



LYMM  
HIGH SCHOOL

#8



NAME:

# Year 9

# Knowledge Organisers

# Spring Term

(Half term 3 and 4)





LYMM  
HIGH SCHOOL

# A Knowledge-Rich Curriculum at Lymm High School

## *Why are we using Knowledge Organisers?*

Research around memory suggests that “knowledge is sticky”: the more factual knowledge you know, the easier it is to learn more in future! But there is a catch: If knowledge is studied once, and not revisited or revised, it is not stored in long-term memory.

To strengthen your memory, and ensure information is stored permanently in your long-term memory, it must be revisited frequently. This means that after one lesson, or a single test, the knowledge is not fully embedded or learned unless it is studied again.

This is why your knowledge organiser is an important part of revising the essential information you learn in class!

## *Use of Knowledge Organisers for revision and in class*

As part of their home learning, students should be revising what they have learned recently, but also content they were taught previously. Therefore, as part of our strategy to ensure that knowledge is embedded over time, we have developed knowledge organisers, which contain the ‘bedrock knowledge’ necessary in each subject area. A mastery of this knowledge will ensure that students can progress comfortably to new units of learning, and can be successful in their subjects.

This information will provide the basis of our assessments and exams, and so getting into good revision habits with these resources will ensure students feel as prepared as possible.

Teachers may set specific areas of each knowledge organiser as part of homework tasks on ‘Satchel one’ – formerly ‘Show my Homework’ – however students should be using their knowledge organiser for independent revision regularly.

*For mastery of your subjects, remember:*

***“Don’t practise until you get it right. Practise until you can’t get it wrong!”***

As well as supporting revision at home, this knowledge organiser should be kept in students’ bags, and brought to school each day so that it can also be used and referred to in lessons.

## CONTENTS

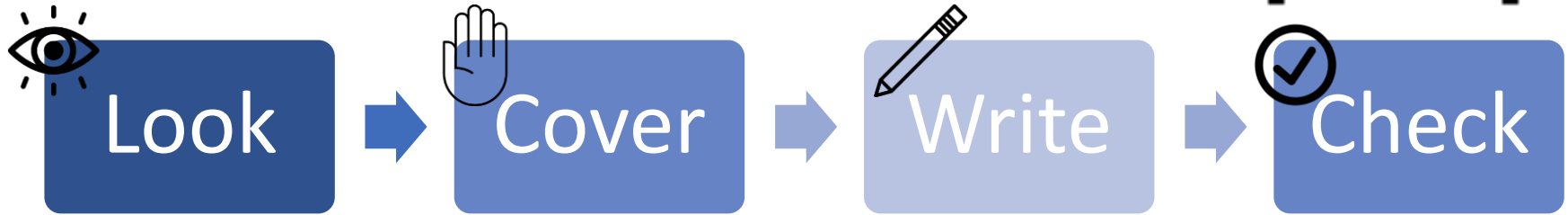
*(Subjects are arranged  
alphabetically)*

3	How to use your Knowledge organiser
4	Tier 2 Vocabulary
5	Art
7	Design Tech
13	English
17	Food Tech
25	French
29	Geography
31	German
35	History
40	IT
42	Maths
46	Music
47	Religious Studies
51	Science
55	Spanish



# How to use your knowledge organiser:

Recommended strategies (*don't just read or highlight – get active!*):



- Create **mind maps**
- Create **flash cards**
- Write out **key points on post-it notes** and place somewhere visible so you see and review them regularly
- **Write your own quiz questions** based on your knowledge organiser – leave until the next morning, next day, or next week to see how well you have retained the information
- **Get someone else to test you**
- Use **key vocabulary** from your KO in sentences
- Use the formulae, vocabulary lists, facts, processes etc on your KO to **help you complete homework tasks**
- **Draw diagrams and flow charts** of key information
- **Summarise each section** into your own words – what are the MOST important facts or details in each box?
- **“Just a minute”** – time yourself for 60 seconds. **Can you talk about this topic or explain it to someone else without stopping for a whole minute?**
- **Draw images/symbols** to represent the different concepts and vocabulary
- **Teach someone else** about this topic. Research suggests we retain even more information when we teach a topic than when we learn it or revise it.

# Tier 2 Vocabulary – General academic vocabulary for success across all subjects



*“The limits of my language are the limits of my world” - Ludwig Wittgenstein*

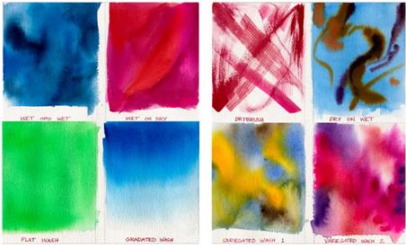


List 1		List 2		List 3	
<b>alternative (n)</b>	another option	<b>ensure (v)</b>	make sure of something	<b>principles (n)</b>	beliefs
<b>annual (adj)</b>	yearly	<b>ethnicity (n)</b>	race/background/culture	<b>prominent (Adj)</b>	famous/important
<b>apparent (adj)</b>	clearly understood	<b>excluded (v)</b>	left out	<b>promote (v)</b>	advertise/raise someone to a higher role
<b>attributes (n)</b>	qualities	<b>fund (n/v)</b>	a stock of money/to pay for	<b>restricted (adj)</b>	limited/controlled
<b>authority (n)</b>	the person in charge/expert/power	<b>imposter (n)</b>	Someone pretending to be someone or something they are not	<b>significant (adj)</b>	important
<b>commitment (n)</b>	promise	<b>justification (n)</b>	reason	<b>sought (v)</b>	Looked for/wanted
<b>consent (v)</b>	give permission	<b>legislation (n)</b>	laws	<b>summary (n)</b>	A brief statement of the main points
<b>consumer (n)</b>	customer	<b>labour (n)</b>	work	<b>subsequent (adj)</b>	coming after
<b>core (n/adj)</b>	The centre/central	<b>maintenance (n)</b>	repairs/upkeep	<b>technical (adj)</b>	Complicated/related to a particular subject
<b>dimensions (n)</b>	size/measurements	<b>maximum (n)</b>	The most	<b>undertake (v)</b>	take on/begin something
<b>distribution (n)</b>	the spread of something	<b>parameters (n)</b>	boundaries	<b>withstand (v)</b>	bear/survive
<b>despite (prep.)</b>	Even though/in spite of	<b>perceive (v)</b>	Think/believe	<b>valid (adj)</b>	factually correct/acceptable
<b>economic (adj)</b>	to do with wealth and money	<b>principal (adj)</b>	most important	<b>zeitgeist (n)</b>	what’s currently popular

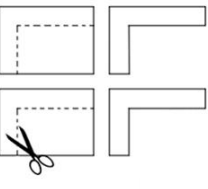
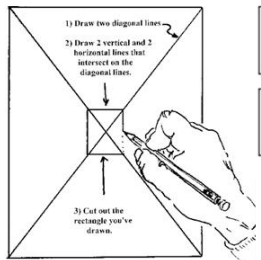
**Recording from Observation**  
**Primary source observational drawing:** drawing something real in front of you.  
**Secondary source observational drawing:** drawing something from a picture.

**Grades of Pencils**  
 Pencils come in different grades. The softer the pencil the darker the tone.  
*H = hard, B = black (soft)*  
 In Art the most useful pencils are B, 2B and 4B.  
 If your pencil has no grade it is likely to be an HB (hard black in the middle of the scale)

Scan here for an introduction to using watercolours.



<b>Architecture</b>	The art and practice of designing and making buildings
<b>Tone</b>	A tone is produced either by the mixture of a colour with grey, or by both tinting and shading.
<b>Shade</b>	The mixture of a colour with black, which increases darkness.
<b>Tint</b>	The mixture of a colour with white, which increases lightness
<b>Mark making</b>	Different lines, patterns, and textures we create in a piece of art. It applies to any art material on any surface, not only paint on canvas or pencil on paper.
<b>Composition</b>	The position and layout of shapes on the paper
<b>Enlarge</b>	Making something bigger. Usually you will select a small section and enlarge it to a larger scale.
<b>Viewfinder</b>	A viewfinder is a simple square or rectangle cut out of card that you can look through. Using a viewfinder <b>helps you to focus on something and not get distracted by what's around it.</b>



**Viewfinder examples**



**Ian Murphy:**

- UK based artist
- Originally inspired by the northern industrial landscape that surrounded him.
- Creates drawings, paintings and prints.

<http://www.ianmurphyartist.com/>



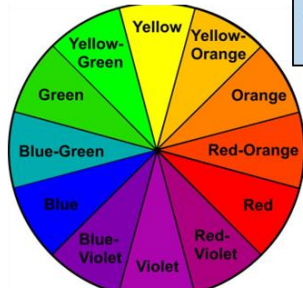
**Exploring Ian Murphy's work**

- Scan QR code to view Ian Murphy's work and watch him create a piece of work.



**Colour Theory:**

- When mixing and blending colours and creating colour palettes for your work. Do not forget the colour wheel.
- Scan QR code to view complex colour mixing.



Scan here for further guidance on colour theory



<b>Mixed Media</b>	The use of two or more media together.
<b>Annotation</b>	A note by way of explanation or comment added to a text or diagram.
<b>Artistic Independence</b>	Be able to comment on a piece of artwork and understand how that piece of art work has been created. Identifying what materials have been used and the stages of creation.

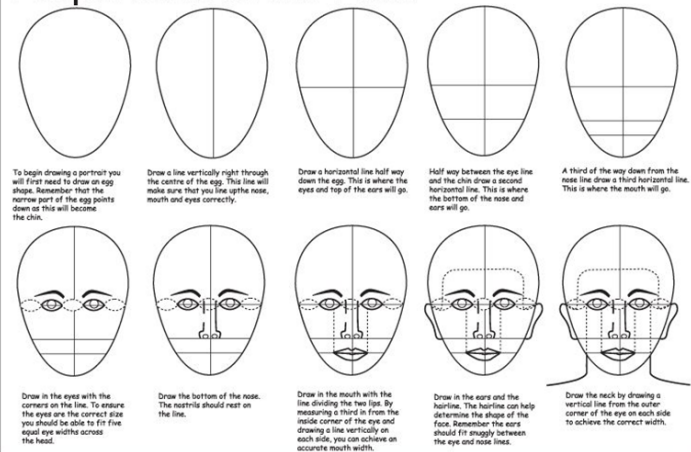
**What makes a successful artist research page?**  
 You must include:

- Artists name (title)
- Imagery of the artists work
- Annotation and your own opinion (facts about the artist as well as analysing the artists work)
- Your own drawings or 'mini studies' of the artists work.
- Consider presentation of your page. Try to make your page reflect the artists style (through use of colour or even media you choose to use).

