/PEA and Knowledge of key term

Useful connectives to use to help create a chain of argument: because, therefore, this leads to, hence, as a result, so, which means, which will

### Context (PICS)

If a question has a case study you must write in context, include the names of business, state the products and competitors, write about the businesses

### 9 mark option questions

You are required to analyse only one option. Before you write your answer select the option of your choicer

Para 1:

X is beneficial because... due to.. Which means... therefore...

Para 2

However X might not be so suitable because.. Therefore. As a result....

Para 3:

Overall I think ..... this is because.... Therefore... however it will depend on....

# The role of Business enterprise 1.1.3

Key concept/term	Definition/explanation
Role of business enterprise	To produce goods and services
Purpose of business activity	<ul style="list-style-type: none"> <li>• Produce good and services</li> <li>• To meet customer needs</li> <li>• To add value</li> </ul>
Goods	Providing a customer with a finished product, something tangible (you can touch it)
Service	An act that a business person carries out for you. It is intangible (you cannot touch it) e.g. hair dresser, teacher
Customer needs	A desire or factor that causes a customer to buy a product, examples include
Customer needs examples	Good quality product, reasonable prices, reliable service, easy to use website
Added value	<ul style="list-style-type: none"> <li>• The difference between the price of the finished product / service and the cost of the inputs involved in making it</li> <li>• Added value is the increase in value that is created from the production process</li> </ul>
Methods of adding value	<p><b>Convenience:</b> customers may be prepared to pay more for a service at home rather than having to go to the shops</p> <p><b>Branding:</b> established and desirable brands can charge more</p> <p><b>Design:</b> the use, appearance and cost of a product are all important factors and can make a product or service more expensive</p> <p><b>Quality:</b> customers will have an expectation of the quality of a product and the more a product meets or exceeds this, the more value will be added in its production and the higher the price</p> <p><b>Unique selling point (USP):</b> if a product is different to that of its competitors in some good way, then the enterprise has the possibility of charging a higher price because of this difference.</p> <p><b>Someone who takes a risk by starting a business in order to gain a reward/profits</b></p>
Entrepreneur	To organise resources, to keep on top of all the day-to-day tasks and plan for the future. Leads to less waste and more profit
The role of an entrepreneur	<p>To make decisions about what products and services to offer and how best to it. Whether take on new staff and grow the business and what to do if things go wrong. Leads to a business being able to meet customer needs and enjoy greater success (profit)</p> <p>To take risks: There are lots of unknowns involved in running a business. The entrepreneur may have given up their job and will lose money if the business fails.</p> <p>Planning can help reduce the risk of failure and help them decide if the business is a good idea. How to spend the money, what resources and equipment to buy, how many people to employ, what sell and how it will be made</p>

## Risk and Reward 1.1.2

Key concept/term	Definition/explanation
Why do businesses fail?	<ul style="list-style-type: none"> <li>• Poor management of the business</li> <li>• Cash flow issues (a business runs out of money)</li> <li>• Experiencing a drop in sales revenue</li> <li>• Higher costs than expected</li> </ul>
Risk	The possibility of something negative happening to a business or entrepreneur
Risks an entrepreneur takes when starting a business	<ul style="list-style-type: none"> <li>• Financial loss – losing the money invested into a business</li> <li>• Lack of security – sacrificing the security of a regular wage</li> </ul>
Rewards	Benefits gained by the owner, for example; <b>Business Success</b> (satisfaction of building a business), <b>Profit</b> , <b>Independence</b> (working for themselves)

## The Dynamic nature of business 1.1.1

Key concept/term	Definition/explanation
Why do new business ideas come about?	<ul style="list-style-type: none"> <li>• <b>Changes in technology:</b> Advances in technology means that products can be more easily adapted to do more.</li> <li>• <b>Changes in what consumers want:</b> As lifestyles change people want different products</li> <li>• <b>Products becoming obsolete:</b> Overtime products become outdated, these products are replaced by newer version that are more sophisticated</li> </ul>
How do new ideas come about?	<ul style="list-style-type: none"> <li>• <b>Invention</b> (creating an original idea) – very expensive underpinned by expensive research and development</li> <li>• <b>Innovation</b> (adapting existing products) – cheaper, making smaller changes to products and services that already exist</li> </ul>
E-commerce	Buying and selling products online
M-Commerce	Using mobile devices to buy and sell products
How does social media impact on a business?	<ul style="list-style-type: none"> <li>• Connect with people all around the world</li> <li>• allows a business to build a personal relationship with their customers,</li> <li>• A business can conduct more effect promotions</li> </ul>

# 1.2.1: Understanding Customer Needs

Customer needs: a desire or factor that causes a customer to buy a product, examples include;

1. PRICE – setting a price that covers costs but one that customers are willing to pay
2. QUALITY – the standard of a product against another is perceived to be better
3. CHOICE – choice enables a business to meet the diverse needs of customers and increases the chance that a product will be purchased
4. CONVENIENCE – a product or service that has the ability to make life easier for a customer

The benefits of identifying customer needs

- A business has a greater chance of success
  - Customers will become loyal and make repeat purchases
    - Sales will increase
  - Satisfied customers are more likely to make recommendations to other people
    - Strengthens the reputation of the brand

Entrepreneur: Person who sets up a business or businesses, taking on financial risks in the hope of profit

Why do businesses carry out market research? To identify customer needs and spot a business opportunity

## 1.2.2 Market Research part 1

Primary Research Methods – Field research (gathering raw data for a specific purpose)

Survey – gathering opinions by asking pre-planned questions

Focus groups – a group discussion of people selected from a target market (the group discuss their thoughts of a product or service)

Questionnaire – a set of questions with a choice of answers

Observations – watch the behaviour of customers

### Benefits

- ✓ Accurate - specific to the needs of the business
- ✓ Up to date
- ✓ Contains information directly from target market – more useful for decision making
- ✓ Effective for gathering qualitative data – enables specific detailed information to be gathered

### Drawbacks

- x Time consuming
- x Expensive
- x If the sample size is too small the data might not be reliable

Market: where buyers and sellers come together to exchange goods and services for money

Market research: gathering information about the market and customers to aid business decisions

The purpose of market research

- To identify & understand customer needs
  - What the customers actually want from a product/service.
- To identify a gap in the market
  - What do competitors already offer and whether there are any needs that are not met. Does this present an opportunity?
- To reduce the risk
  - Do customers actually want the businesses product/service (is there demand?).
- To inform business decisions
  - To enable decisions regarding the product features, price to charge, where to sell & how to promote the product.

## 1.2.2 Market research part 2

### Secondary Research – Desk Research (gathering data that already exists)

Internet	<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>✓ Effective for gathering quantitative data</li> <li>✓ Less time consuming</li> <li>✓ More general, may provide a quick overview</li> <li>✓ Cheaper – leaving more money for something else</li> </ul> <p><b>Drawbacks</b></p> <ul style="list-style-type: none"> <li>x Research might not be relevant to your business or target market</li> <li>➤ Leading to poor decision making</li> </ul>
Market reports – written about purchasing habits and changes within a market (good for spotting trends)	
Government reports - written about government concerns e.g. crime, obesity	
Newspapers/Magazines	
Sales data from competitors	

### The use of social media in collected market research data

- Businesses can set up a FACEBOOK page to communicate with its target audience and monitor the feedback of both customers and potential customers. They can also monitor competitors via their facebook pages.
- Monitor how customers TALK to one another about its products or services and then use the same language in its marketing. By joining customer conversations on social media the business gets an insight that normal Market Research will not provide.

### Qualitative data: data about people opinions, judgments and attitude.

Expressed through writing

**Quantitative data:** data that can be expressed as numbers and statistically analysed e.g selling prices, profits, footfall

**Bias:** Research can be biased if customers give answers they think the business wants to hear, perhaps through an interviewer being misleading with a question or asking a family member a question- leads to poor decision making

**Reliability:** research must come from a representative sample of the target market (asking a large enough number of people to gather research from)

**Validity:** the design and method of gathering market research must be appropriate. E.g appropriate questions must be asked to avoid a biased result

## 1.2.3: Market Segmentation

### What is market segmentation?

This is dividing a market into smaller categories by grouping together customers/buyers with particular needs or interests.

### Methods of segmentation

<b>D</b>	Demographics – statistical data relating to population, gender, race or religion
<b>I</b>	Income – different people earn different amount of money and will have different needs
<b>G</b>	Gender – males and females will sometimes expect to see different things in products
<b>A</b>	Age – needs and wants to consumers change as people get older
<b>L</b>	Location - people in different location will expect different things form different products e.g. people in India do not eat beef
<b>L</b>	Lifestyle - how people live their lives so business connects with its customers interests so builds relationships

### Benefits of market segmentation

- ✓ Meet specific customer needs
  - ✓ Differentiate your product
  - ✓ Focus on specific groups of customers
  - ✓ Develop a unique brand image
- All of the above will help a business to develop loyal customers, which will increase sales and encourage people to speak positively about the business

### Drawbacks of market segmentation

- x Costly to cater for a range of customers
- x Focusing on one type of customer can mean you lose others
- x Characteristics of customer can change over time

## 1.2.3: Market Mapping

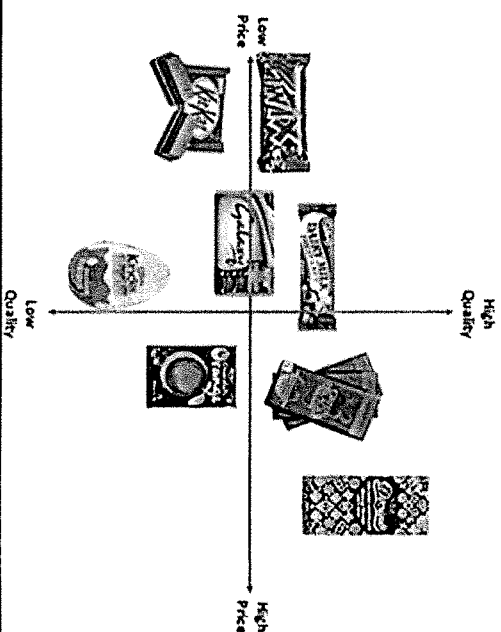
### Market Mapping

Used to find a 'gap' in the market or an area of saturation (lots of competitors)

It allows you to show the possible positions in the market you may place your product, based on two features, eg price and quality (see diagram)

### Marketing Map Benefits and drawbacks

- ✓ Helps to identify close rivals/competition
- ✓ Helps to support market segmentation
- x Only compares 2 variables
- x Based on opinions rather than data



## 1.2.4 The Competitive Environment

### Key terms

#### Competition

When two or more businesses act independently to supply goods or services to the same group of people

#### Competitive environment

The level of competition between rival businesses in the same market. (Lots of competitors in a market)

Businesses compete on a range of factors

- Price
- Location
- Quality
- Brand Image
- Product range
- Customer service

Businesses analyse the market using a SWOT analysis to help make decision to enable a business to effectively compete

### Impact of competition on a business's decision-making

- Lower selling prices
- Competitors may make you more likely to innovate or think of new product ideas to help keep ahead of the competition.
- May need to control costs to help maintain or increase profits.
- May need to change promotional campaign, or offers relating to products in response to competitor actions



## 1.3.1 Business aims and objectives.

**Aim:** Long term goal of a business

**Objective:** short term measurable target to help a business to achieve its aim

Financial aims and objectives	Non-financial aims and objectives
<p><b>Survival</b> – Making enough money to cover costs of the business</p> <p><b>Profit</b> – Increasing the profit made by either increasing revenue or decreasing costs. In the long term many businesses will aim to increase the profit they make</p> <p><b>Sales</b> – to increase the money received from customer, could be achieved through increasing customer loyalty, or increasing selling prices, or selling more products to new people</p> <p><b>Market share</b> – increasing sales which means taking sales away from competitors. Achieved by heavy promotion, discounts making a product more appealing</p> <p><b>Financial security</b> – An entrepreneur needs the business to make enough money to pay personal bills e.g. mortgage, gas electric, personal loans</p>	<p><b>Personal satisfaction</b> – feeling like an entrepreneur has achieved something of worth/value to themselves, increases self-worth and happiness</p> <p><b>Challenge</b> – Entrepreneurs want to push themselves and test their personal skills e.g. leadership, ability to plan and prioritise</p> <p><b>Independence</b> – entrepreneurs want</p> <ul style="list-style-type: none"> <li>• To be free from being accountable to someone else</li> <li>• To make all your own decisions</li> <li>• To not be told what to do</li> <li>• To have control over your own destiny and not have to rely on anyone else</li> </ul> <p><b>Control</b> – Entrepreneurs want to have more control over their working life. This provides greater flexibility in terms of working hours, days off, holidays, product development and choice, how the business will run.</p> <p><b>Social Objectives</b> – targets that will enable the business to help society or the environment. E.g. reducing the amount of waste created or setting a fair price for products sold or paying a fair wage</p>

**Which aims and objectives do different businesses set?**

- Most organisations will set financial aims and objectives
- Charities may be more interested in social objectives
- Business wanted to enhance their reputation will focus on social objectives
- New business will focus on survival
- People leaving a business to become self employed may do so to have greater independence and control over their life
- People that do not like their job may set up a business to do something they love and set a personal satisfaction target
- A struggling business may set a target to survive
- Established businesses will focus on increasing sales or market share



## 1.3.2 Business revenues, costs and profits part 1

**REVENUE** – Money a business receives from selling goods and services to customers. Also known as turnover or sales

**REVENUE = SELLING PRICE X QUANTITY SOLD**

**FIXED COSTS** – these are costs that **DO NOT** change as output (products sold) changes. They might change, but it won't be as a result of making or selling a few more.  
Examples include – rent, salaries, advertising, insurance, bills

**ADD ALL FIXED COSTS TOGETHER**

**VARIABLE COSTS** – these are costs that **VARY DIRECTLY** with output (product sold). Classic examples are raw materials or stock or packaging.

**VARIABLE COST OF 1 X QUANTITY SOLD**

**TOTAL COSTS** – all the costs add together

**TOTAL COSTS = FIXED COSTS + VARIABLE COSTS**

**PROFIT** - The money a business makes from selling goods. It is the difference between sales revenue and total costs

**PROFIT = REVENUE – TOTAL COSTS**

**INTEREST** – Cost of borrowing and the reward for saving.

If you borrow £10,000 at interest of 5% a year then the total interest to be paid for one year is  $10,000 \times 0.05 = £500$  so total payment is £10,500 for the year.

When a loan is taken over 10 years then a lot more interest will be paid in total. To work out the total percentage of interest to be paid on a loan you would use the following formula

$$\frac{\text{Total repayment} - \text{borrowed amount}}{\text{Borrowed amount}} \times 100 = \text{interest in \%}$$

So if 5,000 is borrowed and total repayment comes to 8,000 then

$$\frac{8,000 - 5,000}{5,000} \times 100 = \frac{3,000}{5,000} \times 100 = 60\% \text{ so interest is 60\% of total borrowed}$$

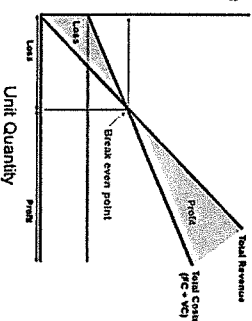
Break-even level of output is the point where total revenue exactly equals total costs, so it is where  $TR = TC$ . It is the number of units a business needs to sell to cover its costs. it can be calculated by:

$$\frac{\text{Fixed costs}}{\text{Selling price} - \text{variable cost}} \quad \text{so FC} = 500 \quad \text{SP} = 8 \quad \text{VC} = 3 \quad \text{then } 500 / 8 - 3 = 100 \text{ Units}$$

A margin of safety is the total number of sales minus the number of sales needed to break even.

So if a plane sells 400 seats and its break-even number per flight is 250 then it has a margin of safety of 150. If it can sell all 400 seats then it makes a good profit, and for every seat over 250 the flight will make a profit.

- ✓ Break-even provides a target for business to achieve
  - ✓ Helps to calculate different levels of profit at different levels of output
  - ✓ Can be used to see what would happen to profit if costs or selling prices change
- x Not accurate as not all businesses sell all products at the same price and often selling prices of products change throughout the year – target is inaccurate



## 1.3.2 Business revenues, costs and profits part 2

What happens to breakeven when...