**When designing a piece of artwork you must:**

- Use primary research (drawings/photographs) as starting points.
- Use artists styles to inspire you.
- Be creative with composition.
- Try and test every section of your piece before you create it.

# Proportions of the Face



## Recording from Observation

**Primary source observational drawing:** drawing something real in front of you.

**Secondary source observational drawing:** drawing something from a picture.

Scan here to view drawing a portrait..



## Portrait Photography

You need to consider:  
Background  
Pose  
Lighting  
Aperture  
Focus

## Brno Del Zou

- Brno Del Zou is a French artist born in 1963.
- He creates 'photo sculptures' of faces.
- He uses photographs taken from different angles and various poses. Brno Del Zou then builds up many layers of photographs to create a distorted portrait.



## What makes a successful artist research page?

- You must include:
- Artists name (title)
  - Imagery of the artists work
  - Annotation and your own opinion (facts about the artist as well as analysing the artists work)
  - Your own drawings or 'mini studies' of the artists work.
  - Consider presentation of your page. Try to make your page reflect the artists style (through use of colour or even media you choose to use).



<b>Cubism</b>	A movement in art (began in Paris in 1907), especially painting, in which perspective with a single viewpoint was abandoned and use was made of simple geometric shapes, interlocking planes, and, later, collage.
<b>Figurative Art</b>	Figurative art can be defined as any type of art where the subject matter is recognizable from the real world, i.e., it shares a "likeness".
<b>Technique</b>	a way of carrying out a particular task, especially the execution or performance of an artistic work or a scientific procedure
<b>Impasto</b>	The process or technique of laying on paint or pigment thickly so that it stands out from a surface.

## Pablo Picasso

- Pablo Ruiz Picasso was a Spanish painter, sculptor, printmaker, ceramicist, stage designer, poet and playwright who spent most of his adult life in France.
- Born: 25<sup>th</sup> October 1881
- Died: 8<sup>th</sup> April 1973
- He was a founder of the movement Cubism.
- Also famous for his 'Blue' and 'Rose' period.

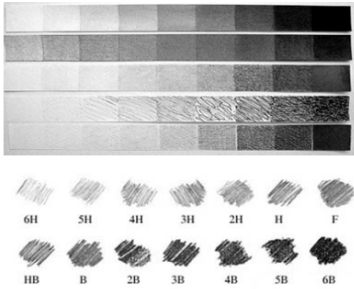


Can you remember the key points you MUST include to make your artist research page successful?

Click on this QR code to visit **The Student Art Guide** to see examples of GCSE sketchbook pages.

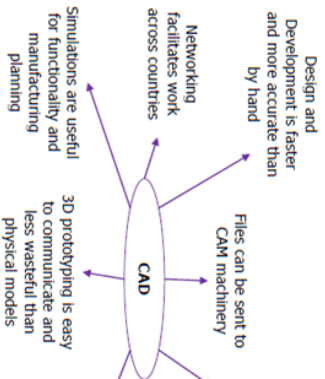


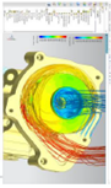
<b>Tone</b>	A tone is produced either by the mixture of a colour with grey, or by both tinting and shading..
<b>Portrait</b>	A portrait is a representation of a particular person. A self-portrait is a portrait of the artist by the artist
<b>Proportion</b>	Proportion refers to the relative size of parts within a whole. In this case, the whole can be a single object like a person's face.
<b>Scale</b>	Scale refers to the size of an object (a whole) in relationship to another object (another whole).
<b>Features</b>	These are typically eyes, nose, mouth, ears (the senses). These can also be unique features i.e. freckles or a scar.
<b>Characteristics</b>	Traits of a persons i.e. friendly, chatty

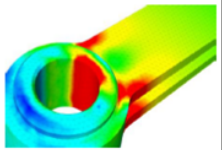


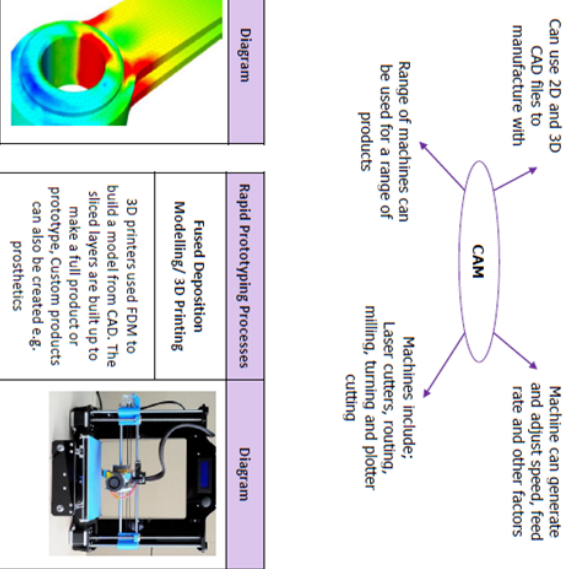
# Design and Technology

## Computer Aided Design & Computer Aided Manufacture:



<b>Virtual Modelling</b>	<b>Diagram</b>
<b>Computational Fluid Dynamics</b>	
A CAD simulation tool for fluid or gas flow. Test results can inform aerodynamic improvements and saves money rather than physical testing	

<b>Virtual Modelling</b>	<b>Diagram</b>
<b>Finite Element Analysis</b>	
This analyses stress in elements of a CAD design. It can simulate forces, vibrations or shock loads. Weak points are then highlighted to the designer. It saves money and time as products can be tested and re-designed virtually	




<b>Electronic Data Interchange</b>	<b>Diagram</b>
<b>Electronic Point of Sale (EPOS)</b>	
This is a computer-based scanned barcode system to track product sales. Any low stock items are automatically ordered and recording trends of sales. Customer data can also be gathered for marketing e.g. loyalty cards	

<b>Production, Planning and Control (PPC)</b>	Computers are used to plan and control production, organise component availability and co-ordinate suppliers. An efficient supply chain network (SCN) is vital to ensure the flow of materials. This is especially useful in JIT systems
A Master Production Schedule (MPS) software carries out lots of functions, including: ordering low stock items, delivers components to production lines at precise times, scheduling workers, networking departments and co-ordinating suppliers and customers.	

## Social, Moral, Cultural and Environmental Factors in Design & Technology

<b>Sustainable Materials and Ethical Problems</b>	Companies are becoming aware of their corporate social responsibility (CSR) when designing and making products. E.g. Lego Group are trying to use 100% renewable energy and have a target of only using sustainable materials by 2030.
Some SME issues that have arisen for companies include: sweatshop and unethical use of labour, toxic chemicals released into developing countries water and soil, safety failures in energy production, etc	
Some good practice has also become more common, including: use of FSC materials, addressing slave labour issues, use of safety schemes, using Fairtrade products, etc	
<b>Cultural Acceptability</b>	Companies need to be aware of offensive products and marketing to different countries. Offense and outcry will have an effect on a business's reputation and finances.
Examples of issues to be aware of, include: religious imagery, perception by different genders, country traditions and customs, social justice movements, legality, cultural significance of colour, etc	

<b>Inclusive and Exclusive Design</b>	Exclusive design is where a product (or range) is specifically designed for a group of people. E.g. baby carriers.
Inclusive design is where products and services are accessible to as many people as possible without the need for specialist design.	
This is in line with the Disability Discrimination Act (DDA) 1995.	
Examples include accessible entrances to buildings, wide and tall doorways, automatic doors, adjustable office height, adjustable desks, hearing loops in theatres, pedestrian crossings with raised bumps and sensory feedback, etc	
	

<b>Social Problems</b>	Designers can encourage social change and positive social behaviour in their designs. E.g. child-friendly litter bins to promote good habits and 'black boxes' in cars to monitor and reward good driving habits.
Innovative design has also helped those in poverty and difficult living situations e.g. wind-up torches for families in developing countries with no access to electricity and 3D printing of prosthetics, medical equipment and bone implants for medical care.	
IKEA have put forward several initiatives including: accessible furniture and accessories for disabled customers called 'Theabber' and 'Better Shelter' bar-back emergence housing for refugees	
<b>Fairtrade</b>	The Fairtrade organisation negotiates with buyers to secure fair prices for the farmers/producers of the goods (in developing countries) as well as their ethical treatment.
Qualifying products display the mark, so customers know they are supporting Fairtrade. Examples include: cotton, chocolate, bananas, coffee, etc	
	

## The 6 R's...

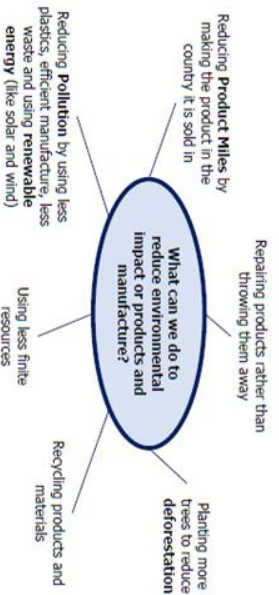
6 Rs of Sustainability	Meaning	Examples
<b>Reduce</b>	Minimising waste, energy and materials used in manufacture and transport of products	Less packaging on products, buying from local suppliers, having factories closer to retailers, etc
<b>Reuse</b>	Using the product, or its parts, for another purpose	Plastic bottles can be used for craft projects, refilled with other liquids, made into bottle rockets for science experiments in schools, etc
<b>Recycle</b>	Using parts and materials to be broken down and processed into a new product	Plastics, metals, papers and boards being processed to stock forms in recycling centres and returned to manufacturers to make new products from
<b>Rethink</b>	Considering alternatives to current manufacturing solutions	Customers considering travel – cycling to work, or driving, or designers reconsidering material choices and choosing plastic alternatives
<b>Repair</b>	Fixing and maintaining a product rather than throwing it away	Replacing phone screens, repairing tears in clothing, designers ensuring its easy for the customer to repair at home, etc
<b>Refuse</b>	Not buying or supporting designs that have a large environmental impact	Not buying products that use an excess of plastic or excess of packaging, etc

# Design and Technology

## Year 9: Environmental Impact of Design

<b>Using Sustainable Materials and Components</b>
<p>Designers have an ever-increasing responsibility to design products that have minimal environmental impact and must consider:</p> <ul style="list-style-type: none"> <li>• How to conserve materials</li> <li>• The products are as sustainable and environmentally friendly as possible             <ul style="list-style-type: none"> <li>• Total carbon footprint</li> <li>• The total product miles</li> </ul> </li> </ul>

<b>Sustainability is maintaining our planet and its resources and making a minimal negative impact</b>	
<b>Finite Resources</b> <i>Will run out of eventually</i>	<b>Infinite Resources</b> <i>Can be re-grown and re-bred. Will not run out of</i>
Plastics	Paper
Metals	Boards
Polymers (Textiles)	Natural Timbers
	Cotton
	Leather

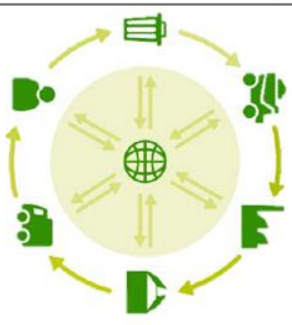


### Design & The Environment: Sustainability

<b>Sustainability is maintaining our planet and its resources and making a minimal negative impact</b>	
<b>Non-Renewable Energy Sources</b> <i>Will run out of eventually</i>	<b>Renewable Energy Sources</b> <i>Will not run out of</i>
Oil	Hydro
Gas	Wind
Coal	Solar
Nuclear	Tidal
	Geothermal
	Biomass

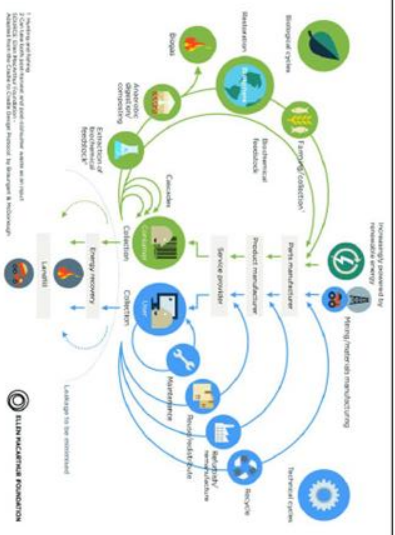
<b>Advantages of Renewable Energy</b>	<b>Disadvantages of Renewable Energy</b>
<ul style="list-style-type: none"> <li>• Sustainable</li> <li>• Generally require less maintenance than traditional generators</li> <li>• Reduces operational costs</li> <li>• Little to no waste</li> <li>• Social and economic benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to produce large quantities</li> <li>• Often relies on weather which can be unreliable and inconsistent</li> <li>• Cannot be stored in large quantities</li> <li>• Currently more expensive than traditional energy due to large capital costs associated with new technologies</li> </ul>

<b>Life Cycle Assessment</b>
<p>This is when a designer looks at the environmental impact a product makes over its life time and how it could be reduced. Including:</p> <ul style="list-style-type: none"> <li>• Impact of materials</li> <li>• Impact of processes</li> <li>• Impact of packaging</li> </ul> <p>Product Miles (how far a product has to travel to get from factory to consumer)</p> <ul style="list-style-type: none"> <li>• Impact while in use</li> <li>• Impact when disposed of (GRS)</li> </ul>



<b>Impact of Packaging</b>
<p>Designers and manufacturers need to consider factors that use the optimum amount of packaging to protect and preserve products and prevent waste. E.g.:</p> <ul style="list-style-type: none"> <li>• Making packaging lightweight</li> <li>• Using recycled content</li> <li>• Making the packaging recyclable or reusable</li> <li>• The use of refills and concentrates</li> <li>• Using minimal packaging materials</li> <li>• Changing for items – like supermarket carrier bags</li> </ul>

<b>Circular Economy</b>
<p>The circular economy is a cradle-to-grave approach in the product life cycle. There are two nutrient types:</p> <ul style="list-style-type: none"> <li>• Biological nutrients – Organic, non-toxic, materials that can simply be composted and can safely re-enter ecosystems.</li> <li>• Technical nutrients – man-made materials are designed to be used repeatedly, and at the same time high quality with minimal energy.</li> </ul> <p>This economy will:</p> <ul style="list-style-type: none"> <li>• Work against the unsustainable 'take, make dispose' culture</li> <li>• Reduce use of finite resources</li> <li>• Reduce waste</li> <li>• Avoid pollution</li> <li>• Deliver a more competitive UK economy</li> <li>• Help reduce environmental impact of product manufacture and consumption</li> </ul>





# Design and Technology

## Adhesives & Joining Methods:



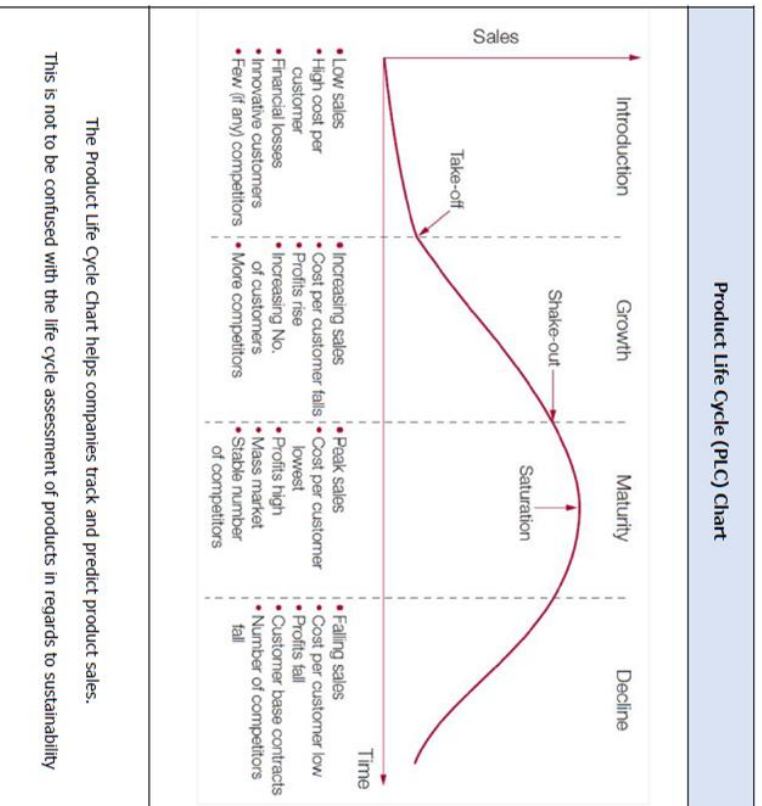
### What are they?

A substance used to stick things together

Preparation: All adhesives need the material to be clean, dry and free from oil and dust if they are to achieve their maximum grip. Some areas may need to be covered in masking tape to prevent the glue from spreading.

Some adhesives require the joint to be keyed. This means that the joint should be made roughly (usually done with an abrasive paper

Name	Material	Drying Time	Use
Hot Glue stick (glue gun)	Wood, metal, plastic.	On cooling.	Is waterproof but weak, but only suitable for modelling or temporary fixings. It is heated in a special gun and comes out from the nozzle.
PVA	Wood	4-24 Hours	Gives a strong joint. It comes in a liquid form.
Liquid Solvent Cement 'Tensol'	Thermoplastic	10 Minutes	It is waterproof and gives a medium strength joint. It comes in a liquid form. The joint needs to be held together while the glue dries.
Synthetic Resin 'Cascanite' 'Extramite'	Wood	6-8 Hours	Is waterproof and gives a strong joint. It comes in a powder form. The joints must be held together while the glue dries.
Contact Adhesive 'Evostick'	Wood, metal, plastic.	INSTANT	It is waterproof and gives a medium strength joint. Ideal for plastic laminates to chipboard for kitchen worktops. It comes in a liquid form.
Epoxy Resin 'Araldite'	Wood, metal, plastic	½ - 6 hours	Is waterproof and gives a strong joint. Equal amounts of resin and hardener are mixed together and applied with a spreader. Must be held together whilst glue dries.
Cyanocrylate 'super glue'	Wood, metal, plastic	Instant	Is waterproof and gives a medium joint. It comes in a liquid form.



The Product Life Cycle Chart helps companies track and predict product sales.

















This is not to be confused with the life cycle assessment of products in regards to sustainability

Redefining and Redeveloping Products	
Companies will often employ extension strategies to maintain their sales. Examples include:	
<b>Demand/Customer Pull</b>	This is where designers respond to demand from consumers for desirable product features. E.g. colour choice and battery life in smart phones
<b>Technology Push</b>	Research and development costs lead to the technology push if new ideas. However, these then need to be sold to consumers. E.g. Google Glass failed to be sold to consumers due to cost and privacy concerns
<b>Planned Obsolescence</b>	This is where products are designed to fail and be replaced. This can be for company profit or lack of compatibility with software or lack of parts being manufactured.
<b>Evolution of Products</b>	This is generally caused by new technologies, manufacturing methods, materials, etc. Research and Development departments (R&D) explore and develop new ideas for companies.

## Yr 9 Design & Technology: The Work of Others: Designers

Name	Facts	Logo	Examples
<b>Raymond Templier</b>	RAYMOND TEMPLIER (1891 - 1968) like many of his contemporaries in jewelry, was born to a family with a long tradition as jewelers.		
<b>Gerrit Rietveld</b>	Gerrit Thomas Rietveld; 24 June 1888 – 25 June 1964) was a Dutch furniture designer and architect. One of the principal members of the Dutch artistic movement called De Stijl, Rietveld is famous for his Red and Blue Chair.		
<b>Charles Rennie Macintosh</b>	Charles Rennie Mackintosh (7 June 1868 – 10 December 1928) was a Scottish architect, designer, water colourist and artist. His artistic approach had much in common with European Symbolism. His work was influential on European design movements such as Art Nouveau and Secessionism.		
<b>Aldo Rossi</b>	Aldo Rossi (3 May 1931 – 4 September 1997) was an Italian architect and designer who achieved international recognition in four distinct areas: theory, drawing, architecture and product design. He was the first Italian to receive the Pritzker Prize for architecture.		
<b>Ettore Sottsass</b>	Ettore Sottsass (14 September 1917 – 31 December 2007) was an Italian architect and designer during the 20th century. His work included furniture, jewellery, glass, lighting, home objects and office machine design, as well as many buildings and interiors.		