Revenue increases	<ul style="list-style-type: none"> <li>• Breakeven level of output decreases</li> <li>• Margin of safety increases</li> <li>• A business will make a profit more quickly and profit will increase (this is positive for a business – they need to sell less units to BE)</li> </ul>
Revenue decrease	<ul style="list-style-type: none"> <li>• Breakeven level of output increases</li> <li>• Margin of safety reduces</li> <li>• A business will take longer to make a profit, and will make less profit (this is negative for a business – they have to sell more units to BE)</li> </ul>
Costs increase	<ul style="list-style-type: none"> <li>• Breakeven level of output decreases</li> <li>• Margin of safety reduces</li> <li>• A business will take longer to make a profit, and will make less profit (this is negative for a business – they have to sell more units to BE)</li> </ul>
Costs decrease	<ul style="list-style-type: none"> <li>• Breakeven level of output increases</li> <li>• Margin of safety increases</li> <li>• A business will make a profit more quickly and profit will increase (this is positive for a business – they need to sell less units to BE)</li> </ul>

What a business ideally wants to see from breakeven

1. A low breakeven point
  - Enables the business to start making a profit more quickly
  - More money available to invest to develop the business
2. A high margin of safety
  - Means that they business can afford to lose more sales before it reaches breakeven and begins to make a loss.
  - This makes it easier for a business to avoid making a loss and will encourage a higher level of profit

## 1.3.3: Cash and Cash-Flow part 1

**Cash Flow:** The flow of money into and out of a business **Inflow:** money coming in (sales, loan, shares, grant) **Outflow:** money going out (rent, wages stock, any cost)

The importance of cash to a business

To pay suppliers – this will enable the business to be able to make the product, so that sales can be made

To pay overheads (gas and electric bills) – this allows the business to be able operate from their premises

Pay employees – employees are needed to make or sell a product, without this a business cannot function

The difference between cash and profit

Cash is the money the business has available to spend

Cash is calculated by subtracting ALL of the outflows of a business from ALL of the inflows

When calculating cash it does not matter where the money is going to or coming from it is included

Profit is the money made from buying and selling a product

Profit = Revenue – TC

Profit does not include inflows such as loans, savings and outflows such as spending on property and vehicles. Profit is only concerned with REVENUE and VARIABLE and FIXED COSTS

# 1.3.3: Cash and Cash-Flow part 2

**Cash flow forecast** is an estimation of the money that will flow into and out of a business over a period of time

**Calculations to calculate cash flow**

Cash inflows = add together the cash inflows  
 Cash outflows = add together the cash outflows  
 Net cash flow (NCF) = Total inflows – total outflows  
 Opening balance (OBB) = closing balance from previous month  
 Closing balance = OBB + NCF

**Uses of cash flow forecast**

- Helps with the day-to-day running of the business (provides a budget) to avoid a business running out of cash
- It highlights where a business will have a short fall (run out) of cash
- It allows a business to organise short-term borrowing e.g an overdraft, short term loan to cover the short-fall

**How do cash flow problems arise:**

- Change in sales – a competitor may launch a new product which decreases demand for the business and reduces sales
- Costs change – supplier may put up their price, increasing outflows for a business
- Credit terms change (length of borrowing time – suppliers may decide to reduce the number of days a business has to pay its bill, which forces a business to use its cash to pay bills quicker, which speeds up cash flow)
- Stock levels change – if a business has more stock stored, this increases costs as the stock needs to be stored and kept in good condition, outflow therefore increase

	Jan	Feb	Mar	Apr	May	Jun	Total
<b>CASH INFLOWS</b>							
Investment	10,000						10,000
Credit sales	2,500	10,000	10,000	10,000	10,000	10,000	52,500
<b>Total inflows</b>	<b>12,500</b>	<b>10,000</b>	<b>10,000</b>	<b>10,000</b>	<b>10,000</b>	<b>10,000</b>	<b>62,500</b>
<b>CASH OUTFLOWS</b>							
Project materials		3,000	3,000	3,000	3,000	3,000	15,000
Sub-contract labour	4,000	4,000	4,000	4,000	4,000	4,000	24,000
Marketing	500	500	500	500	500	500	3,000
Legal and accounting	1,250	0	0	0	0	0	1,250
Equipment	2,500	0	0	2,500	0	0	5,000
Sophie & Jack salaries	1,000	1,000	1,000	1,000	1,000	1,000	6,000
Other costs	500	500	500	500	500	500	3,000
<b>Total outflows</b>	<b>9,750</b>	<b>9,000</b>	<b>9,000</b>	<b>11,500</b>	<b>9,000</b>	<b>9,000</b>	<b>57,250</b>
<b>NET CASH FLOW</b>	<b>2,750</b>	<b>1,000</b>	<b>1,000</b>	<b>-1,500</b>	<b>1,000</b>	<b>1,000</b>	<b>5,250</b>
Opening balance	0	2,750	3,750	4,750	3,250	4,250	
Closing balance	2,750	3,750	4,750	3,250	4,250	5,250	

**Negative cash flow:**

A business has a negative closing bank balance and will not have sufficient funds to pay all of its costs

- May not pay suppliers on time – cause problem for making goods
- May not be able to purchase more material – a business might not meet demand, and could have disappointed customers
- Unable to pay fixed costs- may be forced to move to a smaller location
- Business becomes insolvent (money not flowing to pay bills)

**Positive cash flow:**

A business has a positive closing bank balance and will have extra cash to be able to expand the business if they wish.

- A positive bank balance allows for
- Additional research to be undertaken
- New products to be development
- A new promotional campaign to be launched to create new customers

## 1.3.4: Sources of finance

**Short term sources of finance:** Money that is due to be repaid within one year, typically used to help fund the day-to-day running of a business. These sources are not suitable for raising large amounts of cash or funding expansion projects

**Trade credit:** Arranging a buy now pay later agreement following an invoice, a business usually have 30, 60 or 90 days to pay for their goods or service

- ✓ Delaying payment to a supplier, money stays within a business for longer
  - x May not be available to new businesses due to having no track record of using debt, therefore pose a greater risk
- ✓ Business can sell products first then pay the supplier after. No finance is needed to purchase goods/stock
  - x Some businesses offer discounts for paying at the time of purchase, using trade credit means a business does not access the discount and will therefore pay more

**Overdraft:** Bank will allow business to withdraw more money than is actually in the business' bank account, in return for a fee (interest).

- ✓ Extremely flexible, you only pay interest for the time you are overdrawn
  - x Expensive, a high rate of interest is charged – increases costs and reduces profit. Best used in emergencies
- ✓ Only pay interest on the amount of overdraft being used and not the maximum level
  - x New business are often refused an overdraft

**Long term sources of finance:** Used for larger purchases. Money that is repaid in the long term >1 year

**Loan:** Borrowing money from a bank to be repaid in regular instalments with interest. A bank will sometimes demand a collateral against the loan (securing an asset against) *(Suitable for all businesses)*

- ✓ Spread the cost over a period of time
  - x Pay interest, increases the costs
- ✓ Retain the control of your business
  - x May have to use collateral, which may be lost if the loan cannot be paid

**Retained profit:** Money a business has made in previous years *(only available to established businesses)*

- ✓ Cheap, no associated costs (interest to pay)
  - x No applicable to a new businesses
- ✓ Easy to access
  - x May be limited, so restrict expansion plans
  - x If RP is spent the money cannot be used for another purpose, this represent an opportunity costs

**Crowd funding:** Using the internet to appeal to large number of people to pledge small amounts of money

- ✓ Good for new business that may have been turned down or a loan
  - x May not attract investors
- ✓ Also acts as an advert for the business – may attract more customers *(Suitable for all businesses)*
  - x Alerts competitors of your need for funds

**Venture capital:** High profile investors that bring money and expertise to a business in return for a share of the business *(Dragons den) (Suitable for all businesses)*

- ✓ Bring knowledge skills, expertise and contacts
  - x Lose control of the business, the VC will become part owner and be involved in decision making
- ✓ Good for high risks business that may struggle to get a loan
  - x Share profits

**Personal savings:** Investment from the owner e.g. inheritance savings, redundancy pay

- ✓ No interest to be paid
  - x Money is limited
- ✓ Easy to access the money
  - x High risk, the personal money could be lost if the business does not do well
- ✓ Family and friends may be more willing to lend than a bank *(Suitable for all businesses)*
  - x May cause conflict with family or friends by borrowing from them

**Share capital:** Limited companies sell shares in the business in return for money that can be invested in the business. LTD sell shares to family and friends. PLC sell shares through stock market to anyone.

- ✓ Share capital is never paid back and no interest is paid - cheap
  - x Dilute the ownership, selling control
  - x Shareholders are entitled to a share of the profit (dividend) and can make decisions

*Not suited to Sole Traders and Partnerships*

## 1.4.1: The option for start-up and small businesses

### Franchise

When one business gives another business permission to trade using its name and products in return for a fee and share of its profits

**Franchisor:** the person selling the franchise

**Franchisee:** The person buying the franchise

### Advantages:

- ✓ Support
- ✓ Training
- ✓ Reputable business name and product
- ✓ Well established brand
- ✓ Loyal customers

### Disadvantages:

- x Brand reputation can be damaged if franchise is not maintaining standards
- x Lack of creativity allowed
- x Cost of start up - expensive
- x % of profits paid to franchisor (royalty)

### Sole Trader

A business is set up, and run by one person.

### Advantages

- ✓ All profits remain with owners
- ✓ Small amount of capital to set up
- ✓ Sole ownership of the business – make all of the decisions

### Disadvantages

- x Unlimited liability
- x Hard to obtain bank loans due to risk
- x Limited with the amount of capital available to the business: relying on own capital

### Limited Liability

Limited Liability is where a person's financial liability (responsibility for debt) is limited to a fixed sum, most commonly the value of a person's investment in a company. Shareholders personal assets cannot be taken to repay debt.

Limited liability companies are either LTD (private limited companies) or PLC (public limited companies))

- ✓ The shareholders have limited liability
- ✓ Can be easier to raise finance by selling shares
- ✓ Ltd after the name will establish the business
- x Requirements to send reports the government
- x The business financial information is published
- x Dividends can be paid to shareholders (dividends are a share of profits made)

### Unlimited Liability

The business is legally responsible for paying back all debts. The business and the owner are seen as to have the same identity. Personal assets are at risk of being lost if the business becomes insolvent. Sole Traders and Partnerships have unlimited liability

### Partnership

A partnership is an association of two to 20 people formed for the purpose of carrying on a business

### Advantages

- ✓ Can be easy to raise finance
- ✓ Risk is shared
- ✓ More experience between owners
- ✓ Financial information can be kept private

### Disadvantages

- x Profits are shared
- x If one owner leaves the company no longer exists
- x Possible disagreements between partners

### LTD

A LTD is a private limited company where shares cannot be advertised for sale and are generally sold to family, friends or employees. LTD have limited liability, investors personal assets are protected when less risk involved in investing in this business rather than one with unlimited liability

### Advantages

- ✓ Limited Liability
- ✓ Can raise large amounts of capital through selling shares

### Disadvantages

- x Stricter rules and regulations
- x Additional costs

## 1.4.2 BUSINESS LOCATION

### E-commerce ?

- ✓ Much lower operating costs as don't need premises or rent or staff.
- ✓ Can reach a much wider audience as anyone online can see your products.
- ✓ Easier to adapt to changing buying habits so make website mobile friendly.
- ✓ Much lower operating costs (i.e. no rent costs)
- ✓ Can reach a much wider audience
- ✓ Easier to adapt to changing buying habits
- x No relationship with customers

*Many businesses still have retail outlets as well as online sales, so they have a multi-channel approach. This allows them to hopefully maximize sales and market share.*

### Proximity to competitors

- x Locating near competitors will mean a loss in potential customers
- x Competitors will also take up the available labour in the area
- x The business might have to reduce their price in order to compete with the other business
- ✓ It allows competitors to keep an eye on their competitors and act accordingly, as customers will be shopping around.



### Proximity to market (customers)

Businesses in a mass market will base their location on

- convenience for customers,
- where there is large amounts of **footfall**
- the **demographics** of an area

**Mass Market:** Businesses creating products and services to appeal to a wide range of customers

**Convenience:** How easy the businesses or its products is to access by customer

**Footfall:** How many people walk past a shop

**Demographics:** The categories of people that live within a certain area e.g. .A Ferrari shop wouldn't be located in an area where people don't earn enough money to own one

**Benefit and drawback of being located close to market**

- ✓ Greater chance of customers visiting the business
- x Expensive – increased costs, could lead to higher selling prices

### Proximity to labour (employees)

- ✓ More opportunities to employee people with relevant skills – enhance USP
- ✓ Easier to recruit – likely to have a larger pool of applicant applying for a job
- x More expensive – cities with lots of qualified workers cost more to employee as there are higher wage costs

No as important for business that employ lowed skilled workers, where employees can be easily trained.

### Proximity to raw materials

**Bulk Gaining Product:** producing a product a that is bigger than the raw materials to make such as a bicycle.

- This is used by businesses that want to locate near to its customers
- It will be expensive to transport large goods, compared to its raw materials

**Bulk Reducing Product:** producing a product that is smaller than the raw materials used to make it, such as paper

- This is used by businesses that want to locate near to raw materials
- It will be expensive to transport the raw materials, compared to the finished product

## 1.4.3 MARKETING MIX

Marketing Mix - 4 P's product price, place promotion . Purpose of marketing mix: It is used by businesses to attract customers by looking at each element to try and meet customer needs for new and existing customers

*Product is an actual good or service that the business is offering for sale.*

This includes important decisions such as:

- Specification and materials
- Design or styling
- Function and benefits
- Packaging
- Range (options and accessories)

*Place is where the customer can purchase the product*

This can include:

- Online
- Through a retailer
- Direct from the manufacturer
- Inventory
- Distribution

*Price is the amount of money that a customer will need to pay to receive the product.*

The importance of price is influenced by the following factors:

1. The number of competitors in the market
2. Customers opinion about the product value
3. The quality of the product

*Promotion is a range of activities undertaken by a business to make customers aware of its products and to encourage customers to buy them.*

Promotional activities include:

- Offering Discounts (BOGOF, 50% off etc.)
- Advertising (TV, Billboards, Radio etc.)
- Social Media
- Sponsoring people or organisations

## 1.4.4 BUSINESS PLANS

A business plan is: A document that outlines how an entrepreneur is going to set up a new business

It outlines the following:

- The entrepreneur's idea
- Their financial forecast
- How the business will actually be set up
- A plan should include:
  - information on owners and previous experiences
  - analysis of market and firms position within it
  - firms objectives
  - a plan on how it will compete against its rivals, be competitive and get better than competition
  - analysis of financial situation i.e. cash flow forecast, sales forecast and profit forecasts

Aims and objective should be SMART as this will allow the entrepreneur to measure their later performance easily against their original objectives.

Business plans need to be as specific as possible in order to minimise risk and increase the chance of obtaining finance.

Purpose of a business plan:

1. To minimise risk
2. To be able to obtain finance
  - For certain types of sources of finance such as bank loan, the bank requires to see a business plan before lending any money
3. To measure the performance of a business initially

Issues with business planning

Uncertainty – not easy to look ahead and plan what is going to happen in a market or to estimate future sales. Market conditions change quickly.

Lack of experience – people setting up do not always have the experience or skills to plan ahead and may not know how to do market research.

**S** SPECIFIC

Details exactly what needs to be done

**M** MEASURABLE

Achievement, or progress can be measured

**A** ACHIEVABLE

Objective is accepted by those responsible for achieving it

**R** REALISTIC

Objective is possible to attain (important for motivational effect)

**T** TIMED

Time period for achievement is clearly stated

# 1.5 UNDERSTANDING EXTERNAL INFLUENCES Part 1

## 1.5.1 The Impact that Business have on Stakeholders

- EMPLOYEES get more job security and are more motivated. May even get greater rewards – pay etc. Disadvantage is that employee may feel isolated in a large organisation and not feel valued anymore. Communication could be difficult and employees may not feel fully informed.
- SUPPLIERS can get additional orders from the larger business, however if they do merge there may be greater range of suppliers to choose from.
- LOCAL COMMUNITY could see more jobs created. Business may decide to re-locate elsewhere however where it is cheaper labour or land.

1.5.2 Influence of Technology on the Marketing Mix  
 Price – online shopping is very competitive so forces prices to drop as businesses compete. Also, lack of overheads means business can lower its prices.

Product – technology like robots and computers make products 24/7, so save costs are reduced. New ways to access i.e. streaming music, downloading films.  
 Place – easy to use e-commerce websites allows customer access and easy purchases. Place can almost be anywhere.  
 Promotion – social media and other cheap digital means can be used – e-mailing or texting target market. Cookies can track what you look at online.