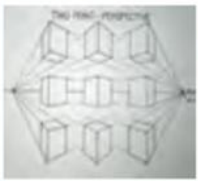
## Yr 9 Design & Technology: The Work of Others: Companies

Company Name	Facts	Logo	Examples
<b>Alessi</b>	Alessi is a housewares and kitchen utensil company in Italy, producing everyday items from plastic and metal, created by famous designers.		
<b>Apple</b>	Apple Inc. is an American multinational technology company headquartered in Cupertino, California that designs, develops, and sells consumer electronics, computer software, and online services.		
<b>Braun</b>	Braun GmbH formerly Braun AG, is a German consumer products company based in Kronberg. From 1984 until 2007, Braun was a wholly owned subsidiary of The Gillette Company, which had purchased a controlling interest in the company in 1967.		
<b>Dyson</b>	Dyson Ltd. is a British technology company established by James Dyson in 1987. It designs and manufactures household appliances such as vacuum cleaners, hand dryers, bladeless fans, heaters and hair dryers.		
<b>GAP</b>	The Gap, Inc. commonly known as Gap Inc. or Gap, (stylized as GAP) is an American worldwide clothing and accessories retailer.		
<b>Primark</b>	Primark known as Penneys in the Republic of Ireland) is an Irish clothing and accessories company which is a subsidiary of AB Foods, and is headquartered in Dublin.		
<b>Under Armour</b>	Under Armour, Inc. is an American company that manufactures footwear, sports and casual apparel.		
<b>Zara</b>	Zara is a Spanish clothing and accessories retailer based in Arteixo, Galicia. It is the main brand of the Inditex group, the world's largest apparel retailer.		

### KEYWORDS & TERMS

**Two point perspective**

**two point perspective drawing is a type of linear perspective.**  
 Linear perspective is a method using lines to create the illusion of space on a 2D surface. **Two point perspective uses two points placed on the horizon line.**



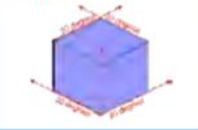
**One point perspective**

A drawing has **one-point perspective** when it contains only **one vanishing point** on the horizon line. This type of **perspective** is typically used for images of roads, railway tracks, hallways, or buildings viewed so that the front is directly facing the viewer. These parallel lines converge at the **vanishing point**.



**Isometric Projection**

**Isometric drawings are 3D drawings.** They show three sides, all in dimensional proportion, but none are shown as a true shape with 90 degree corners. All the vertical lines are drawn vertically but all horizontal lines are drawn at 30 degrees to the base line. **Isometric** is an easy method of **drawing 3D images.**



**Oblique**

An **oblique sketch** puts more focus on the face or front of an object while **anisometric sketch** puts more focus on the edge of an object. To achieve this, **oblique sketches** are usually **drawn** using a 45 degree angle

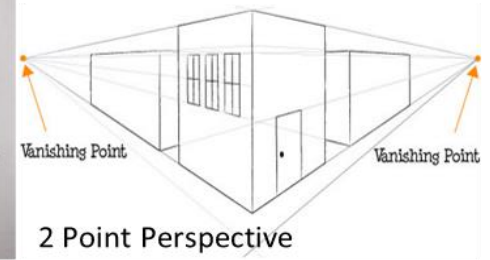
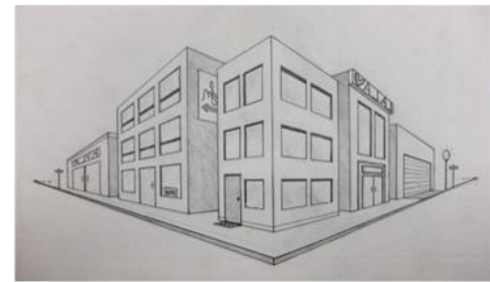
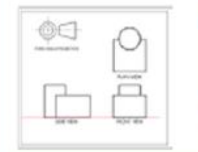


**Orthographic projection (3rd angle)**

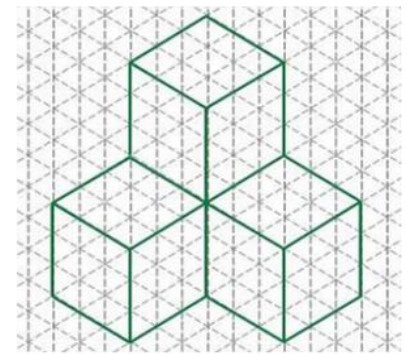
**Third Angle projection is a method of orthographic projection** which is a technique in portraying a 3D design using a series of 2D views.

An alternative method to **Third Angle Projection** is **First Angle Projection.**

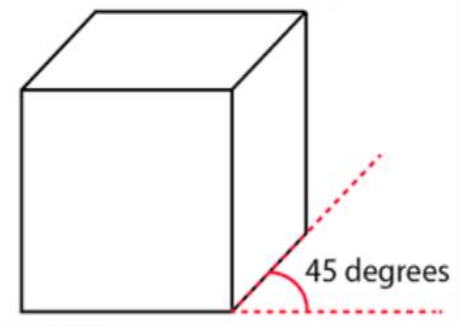
**3rd Angle project** is where the 3D object is seen to be in the **3rd quadrant.**



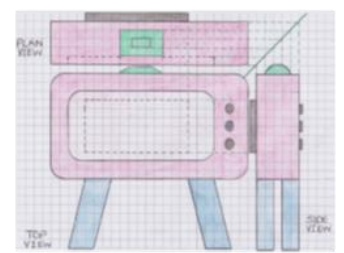
1 Point Perspective



Isometric

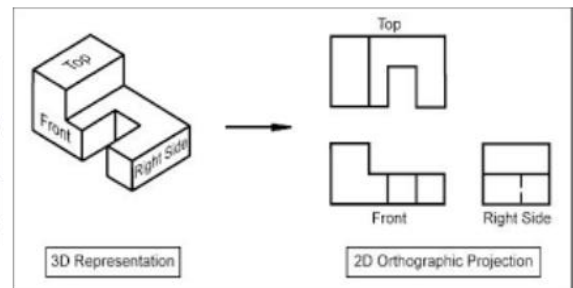


Oblique



### Orthographic Projection

- Line types used ;**
- Thick lines for visible edges and outlines.
  - Thin lines (half the thickness of thick lines) for hatching, leader lines, dimensions and projections.
  - Dashed lines to show hidden detail. 2-4mm dash with a 1mm gap in a thin line.
  - Centre lines to show the centre of a circle, cylinder or a line of symmetry.



### 1. Paper

Type	Description and uses
Layout paper	<ul style="list-style-type: none"> <li>lightweight, thin white paper</li> <li>used for initial ideas</li> <li>takes colour media well</li> <li>low cost</li> </ul>
Tracing paper	<ul style="list-style-type: none"> <li>thin, translucent paper</li> <li>making copies of drawings</li> <li>high cost</li> </ul>
Cartridge paper	<ul style="list-style-type: none"> <li>good quality white paper</li> <li>available in different weights</li> <li>general purpose work</li> <li>can be used to make simple models</li> <li>medium cost</li> </ul>
Bleedproof paper	<ul style="list-style-type: none"> <li>smooth, hard paper</li> <li>used with water-based and spirit-based felt-tip pens</li> <li>medium cost</li> </ul>
Grid paper	<ul style="list-style-type: none"> <li>printed square and isometric grids in different sizes</li> <li>a guide for quick sketches and working drawings</li> <li>low cost</li> </ul>

### 2. Selection of materials or components

When selecting materials and components considering the factors listed below:

- **Functionality:** application of use, ease of working
- **Aesthetics:** surface finish, texture and colour.
- **Environmental factors:** recyclable or reused materials, product mileage.
- **Availability:** ease of sourcing and purchase.
- **Cost:** bulk buying.
- **Social factors:** social responsibility.
- **Cultural factors:** sensitive to cultural influences.
- **Ethical factors:** purchased from ethical sources such as FSC.

What is the FSC? <http://www.fsc-uk.org/en-uk/about-fsc/what-is-fsc/fsc-principles>

### 3. Boards

Type	Description and uses
Corrugated card	<ul style="list-style-type: none"> <li>strong and lightweight</li> <li>used for packaging protection and point of sale stands</li> <li>available in different thicknesses</li> </ul>
Duplex board	<ul style="list-style-type: none"> <li>large foam-based board</li> <li>different finishes available including metallic and hologrammatic</li> <li>used for food packaging, e.g. take-away pizza boxes</li> </ul>
Foil lined board	<ul style="list-style-type: none"> <li>quality cardboard with a aluminium foil lining ideal for ready made meals or take away meal cartons</li> <li>The foil retains the heat and helps keep the food warm</li> </ul>
Foam core board	<ul style="list-style-type: none"> <li>very light, very stiff and very flat.</li> <li>It has a white, rigid polystyrene foam centre, with smooth white paper laminated onto both faces.</li> <li>It is easy to cut with a knife, a mount cutter or on a wall cutter</li> <li>great for modelling</li> </ul>
Ink jet card	<ul style="list-style-type: none"> <li>Has been treated so that it will give a high quality finish with inkjet ink</li> <li>available in matt and gloss</li> </ul>
Solid white board	<ul style="list-style-type: none"> <li>top quality cardboard made from quality bleached wood pulp.</li> <li>used for hard backed books and more expensive items</li> <li>excellent print finish</li> </ul>

### 4. Paper and Boards- Stock sizes and weights

Paper and board is available in sizes from A0 (biggest) to A7 (smallest). The most common size is A4. Each size is half the one before, eg A4 is half the size of A3. They are also sold by weight: GSM – grams per square metre. Card thickness or calliper is traditionally measured in Microns. 1000 Microns = 1mm, so the higher the value, the thicker the card or paper.



### 5. Properties of paper and boards.

Type	Weight or thickness	Uses	Relative cost (10= high)
Newsprint	50gsm	Newspapers	1
Layout Paper	60gsm	Sketches and tracing	3
Tracing Paper	70 gsm	Tracing	4
Sugar Paper	90gsm	Cheap mounting work	2
Inkjet/Photo paper	150-230gsm	Photos/Pres entations	9
Board (Card)	230-750 microns	Model-making	5
Mount Board	230-1000 microns	Model-making, High picture quality mounting	9
Corrugated Card	3000-5000 microns	Packaging protection	5

### 7: KEY WORD FOCUS

You should be able to explain the meaning of each of these words by the end of this rotation.