## Supplier Conflicts

The following conflicts lead to lower profits or higher costs for a business who may be able to satisfy one but not both, or neither.

- Suppliers want more pay but owners want more profit.
- Employees want higher wages but suppliers want higher prices.
- Customers want cheaper prices but owners or shareholders want more profits.
- Government wants more tax and employees more wages.

## 1.5.1 Stakeholders of a business include:

- Owners - internal
- Employees - internal
- Customers - external
- Suppliers - external
- Community - external
- Government - external
- Pressure Groups - external

## 1.5.1 The Impact that Stakeholders have on a Business

- Owners (shareholders) – provide the funds and set the aims and objectives. Can sell shares to new owners if need to raise more funds.
- Employees - can go on strike if they are not happy with pay or treatment. If not trained they can have a negative effect or if highly motivated they can be efficient and this can attract more satisfied customers.
- Customers – buy items and recommend how to change or improve. Could boycott or stop buying if habits or taste changes.
- Suppliers – can they supply more if demand increases, what is their quality, are prices too high?
- Community – supply the workforce and supply the customers in a local area. Could object however if ethical or environmental issues they not happy with. Could object to planning permission for an extension.
- Government – apply taxes so could raise them and costs go up. Make laws and business needs to spend money to meet these new laws. Could provide grants to help develop a business.
- Pressure groups - create bad publicity if business is not behaving ethically or in an environmentally friendly manner. Could improve conditions for its employees.

## 1.5.2

E-commerce – M-commerce – this is use of mobiles, both phones and pads to buy and sell online.  
 ✓ Can trade around the world any time day or night  
 ✓ Can process an order immediately  
 x Can be expensive to keep up with technology  
 x Customers have security concerns over fraud and the security of their account details

Digital Communication - Communication through a website or social media platform  
 ✓ Communicate with customers and other stakeholders any time of the day or night  
 ✓ Reduced costs due to many businesses not needing to have an office that employees travel to every day as staff can now work at home  
 x Not all customers will be able to use digital communication so will be exclude from the business

Social Media – Facebook, Instagram, Twitter, Snapchat etc.  
 ✓ It allows a business to talk to customers  
 ✓ Read and respond to customer reviews (positive and negative)  
 x You cannot control the information that consumers write about your business

Digital Payment Systems: Payments made to businesses through the use of e-commerce and m-commerce  
 ✓ Easy  
 ✓ Fast  
 ✓ Open 24 hours a day, 7 days a week  
 x May be vulnerable to fraud  
 x May be additional fees to be paid by the business

Influence of Technology on Sales  
 ✓ Provide a competitive advantage  
 ✓ Efficiency can increase through faster communication  
 x Customers may not like technology  
 x Costs may not decrease

Influence of Technology on Costs  
 ✓ Don't have to pay as many staff  
 x Staff need training to use technology  
 x Equipment quickly becomes out of date



# 1.5 UNDERSTANDING EXTERNAL INFLUENCES Part 2

1.5.3: Legislation: the laws that a country must comply with

What is the purpose of legislation?

- To protect the rights of consumers through consumer law
- Protect the rights of employees and employers through employment law

Business Legislation: Businesses need to abide by the following as part of Consumer law.

Products must be: As described, fit for Purpose and Satisfactory quality.

Customers are entitled to a: refund, repair or replacement if products do not meet a proper standard if they are broken, unusable or not advertised properly.

Customers won't have any rights such as if: the product damaged by the customer, the customer knew about the fault or the consumer changed their mind

1.5.3: Business Legislation: Businesses need to abide by the following as part of employment law:

Sex Discrimination Acts – Outlines that employees must be treated fairly and equally at work. You cannot discriminate against people in relation to peoples protected characteristics. Eg: Age / Gender / Race / Disability / Sexual orientation / Religion

You cannot advertise for men only and must not treat sexes differently when choosing employees for promotion, or when selecting staff.

Race Relations Act – cannot discriminate on grounds of marital status, colour or race.

Disability Act – cannot treat a disabled person less favourably than others. Must make 'reasonable adjustments' to allow for employment of disabled persons. This may mean ramps or adapting equipment for a disabled person to use.

Minimum Wage – there is a minimum wage per hour that no one should earn less than. It changes slightly from 16-18 then 18-21 then an adult rate.

Equal pay – people should be paid the same for doing the same job. Many years ago women were paid less than men even if doing the same job but this can no longer be the case.

## 1.5.5: How businesses respond to changes in the following:

Technology – Not responding means you can fall behind competition and market trends quickly and therefore lose sales plus a knock to your reputation. This is particularly the case if competitors adapt to the changing technology. HMV has suffered due to likes of Netflix and Spotify, Apple music and general music streaming and downloading of music and films.

Legislation – If you do not respond to changes in the law then can be fined penalties or even have staff imprisoned or closed down, i.e. restaurant ignoring environmental health warnings. Can be costly to comply – increase in minimum wage, or higher standard of materials needed.

Economic climate – if incomes of people fall, due to a recession then it would pay a business to lower its prices to keep customers coming. Or may be advisable to look at other markets, either overseas, or widening products appeal to a new market – Lucozade from helping people who are ill to being an energy sports drink. Failure to react can lead to cash flow problems.

If interest rates rise then may be beneficial to a business to hold off large investment or expansion projects that involve large scale borrowing. Otherwise costs of borrowing will be increased.

If taxation rates drop then a business does not need to give as much to the government so they could employ more staff or pay existing staff more with the savings they make through tax savings. More staff may make you more effective in terms of customer service and can get ahead of your competitors.

## 1.5.3 Consequence of meeting or not meeting legal obligations

Positive consequences	Negative consequences
<ul style="list-style-type: none"> <li>• Positive reputation</li> <li>• Customers and other stakeholders feel like they are being treated fairly</li> </ul>	<ul style="list-style-type: none"> <li>• The business may be taken to court, resulting in fines or even a prison sentences for members of staff and/or owners</li> <li>• Negative stories about the business leading to as bad reputation</li> </ul>

## 1.5.4 Economic Influence on Businesses

Economic Factor	Definition	Positive Impact	Negative Impact
Unemployment	Number of people without a job	Large choice of potential employees	People will have less money to spend as they don't have a job
Changing levels of consumer income	People earning more or less money	If income's are increasing, people will have more money to spend & save	If incomes are decreasing, people won't have as much money to spend/save
Inflation	Price of goods increasing overtime	Shows that the economy is growing	Goods and services will become more expensive
Changes in interest rates	Interest rates are the cost of borrowing money and the reward for saving	A decrease in interest rates will mean getting a loan or mortgage will be cheaper	An increase in interest rates will mean getting a loan or mortgage will be more expensive
Government Taxation	Taking of money from people and businesses	Higher tax rates (more people being taxed) will mean an increase in public services offered to people within a country	Higher tax rates will mean people will have less money when they work.
Changes in exchange rate	Exchange rates show what one unit of currency is worth compared to another	When the pound is strong, exports will be more desirable as they become cheaper in other countries	When the pound is weak, exports become less desirable as they become more expensive in other countries

Hitler's Rise to Power		Key Words	
1	Hitler sets up the Nazi Party in 1920 and becomes Chancellor in January 1933. This happens for a variety of reasons – Hitler's strengths, inbuilt problems of the Weimar Republic, and the weaknesses of others.	1	NSDAP
2	February 1919 Anton Drexler founded the DAP (German Worker's Party)	2	Iron Cross Award
3	12/09/1919 Hitler attended his first DAP meeting—only 23 people attended.	3	Volk
4	19/09/1919 Hitler joined the DAP.	4	25 Point Programme
5	1920 Hitler renames DAP to NSDAP – The National Socialist German Workers' Party. Hitler was head of party propaganda.	5	Volkischer Beobachter
6	December 1920 DAP buy the Volkischer Beobachter 'People's Observer' newspaper.	6	Fuhrerprinzip
7	July 1921 Hitler becomes leader of the DAP.	7	Swastika
8	August 1921 Hitler introduces the SA (Sturmabteilung)	8	SA or Sturmabteilung
9	08/11/1923 The Munich Putsch	9	Aryan
10	11/11/1923 Hitler arrested	10	Anti-Semitism
11	1924 Hitler put on trial for high treason—found guilty but released after 9 months.	11	Mein Kampf
12	1925 Mein Kampf (My Struggle) published.	12	Putsch
13	1926 Bamberg Conference—Hitler arranged conference to address the splits in the DAP.	13	Blood Martyrs
14	1928 Nazis win 12 seats in Reichstag	14	Gaue
15	03/10/1929 Gustav Stresemann died.	15	Gauleiter
16	24/10/1929 'Black Thursday' - the Wall Street Crash	16	SS or Schutzstaffel
17	1930 Nazis won 107 seats in Reichstag.	17	KPD
18	March 1932 Hindenburg stood for reelection—won a majority but not over 50%.	18	Propaganda
19	April 1932 Hindenburg had to stand for reelection again—won 53% of the vote.	19	Roter Frontkampfbund
20	30/05/1932 Chancellor Brüning resigns—von Papen became Chancellor.	20	Nationalism
21	July 1932 Reichstag elections—Nazis win 230 seats in Reichstag.	21	Socialism
22	November 1932 Reichstag elections—von Papen was sacked and Nazis won 196 seats in Reichstag.	22	Paramilitary force
23	December 1932 Von Schleicher became Chancellor.	<b>Key People</b>	
24	30/01/1933 Hitler became Chancellor.	1	Paul von Hindenburg
<b>Key Concepts</b>		2	Adolf Hitler
25	25 Point Programme union of all Germans, No Treaty of Versailles, Citizenship to only those with German blood, businesses to be nationalized.	3	Gustav Stresemann
26	The Munich Putsch is a significant event. Although a failure, Hitler gained publicity, he wrote Mein Kampf and he realised that if he was to win power, he needed to do this by votes and not by force.	4	Heinrich Brüning
27	Stable Stresemann caused problems for the popularity of the Nazi Party. When times were good, voters were not attracted to the Nazi policies.	5	Kurt von Schleicher
28	The Wall Street Crash was a major turning point in the fortunes of the Nazi Party. The Nazi message did not change but people were now prepared to hear it. Support grew from all classes (big businesses, middle-class and working-class) as well as farmers, young people and eventually women.	6	Franz von Papen
29	The Backstairs Intrigue - At a time when Nazi popularity at the polls was decreasing, Hitler was handed power by political elites who feared Communist takeover and Civil War.	7	Rudolf Hess
		8	Hermann Göring
		9	Julius Streicher
		10	Ernst Rohm
		11	Anton Drexler
		12	Gustav von Kahr
		13	Hans von Seisser
		14	Otto von Lossow
		15	General Ludendorff
		16	Insenh Gneihels

# History

Year 11

## Topic 3: Nazi control and dictatorship, 1933-39

Timeline	
1. 1925	The SS (Schutzstaffel or Protection Squad) was formed as a military bodyguard for Hitler.
2. 1931	The SD (Sicherheitsdienst or Security Force) was formed by Himmler.
3. 30/01/1933	Hitler became the Chancellor of Germany.
4. 27/02/1933	The Reichstag Fire.
5. March 1933	Election in Germany, the Nazi Party increased to 288 members in the Reichstag.
6. 24/03/1933	The Enabling Act was passed by 444 votes to 94.
7. May 1933	Nazi's clamped down on trade union opposition by arresting officials and making strikes illegal.
8. May 1933	Nazi's attacked rival political parties; the Social Democratic Party and Communist Party.
9. May 1933	Students burned 20,000 books in Berlin that were written by Jews, Communists or anti-Nazi authors.
10. July 1933	Hitler issued a decree making all parties except NSDAP illegal in Germany.
11. July 1933	Hitler reached a Concordat (agreement) with the Pope.
12. September 1933	Reich Chamber of Culture established. This covered architecture, literature, music, theatre and film.
13. 1933	The Gestapo (Hitler's secret police) was formed by Herman Goering.
14. 1933	The first Nazi concentration camp—Dachau—opened.
15. 1933	Joseph Goebbels was made the Minister of People's Enlightenment and Propaganda.
16. 1933	Radio stations were censored and used to broadcast Nazi propaganda.
17. 1933	Pastors' Emergency League (PEL) set up by Protestant pastors to campaign against Nazi actions.
18. January 1934	Hitler abolished the 18 Lander parliaments (local government).
19. 30/06/1934	The Night of the Long Knives.
20. 02/08/1934	President Hindenburg died. Hitler assumed supreme power.
21. 19/08/1934	A plebiscite (public vote) was held to confirm Hitler as Fuhrer. 90% voted in favour of him.
22. August 1936	The Berlin Summer Olympics.
23. 1936	The Reich Church was formed from Protestant churches that favoured working with the Nazi Party.
24. 1937	Pope Pius XI realised the concordat was worthless. He issued criticism of the Nazi regime in a statement ' <i>Mit Brennender Sorge</i> ' (' <i>With Burning Anxiety</i> ').

Key People	
1. Adolf Hitler	Chancellor of Nazi Germany from 1933, and Fuhrer from 1934 until 1945.
2. Marinus van der Lubbe	Confessed to starting the Reichstag fire, he was found guilty and executed.
3. Joseph Goebbels	Minister of People's Enlightenment and Propaganda in Nazi Germany.
4. Paul von Hindenburg	President of Germany between 1925 and his death in 1934.
5. Ernst Rohm	The leader of the SA, until the Night of the Long Knives.
6. Franz von Papen	Vice-chancellor of Germany between January 1933 and August 1934.
7. Hermann Goering	Leading Nazi Party member, he was tasked with creating the Gestapo in 1933, and later became leader of the Luftwaffe.
8. Heinrich Himmler	Head of the SS (Schutzstaffel or Protection Squad).
9. Reinhard Heydrich	Leader of the SD (Sicherheitsdienst or Security Force) and the Gestapo.
10. Carl Von Ossietzky	A German journalist who spoke out against the Nazi regime. In 1933 he was arrested and sent to Esterwegen concentration camp. He received a Nobel Peace Prize for his journalism.
11. Pastor Martin Niemöller	One of the Protestants pastor who set up the PEL.
12. Albert Speer	Hitler's personal favourite architect, used to design the parade ground at Nuremberg and the new Chancellery.
13. The Edelweiss Pirates	Teenagers who resented the military discipline of the Nazi youth groups. Emerged in working-class districts of large German cities.
14. The Swing Youth	Mainly teenagers from wealthy and middle-class families. They admired American culture, and arranged illegal dances.



### Key Terms

1. Censorship	Banning information or ideas. This controls attitudes, as certain information or opinions are banned.
2. Propaganda	Controls attitudes by sharing information, especially of a biased or misleading nature, used to promote a political cause or point of view.

# History

Year 11

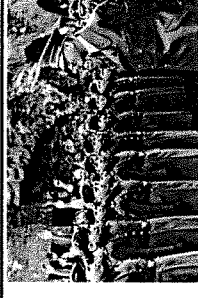
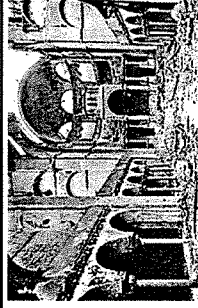
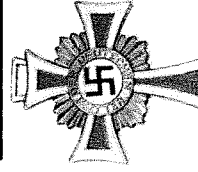
Topic: Life in Nazi Germany, 1933-39

Timeline	
1.	1933. Hitler became Chancellor.
2.	1933 Boycott of Jewish shops and businesses.
3.	1933 Law for the Encouragement of Marriage passed.
4.	1933 Sterilisation Law passed.
5.	1933 First concentration camp for women opened at Moringen.
6.	1933 First Napola schools set up.
7.	1933 Women were banned from working as teachers, doctors and civil servants.
8.	1933 Reichs Arbeits Dienst (RAD) - the National Labour Service established.
9.	1933 Construction of the autobahn (motorway) began.
10.	1933 Trade unions were banned in Nazi Germany.
11.	1933 Strength through Joy (Kraft durch Freude—KdF) established.
12.	1935 Nuremberg Laws passed [formalized racial laws such as removing citizenship from German Jews].
13.	1935 Conscription introduced.
14.	1936 Women could not become a judge or lawyer, or sit on a jury.
15.	1936 Young people had to join the Hitler Youth in order to use any sports facilities.
16.	1937 Grammar schools for girls were banned.
17.	1938 Jewish children banned from German schools.
18.	1938 Lebensborn (Fountain of Life) programme introduced.
19.	1938 Nazis changed the divorce laws so that if a wife would or could not have children, or had an abortion, this could be used as grounds for divorce by the husband.
20.	1938 Kristallnacht [night of broken glass]—waves of attacks on Jews.
21.	1939 Euthanasia campaign began.
22.	1939 Designated Jewish ghettos established.
23.	1939 Compulsory for all young German's to join Nazi youth programmes from the age of 10 (excluding minority 'unwanted' groups).