<b>GSM</b>	Grams per Square Metre
<b>Microns</b>	Thickness of paper or card. 1000microns = 1mm thickness



# The Art of the Monster



Language Features	Definition
<b>Allusion</b>	An indirect reference to something. Eg. A biblical allusion
<b>Anaphora</b>	Repeated phrase or word at the start of sentences.
<b>Metaphor</b>	A descriptive technique that makes a direct comparison between two things. Stating something <u>is</u> something else.
<b>Pathetic fallacy</b>	A type of personification where emotions are given to a setting, an object or the weather.
<b>Personification</b>	Describing an inanimate object as having human feelings.
<b>Zoomorphism</b>	A technique in which animal attributes are imposed upon non-animal objects, humans, and events.
<b>Simile</b>	A descriptive technique that compares one thing with another, usually using 'as' or 'like'.
<b>Imagery</b>	A technique in which the author appeals to the senses i.e. seeing, hearing, touching.
<b>Semantic field</b>	Words from a the semantic field are part of a common category.
<b>Intensifier</b>	An adverb or adjective used to add emphasis to another adjective, verb, or adverb.
<b>Minimiser</b>	A word that is used to make another adjective, verb or adverb sound lesser.
<b>Asyndetic Listing</b>	A list connected by commas
<b>Syndetic listing</b>	A list joined with conjunctions and connectives. E.g. and
<b>Oxymoron</b>	A phrase combining two or more contradictory terms.
<b>Juxtaposition</b>	Two things placed next to each other to emphasise a contrast.

The gold	
The human condition 	The <b>human condition</b> is all of the characteristics and key events that compose the essentials of human existence, including birth, growth, emotion, aspiration, conflict, and mortality. In literature it considers <b>the meaning of life and morality.</b>
The innate evil of man 	The concept that mankind and <b>humanity naturally holds an evil within it.</b> Part of our evolution as a society is how the 'beast' is tamed and humanity attains mastery over its base instincts. However, <b>Aristotle argued that morality is learnt;</b> that we are born with a blank slate or ' <b>tabula rasa</b> ' and it is life experience that informs our moral compass.
The sublime 	The <b>sublime</b> in literature refers to use of language and description that <b>excites thoughts and emotions beyond ordinary experience.</b> Greatness beyond all possibility of calculation, measurement, or imitation, often inspired by nature.

Word class	Definition
<b>Verb</b>	A <b>verb</b> is a word or set of words that shows action ( <i>runs, is going, has been painting</i> ); feeling ( <i>loves, envies</i> ); or state of being ( <i>am, are, is, have been, was, seem</i> )..
<b>Adverb</b>	An adverb labels how, when or where something happens (and they often end in '-ly').
<b>Noun</b>	Nouns are names, places and things; they also signify imagined things like 'a ghost'; and ideas or concepts, such as 'love', 'guilt' or 'fate'.
<b>Pronoun</b>	Words used instead of a noun i.e. 'he', 'she', 'they', 'it'.
<b>Adjective</b>	An adjective is a describing word or phrase that adds qualities to a noun. It normally comes before a noun, or after verbs like 'am', 'is', 'was', 'appears' or 'seems'.
<b>Preposition</b>	Prepositions are short words and phrases that give information about place, time and manner

**When to start a new paragraph:**  
 New time  
 New topic  
 New speaker/dialogue



Structural Features	Definition
<b>Cyclical</b> 	When end of the text repeats an idea/ character/ setting from the opening.
<b>Widening or narrowing the perspective</b> 	When the writer switches from a broader overview, <b>panoramic overview</b> , to a more specific point of view, <b>zoom in</b> .
<b>Repeated motif</b> 	When a word, phrase, is noticeably repeated throughout a sentence/ paragraph/ whole text.
<b>Dialogue</b> 	Direct speech between characters.
<b>Enigma</b> 	The mystery created within a text – the questions the audience ask
<b>Rising action</b> 	The build up of action before the climax. Usually exemplified by an increase in tension
<b>Climax</b> 	The most dramatic moment of a narrative.
<b>Perspective</b> 	The point of view or voice telling the story: first or third. Character or omniscient narrator.

Analytical verbs			
Amplifies	Distinguished	Exhibits	Indicates
Asserts	Elaborates	Focuses	Infers
Characterises	Embodies	Foreshadows	Informs
Claims	Emulates	Highlights	Insinuates
Clarifies	Enhances	Identifies	Magnifies
Concludes	Entails	Illustrates	Obscures
Confirms	Establishes	Implies	Outlines
Connects	Evokes	Incorporates	Parallels

**Psychopathy** is a disorder marked by deficient emotional responses, lack of empathy, and poor behavioural controls, commonly resulting in persistent antisocial deviance and criminal behaviour.

**Machiavellianism** is the political theory that states politics is amoral and that any means however unscrupulous can justifiably be used in achieving political power.

**Narcissism** is a condition in which people have an inflated sense of their own importance, a deep need for excessive attention and admiration, troubled relationships, and a lack of empathy for others

**The duality of human nature:** the idea that every single human being has good and evil within them and much of life is spent conflicted between these two facets. Civilisation VS savagery.

Sentence starters:	
Simile opener	As cold as stone his eyes glanced over the scene.
Adjective opener	Hard and sharp as flint the pearlescent teeth flashed like a sinister smile.
Adverb opener	Deliberately, like a jeweller handling the a precious diamond, she set the child down.
Time connective	Finally, the clock erupted in a cacophony of chimes.
Verb opener	Stunned, the great fish retreated like a wounded soldier withdrawing from battle.

# The Tempest Knowledge Organiser



## PLOT

Act 1	<p><b>Scene 1:</b> Violent, windy storm attacks ship with King Alonso (King of Naples), Ferdinand (his son), Sebastian (his brother), Gonzalo (his counsellor) and Antonio (Duke of Milan) aboard.</p> <p><b>Scene 2:</b> Miranda begs her father to “allay” the storm. He then tells her and the audience the backstory to them becoming stranded on the island. This includes his betrayal and usurpation by his brother Antonio as Prospero neglected his role as Duke of Milan to study magic. Prospero uses magic to make Miranda sleep and we meet Ariel, his spritely slave. We meet Caliban, whose mutual hatred of Prospero highlights their key differences (race, status). Ferdinand and Miranda meet and fall in love instantly.</p>
Act 2	<p><b>Scene 1:</b> On another part of the island, we find the shipwrecked fleet. King Alonso is depressed that he has lost his son and cannot be cheered. Ariel appears (invisible) and puts all to sleep, except for Sebastian and Antonio. Antonio persuades Sebastian to kill his brother (Alonso) so he can have the power of the crown. However, Ariel wakes the King and Gonzalo before regicide can be achieved.</p> <p><b>Scene 2:</b> Stephano (butler) and Trinculo (jester) get Caliban drunk for the first time. Caliban begs Stephano to become his new master.</p>
Act 3	<p><b>Scene 1:</b> Prospero watches as Miranda and Ferdinand discuss their love for one another and agree to get married.</p> <p><b>Scene 2:</b> Stephano enters, drunk and enjoying status of master over Caliban, which Trinculo thinks is ridiculous. Caliban tells them of the “tyrant” Prospero who they need to kill in order to rule the island (taking his books first as this will diminish his power). Ariel is invisible on stage and causes havoc, imitating voices to cause a humorous scene between Stephano and Trinculo.</p> <p><b>Scene 3:</b> Prospero controls magical creatures to create an illusion of a great feast for the royal party. As they prepare to tuck in, Ariel reappears as a harpy and gives his “three men of sin” speech to Alonso, Antonio and Sebastian. Prospero praises Ariel.</p>
Act 4	<p>Prospero frees Ferdinand from his labours and blesses the union with his daughter Miranda. Prospero creates a magical masque in which the spirits of the Gods Iris, Juno and Ceres bless the union. Prospero dramatically interrupts the celebrations, remembering that Caliban, Stephano and Trinculo are on route to kill him. Prospero orders Ariel to distract the conspirators with his fine clothing, which does have the intended effect on Stephano and Trinculo, much to Caliban’s annoyance.</p>
Act 5	<p>Prospero announces that his plans are coming together and orders Ariel to bring forward the royal party. He promises to give up his magic when all is complete. Prospero forgives each in turn and reunites Alonso with his son, Ferdinand. The King is overjoyed and welcomes Miranda to the family. Prospero invites everyone back to his cell for the night before setting off for Naples the next morning.</p>
Epilogue	<p>Prospero speaks directly to the audience, discussing his loss of magical powers and need for the audience’s applause to set him free.</p>

## Characters

Alonso – King of Naples	Stephano – a drunken butler
Sebastian – Alonso’s brother	Caliban – a savage and deformed slave of Prospero’s; a native of the island
Ferdinand – Alonso’s son	Prospero – the rightful Duke of Milan
Antonio – Prospero’s brother. Antonio stole Prospero’s title as Duke of Milan.	Miranda – Prospero’s daughter
Gonzalo – the old counsellor to the King of Naples	Ariel – an airy spirit; a slave of Prospero’s who earns his freedom
Trinculo – a jester	Spirits in the service of Prospero

## The Gold

<p><b>The innate evil of man</b></p>	<p>The concept that mankind and <b>humanity naturally holds an evil within it</b>. Part of our evolution as a society is how the ‘beast’ is tamed and humanity attains mastery over its base instincts. However, <b>Aristotle argued that morality is learnt</b>; that we are born with a blank slate or ‘<b>tabula rasa</b>’ and it is life experience that informs our moral compass. The duality of human nature.</p>
<p><b>The sublime</b></p>	<p>The <b>sublime</b> in literature refers to use of language and description that <b>excites thoughts and emotions beyond ordinary experience</b>. Greatness beyond all possibility of calculation, measurement, or imitation, often inspired by nature.</p>
<p><b>Punishment as consequence for sin</b></p>	<p><b>An exploration of the consequences of sin</b> (crime and punishment). <b>Death as punishment for sin and subverting the Natural Order</b>. <b>Biblical teaching</b> emphasises the importance of <b>confession</b> and absolution. There is the belief that if we do not repent for our sins, we will suffer damnation. What does it mean to seek retribution?</p>
<p><b>Binary opposition of innocence vs experience</b></p>	<p><b>Binary opposition of innocence vs experience</b> – <b>Childhood innocence</b> as the face of suffering that transforms the older. Experiences in the world (childhood suffering) lead to sins, suffering, cynicism and regret.</p>



## Historical and Social Context



**James I** – The first King of England and Scotland, he styled himself as the ‘king of Great Britain’. He was a strong advocate of royal absolutism – meaning the king received their power directly from God. This belief brought him into heavy opposition with Parliament and had dire consequences for his successors. The play was possibly written to celebrate the marriage of his daughter in 1611. James believed in, and despised, the supernatural.