## Key Concepts

1. Anti-Semitism—Persecution of the Jews grew continuously after 1933.
2. Young—The Nazis placed much emphasis on controlling the young as only then could they secure a 'thousand year Reich'. Youth organisations and education indoctrinated the German youth.
3. Women—The Nazis had traditional family values but even these were tested by the needs of war and the desire to ensure a growing Aryan population.
4. Living Standards—The Nazis did reduce unemployment but they did this by banning Jews and women from the workplace and by putting Germany on a war footing. Workers had limited rights.
5. Persecution of minority groups—the Nazis did not only persecute Jews between 1933 and 1945, but also Slavs, 'Gypsies', homosexuals and those with disabilities.

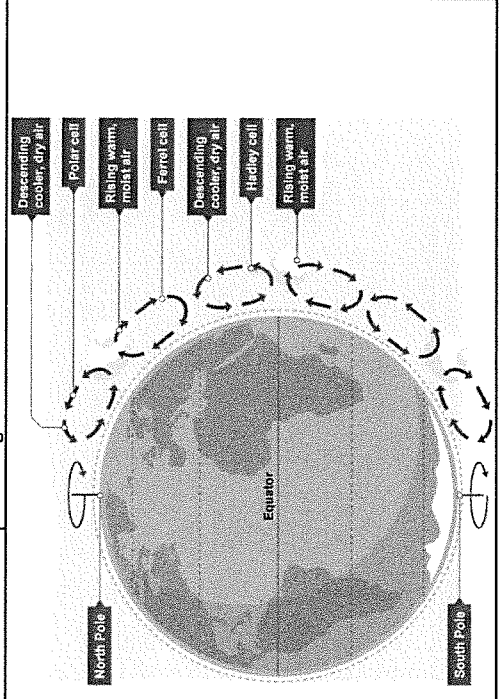
Key words	
1.	Kinder, Küche, Kirche Children, Kitchen, Church. This summed up the Nazi ideal of womanhood Given to women for large families.
2.	The Motherhood Cross Award Where unmarried women were impregnated by SS men.
3.	Lebensborn Schools intended to train the future leaders of Germany.
4.	Napola All teachers had to swear an oath of loyalty to the Nazis.
5.	Nazi Teachers League A scheme to provide young men with manual labour jobs.
6.	Reich Labour Service (RAD) The Nazi unemployment figures did not include women, Jews, opponent and unmarried men under 25.
7.	Invisible unemployment Motorway.
8.	Autobahn Building up the armed forces in readiness for war.
9.	Rearmament The Nazi community.
10.	Volksgeheimshaft An attempt to improve the leisure time of German workers.
11.	Strength Through Joy Tried to improve working conditions of German workers.
12.	Beauty of Labour People's car.
13.	Volkswagon A one pot dish.
14.	Eintopf The master race or the Aryans.
15.	Herrenvolk Youth organisation of Girls 14-18—prepared them for motherhood.
16.	League of German Maidens Leaving your country to settle in another.
17.	Emigration Densely populated areas of a city inhabited by a particular ethnic group—such as Jews.
18.	Ghettos Ancient tribes of people who migrated into Europe from the east—their descendants were found in large areas across Eastern Europe.
19.	Slavs The name used by Nazi's for the Roma people. They typically lived a nomadic lifestyle.
20.	'Gypsies'



# Geography – Weather and Climate

## Keywords

Cyclone	A low pressure system in the atmosphere associated with very unsettled weather, wind and rain
Drought	A long period of time with little precipitation
ITCZ (Intertropical convergence zone)	A band of low pressure in the atmosphere which circles the equatorial region of the Earth
Monsoon	A seasonal prevailing wind in the region of South and SE Asia, blowing from the south-west between May and September and bringing rain
Aspect	The direction a slope faces which can affect temperatures
Depression	A weather system associated with low air pressure they bring changeable weather
Anticyclones	A high pressure system that brings settled weather hot and dry in summer and sometimes foggy in winter
Relief rainfall	Precipitation that is caused when warm moist air is forced over a mountain area as the air rises and cools the water vapour condenses forming rain
Storm surge	The rise in sea level that can cause coastal flooding during a storm or hurricane the low pressure causes the sea level to rise and the strong wind can force a bulge on the shore line
Isobar	A line joining places of equal air pressure
Interglacial	Periods of time between the glacial periods
Greenhouse gases	Gases such as carbon dioxide (CO <sub>2</sub> ), Methane (CH <sub>4</sub> ), and water vapour (H <sub>2</sub> O) they trap the sun's solar energy
Climate change	A long term change in the annual weather conditions
Emissions	Chemicals released into the atmosphere by industry such as nitrogen oxide



## Factors Affecting Climate

**Latitude:** Means how far a place is from the equator (which is the hottest places). This is due to a combination of the curvature of the earth, the angle of the rays in the sky and the layer of atmosphere that surrounds the earth.

**Altitude:** The height of something in relation to sea / ground level. There are fewer solid particles in the upper air to retain heat and so the atmosphere never heats up.

**Aspect:** The direction a slope faces, in the northern hemisphere, south facing slopes are warmer. In the southern hemisphere, north facing slopes are warmer.

**Distance from the sea:**

**Continentality:** Oceans heat up and cool down much more slowly than land. This means coastal locations tend to be cooler in summer and warmer in winter, (in summer, sea warms up slowly / in winter takes longer to cool).

**Ocean currents:** The North Atlantic drift is a warm current of water that originates in the Gulf of Mexico. It keeps the West Coast of Britain much warmer in winter than other places in similar altitudes.

**High pressure and low pressure**

Air pressure is measured in millibars.

Standard pressure at sea level is 1013 millibars, but large areas of either high or low pressure can form.

Areas of high and low pressure are caused by rising and sinking air.

As air warms, it rises, leading to high pressure at the surface.

As air cools, it sinks leading to low pressure at the surface.

**Global Atmospheric Circulation Model.** Air circulates between high and low pressure belts as surface winds;

Winds are large scale movements of air caused by differences in air pressure.

Differences in air pressure are caused by differences in temperature between the equator and the poles. Winds move FROM the areas of high pressure TO the areas of low pressure.

Winds are part of global atmospheric circulation loops (or cells).

There are loops in each hemisphere and it works as below:

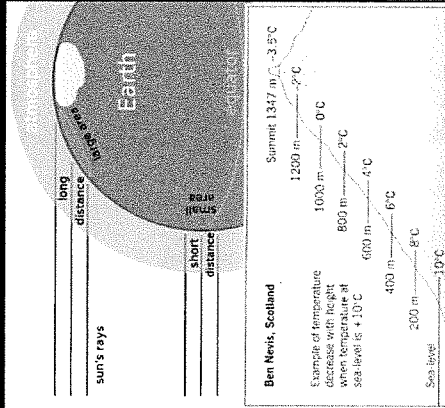
At the equator the sun warms the Earth which transfers heat to the air above causing it to rise. This creates a low pressure belt with rising air, clouds and rain.

As the air rises it cools and moves out to 30 degrees north and south of the equator. 30 degrees north and south of the equator the cool air sinks, creating a high pressure belt with cloudless skies and very low rainfall.

The cool air reaches the ground surface and moves as surface winds either back to the equator or towards the poles: 60 degrees north and south of the equator, the warmer surface winds meet colder air from the poles. The warmer air is less dense than the cold air so it rises and creates low pressure.

Some of the air moves back towards the equator and the rest moves towards the poles.

At the poles the cool air sinks and creates high pressure. The high pressure air is drawn back towards the equator as surface winds.

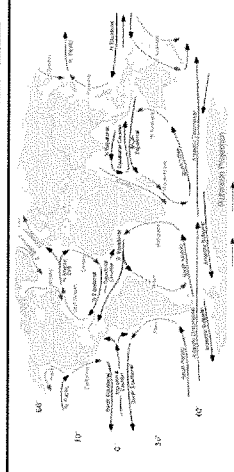


## Types of rainfall

**23. Convective rain:** the sun heats the land and the air above. The warm air rises, cools and condenses, forming clouds. Rain can then occur.

**24. Frontal rain:** warm air meets cold air, the warm air is forced to rise over the cold which forces condensation and therefore rains heavily along the front (where the warm and cold air meet).

**25. Relief rain:** warm, moist air is forced to rise over high areas like mountains or hills. Air cools and condenses, forming clouds which rain on the windward side, leaving the leeward side in the rain shadow as the warm air descends and becomes drier.



### Factors Affecting UK Climate

**Polar Maritime:** Heavy rain all year, especially in winter. High altitude. There are fewer solar particles in the upper air to retain heat so the atmosphere never heats up. Prevailing winds = bring frost and dry conditions. Frontal & relief rain. **Fort William figures** Temperature range: 9°C, Total rainfall: 2020mm, Hours of sunshine: 1100.

**Polar Continental:** Relatively dry all year. Cold winters. High latitude. Sun's rays have to spread out over a larger area therefore cannot heat it as much. **Aberdeen figures:** Temperature range: 11°C, Total rainfall: 640mm, Hours of sunshine: 1300.

**Tropical Maritime:** Rain all year, especially in winter. It is fairly warm because it has a low latitude which means the curvature of the Earth affects how much land needs to warm up. Frontal & relief rain. warming - more heat to share.

**Penzance figures:** Temperature range: 10°C, Total rainfall: 1000mm, Hours of sunshine: 1600  
**Tropical Continental:** Some rain all year - slightly more in summer. Air bring hot and dry conditions.  
**Margate figures:** Temperature range: 14°C, Total rainfall: 540mm, Hours of sunshine: 1800.

### Jet streams

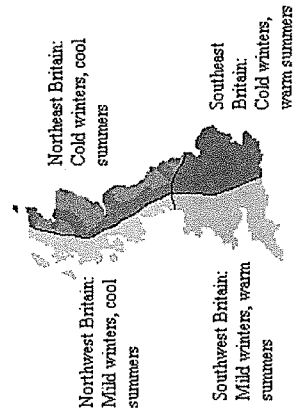
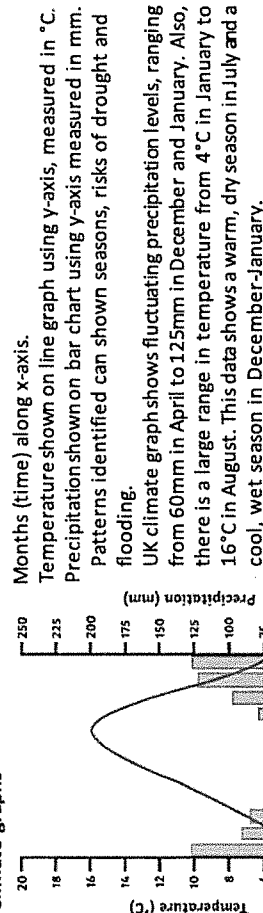
A jet stream is a narrow zone of high-speed winds. They can be thousand miles long. They are typically found about 30,000 feet up in the atmosphere.

They are formed through large temperature differences between conflicting air masses. The ribbons of strong winds influence global weather patterns. They help meteorologists to forecast weather. For the UK, jet streams steer depressions off the Atlantic towards us.

If the jet stream is North of the UK we have warm weather. If the jet stream is South of the UK we have cold weather.

With speeds of up to 200 mph, jet streams are important to pilots because flight time and fuel use can be affected by flying with or against them. If you have ever felt that your return flight seemed quicker than on the way out - your pilot could well have flown in a jet stream.

### Climate graphs



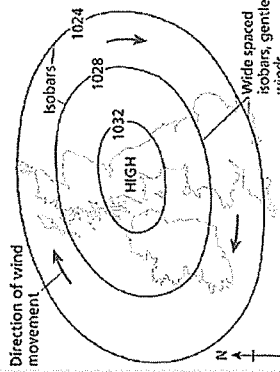
**Anticyclones - high air pressure:** Where there is high pressure caused by cooler air sinking through the atmosphere, we get large weather systems called anticyclones. As the air is sinking, not rising, no clouds or rain are formed. This is because as the air sinks it warms, meaning it can hold

The absence of fronts means winds may be very light. So, high pressure areas are often associated with settled, dry and bright conditions. **Isobars** = lines on a map with the same atmospheric pressure.

In cold conditions, anticyclones may also bring fog. In summer, anticyclones bring dry, hot weather. In winter, clear skies may bring cold nights and frost.

### Sahel case study

- Across the Sahel's northern border (Senegal to Eritrea).
- Drought in Sahel from 1970s-2011 but some continue.
- Many causes, including blocking anticyclone. (More details on this on the desertification absolute).

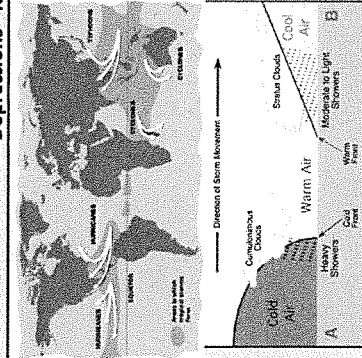


**They travel east -** a region of lower atmospheric pressure, especially a cyclonic weather system. **Occluded front.** Cold front catches the warm front up and lifts the warm air off the ground.

### Cyclone Pam case study

#### Background

- Vanuatu (population 272,000), 83 volcanic islands
- Gross national income = US \$3,090 (LIC).
- Many forms of employment: farming, fishing and tourism. Rely on rainwater harvesting.
- Australia provided most aid. (£31.45million in 2013/2014)



### Cyclone

- March 2015, Category 5 cyclone.
  - Wind speed: 250km/h, some highest of 320km/h.
  - Air pressure <920 millibars
- Impacts**
- 68% of rainwater harvesting structures damaged
  - 90% of homes were damaged
  - 35,000 pupils affected from school closures
  - 80% of subsistence crops and cash crops were destroyed, estimated at US\$2.5million
  - 11 people killed

### Response

- Australia, Fiji, France, New Zealand, Solomon Islands, Tonga, UK - all sent emergency aid using military aircraft and personnel.
- 21,000 people received safe drinking water supplies
- 153 temporary schools
- 20 foreign medical teams
- 95,000 people received medical care
- 19,000 children vaccinated against measles

### Practice Questions

- Explain 3 factors affecting temperature.
- Explain how the 3 types of precipitation.
- Explain how the Global Atmospheric Circulation Model impacts air pressure across the globe.
- Give 3 similarities or differences in high and low air pressure.
- Explain the different weather that is created through 3 different air masses.
- Explain how changes in the jet stream impact the UK's climate.
- Describe the climate of the UK.
- Define the weather system - anticyclone.
- Define the weather system - depression.
- Using an example you have studied, explain how an extreme weather event may be caused.
- Using an example you have studied, explain the impacts an extreme weather event may have on different groups of people.
- Using an example you have studied, explain how people may respond after an extreme weather event.

# Geography – Climate Change Causes

## Keywords

1. Quaternary Period	The Quaternary or Pleistocene is the Earth's most recent period of geological time. It started 2.6 million years ago.	14. Methane (CH <sub>4</sub> )	A greenhouse gas which is released by livestock, such as cows and sheep, landfills, producing natural gas and mining coal.
2. Glacials	A cold period of time during the quaternary period when polar ice advances.	15. Nitrous oxide (N <sub>2</sub> O)	A greenhouse gas which is released by certain types of farming and by burning fossil fuels.
3. Inter-glacials	A warm period of time during the quaternary period when polar ice retreats.	16. Fossil Fuels	Carbon based natural deposits such as coal, gas, oil, that were made millions of years ago and are burnt today as a fuel.
4. Climate change	The long term shift in the earth's average temperature (this could be warming or cooling).	17. Carbon emissions	The release of CO <sub>2</sub> and other GHGs into the atmosphere by human activities like burning fossil fuels.
5. Global warming	The type of climate change being seen on the Earth at present.	18. Carbon sink	Something that absorbs and stores carbon, like a tropical rainforest.
6. Natural greenhouse effect	The natural process by which the earth's atmosphere traps solar radiation, warming the earth enough to support life.	19. Renewable energy	Ways of generating electricity and heat without causing lasting damage like wind, solar, wave, tidal, biomass and nuclear power.
7. Enhanced greenhouse effects	Increase in the amount of GHGs in the earth's atmosphere is causing the earth's temperature to increase.	20. Drought	A prolonged period of abnormally low rainfall, leading to a shortage of water.
8. Atmosphere	The layer of gases surrounding the earth.	21. Rainfall intensity	Warmer atmosphere holds more moisture which can increase rainfall intensity.
9. Milankovitch cycle	A reason for naturally occurring temperature changes – an eccentric orbit around the sun.	22. Water vapour	Water in its gaseous state. It forms a part of the atmosphere.
10. Sunspots	Cycle of solar activity that change Earth's temperature by 1°C.	23. Adaptation	People learn to live with the impacts of climate change, adapting their lifestyles.
11. Volcanic eruptions	Ash added to the atmosphere cools the Earth by shading it from solar radiation.	24. Mitigation	Governments, TNCs, NGOs, climate action groups and individuals make changes to reduce the impacts of climate change.
12. Solar radiation	The energy from the sun.	25. Carbon neutral	A balance between the emitting and absorbing of CO <sub>2</sub> .
13. Carbon dioxide (CO <sub>2</sub> )	A GHG which is released by burning fossil fuels (coal), cutting down and burning trees.	26. Biofuels	Natural matter that can be directly used as fuel. Biomass has to be converted into biofuel.

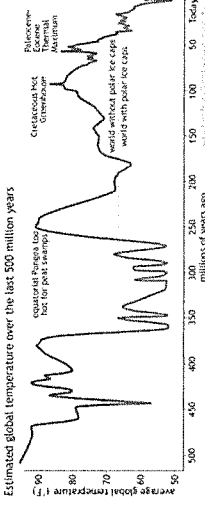
## Practice Exam Questions

1. Explain how and why the climate has changed naturally over the quaternary period.
  2. Explain how the climate has been changed by human activity since 1900.
  3. Explain how climate change has caused economic impacts.
  4. Explain how climate change has caused environmental impacts.
  5. Explain how climate change has caused social impacts.
  6. Compare the impacts of climate change on HICs and LICs.
7. How does relief influence the impact of climate change along coastlines?
  8. Which groups of people are most vulnerable to climate change?
  9. Using an example you have studied, explain how ecosystems may be impacted by climate change.
  10. Compare the impacts of climate change on two opposing locations.
  11. Describe how climate change is being addressed at a global, national and local scale.
  12. Who is most accountable for climate change and who should be addressing the impacts?

## The Greenhouse Effect

- The greenhouse effect is a naturally occurring effect. Energy from the sun bounces off the earth's surface as some of this energy is absorbed by the gases forming the atmosphere. Roughly 30% of this absorbed energy is then radiated back towards the earth. This causes the earth's average temperature to be around 15°C.

Without the natural greenhouse effect, the earth's average temperature would be around -18°C. This would be far too cold to sustain many forms of life



## The Enhanced Greenhouse Effect

Data demonstrates that the earth's average temperature has been increasing rapidly over the last 100 years (see graph). The average global temperature has risen by 0.9°C and the UK's temperature has risen by 1°C.

Scientists have theorised that this is because of the **drastic increase in the amount of greenhouse gases humans are releasing into the atmosphere**. They have called this the **enhanced greenhouse effect**.

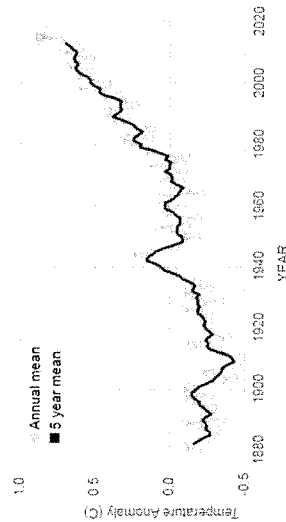
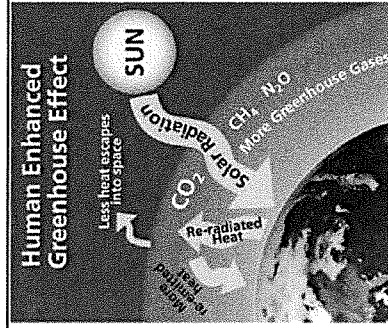
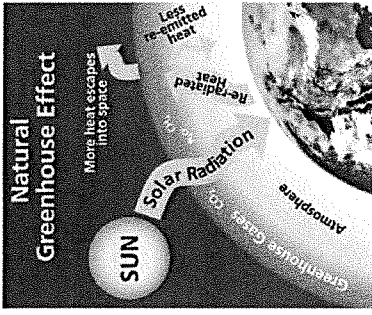
These greenhouse gases are mainly **carbon dioxide, methane, nitrous oxide and other gases**. The release of these gases has been accelerated by the burning of fossil fuels like coal and natural gas, deforestation and farming. There are some who disagree with the concept of the enhanced greenhouse effect. These opponents argue that this increase in temperature is because human settlements are now much closer to where the measurements about temperature is taken.

As a result, they argue that temperatures only appear to be rising because settlements are warmer as surfaces concrete absorb more heat energy. However, the majority of the scientific community disagree with this view.

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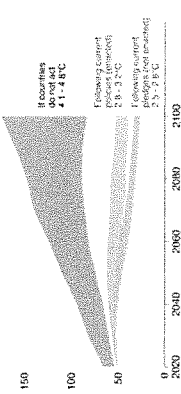
# Geography – Climate Change Impacts

## Effects of Climate Change

**Keywords**

- Small Island Developing States
- Covered in water
- Diminished aquifer stored created space which sea/salt water may fill through percolation
- Species migrate towards the north or south pole for cooler temperatures, like the Atlantic Cod.
- Warmer ocean temperatures kill polyps and algae, causing coral to die and lose its colour.
- Impacts and actions at a worldwide scale.
- Impacts and actions within a country.
- Impacts and actions in a local area.
- Impacts and actions by a single person.
- Something which affects communities or the way people live their lives.
- Something which affects money or a country's ability to make money.
- Something which affects the plants, animals and ecosystems in an area.
- The process where fertile land becomes infertile desert or where soil becomes sand.
- The movement of people or animals from one area to another.
- A slowly moving river of ice formed by compacted snow.
- A thick layer of soil that remains constantly frozen throughout the year.

The world's average temperature has increased by 0.9°C over the last 100 years. While this does not sound like much, this is already having a significant effect on the world.  
The graph on the right shows the future predictions of CO<sub>2</sub> emissions in gigatons.  
Ice is melting worldwide, including the poles, glaciers and arctic sea ice. This has caused sea levels across the globe to rise.  
Although we should stop global warming, not all effects of global warming are negative.



**Economic**

- Alpine ski resorts forced to close.
- While some crops will become more productive in cooler countries, other areas will experience food shortages.
- Ocean passages could become open for commercial shipping.
- Governments purchase and maintain flood defences on coasts.

**Environmental**

- Hurricanes become more frequent.
- Low lying countries (Maldives), could disappear because of rising sea levels.
- Between 20 and 50% of species in Africa could become extinct.
- Delicate ecosystems would fall out of sync and collapse as animals migrate or lose their habitats.

**Social**

- Diseases such as malaria would spread.
- People who lose their homes to floods would be forced to migrate elsewhere.
- Droughts would increase, causing severe water shortages.
- Thousands of people would be left without clean water, causing diseases such as cholera.
- A lack of clean water may lead to conflicts.

**Global Responses to Climate Change**

- The Kyoto Protocol 2005: Over 170 countries agreed to reduce their carbon emission below their 1990 level by 2012. The USA and Australia refused to sign.
- The Paris Agreement 2015: 195 countries signed a legally binding agreement to lower carbon emissions by 5.2% to a level that oceans and forests can absorb, keep climate change below a 2 degree increase in temperature and give \$100 billion a year to help developing countries reduce their greenhouse gas emissions.
- CO<sub>2</sub> 26: United Nations Climate Change conference in November 2021 produced 35 programmes and pledges for governments including health programmes, zero emission targets and green transport targets.

**National Responses to Climate Change**

The UK has:

- increased tax on vehicles which produce high emissions
- increased its nuclear energy production and
- aims to ban single-use plastics by 2030.

**Local Responses to Climate Change**

- Nottingham parking levy charges firms for parking spaces to pay for tram improvements, encouraging public transport.
- Mansfield based Veolia recycles 85,000 tonnes of recyclable waste from Mansfield every year.

## The Arctic

<b>1. How have Arctic habitats changed?</b>	<ul style="list-style-type: none"> <li>Sea ice coverage is much smaller than 30 years ago.</li> <li>Polar bear numbers are falling – probably due to less sea ice.</li> </ul>	<p><b>1. Where are the Bahamas?</b></p> <ul style="list-style-type: none"> <li>The Bahamas are a string of islands 900km long of the south east coast of Florida on the outer eastern edge of the Caribbean Sea, the eastern coastline facing the Atlantic Ocean.</li> </ul>
<b>2. How do polar bears catch food?</b>	<ul style="list-style-type: none"> <li>Polar bears hunt for seals on the sea ice. They lie in wait at breaking holes in the ice or they stalk seals and then sprint the last few metres to catch them.</li> </ul>	<p><b>2. What are tourism impacts?</b></p> <ul style="list-style-type: none"> <li>40% GDP, 49% jobs in tourism, Earned \$1.3 billion in 2015.</li> <li>Half of government's spending on services (health, roads, education) is from tourism.</li> </ul>
<b>3. How has polar bear hunting been affected?</b>	<ul style="list-style-type: none"> <li>Sea ice in the Arctic is now thawing 3 weeks earlier so polar bears have fewer weeks to hunt seals on the ice, they swim from ice floe to ice floe and this uses more energy.</li> <li>The sea ice now refreezes 2 weeks later than previously. Polar bears are now lighter weight, cannot always feed their cubs conflict with people as they forage for food.</li> </ul>	<p><b>3. What are the threats to tourism in the Bahamas?</b></p> <ul style="list-style-type: none"> <li>Loss of beaches due to coastal erosion and flooding – unattractive so people do not visit.</li> <li>Salt water incursion - not enough fresh water for local people or tourists.</li> <li>Coral 'bleaching' causes reefs to die - more stormy waves so less snorkelling for visitors.</li> <li>More intense rainstorms and hurricanes - more damage and flooding</li> </ul>
<b>4. What is thermal expansion?</b>	<ul style="list-style-type: none"> <li>Higher sea temperatures due to global warming means water expands and sea levels rise.</li> <li>Warmer water also causes more sea ice to melt.</li> </ul>	<p><b>4. Why are they vulnerable?</b></p> <ul style="list-style-type: none"> <li>Large number of small islands with very long coastlines due to islands</li> <li>Reliance on coastal tourism and beach holidays with no alternatives so weak economy</li> </ul>
<b>5. How is Albedo causing ice melt?</b>	<ul style="list-style-type: none"> <li>White ice reflects a lot of the sun's rays, keeping areas cold. When the ice melts, it is replaced by dark blue water which absorbs a lot of the sun's rays.</li> </ul>	<p><b>5. What are the impacts?</b></p> <ul style="list-style-type: none"> <li>Thermal Expansion. More Intense Rain Storms - warmer sea temperatures aid more rapid evaporation causing larger clouds, storms and heavier rainfall.</li> </ul>
<b>6. What is the future?</b>	<ul style="list-style-type: none"> <li>Fewer polar bears/top predators &gt; more ringed seals &gt; fewer Arctic char (prey) &gt; eventually causing a reduction in population of Arctic char</li> </ul>	<p><b>6. What are the social impacts?</b></p> <ul style="list-style-type: none"> <li>Erosion and coral reef bleaching make areas unattractive so; fewer jobs in tourism, negative multiplier, less tourism tax and income, fewer services, funding used for coastal defences.</li> </ul>
<b>7. What are the features of the Arctic Ecosystem?</b>	<ul style="list-style-type: none"> <li>Producer Phytoplankton – algae &gt; Primary consumer Herbivorous zooplankton &gt; Secondary consumer Carnivorous zooplankton e.g. prawns and Arctic char fish &gt; Tertiary consumer Ringed seal &gt; Apex predator Polar Bear</li> </ul>	<p><b>7. What are the solutions for The Bahamas?</b></p> <ul style="list-style-type: none"> <li>Managed retreat: not enough current defences to consider this or Do Nothing: may have to abandon defences on some islands and decide not to protect areas which do have some value.</li> <li>Hold the line: large scale hard engineering - concrete structures to raise level of coastline – ugly, unattractive to tourists. Too expensive for government. Loss of jobs for locals if hotels close. Will only happen in highest income generating tourist areas like Nassau.</li> <li>Advance the line: build more hurricane shelters and build desalination plant but too expensive.</li> </ul>

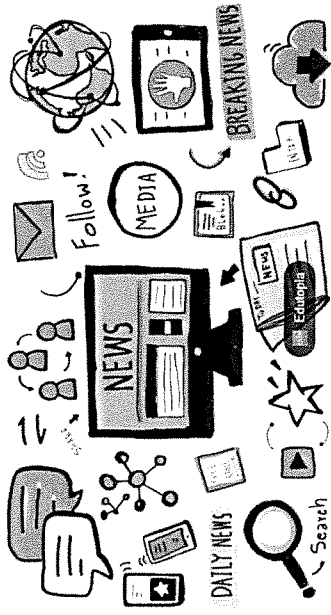
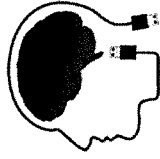


# R093: Creative iMedia in the media industry

## 1.1 Media Sectors

### Description:

The main means of mass communication (broadcasting, publishing and the internet). The industry itself branches out into "Traditional" and "New" Media.



### Traditional Media

#### Definition:

Traditional Media is the non-digital methods that have been used for a long time as a means of creating awareness of products. Traditional Media existed before the internet.

#### Sectors:

- TV (Television)
- Radio
- Film
- Print Publishing

### New Media

#### Definition:

This relates to On-Demand content that is accessed using the internet with digital devices such as computers and smartphones. New Media may include interactive elements were the user is able to control what happens.

#### Sectors:

- Interactive Media
- Video Games
- Internet
- Digital Publishing

Media Products across different sectors

Media Products are used to influence and entertain. They are used across many different sectors of society and many types of businesses. Many companies use multiple media products across both New and Traditional Media. For example: Estate Agents may have billboards (print publishing), Website posts (digital imaging) and leaflets (print publishing).

Areas where traditional media has evolved

Special effects	Digital Games
Digital imaging and graphics	Websites
Social Media	Multimedia
eBooks	Augmented Reality
Virtual Reality	3D technology
Digital Audio Broadcasting	

### Key Terms and Definitions:

Media	The means of communication such as Radio and TV.
Multimedia	Combines different forms such as text, audio, images, animation and video into a single product.
Distribution	The act of sharing the information across Media products.
Streaming	The technology of transmitting audio and video files in a continuous flow over an internet connection.
Downloading	Copying from one computer system to another, typically over the internet

### Interactive Media

Interactive Media covers any type of media that allows the user to interact with it. For example: Websites allow the user to navigate between pages by clicking on buttons or links and animated adverts which allow the user to click to find out more.