**The role of women in a patriarchal society**- Jacobean England was a society controlled by men. Women were seen as the weaker sex and were expected to be ruled over by men. Women needed to be meek and mild, and most importantly, obedient to their fathers and later their husbands.

**Jacobean Travel** - The play draws on travel literature of the era as travel to the Americas became more common and frequent. Most notably the play draws on the accounts of a tempest off the Bermudas that separated and nearly wrecked a fleet of colonial ships sailing from Plymouth to Virginia.

**Cultural attitudes** - Shakespeare seems to have drawn on Michel de Montaigne’s essay “Of the Cannibals,” (1580) which explored how a Brazilian tribe apparently ate the bodies of their dead enemies out of honour. The name of Prospero’s slave, Caliban, seems to be an anagram or derivative of “Cannibal.”

## Key Themes



**Social Status and Colonialism**



Jacobean society relied heavily on the feudal system, which placed wealthy Kings and noblemen above women and the working class. Being a black, deformed character from a foreign land would have made Caliban a member of the underclass, deserving no more respect than a beetle. The ignorance of Jacobean society meant there was little chance of moving up in social status, which is why Stephano is so excited to have a servant in Caliban. Colonisation made this possible, as men of varying classes went on explorations to New Worlds that they could take over and rule, imposing their own European cultures on natives.

**Supernatural and Magic**



Prospero’s thirst for knowledge about magic is what lost him his position as Duke of Milan. His cloak, books and staff symbolise his knowledge and power and are ultimately destroyed at the denouement of the play to symbolise his reintegration to civilised society. Prospero uses his knowledge to control the magical sprite Ariel to commit a number of magical acts in the name of justice, from starting the tempest to becoming a harpy. King James I would have been particularly interested, having written a book about the power of the supernatural in ‘Daemonologie’.

**Justice, Fate, Destiny, and Religion**



The play is focused around the key storyline of the protagonist seeking justice for being usurped by his own brother in Milan. However, Prospero is hypocritical as he finds no injustice in usurping Ariel and Caliban and enslaving them on the island. Prospero uses magic and manipulation to encourage the audience to sympathise with him and ultimately manages to achieve justice without any bloodshed by the denouement of the play. At this point, he embraces the Christian value of forgiveness before reasserting his place as Duke of Milan.

## Key Term Definition

Dramatic Irony	A literary technique by which the full significance of a character's words or actions is clear to the audience or reader although unknown to the character.
Foreshadowing	A literary device in which a writer gives an advance hint of what is to come later in the story/play.
Comedy	A play characterized by its humorous or satirical tone and its depiction of amusing people or incidents, in which the characters ultimately triumph over adversity.
Tragedy	A play dealing with tragic events and having an unhappy ending, especially one concerning the downfall of the main character.
Foreboding	The feeling that something bad is going to happen: The gloomy weather gave me a sense of foreboding.
Pathetic fallacy	The attribution of human emotion and conduct to things found in nature that are not human. It is a kind of personification.
Usurp	To take a position of power or importance illegally or by force, such as overthrowing a king.
Colonialism	The policy or practice of acquiring full or partial political control over another country, occupying it with settlers, and exploiting it economically.
Tragicomedy	A play or novel containing/combining elements of both comedy and tragedy.

## Dramatic devices

**Dramatic Irony** – The audience knowing something that a characters doesn’t.  
**Soliloquy** – One person speaking their thoughts aloud on stage but directed at themselves.  
**Foreshadowing** – Giving a hint or allusion to a future significant event.

## Genres

<p><b>Comedy</b></p> <ul style="list-style-type: none"> <li>• Confusion</li> <li>• Jesters</li> <li>• Weddings</li> </ul>	<p><b>Tragedy</b></p> <ul style="list-style-type: none"> <li>• Catastrophe</li> <li>• Catharsis</li> <li>• Revenge</li> <li>• Tragic arc of the Lords</li> </ul>
---	--



# 1. Food Hygiene

## What is food hygiene?

**Food hygiene** is about preventing food poisoning. Food poisoning bacteria grow very quickly in food if it is not handled properly, cooked properly or stored properly.

There are laws which control how food manufacturers can prepare and sell food. Statistics show that you are more likely to get food poisoning from a home-made meal than you are from a bought one.

## Food poisoning

The illness resulting from eating food or drinking food/drinks containing poisonous substances including bacteria, viruses, pesticides, or toxins.

Usually need millions of bacteria to cause a food poisoning illness.

The multiplication of bacteria within the food plays an important part in the disease

## How bacteria grow

In ideal conditions where there is Moisture, Food and Warmth (37degrees centigrade is ideal), bacteria can double every 10 to 20 minutes. They do this by dividing in to two. This is called *Binary Fission*

In order to grow and multiply germs need:

- Time
- Moisture
- food
- Warmth



Food poisoning is more likely to affect people with lowered resistance to disease than healthy people who might show mild symptoms or none at all.

Food poisoning is more likely to affect people with lowered resistance to disease than healthy people who might show mild symptoms or none at all.

## Vulnerable people

The following are particularly vulnerable to food poisoning:-

- Elderly or sick people
- Babies
- Young children
- Pregnant women

# Food Hygiene and Safety:

## Before Cooking:

1. Put your apron on
2. Roll your sleeves up
3. If you have long hair tie it back with a bobble
4. Wash your hands with warm and soapy water
5. Dry your hands – moisture harbours bacteria



## When Using The Cooker:

1. Turn pan handles in away from edge of cooker
2. Always turn hob off when not in use
3. Never leave food cooking on the hob unattended
4. Be careful not to let food boil dry
5. Never touch an electric hob when turned off, it may still be hot
6. Don't leave metal spoons in pans when cooking as they can become very hot.
7. Always use oven gloves when removing food from the oven

## The Tidy Tick List:

You should work as a team to make the food room clean and sparkling!

- ✓ Clean and dry dishes
- ✓ No streaks and residue left on the glass bowls
- ✓ Clean dry work surfaces
- ✓ Clean sparkling hobs
- ✓ Clean cupboard doors and drawers
- ✓ Clean and dry sinks with no suds or residue food

## High risk foods

These foods tend to be high in protein and are moisture. They can include food like: raw and cooked **meat**, including **poultry** such as chicken and turkey, and foods containing these, such as **casseroles**, curries and lasagne. **dairy products**, such as custard and dairy-based desserts like custard tarts and cheesecake. eggs and egg products, such as quiche. smallgoods such as hams and salamis.

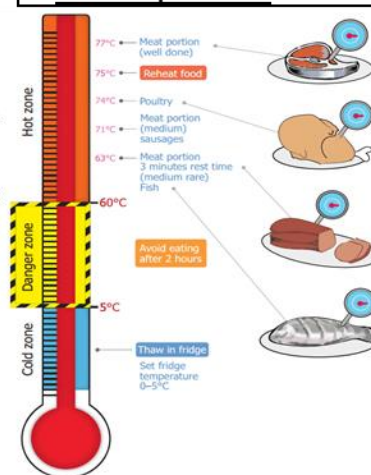
## The 4C's for Good Food

### Safety

- Cooking
- Cleaning
- Chilling
- Cross contamination



# Core temperatures:



## Buying and Storing Food

### Tips on storing food

- ✓ Check the date mark on stored foods and throw away food that is out of date.
- ✓ Store food according to instructions on the packaging.
- ✓ Keep food covered.
- ✓ Store perishable food in a refrigerator that is operating at 5°C or below – check by using a fridge thermometer.
- ✓ Store frozen food in a freezer that is operating at -18°C or below and do not refreeze frozen food that has defrosted.

- ✓ Make sure food is as fresh as possible when it is bought, and that it is stored safely to reduce the risks of cross-contamination and deterioration.

### Tips on buying food

- ✓ Check the date mark on food before buying it – make sure it is not out of date.
- ✓ Pack raw and cooked food separately to avoid cross-contamination.
- ✓ Pack chilled and frozen foods in a cool bag which is insulated to prevent heat loss.
- ✓ Store food as soon as you arrive home or at school.

## Use-by dates are about safety

A use-by date on food is about safety. This is the most important date to remember. You can eat food until and on the use-by date but not after. You will see use-by dates on food that goes off quickly, such as meat products or ready-to-eat salads. After the use-by date, don't eat, cook or freeze your food. The food could be unsafe to eat or drink, even if it has been stored correctly and looks and smells fine.

## Best before dates are about quality

The best before date, sometimes shown as BBE (best before end), is about quality and not safety. The food will be safe to eat after this date but may not be at its best. Its flavour and texture might not be as good. Best before dates appear on a wide range of foods including:

- frozen foods (such as peas, chips and ice cream)
- dried foods (such as pasta and rice)
- tinned foods (such as baked beans and canned tomatoes)

The best before date will only be accurate if the food is stored according to the instructions on the packaging.

## Food safety advice when preparing and cooking foods

Many dangerous foodborne bacteria can be eliminated from foods through safe preparation and cooking methods. The following rules should be adhered to when preparing and cooking foods

### Preparing

- **Avoid cross contamination** – chopping boards should be coloured coded so that raw meat is never cut on the same board as fruit and vegetables. Utensils should be washed after being in contact with raw meat to avoid cross-contamination.
- **Wash fruit and vegetables** – all fruit and vegetables (especially root vegetables that may have excess soil) should be thoroughly washed to prevent the risk of spreading harmful bacteria such as E. coli.
- **Take care when defrosting foods** – ideally, plan ahead and leave enough time to defrost food. Safe thawing should be done in small amounts in the fridge. Ensure meat and poultry are defrosted on the bottom shelf. If meat is thawed in the microwave, cook it immediately. Foods should be thoroughly defrosted before being cooked.
- **Keep work surfaces clean** – it is important for food safety that all worktops are kept clean and free of bacteria. Use a clean cloth and anti-bacterial sprays. Ensure any surfaces are wiped clear of cleaning residue before preparing food.

# Personal Hygiene



Certain bacteria can remain active on our hands for up to three hours. During this time bacteria can spread to everything we touch. This is particularly dangerous in catering environments where germs can multiply on food.

## PERSONAL HYGIENE



Always wear the appropriate head-gear when working with food and never brush or comb your hair. A single hair follicle can harbour tens of thousands of germs.

Make sure your clothing is cleaned thoroughly. If your clothing should become dirty, change it if possible.