# R093: Creative iMedia in the media industry

<p><b>1.1 Media Products</b></p> <p><b>Description:</b> A media product is an item used to communicate information to a specific audience. There are different formats that can be used for this purpose.</p>	<p><b>Visual Effects (VFX)</b></p> <p>These are effects that are created post-production using computers. VFX are mostly used to create video that would be too dangerous, expensive or difficult to create in real life. Green screens are heavily used when creating VFX and actors may wear motion capture suits to map their movements.</p>	<p><b>eBooks</b></p> <p>These are non-editable digital books, they are viewed a piece of hardware called an eReader or using a specialist app on other digital devices. eBooks are limited to greyscale display but do allow for the user to adjust the font size. On some apps you can also change the typeface. They are mostly used for novels or textbooks.</p>
<p><b>Digital Imaging and Graphics</b></p> <p>A product that uses technology to create images in digital form. This may involve the use of graphic tablets, cameras or specific software such as Adobe Photoshop®.</p>	<p><b>Special Effects</b></p> <p>These include effects that happen live on set during filming. Examples of these are: explosions and artificial rain. This also incorporates wounds and prosthetics used in films.</p>	<p><b>Social Media</b></p> <p>Social media websites and applications enable users to create and share content. They provide the ability to connect with people all over the world and participate in social networking.</p>
<p><b>Music</b></p> <p>Music products include albums and singles sold on CD, streaming or broadcast over the radio. It also incorporates soundtracks.</p>	<p><b>Digital Games</b></p> <p>A wide range of products including online games and console games that are designed to entertain or inform.</p>	<p><b>Websites</b></p> <p>Websites are made up of a range of multimedia elements, these are combined together to create one site that can be accessed via the internet.</p>
<p><b>Video</b></p> <p>Videos are products that contain moving images. They are mainly used on traditional TV broadcasts although online streaming with services such as Netflix® and YouTube® are increasingly common.</p>	<p><b>Comics and Graphic Novels</b></p> <p>Comics and graphic novels are image based storytelling. These can be digital or print published and can incorporate digital graphics. Comics are individual issues or strips of images, whereas graphic novels are collections of comics or longer form stories.</p>	<p><b>Augmented Reality (AR)</b></p> <p>The use of augmented reality became popular when smart phones became more available to the public. AR allows the user to visualise a product or character superimposed onto real life environments.</p>
<p><b>Animation</b></p> <p>This refers to a series of still images that are combined together to in a logical order to create a moving picture. Animation can be created frame by frame or using stop-motion animation.</p>	<p><b>Apps</b></p> <p>Applications, or apps, are computer programs or software that is designed for a specific purpose. They are designed to run on a particular device such as smart phone, tablet or smart watch. Apps have many uses including games, banking or social media.</p>	<p><b>Virtual Reality (VR)</b></p> <p>Virtual reality has become popular in the gaming industry as well as in training environments. It requires the user to wear a headset that alters their perception of their surroundings. They have a 360° view of an environment, which is generally programmed or uses video capture to allow the user to complete tasks that they would not normally be able to complete such as combat training or full immersion in a game.</p>
<p><b>Audio</b></p> <p>The use of voice overs in advertisements and podcasts. These also include sound effects used in film and video such as glass breaking.</p>	<p><b>Multimedia</b></p> <p>Multimedia products combine a range of assets such as images, text, sound and video to make one final product. They enable the user to interact with several technologies at once.</p>	

## 1.2 Job roles in the Media Industry

### Senior

#### Campaign Manager

A campaign manager is responsible for planning and managing marketing campaigns. This will involve coordinating the release of trailers, billboards, print advertising, television adverts and more.

#### Creative Director

The creative director manages a team of graphic designers, illustrators, copywriters, photographers and other members of the creative team. They help to shape and develop the final product and will liaise with the client to ensure their requirements are met.

#### Director

The director will oversee filming. They work with storyboard artists, actors and crew members such as video editors and sound editors. Production can take years to go from a script to final screening.

#### Editor

The editor controls the content of print publications such as books, magazines, newspapers and websites. They plan, organise and review materials to ensure they are suitable for publication.

#### Production Manager

A production manager will liaise with different departments, their role will include pre-production which includes scheduling and budgets. This role requires vast industry experience and the understanding of the production process.

## R093: Creative iMedia in the media industry

### Creative

#### Animator

Animators usually work in the production phase and traditionally create a series of images that are combined to give the illusion of movement. Many animations are now made in 3D using specialist software. They may also create stop-motion animation using models that are moved between each frame.

#### Content Creator

Content creators are responsible for creating the content that is found on websites, blogs or social media. This will include text, video and audio for a specific audience.

#### Copywriter

A copywriter is responsible for creating engaging text that will be used for marketing purposes. For example they will write the content for print adverts, radio adverts, product descriptions or social media posts.

#### Graphic Designer

A graphic designer creates visuals for a variety of media products. They work in both production and pre-production, starting with rough drawing and ending with finalised artwork.

#### Illustrator/Graphic Artist

They create the drawings or images for a range of products such as books, magazines and greetings cards. They tend to use either pencils, pens and paper or a graphics tablets with a stylus pen.

#### Script Writer

They write and develop the scripts for film, radio and computer games, they may create new stories or adapt existing works.

#### Photographer

They capture high quality images to help communicate a message. These images are often used in the fashion, beauty, life style or advertising sectors. They may be involved in the editing and post-production phases as well.

### Technical

#### Camera Operator

The camera operator is responsible for filming what is happening. This may be for TV, film, documentaries or adverts. They need to consider framing of the subjects, movement and the composition of each shot.

#### Game Developer

May include programmers, who write code for games published on PCs, consoles and smartphones, or artists, who create 2D and 3D artwork for use in digital games.

#### Sound Editor

The sound editor is responsible for creating, enhancing and mixing music, sound effects and dialogue and synchronising within the video due to them being recorded separately. These sounds may be used in film, advertising, games or online videos.

#### Audio Technician

They are responsible for setting up, operating and maintaining the audio recording equipment such as microphones and mixers.

#### Video Editor

Video editors have a predominant role in the post-production part of filming. They edit the footage to ensure the final product is suitable.

#### Web Developer

They are broken down into 2 sections, front-end developer and back-end developer. Front-end create and maintain websites using programming languages. Back-end developers are responsible for the programming that makes the website work, for example the credit card orders and the stock databases.

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<h3>2.2 Client Brief and Requirements</h3>	<p><b>Description:</b> When a media product is started, everyone who is involved needs to understand the client requirements. They will be given to those involved in a client brief.</p>	<p><b>Client Brief Format</b></p> <p>The client brief is normally a written document that gives the key requirements of the project. Key people such as the campaign manager, production manager and creative director will have had meeting or discussions when developing the final requirements. They could be communicated as paper documents, attachments in emails or other electronic documents.</p>	<p><b>Client Requirements</b></p> <p>The client requirements usually contain.</p> <p><b>Type of product</b> – poster, Animation or video</p> <p><b>Timescales</b> – Key dates and deadlines for the project</p> <p><b>Audience</b> – who the project is aimed at for example Si-fi fans between 15-30.</p> <p><b>Purpose</b> - The objective for the media product for example advertise or influence.</p> <p><b>Client Ethos</b> – the product needs to align with the clients values and beliefs</p> <p><b>Content</b> – what the product needs to include.</p> <p><b>Genre, Style and Theme</b> – the look and feel of the product.</p>	<p><b>Project Constraints</b></p> <p>The client brief often contains mandatory requirements that the product must meet. The constraints could be technical or creative for example three- fold leaflet or colour scheme.</p>
<h3>2.3 Audience and Demographics</h3>	<p><b>Description:</b> The target audience is the people who the media product is aimed at. The target audience can be broken down into sections</p>	<p><b>Location</b></p> <p>The location needs to be considered because if there is a distance restraint. For example for a leaflet for a take away, the target audience will be people within a 10 mile radius.</p>	<p><b>Occupation/Income</b></p> <p>The occupation of the target audience is important, people of middle income may not be able to spend as much as those on high incomes.</p>	<p><b>Gender</b></p> <p>The media products may be aimed more at one gender rather than another. But even then the advertising and design needs not to stereotype gender roles even if the target audience is more likely one gender.</p>
<h3>2.4 Research Methods</h3>	<p><b>Primary Research</b></p> <p>This research is where the data is collected directly from the customers.</p>	<p><b>Interests/lifestyle</b></p> <p>By identifying the hobbies and interests of an audience the media product can be designed to engage them.</p> <p><b>Ethnicity</b></p> <p>Media product may focus on a particular ethnicity. It is important not to offend or alienate anyone with the product.</p> <p><b>Education</b></p> <p>Some products may be aimed at an audience with specialist knowledge.</p> <p><b>Age</b></p> <p>Age groups of the target are important because something aimed at 1-5 year olds will vastly differ from those aimed a 20-40 year olds.</p>	<p><b>Type of Primary Research</b></p> <p><b>Focus groups</b> – a group of people form the target audience to discuss and give opinions about a product</p> <p><b>Interviews</b> – take place with individuals or small groups of people. Researcher have conversations either face to face, online or on the phone.</p> <p><b>Online surveys</b> – Electronic forms are used to gather data from a large sample of individuals.</p> <p><b>Questionnaires</b> – there are paper based forms containing questions either tick boxes or short answers.</p> <p><b>Qualitative</b></p> <p>Give a full description from research think quality, for instance if an open questions is asked about a layout the answers may be that its to cluttered.</p>	<p><b>Quantitative</b></p> <p>This makes use of data which can be measured numerically think quantity – for example a survey showing 63% of people preferred on colour scheme over another.</p>
	<p><b>Secondary Research</b></p> <p>This type of research involves data that already exists.</p>	<p><b>Type of Secondary Research</b></p> <p><b>Television</b> – using quote or video footage for opinions.</p> <p><b>Book and Journals</b> – facts and statistics can be collected and used to back up primary research.</p> <p><b>Websites on the internet</b> – researchers will look at information already available to see if there is data already collected.</p> <p><b>Newspapers</b> – looking at previous publications and weighing them against other data found in other sources.</p>		

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<p><b>2.5 Using Media codes</b></p> <p><b>Description:</b> Media products may make use of media codes and conventions that help convey meaning, create impact and engage audiences.</p>	<p><b>2.5 Camera Techniques</b></p> <p><b>Description:</b> Whether planning a feature film, music video of magazine cover, the camera angles and shots are carefully chosen to help create meaning or impact.</p>	<p><b>2.5 Camera Movement</b></p> <p><b>Description:</b> Camera movement can change the effect of the scene to the viewer.</p>	<p><b>2.5 Transitions</b></p> <p><b>Description:</b> Transitions describe how an editor moves from one shot to another</p>	<p><b>2.5 Mise-en-scene</b></p> <p><b>Description:</b> mise-en-scene means the placement of actors and objects for a scene. It refers to everything that is seen through the lens of the camera including; Costumes, lighting, props, set design, location, actor positions and movement and makeup.</p>
<p><b>Symbolic Codes</b></p> <p>These are not part of the media product itself but part of peoples experience. An example is someone kneeling and offering a ring is symbolic for asking to get married. Symbolic codes are created using acting, colour and mise-en-scene.</p>	<p><b>Close-up Shot</b></p> <p>A close up shot is taken at close range to the subject. Close-up allows the viewer to see detail such as expressions or emotions.</p> <p><b>Extreme Close-up Shot</b></p> <p>An extreme close-up shot focuses on a small part of the subject such as eyes or mouth. This type of shot gets the viewer to focus on one part of the subject.</p>	<p><b>Pan</b></p> <p>Panning is the movement of the camera from left to right. This is used to follow a subject as they move.</p> <p><b>Tilt</b></p> <p>tilting is the movement of the camera up and down. This can be used to take in a scene.</p> <p><b>Zoom</b></p> <p>The lens of the camera is moved in or out to make the subject seem closer of further away.</p>	<p><b>Cut</b></p> <p>A cut goes immediately from one shot to another. The term come from when an editor would physically cut film and add the next shot.</p> <p><b>Dissolve</b></p> <p>Dissolves are used to fade from one shot to another. This has the effect of showing time passing.</p> <p><b>Fade</b></p> <p>A fade in or Fade out is where the shot fades in or out from black. It is usually used at the start and end of a film.</p> <p><b>Wipe</b></p> <p>A wipe is where one shot replaces another by moving from one side of the frame to another.</p>	<p><b>2.5 Interactivity</b></p> <p><b>Description:</b> Interactivity is a two way interaction between the user and the media product. This is found in a wide range of digital products such as computer games, websites, apps and social media</p>
<p><b>Technical Codes</b></p> <p>These are specific to the type of media product being created. In films using fast camera pans to suggest speed. Technical Code are created by camera techniques, transitions, movement, lighting and audio.</p>	<p><b>Medium Shot</b></p> <p>A medium shot also known as a mid shot, shows an actor or group of actors from the waist up. This type of shot is used to</p> <p><b>Low Angle Shot</b></p> <p>This is achieved by pointing the camera up for a low height at the subject, this makes the subject look larger and more important.</p>	<p><b>Long Shot</b></p> <p>The long shot, also known as a wide shot. This will show the subject in it surrounds. This is often used as an establishing shot or in action scenes to give a broad view of the action.</p> <p><b>High Angle Shot</b></p> <p>Taken from above the subject, this gives the impression the subject is weaker or isolated.</p> <p><b>Extreme long shot</b></p> <p>These are used to give a view of a location. Can be done in conjunction with an aerial shot to give a birds eye view of a location.</p> <p><b>Over the shoulder shot</b></p> <p>This shot is used during a conversation and puts the viewer in the characters shoes.</p>	<p><b>Track and Dolly</b></p> <p>The camera is mounted on a dolly (A platform on wheels), placed on a track to achieve smooth movement. These are used to track a subject as they move across a scene</p>	<p><b>2.5 Animation</b></p> <p><b>Description:</b> Animation is the combination of a series of still images to create a moving image. Computer animation is used in a variety of media products including advertising, websites, apps, gaming, education, television and film.</p>
<p><b>Written Codes</b></p> <p>These codes are specific to printed language and spoken language that is used in media products. For example a poster for a period drama may have traditional fonts and formal language. Written codes incorporate, style of language, Dialogue, typography.</p>				

## 2.2.3 Additional Programming Techniques

- The use of arrays (or equivalent) when solving problems, including both one-dimensional (1D) and two-dimensional arrays (2D)
- How to use sub programs (functions and procedures) to produce structured code
- Random number generation

### Definition of an array

An array is a series of memory locations or 'boxes' each of which holds a single item of data, but with each box sharing the same name. All data in an array must be of the same data type

### Use of arrays

Indexes usually start at 0 for the first data item (known zero indexed). Arrays may be single or multiple dimensions.

### One-Dimensional Array

Holds one set of data e.g. this Array holds the scores for player 1

0	1	2	3	4	5	6	7	8	9
100	110	85	80	92	72	66	98	100	120

### Two-dimensional Array

Holds than one set of data e.g. this 2D Array holds the store for both player 1 and 2

0	1	2	3	4	5	6	7	8	9
100	110	85	80	92	72	66	98	100	120
1	90	99	102	88	78	100	67	120	85
									105

### Structure of arrays

Arrays are made up of elements (items) holding related data. Every item in an array has an index – like a room number in a hotel that we can access it by. Some arrays can have 'multiple floors' – then we call them 'two-dimensional' or 'nested'. To write or read an item, we provide its floor (row) first and its room number on that floor (column). An array is an ordered collection of related data where each element is accessible by a number, known as an index.

Arrays usually have fixed sizes and occupy a fixed (static) amount of memory.

INDEX	0	1	2	3	4	5	6	7
VALUE	45	87	23	101	2	42	11	92

← Array item/element

Subprograms are small programs that are written within a larger, main program. The purpose of a subprogram is to perform a specific task. Sub programs can be used to save time and simplify code.

When you want your program to repeat in different places you only need to call the name of the sub program.

This saves time and simplifies code by avoiding repetition of code.

There are two types of subprogram:

- procedures
- functions

Procedures are a set of instructions stored under a name so that you can call the procedure to run the whole set of instructions.

A function is like a procedure but always returns a value.

Parameters are variables used to pass values into a function or procedure.

### EXAMPLE PROCEDURE

```
procedure clear_screen(x)
for i = 1 to x:
print(" ")
endprocedure
```

### EXAMPLE FUNCTION

```
function f_to_c(temperature_in_f)
temperature_in_c = (temperature_in_f - 32) * 5/9
return temperature_in_c
endfunction
```

Python doesn't use Arrays it uses lists

Random number generators are used a lot in computer systems in a whole range of situations, from computer games to weather simulations to encryption algorithms.

A typical method of generating random numbers might look like this:

```
import random
diceScore = random.randint(1,6)
```

```
month := getRandBetween(1,12)
```

```
number = random(f,i,10)
```

## 2.3.1 Defensive design

### Defensive design

#### considerations:

- Anticipating misuse
- Authentication

#### Input validation

Authentication is a coding method to check that a user is who they say they are and allowed to access the program.

This can be as simple as the user entering a user name and password

which is compared against a stored user name and password.

- Use of sub programs
- Naming conventions
- Indentation
- Commenting

#### Maintainability:

If they match then the user is authenticated.

Defensive program design will consider and anticipate misuse.

Misuse may be in the form of a brute force attack on the program.

- Many programs and systems only allow a user to enter a password three or four times before it locks out the system.

The program should be able to identify when a user keeps inputting the same data.

Consider Twitter which allows you to send the same tweet only once.

- If you send the same Tweet twice the program identifies this and removes the tweet, sending you an error message.

There are two main types of sub programs:

- procedure
- function.

Procedures carry out a set of instructions and do not return a value.

A function is similar to a procedure but it will return a value.

The main benefit that is fact sub programs give a program structure.

#### Input Validation is a

check made by a computer to ensure that the data entered is sensible or reasonable.

It cannot check that it is correct because a user may lie or make a mistake.

It attempts to ensure that it is within certain limits or rules.

Authentication can also be physical.

Programs often requires a key code:

- this is generated by an app on a users phone

the user then enters this as extra security. Online banking requires a user to enter details into a webpage:

- a number is generated which is entered into a key device.
- this returns a number code which is entered into the webpage as well

without the second part of the code the user is not authenticated.

This is know as **2-factor authentication**.

Comments in programs serve a number of purposes:

To inform them reader of a bug or issues, To explain the code and its function in more detail, To stop a line of section of code from executing

Common symbols used for commenting are  
, #, \*, //, /\*\*

Type of check	How it works	Example
Check digit	The last 1 or 2 digits in a code are used to check the other digits are correct	Bar code readers in supermarkets use check digit
Format check	Checks the data is in the correct format	A national insurance number is in the form LL 99 99 99 L where L is any letter and 9 is any number
Length check	Checks to make sure the data isn't to short or long	Phone numbers are 11 characters or passwords that need to be more than 6 characters
Lookup table	Looks for acceptable values in a table	There are seven possible days in the week
Presence check	Checks to make sure data has been entered into a field	In most databases the key field can not be left blank
Range check	Check the value falls within a specific range	Number of hours worked must be less than 50 but more than 0
Spell check	Looks up words in a dictionary	MS word uses red lines to underline misspelt words

If a program is to be defensive against attacks, it has to be maintained and up to date.

API (Application Program Interface) and code changes, which means that programs will need to adapt to complement new requirements.

To make code easier to follow, programmers follow standard naming Conventions.

When creating identifiers they should be meaningful and easy to read.

e.g. First\_Name is much better than firstname.

Code is indented for a number of reasons:

To group together a function, The code does not use a {

syntax and indentation is used instead, If altering a function in the future it can be easily found, Makes the program much easier to read and understand.

## 2.3.2 Testing

### The purpose of testing

#### Types of testing:

- Iterative
- Final/terminal

### Identify syntax and logic errors

#### Selecting and using suitable test

##### data:

- Normal
- Boundary
- Invalid/Erroneous

### Refining algorithms

**Final Testing** – The program goes is tested once at the end of development. Everything is tested in one go.

**Iterative testing** - a program is tested and then changes are made as it goes through the development cycle again. It may go through this process a few times to make sure it is exactly what the customer wants.

When testing the program it is

important to use a range of test data:

- normal
  - boundary
  - invalid/erroneous
- Invalid/Erroneous will cause the same error – it will be rejected by the program.

Normal and boundary data will be accepted by the program.

The purpose of Testing is to find bugs and find them as early as possible and make sure they get fixed.

To ensure the program meets the requirements of the customer.

An important part of computer programming which involves checking a program for errors.

**Syntax errors** are mistakes in the way that the code is written.

Syntax break the rules of the programming language.

Translators can only execute a program if it is syntactically correct.

Common syntax errors include:

- spelling mistakes
- incorrect use of punctuation
- use of capital letters.

**Normal** – Data that is correct

**Boundary** – The minimum/maximum values of the data that could be entered for example for teenagers 13 and 19.

**Invalid**– Values higher or lower than the expected range, for teenagers greater than 19.

**Erroneous** - incorrect values that the program should not accept such as entering 'Dave' in an age field.

**What is an error?** An error in a program is sometimes called a Bug. This is because Grace Hopper discovered a moth in a computer which was stopping it from functioning correctly.

Bugs cause the program to run incorrectly and are usually caused by an error in the coding. Not all errors will stop a program from running.

**Runtime errors** cause programs to crash even if there appears to be nothing wrong with the program code.

They are only detected once the program is executed.

Examples could be:

- running out of memory
- dividing by zero.

```
stocklevel = input("Enter stock level")
if stocklevel >= 5 or <= 25 then
```

```
    print("Not in demand")
else
    print("In demand")
endif
```

**Logic Error**  
Will still run but wont give expected result

**Syntax Error**  
will not run as rules of the language are broken

**Logic errors:** a logic error is a bug in a program that causes it to operate incorrectly.

Logic errors may not make a program terminate or crash.

Logic errors usually produce unexpected results.

Logic errors may not always be easy to spot.

**Refining algorithms:** Now that you understand what invalid and erroneous data is, you should create programs that do not accept these values.

- Writing code which anticipates a range of possible inputs.
  - Those inputs could be invalid data or erroneous data.
  - Making sure "bad" data doesn't crash the program.
  - Making sure prompts to the user are descriptive and helpful.
  - Making sure only data of the correct "data type" are entered.
  - Checking and handling missing or blank data
- One common option is to use simple exception handling commands available in most languages.



## 2.4.1 Boolean Logic

- Simple logic diagrams using the operators AND, OR and NOT
- Truth tables
- Combining Boolean operators using AND, OR and NOT
- Applying logical operators in truth tables to solve problems

Computers are made up of circuits containing millions of switches. There are only two possible values of these switches (ON or OFF), these values are represented using the binary values of 1 or 0. Each circuit contains logic gates and **BOOLEAN LOGIC** is used to evaluate the results of the different combinations of 1s and 0s

There are a number of different logic gates used in logic diagrams, each of these give different results when they receive inputs (1s and 0s) There three common ones are AND OR NOT

**REVISION NOTE**  
You need to be able to draw a truth table for a given circuit. You also need to be able to represent a circuit as a Boolean expression

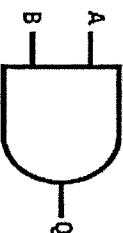
The possible values for each gate can be represented using a TRUTH TABLE.

**NOT gate**



A	Q
0	1
1	0

**AND gate**



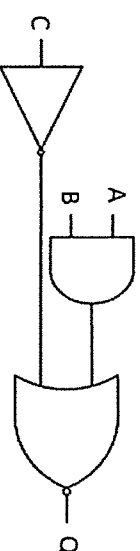
A	B	Q
0	0	0
0	1	0
1	0	0
1	1	1

**OR gate**



A	B	Q
0	0	0
0	1	1
1	0	1
1	1	1

Logic gates can be combined to create complete circuits. These can also be represented using truth tables. Circuits can be made up of many logic gates. The logic diagram below is made up of the three most common logic gates:



The diagram above can be represented using the following table:

A	B	C	Q
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	1

This can also be represented as a Boolean expression:

**(A AND B) OR (NOT C)**

## 2.5.1 Languages

### Characteristics and purpose of different levels of programming language:

- High-level languages
- Low-level languages

### The purpose of translators and the characteristics of a compiler and an interpreter

**HIGH LEVEL LANGUAGES** are languages that are easier for the programmer to understand as they are closer to human language this helps the programmer because:

- Easier to find error
- Uses English like keywords
- One instruction translates into many machine codes instructions

**LOW LEVEL LANGUAGES** are used for writing device drivers and programs that interact with hardware.

All programs are executed in machine code – this means that any program now written in machine code needs to be translated into this form.

Software called **TRANSLATORS** is used to convert High Level Languages or Assembly Language into machine code. There are two types of translator – **COMPILERS** and **INTERPRETERS**.

**SOURCE CODE** is the language the program was written in. When this is compiled into **OBJECT CODE** it creates an **EXECUTABLE** file that can run on any computer without the use of a compiler.

Languages		Syntax	Translation	Hardware dependent?	Example
Low level	Machine Code	Data and instructions made up of 1s and 0s	Does need to be translated	YES (unique to each processor type)	11000101 11011011
	Assembly Language	Mnemonics/symbols	One statement translates to one machine code instruction	YES (unique to each processor type)	MOV1 #5B #6A LDA1 #6A
High level	Python, JAVA, C++, Visual Basic	Resembles human language	One statement translates into many machine code instructions	NO – transferrable and usable on any computer	print("Hello World")

## 2.5.2 The Integrated Development Environment

### Common tools and facilities available in an Integrated Development Environment (IDE):

- Editors
- Error diagnostics
- Run-time environment
- Translators

### Integrated Development Environment (IDE):

- Editor (for writing the code)
- Error Diagnostics (such as de-bug facilities)
- Run-Time Environment
- Translators

IDE's allow the programmers to **WRITE**, **EDIT**, **EXECUTE** and **TRANSLATE** their code.

The **EDITOR** allows the programmer to enter/edit code and may provide tools like auto-indenting, colour coding variables and commands, and adding line numbers.

The **RUN-TIME ENVIRONMENT** shows what happens when the code is executed

### ERROR DIAGNOSTICS

identify any errors picked up during the compilation process – the IDE will also **TRANSLATE** the code.

```

74 sample.py - C:\Users\Right\Desktop\python programs/sample.py
File Edit Format Run Options Windows Help
a = 0
while a < 10:
    a = a + 1
    if a > 5:
        print(a, "n", 5)
    else a < 7:
        print(a, "n", 7)
print:
print("Hello! test was success")
    
```

74 Syntax error



There's an error in your program:  
unindent does not match any outer indentation level

OK

### Topic 1.1 Types of Care Settings

**Health care:** the service of providing medical care, preventative screening and treatment for illness, disease, disability or injury. Examples include:

- **Hospital :** an institution providing medical and surgical treatment and nursing care for sick or injured people
- **GP surgery:** location where a general practitioner (doctor) will see patients
- **Dental Practice:** A type of GP practice but specializes in dental care (teeth)

**Primary Care** – the first point of contact you are likely to have in the NHS, for example when you go to the doctor.

**Secondary Care** – is specialist treatment or care such as psychiatry usually given in hospital or clinic referred from a primary care service provider.

**Social care:** the service of providing a wide range of different types of care.

The main areas of social care are: domiciliary care in service users' homes and providing protection or support services for adults and children in need or at risk. Examples include:

- **Community centre:** a place where people from a particular neighbourhood can meet for social events, education classes, or recreational activities
- **Day centre:** a place providing care and recreation facilities for those who cannot be fully independent.
- **Residential home:** a term used to describe the general care and support provided in a standard care home
- **Retirement home:** a house or flat in a group or block designed for the needs of old and retired people

**Service user:** A person who accesses health and social care services from service providers. Example: A elderly person attends a appointment at a hospital.

**Care provider:** this is an organisation acting as a direct provider of health care services.

**Domiciliary care:** the range of services put in place to support an individual in their own home. Example: A district nurse helps the service user to cook and clean within their home.

### Topic 1.2 The rights of service users Part A

**Choice:** choice gives service users control and options over their lives and promotes independence. It also ensures that they receive care and treatments that meet their needs.

**Confidentiality:** limits access or places restrictions on sharing certain types of sensitive information, such as medical records, so that it is kept private and available only to those who need to be aware of it.

**Consultation:** the process of discussing an issue with another person in order to receive their thoughts, advice or opinion, so that a decision can be made that is acceptable and appropriate for all involved.

**Equal:** Fairness. Equal treatment means being given the same opportunities and choices as everyone else.

**Fair:** Fair treatment means being able to have full access to those opportunities and choices, as well as receiving the correct type of care that meets service user needs

**Law:** These are passed by Parliament, and state the rights and entitlements of service users. If someone breaks the law, they can be prosecuted by being taken to court. Example: Care providers follow the legislation of the NHS.

**Equality Act (2010):** A law intended to prevent discriminatory practice, to ensure service users are treated fairly.

**Equality Act Protected Characteristics:** nine protected characteristics: age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion or belief; sex

### Topic 1.2 Part B the rights of service users

**Abuse:** the intentional harm done to another person through mistreatment or ill-treatment or failing to act to prevent harm. Example: A nurse opens the window on a ward and removes the service users blanket making them cold and their health deteriorating.

**'Need-to-know' basis:** Information is only shared with those directly involved with the care and support of the service user. Example: A care provider only shares information of a service user with another care provider who is involved within the service users care.

**Safeguarding:** Actions taken to protect service users by ensuring a safe and healthy environment where the risks of danger, harm or abuse are reduced. Example: It is important that patients remain confident that their personal information is kept safe and secure.

**Manual Handling:** Using the correct procedures when physically moving any load by lifting, putting down, pushing or pulling. Example: Transferring a client from a chair to a bed.

### Topic 1.3 The benefits to service users' health and wellbeing when their rights are maintained.

**Empowerment:** is when you feel in control of your life. Giving someone the authority or control to do something. The way a health or social care service provider encourages a service user to make decisions and to take control of their own life. Example: They allow the service user to control their care and what care they want to receive.

**Self-reliant:** Able to do or decide things by yourself, rather than depending on other people for help. Example: A service user decides what they treatment they want rather than the care provider.

**Self-esteem:** How much a person values themselves and the life they live. Example: High self-esteem is associated with people who are happy and confident. A service user with low self-esteem experiences feelings of unhappiness and worthlessness.

**Self-respect:** valuing yourself.

**Trust:** Service users must be able to feel that service providers are trustworthy, they will not harm them and that they have their best interests at heart. Example: A service user who lacks trust may not continue with the care they are receiving. This could have negative effects on their physical and mental health and well-being.

**Physical health:** physical health describes the condition of your body. This includes whether you have a illness, injury or a health condition. Example: The physical health of n elderly woman has deteriorated due to her falling and breaking her hip.

**Mental health:** The state of health of somebody's mind. Example: Someone who has a lost a close family member mental health may decline due to grief they will go through.

**Respect:** Where you consider other people's feelings and you treat them in a courteous way. Example: A care provider respects the decisions a service user makes about their care.

### Topic 2.1 Part A: Person-centred values and how they are applied by service providers

**Person-Centred:** key principles that underpin the work of those providing care and support in health and social care services such as respecting and empowering individuals.

**Equality:** This means treating people fairly and valuing them for who they are. Everyone should be provided with the same rights and opportunities, and this should not be affected by their age, ability, gender, culture or religion.

**Individuality:** This value means recognising that each person has their own identity, needs, wishes, beliefs and values. These individual differences must be considered and taken account of when providing care and support.

**Personalised care:** This means people have choice and control over the way their care is planned and delivered. It is based on 'what matters' to them and their individual strengths and needs.

**Privacy:** the right that someone has to keep their personal life or personal information secret or known only to a small group of people.

**Dignity:** being respected and treated with care. This value involves having regard for the feelings, opinions and wishes of others. By respecting and valuing the service user's rights, views and needs, the service provider supports their self-esteem and makes them feel valued.

**Partnership:** This involves different professionals, services and agencies working together to provide the most effective care for a service user requiring treatment or support.

**Diversity:** appreciating the differences between people and treating people's values, beliefs, cultures and lifestyles with respect.

**Sexuality:** Sexuality includes a person's gender identity, body image and sexual desires.

### Topic 2.1 Part B: Person-centred values and how they are applied by service providers

**The six C's:** Key principles which should inform every health and social care service provider's practice and enable them to provide person-centred care.

**Care:** Means a service provider will do all they can to provide appropriate treatment or support that will maintain or improve a service user's health and well-being.

**Compassion:** Providing care and support with kindness, consideration, respect and empathy. It is also having consideration for the service user receiving care or treatment as well as being able to put yourself in the patients situation and show understanding.

**Competence:** refers to the ability of a service provider to provide high quality, effective care through applying their knowledge, skills, understanding and expertise to meet a service user's care needs.

**Communication:** essential to developing good relationships with service users, their families and also with colleagues. It is important to be able to listen carefully and speak in a way that service users receiving care and support can understand.

**Courage:** is being brave: being able to speak up when having concerns, doing the right thing and also trying something new such as a new way of working.

**Commitment:** when a service provider is dedicated to providing care and support to meet the service user's need.

### Topic 2.2 Benefits of applying the person-centred values

**Valuing diversity:** Accepting and respecting individual differences such as faith, diet, sexuality, ethnicity and customs. Example: Receiving appropriate care that meets their needs and do not experience discriminatory attitudes.

**Nutrition:** the process of providing or obtaining the food necessary for health and growth. Example: Eating a healthy diet so health and diet is positive.

**Standardisation:** Healthcare standardisation is the specifications of rules, guidelines or characteristics for designing products or carrying out activities. Example: Care providers with follow standardisations to make sure they follow all of the rules when caring for a service user.

**Quality of Care:** degree to which health services for individuals and populations increase the likelihood of desired health outcomes. Example: the quality of care within hospitals should be high as they should improve the health of the service users.

**Quality of life:** a multi-dimensional concept that includes domains related to physical, mental, emotional and social functioning. Example: providing hospital patients with appropriate nutritional meals, providing help to eat and drink and discussing treatment.

### Topic 2.3 Effects on service users' health and wellbeing if person-centred values are not applied

**Physical effects:** relate to the service user's body. Example: a nursing home resident suffers with coeliac disease- this causes unpleasant symptoms if gluten is consumed. If they are not given gluten-free food, it will lead to a deterioration of their digestive health.