Aprons should always be worn when protective clothing is not available.



Gloves can provide an extra barrier against germs when preparing food.



Remove all jewellery before preparing food. The areas under watches and rings are breeding grounds for germs!



Cover all cuts, burns and sores with a waterproof dressing. These should be blue and where appropriate metal detectable. If such dressings are not readily available, speak to your Health and Safety Manager.



Never work with food if you are ill. This is particularly the case if you are suffering from gastrointestinal problems such as diarrhoea.

Avoid touching your ears, nose, hair and teeth when working with food. We all get itches but if you should touch these areas, be sure to wash your hands afterwards.



Keep nails short and well scrubbed. Do not wear nail varnish or false nails as these can easily contaminate food.

Never cough, spit, sneeze or smoke near food. If you do cough or sneeze into your hands, be sure to wash them thoroughly afterwards.



Do not smoke in areas where food is prepared and stored.

## WHEN TO WASH YOUR HANDS

Certain bacteria can remain active on our hands for up to three hours. During this time bacteria can be spread to everything we touch. This is particularly dangerous in catering environments where germs can multiply on food.

It is essential that you wash your hands regularly throughout the day and especially at the following times:

1. Before handling or preparing food.
2. Between handling raw foods (eggs, meat, fish, poultry) and touching any other food or kitchen utensils.
3. After handling raw foods such as meat fish and poultry.
4. After touching rubbish / waste bins.
5. After coughing or sneezing.
6. After touching your nose, ears, teeth or hair.
7. Always make sure you wash your hands after using the toilet. The number of germs on the fingertips doubles after a visit to the toilet!



## HOW TO WASH YOUR HANDS



It is surprising how many do not know how to wash their hands properly. Rinsing the fingertips under a cold tap is simply not adequate. In order to ensure that your hands are thoroughly cleansed when washing them, follow these simple guidelines:

1. Use warm water.
2. Remove any rings and jewellery.
3. Wet the hands thoroughly.
4. Apply soap.
5. Rub the palms together vigorously for at least 15 seconds.
6. Rub the fingers, thumbs and wrists.
7. Pay particular attention when washing the areas between the thumb and fingers.
8. Rinse until all traces of soap have been washed away.
9. Dry thoroughly with a clean paper towel or electric hand dryer. These methods are preferable to using a towel as it can be a breeding ground for germs.



It is essential that you dry your hands thoroughly after washing. Remember that germs spread 1000 times more easily from damp hands.

## Cooking

- **Temperature control when cooking food** – all foods should be cooked for the correct amount of time and temperature. A **food thermometer** is the only safe way to check the core temperature of a food to ensure safety - especially when cooking **meat, poultry and seafood**. The core temperature of a food should reach **75°C** instantaneously. The equivalent – for example **70°C** for two minutes – is acceptable.
- **Follow label instructions** – when cooking food it is important to follow the cooking instructions displayed on the label. This is especially important for foods cooked in the microwave as stirring and standing times are vital to ensure the core of the food has reached the required temperature.
- **Serving cooked foods** – when a food is cooked it must be kept at **63°C** and covered until it is ready to eat.
- **Reheating foods** – When reheating a food, it should reach a core temperature of **70°C** for two minutes. A food should not be reheated more than once.

## Environmental health practitioner

Each local area has an **environmental health department** run by the council who work to support consumers in relation to food safety. They are responsible for the following:

- **Inspecting** a food business and auditing their food safety practices, ensuring legislation is being adhered to.
- **Enforcing** any action if required, such as improvement notices, prohibition orders or penalty notices.
- **Investigating** food complaints and allegations of food poisoning - also investigating complaints about labelling and ensuring labels do not mislead the consumer.
- **Educating** and providing food businesses with advice on correctly following food safety law.
- **Responding** to food alerts from the Food Standards Agency.

### Laws to protect the consumer in relation to food safety

#### The Food Safety

This legislation ensures that all consumers achieve a high level of health protection when buying food. It protects consumers by making it an offence to sell food that:

- has been rendered injurious to health
- is unfit for human consumption
- is so contaminated that it would not be reasonable to expect it to be used for human consumption
- is not of the nature, substance or quality that consumers would expect
- is labelled, advertised and presented in a way that is false or misleading

#### The Food Hygiene Regulations

This legislation protects consumers by checking that food has been prepared, handled, processed, packaged, manufactured, stored, transported and distributed safely and hygienically.

For example, this legislation will check that food is fit for consumption by ensuring that:

- Any food supplied follows safety requirements and any food sold is done so in a hygienic way. For example, inspectors will examine temperatures of cold storage or holding temperatures.
- A food business has identified any food safety hazards and has a **HACCP** (Hazard Analysis and Critical Control Points) procedure to ensure safety controls are in place, maintained and reviewed.
- The sale of raw, unpasteurised milk is prohibited. There must be a supply of clean drinking water to ensure food is not contaminated when washed.

## Food Allergy

Involves the immune system.

The immune system causes a reaction by mistaking a certain type of food as an invader that needs to be attacked.

When the body attacks the invader (the trigger food), symptoms occur.

Amount required to trigger a reaction:

Any amount, even trace amounts, will cause a reaction.

Length of time from ingestion of trigger food until there is a reaction:

The symptoms will be immediate. Unlike a food intolerance, complete avoidance of the offending food is the only way to prevent a reaction.

Example: Peanut allergy

Even trace amounts of peanuts can kill a person who has a peanut allergy.

## Food Intolerance

Involves the digestive system.

The digestive system causes a reaction for one of two reasons:

- The food irritates the digestive tract
- The food cannot be properly digested

Amount required to trigger a reaction:

It varies from person to person. Some people can tolerate smaller amounts of the trigger food, while others can tolerate larger amounts.

The severity of the reaction is equal to the amount ingested for each person affected with an intolerance.

Length of time from ingestion of trigger food until there is a reaction:

The symptoms will come on gradually. You may even be able to take steps that will prevent any symptoms when the trigger food is ingested, such as taking a lactase enzyme pill along with dairy products if you are lactose intolerant.

Example: Lactose intolerance

Small amounts of dairy can be ingested with little or no side effects.

# What's the Difference Between a Food Sensitivity & Allergy?

### Food Intolerances or Sensitivities

Food intolerances or sensitivities occur when the gut reacts poorly to a specific food.

### Percentage of the Population Affected

Approximately 20 to 30%



### Parts of the body affected

Any organ system can be affected



### Symptoms

Symptoms are usually chronic, sometimes acute

Symptoms are usually delayed (45 minutes to several days)

Common symptoms include: Gas, bloating, mucus production, nausea, vomiting, headaches, stomach cramping, and stuffy nose

### Amount of food necessary to trigger a reaction



From one bite to a plate full of food

### Food Allergies

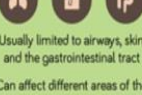
Food allergies occur when the immune system mistakenly treats proteins found in a particular food or foods as a threat.

### Percentage of the Population Affected

Approximately 1 to 2%

### Parts of the body affected

Usually limited to airways, skin, and the gastrointestinal tract



### Symptoms

Symptoms are usually acute, rarely chronic

Common symptoms include: Itchy sensation in the mouth, throat, or ears; a raised itchy red rash; swelling of the face, eyes, lips, tongue, and roof of the mouth; vomiting; anaphylaxis

### Amount of food necessary to trigger a reaction



1 molecule

## Food Hygiene Rating

### What the rating covers

Ratings are a snapshot of the standards of food hygiene found at the time of inspection. It is the responsibility of the business to comply with food hygiene law at all times. This includes:

- **handling of food**
- **how food is stored**
- **how food is prepared**
- **cleanliness of facilities**
- **how food safety is managed**

The business is then given a rating from **0 to 5** with 5 being the highest rating

### FOOD HYGIENE RATING



### FOOD HYGIENE RATING



### FOOD HYGIENE RATING



### FOOD HYGIENE RATING



### FOOD HYGIENE RATING



### FOOD HYGIENE RATING



## 2. Food Sensitivity

	Food Sensitivities		
Type	Food Allergy	Food Intolerance	Celiac
Response	Within minutes	Hours to days	Hours to days
Age	Mostly infants, below 5 years	Any time	Any time
Family connection	Not always	Very common	Half of first-degree relatives
Test	IgE, skin prick test	IgG, IgA, IgE	DQ2, DQ8 genetic test; IgA, biopsy
Diet	Full avoidance of suspect foods	Diet rotation; limited portions	Gluten free diet

## 14 FOOD ALLERGENS



"If you think someone is experiencing anaphylaxis (as evidenced by breathing difficulties, light-headedness, feeling faint, or loss of consciousness) call 911 immediately"

### 3. Food Provenance

**Food provenance**—the place of origin or earliest known history of something.

**Food provenance means:**

- knowing where food was grown, caught or raised
- knowing how food was produced
- knowing how food was transported

**Food that is grown**

A wide variety of foods can be grown within the United Kingdom, e.g. include:

- apples – which are grown in orchards
- potatoes and carrots – which are grown in fields
- lettuce – which is often grown in polytunnels

In the UK we have the ideal soil and weather conditions suited to these crops, while crops like bananas or pineapples require a much hotter climate.

**Farmers go through many steps in order to produce the best crops they can**

Preparing the soil to ensure it is ready to grow crops.

Sowing seeds, this must be done at the correct time of year to get the best crop.

The area must be kept watered and free from weeds and pests which could damage the crops.

Crops are harvested when they are ready, and are inspected to ensure they are of a high standard.

**Food that is caught**

Foods that are caught within the UK are fish and shellfish.

In terms of ports, the boats which constitute the sea fishing industry.

Fish which can be caught in UK waters include: *mackerel, haddock, mussels, scallops, tuna*

**There are a number of methods which can be used to catch fish, these include:**

**Trawling** – a method where boats go out to sea and release nets which are pulled along the seabed, catching fish as they go.

**Line caught** – where a fishing rod, line and bait is used to catch fish.

**Pots** – used to catch lobster or crab, they are placed on the seabed and collected at a later date.

These are traditional fishing methods. However, wild fish numbers are decreasing. As a result, sometimes fish are intensively farmed. This means that they are kept in big pens.

Fish that are farmed include salmon and rope-grown mussels.

**Food that is**

**reared**

Farming is a massive part of the economy throughout the UK. It is one of Northern Ireland's most important industries.

There are two main types of farming, **intensive** and **organic**.