**Intellectual effects:** Relate to the service user's thought processes such as thinking skills, understanding, learning, reasoning, comprehension and knowledge. Example: If a young adult who has learning difficulties is not given support and learning activities matched to their special needs, their learning will not progress and they will not reach their potential.

**Emotional effects:** Relate to the service user's feelings. Examples: An elderly woman attends a day centre. She is a vegetarian but at lunch is expected to eat the same meal as others, just without the meat. This is unfair treatment and is likely to upset her as she is not being treated as well as the others. She might develop low self-esteem as she feels she is not important enough to be given a proper vegetarian meal. She could also feel embarrassed that she is being a nuisance, expecting a 'special' meal.

**Social effects:** relate to the service user's relationships with others. Example: if staff at a day centre do nothing about other young adults laughing at a girl who has a birthmark on her face, the girl may lack friends, become isolated and withdrawn and refuse to attend.

**Malnutrition:** lack of proper nutrition, caused by not having enough to eat, not eating enough of the right things or being unable to use the food that one does eat.

**Dehydration:** the lack of water or the abnormal loss of water.

**Self-confidence:** a feeling of trust in one's abilities, qualities and judgement.

**Disempowered:** to deprive of power, authority or influence. Example: A service user is too worried to put their own opinions across for their care plan as they feel a lack of power.

**Key themes of the play:**

- **Superstition** - People at this period of time were very superstitious and truly believed that there would be a consequence to actions such as breaking mirrors etc. The narrator appears as a constant reminder to Mrs Johnstone that giving away her baby will have a consequence later on.
- **Nurture v's nature** - A constant debate is raging about whether behaviour is innate or learnt through influence. Overall nurture seems to slightly over-ride nature through Edward's opportunities. This theme is epitomised by Mickey's exasperated cry, 'I could have been him!'
- **Class** – a clear divide is made between all classes in the play and it could be argued that the people who attempt to cross the class divide (Edward and Linda) are who cause the deaths of Mickey and Edward.
- **Friendship** - Friendship is explored through Many characters: Mr Johnstone, Mrs Lyons, Eddie, Linda and Mickey. Often however, friendships are broken and manipulated throughout the text and the depth of the brotherly friendship not only heightens the irony but deepens the tragedy of the ultimate betrayal.
- **Fate, bad luck and destiny** - Destiny is often explored through the narrator who is the voice of judgement in the play. It is indicated that the death of the twins is fated from the beginning because of Mrs Johnstone's choice to give Eddie away. The song 'Shoes upon the table' is full of key metaphors related to the theme.
- **Growing up** - Growing up is a key theme throughout the novel but also a source of great tension. The early years of childhood are portrayed as idyllic, teenage years awkward and adulthood ruinous. Growing up is also a source of tension for Mickey and Edward as Edward's delayed adulthood and immaturity at university initially causes the rift between them.
- **Money and power** - Money and power go hand in hand in Blood Brothers. We see Eddie get his position at his Father's factory whilst Mickey works putting together boxes. Eddie uses his position as the Chairman of the housing committee to get Linda and Micky their house. Mickey is very aware he is different to Eddie "I'm in these shoes..."
- **Violence** - The working class children are linked to violence from a young age when we see Mickey and his friends as young children, they play a variety of games that are all linked to guns and death, Sammy uses an air pistol which then progresses to a real gun.

**The plot:**  
 Blood Brothers is a musical with book, lyrics, and music by Willy Russell. The story is a contemporary nature versus nurture plot, revolving around fraternal twins Mickey and Eddie, who were separated at birth, one subsequently being raised in a wealthy family, the other in a poor family. The different environments take the twins to opposite ends of the social spectrum, one becoming a councillor, and the other unemployed and in prison. They both fall in love with the same girl, causing a rift in their friendship and leading to the tragic death of both brothers.

**The playwright:**  
 Blood Brothers was written by Willy Russell.  
 Liverpool was set between the 1960's and 1980's.

**Characters:**  
 Mrs Johnstone  
 Mickey Johnstone  
 Mrs Lyons  
 Mr Lyons  
 Edward Lyons  
 Linda  
 Narrator  
 Sammy  
 Minor roles: Donna Marie, policeman, milkman, doctor

**Margaret Thatcher:**  
 She is alluded to throughout the play and subtly blamed for the difficulties of the working classes in the play, due to her political decisions to privatise and reduce public spending. She was known as 'Margaret Thatcher milk snatcher' for removing children's milk funding.

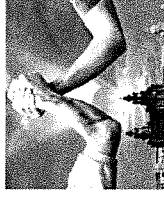
### **Marilyn Monroe:**

- Born in 1926 and died in 1962 from an overdose of sleeping pills
- Referenced throughout Blood Brothers – women at that period of time wanted to look like her, she was a cultural icon and a symbol of beauty and indulgence.
- Used as an iconic motif by Russell
- Parallels to Mickey – never knew her father, addiction to pills, both died
- Mrs Johnstone sings about Marilyn when Mickey is depressed “treats his ills with daily pills like poor Marilyn Monroe.”

**Liverpool and the docks**  
Liverpool is the setting of the play and at the time was seeing a lot of decline as many workers were being made redundant due to the economic decline and privatisation of manufacturing. It is also a perfect area as, like in the play, there were many affluent and poor areas in the city.

### **Image:**

This image is very important in the play. This signifies the boys ‘pretending’ to be blood brothers which is dramatic irony because the audience know they are indeed ‘blood brothers.’



### **Education**

- Although the 1945 Education act had made grammar schools free, working class children had to pass the 11+ to gain entry to the grammar schools. The pass mark was kept deliberately high. Few children were allowed the privilege of a grammar school education, and even if they gained a place, there was no guarantee that they would leave with qualifications, as the school leaving age was 15.
- Pupils at grammar schools studied academic subjects and took O levels. Some went on to take A levels, while others were under pressure from parents to leave school, get a job and bring money into the household.
- There were far fewer university places then, so most would go into employment after school.
- Children who failed the 11+ would go to a secondary modern school to be prepared for life in the trades. Boys would study practical skills like bricklaying, alongside academic work, and girls would learn how to cook. Many of these schools were under-funded.

### **Social Context**

- Set in Liverpool which was a prosperous seaport in the 19<sup>th</sup> Century however by the 20<sup>th</sup> century it was a place of financial depression, high unemployment and strikes
- People disapproved of sex before marriage which is why Mrs Johnstone has to marry
- Divorce was uncommon
- Council houses were the homes of most working class people in the 1950s and 1960s. The terraced houses had a lot to recommend them, but they were also cramped and lacked inside toilets and bathrooms. They did not have central heating and were heated mostly by coal fires. Their inner city locations were often dirty and there was nowhere for children to play as they rarely had gardens.



1. Characteristic of skill movement

Skills are learned predetermined movement

**Motor Skill** – A coordinated pattern of movements using voluntary muscles acquired through practice towards an intended outcome.

Characteristics of skilful performance

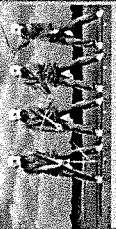
**Pre-determined** – A player will practice skills with an aim in mind e.g. Improving shooting skills in order to score more goals.

**Aesthetics** – The skills look good. E.g. A high quality dance or gymnastics routine is pleasing to watch this will give them a higher score.

**Coordination** – The skilful performer is in charge, controlling the rate and timing of the skill. E.g. serving in tennis, throwing the ball up and timing when to hit the ball.

**Efficiency** – A skilled player is able to perform the task to the same high-level repeatedly without wasted energy. E.g. having a larger reach in swimming to not waste energy.

**Fluent** – A skilled player is able to perform the task making it look effortless and seem to flow. E.g. A dance routine linking movements with ease from one to the next.



2. Classification of skills

It is useful to classify skills because it makes it clearer about what is required to learn and perform a particular skill.

Every skill can be placed on a continua (scale). There are two continua:

**Classified skill:** A sports skill that requires few / little judgement / decisions / information processing / or a few subroutines

**Difficulty Continuum - Simple/Complex**  
Every skill can be placed on a continua (scale). There are two continua:



↑ COMPLEX



↑ BASIC/SIMPLE

**Environmental Continuum - Open/Closed**



↑ OPEN



↑ CLOSED

**Difficulty Continuum**

**Simple** = Straightforward, with very few decisions to be made. Can be taught as a whole in a repetitive way. E.g. Sprint start in athletics, a goal kick/pass in football, swimming.

**Complex** = Many decisions or judgements to make. May have to be learned in stages. E.g. dribbling in Basketball

**Environmental Continuum**

**Open** = the skill is effected by the environment and requires the performer to make perceptual decisions. E.g. passing in football

**Closed** = the skill is not effected by the environment. E.g. Long Jump, golf swing.

Goal Setting

Why do we set goals?

1. For exercise/training adherence – goal setting can help people to stick to a training plan
2. To motivate performers – goal setting can inspire and drive performers to achieve their best
3. To improve and/or optimise performance – goal setting can often lead to higher levels of performance

Why do some athletes not reach their goals?

1. The goals were unrealistic
2. The athlete did not try hard enough
3. The athlete used poor technique

**SMART Targets** – Bobby is a 100m sprinter and has used the SMART principle to optimise his performance on the track.

**Specific**

Targets must be concise. *"To take a 0.5 second off my time personal best time"*

*"To increase the number of training sessions attended by the end of the season"*

**Measurable**

Must be measured and compared, performances should be measured after each training session. *"I will time my runs every training session for the next five weeks of training"*

**Achievable/ realistic**

Target must be challenging but yet reachable. *"My coach and I devised the training programme around improving leg power for my start"*  
*"We agreed that a 0.5 seconds off my personal best is realistic for my current ability and status"*

**Recorded**

You must ensure you write down you results in response to your goal.  
*I will monitor my performance by writing down how many first serves are aces in Tennis, to see an improvement"*

**Time based**

Set for a particular time to be completed. *"We agreed to do the training programme four times per week for the next five weeks"*

1. **Mental Preparation:** Mental preparation helps athletes to achieve a focused, confident and trusting mind set to allow them to compete at their highest level.

**There are 4 types of mental preparation:**



1. **Imagery** - This involves the athlete imagining themselves in an environment performing a specific activity using all of their senses. The imagery should have the athlete performing successfully and feeling satisfied. E.g. Owen Farrell imagining the set up for his kick.



2. **Mental Rehearsal** – Going over an event/ skills time and time again. This is similar to imagery but can be used to:

- Familiarise the athlete with the competitive environment
- Motivate the athlete by recalling images previous success
- Perfect skills or skill patterns by refining the skill
- Set the stage for the performance with a complete mental run through



3. **Selective Attention** – This is the process of focusing on a particular object in the environment for a certain period of time and blocking out the distractions. *e.g. free throw in basketball; whereby you focus on the basket and your performance and block out the crowd.*



4. **Positive Thinking** - This involves recognising that the athlete has started worrying about a performance and refocusing by using positive inner thoughts. E.g. A netball player tells herself "focus" or a footballer saying "We can do this"

**2. Types of Guidance: Needed for learning new skills**

Type of Guidance	Advantages	Disadvantages	Example
1. Visual Guidance: Showing a skills/ demonstration.	Provides a mental image. Draws attention to key points beginners to interpret new skills	Can demotivate and overload learner if it's a complex skill.	Providing a demonstration how to perform a Tennis serve.
2. Verbal Guidance: Terminology and phrases used to make skills simple	Explain tactics and technical info Immediate feedback	Players can be confused easily Lose concentration	Explaining the correct technique for a Handball Jump Shot.
3. Manual Guidance: Physically moving a limb into place.	Builds confidence Eliminates danger Gives feel for whole skill	Learner becomes dependent on support	A coach supporting a shoulder when performing a handspring on a vault.
4. Mechanical Guidance: Involves the use of equipment	Promotes confidence Ensures safety	Learner becomes dependent on support	Using a float in Swimming to help stay a-float. Trampoline belt for somersaults.

**4. Feedback: There are 6 Types of Feedback**

Feedback	Description/ Evaluation	Application
Negative Feedback	Information about an unsuccessful performance/ weaknesses / what went wrong/ EBI +ve can result in a higher leveled performance -ve This might result in a lowering of confidence.	E.g. A coach telling a Badminton player that his last serve showed poor technique
Positive feedback	Information about successful performance/ What Went Well. +ve Good for beginners to help them gain confidence. -ve Does not correct errors in performance.	e.g. A Coach telling the diver that their handstand to back tuck was fluent,
Internal/ Intrinsic Feedback	This type of feedback happens within the performer. Information is received as a direct result of producing movement.	After taking a corner in football, the player will know straight away if it is the desired ball intended to take.
External/ Extrinsic Feedback	This feedback comes from results of match analysis. Examples include watching a performance back from a video or listening to a coaches comments.	Watching a Hockey hit pass replay on an I pad to gain an understanding of what technical points need improving.
Knowledge of results	Feedback that relates to the outcome of the performance/ skill.	e.g. Looking at the Shot Put distance to gain an understanding of were they are at in their training.
Knowledge of performance	Feedback that relates to the quality of the performance/ skill/ technique.	e.g. A coach telling the high Jumper to drive their knee higher on their next jump.

Factor	Positive affects	Negative affects/ Barriers	Strategies to improve participation [PROMOTION/ PROVISION/ ACCESS]
Gender	Opportunities for female officials and management roles within teams have grown too and there are a great deal more female presenters on TV.	Male/female discrimination (e.g. females banned from golf clubs). Stereotypes: Some activities traditionally linked to males/females or females don't want to play male sport or males don't want to play female sport or examples of this e.g. males for boxing and females for dancing. Some sports have age restrictions e.g. minimum age is for Olympic snowboarding is 15 years; some fitness gyms have a minimum age restriction. Sport is often perceived as a 'young person's activity'. Some older people lack confidence to participate. In some countries certain ethnic minorities are prevented from joining clubs. E.g. Muslim women, not being able to take part in competitive swimming due to restrictions in their religion.	National campaigns such as 'This Girl Can' Increase media coverage Increase clubs at all levels for a range of sports More promotion of a range of sports on the TV. Exercise classes ran by Age UK -- promote on local radio. Adapting exercises Adult only classes.
Age	Many NGBs have developed adaptations of their sport that are suitable for older people.g. Walking netball, walking basketball and walking football are examples.		
Race/Religion/Culture	Taking up a sport or activity may be influenced by ethnic background. i.e. Cricket is very popular among Asian countries		Consider religious clothing e.g. Modified Hijabs/ head scarfs to enable Muslim women to take part safely. Women only swimming sessions
Family	You are more likely to participate in sport if your parents do. Support with transport, membership fees.	You are less likely to participate if there is little interest shown by your family; They may place undue pressures on children; too much pressure.	Discounted bus to a local climbing wall Family fun run, for all the family at a local park. <u>Top Tips for Top Mums</u> - Encourages parents to share tips on ideas on how they get their children to eat more fruit and vegetables/ exercise regularly.
Friends/Peers	If your friends are sporty you are more likely to take part in sport.	If your peers tease you when you take part in sport you are more likely to avoid playing.	More education in school about the benefits of physical activity, this can change mind sets, and promote physical activity.
Disability	Activities and rules are often adapted to allow inclusion in sport. i.e. Wheelchair tennis	Limited clubs or access to clubs therefore reducing participation. E.g. Lack of Boccia clubs. E.g. No disabled changing rooms to allow changing. [availability and access]	Increase sports included in Paralympics and Invictus Games
Social Economic	If your parents have unlimited funds, then can pay for travel, equipment and coaching for sports such as Tennis, which can be expensive.	Limiting factors include cost, availability and time. i.e. golf is far more expensive to participate than athletics.	Lottery Funded facilities and clubs Subsidised membership for people on benefits.
Media coverage	Promotes and encourages sport and healthy living. Creates funds and sponsorship. Media coverage is huge for football, which can be accessed on multi platforms. This increases the chance of watching it. Can motivate through role models.	Some sports, such as Squash has limited media coverage, therefore less promotion, less participation. [minority sports]. Disability sports, womens' sports and vet sports are underrepresented.	Promote women in sport, through global campaigns e.g. this girl can, to encourage more people to take part. Promote more minority sports
Environment/climate	If you live in a rural area, near mountains you are more likely to do fell running or climbing.	If you do not live near the Ocean, you are less likely to take up water sports such as surfing.	Build a climbing wall in urban [city] areas to encourage for OAA activities.
Role models	If your role models are on the TV frequently, e.g. Jill Scott you may be inspired to take part.	If your role model does something wrong/ demonstrates poor sportsmanship it may cause you to not like a particular sport. Lack of role models.	Use social media platforms to promote positives of different role models from different cultures in a variety of sports.