Intensive is usually a large scale operation where the farmer is relying on it for his income. Organic is usually on a much smaller scale where the animals and environment are the priority.

Animals that are reared for food include:

- cows – for their meat and milk
- sheep
- pigs
- chickens – for their meat and eggs

**Protected Designation of Origin (PDO):**

this designation covers products that are "produced, processed *and* prepared" in a specific area, using a particular, usually traditional, method

**Food miles** is the

distance food is transported from the time of its making until it reaches the consumer. Food miles are one factor used when testing the environmental impact of food, such as the carbon footprint of the food.

**A carbon footprint** is the total amount of greenhouse gases (including carbon dioxide and methane) that are generated by our actions

Animals can be reared indoors or outdoors.

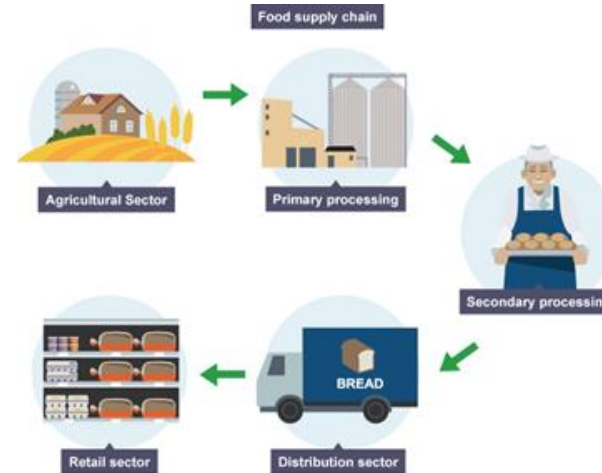
**Chickens farmed intensively indoors.** This is often known as **battery hen** farming. Chickens are reared in large numbers indoors to produce a high income for the farmer.

**Free range chickens.** Chickens are allowed to roam outside during daylight hours and are given much more space. Animal welfare is the top priority. **Quality assurance**

There are a number of **quality assurance** schemes in place to help consumers recognise that they are buying a top quality product, where the animal has been reared in the best conditions possible. These schemes assure the consumer of the quality of the product. They also help to promote high standards within the food industry.

**Food supply chain**

It is important for us to understand the **food supply chain**.



All your food begins its journey on a farm. This is known as the **agricultural sector**.

Food is then transported to a factory to go through **primary and secondary processing**. Food may then be stored here for some time before it is required in the retail sector. From storage, food enters the **distribution sector**.

This is where it is transported to the shops to be sold.

The **retail sector** is where food is sold to you, the consumer. The retail sector does not only include large supermarkets, but also small corner shops and local farmers' markets. Your fork is the final step for the food that started off life on the farm.

**Food processing and production**

**Food processing** refers to the stages raw ingredients go through in order to become something we can eat.

**Food production** refers to the three-part production of food – input, process and output.

**Why do we process food?**

Food processing must happen for a number of reasons, these include:

- ✓ making food safe to eat by killing harmful bacteria
- ✓ making food look and taste its best by adding colour after processing
- ✓ making foods become available that are out of season, like frozen raspberries and strawberries
- ✓ making foods easier to prepare, this is important for people who live busy lifestyles
- ✓ making foods have a longer shelf life by adding preservatives

## 4. Factors affecting Food Choice

### Personal, social and economic factors that affect food choice

#### Personal factors

Personal factors that come into play when choosing food might include:

- **Likes and dislikes** – consumers tend to buy products that they like and avoid those that they don't.
- **Age** – adolescents may want to purchase a different variety of item than an adult, for example adolescents may prefer sugary chocolate sweets while adults may go for high quality dark chocolate bars.
- **Lifestyle** – consumers with children may purchase more child friendly products, for example those low in sugar, than consumers without children.
- **Occupation** – consumers with higher paid jobs may go for brand items, while those on a lower wage may opt for own brand choices like Asda Smart Price, Sainsbury's Basics or Tesco Everyday Value.

#### Social factors

As consumers we are influenced by those around us, therefore we may tend to purchase what our friends or family purchase.

For example, **adult consumers** may be influenced by advice from friends on where to shop for the best value, while **adolescent consumers** may want the latest fizzy drink that all their friends are buying.

#### Economic Factors

The amount of money we have influences our purchases.

Consumers with a high income can afford to spend money on luxury foods - like prawns or fillet steak. They may often shop at a high end retailer like Marks and Spencer.

Consumers on a tight budget due to a low income or large family, may tend to spend money in cheaper outlets such as Lidl or Asda. They may also buy own brand products in order to save money.

#### Religious and cultural factors

**Religious factors** can have a major influence on what foods we buy.

For example, Muslims will not eat meat such as beef or lamb that has not been slaughtered by the halal method, while those of the Jewish religion will only eat foods that are Kosher. Where we are from and our **culture** will also influence our food purchases.

#### Ethical and environmental factors that affect food choice

An **ethical consumer** will care deeply about where their food comes from and the welfare of the animals and people involved in making that food.

They will look for the following factors:

- **Organic produce** – ethical consumers tend to buy organic produce as it is produced in a way that protects the environment.
- **Fairtrade produce** – ethical consumers tend to buy Fairtrade produce, for example bananas or chocolate, as the farmers responsible for producing the product have been given a fair price for their produce.
- **Local produce** – ethical consumers often like to support local farmers.

Type of vegetarian	Animal foods excluded	Animal foods included
Lacto-ovo vegetarian	Meat, fish/seafood, poultry	Dairy, eggs
Lacto vegetarian	Meat, fish/seafood, poultry, eggs	Dairy
Ovo vegetarian	Meat, fish/seafood, poultry, dairy	Eggs
Pesco/pesca vegetarian	Meat, poultry	Fish/seafood, eggs, dairy
Pollo vegetarian	Meat, fish/seafood	Poultry, eggs, dairy
Semi vegetarian (Flexitarian)	Meat, fish/seafood, and poultry most of the time	Dairy, eggs; on occasion meat, fish/seafood, poultry
Vegan	Meat, fish/seafood, poultry, eggs, dairy, honey, etc.	None
Fruitarian	Meat, fish/seafood, poultry, eggs, dairy	None; typically unprocessed and uncooked foods only

#### Ethical reasons

The main ethical reason for requiring a special diets is vegetarianism. There are two main types of vegetarians:

- **Vegans** believe it is ethically wrong to eat animals that are reared and slaughtered for the purpose of providing food for humans. They avoid all animal products including eggs, cheese or milk. They follow a strict diet that includes only plant foods – fruit, vegetables, pulses, grains and nuts.
- **Lacto-ovo vegetarians** will not eat the flesh of animals but they will drink milk and eat eggs because the animal does not suffer to produce these. They also eat all of the plant food eaten by vegans.

**Cultural/religious considerations** - It is also important when working in hospitality to have a knowledge of the impact of religion on food choices.

#### Islam

Muslims follow strict food laws and only eat food which is prepared and cooked in line with Islamic law.

Animals are slaughtered in a way that their blood is drained away. Meat produced in this way is called Halal.

#### Judaism

Jewish people cannot eat anything which isn't 'kosher'. For meat to be kosher, the animal must be slaughtered according to Jewish law.

Before cooking, the meat must be clean of the animal's blood and the sciatic sinew (which runs down the spine to the leg) must be removed. They also have rules for which foods can be eaten together.

- Fish and meat cannot be cooked or served together
- Milk and meat cannot be cooked or served together
- Milk and milk products are usually only served at breakfast and avoided at other meals.

#### Hinduism

Hindus believe that the cow is a sacred animal and will not eat beef.

#### Health issues that affect food choice

Factors affecting the health of individual consumers can have a major influence on their choice of food.

For example, consumers who suffer from an **allergy or intolerance** will avoid purchasing foods that contain the product they are allergic to. Someone who is allergic to nuts will not buy food products that may contain nuts, while someone who has lactose intolerance will purchase dairy free products. Consumers who want to follow a **healthy balanced diet** and reduce their risk of dietary related disorders, such as **cardiovascular disease** or **hypertension**, may choose to purchase products that are low in fat or salt.

**Diabetes**-Diabetes is a condition that causes the body's blood sugar level to become too high. There are two types - type 1 and type 2. There are no changes to diet or lifestyle that will lower the risk of type 1 diabetes but type 2 is often linked to being overweight and inactive. It usually develops in middle age and depending on how serious it is can be controlled by medication and a low sugar diet. People with **diabetes** will have to lose weight and become more active. They should avoid food which is high in sugar as high levels of sugar in the blood can cause damage to the eyes, kidneys and blood vessels. A low sugar diet is essential and medication may also be required.

**Heart conditions**-A diet high in saturated fat can cause cholesterol to build up in the arteries leading to heart disease and even a heart attack. A low fat diet is essential. Where fat is included it must be unsaturated. Oils made from plants instead of animals should be used and low fat spread instead of butter. Wholemeal bread is also recommended. Red meat should be replaced with chicken, fish or pulses. Methods of cooking using fat should be avoided. Grilling, baking, stewing and poaching are recommended.

#### Marketing strategies

Marketing strategies are used by food retailers to influence the choices consumers make. These include financial incentives, strategic store layout and advertising.

#### Financial incentives

Food retailers employ a range of financial incentives to help them attract and retain customers. These include:

- ✓ **Special offers** – food retailers often advertise special offers in their store. For example 'buy one get one free'. This will attract a consumer into their store in the hope they will buy more than one item.
- ✓ **Loyalty cards** – many food retailers offer loyalty cards, such as Tesco's Clubcard or Sainsbury's Nectar card. Consumers scan these every time they shop in store and in return they will receive vouchers or points that will allow them to get money off. This encourages consumers to shop in these stores.
- ✓ **Price checking** – food retailers will advertise that their price is the same if not better than another big brand name. This will encourage consumers into their store as they feel they may be saving money.
- ✓ **Own brand products** – large food retailers often have their own food range which is significantly cheaper than big name brands. Consumers may be encouraged into their store as they can't purchase these products<sup>2,1</sup> anywhere else. Examples include the Co-op Simply Value and Tesco Everyday Value ranges.

## Being an effective consumer when shopping for food



### **Shopping option: Independent grocery shops**

**Examples:** Local corner shop, Mace, Spar

#### **Advantages**

- ✓ range of local food products
- ✓ close to home and usually in residential areas
- ✓ often sell products in small quantities, which ultimately reduces waste
- ✓ personal and friendly service

#### **Disadvantages**

- ✓ often more expensive
- ✓ stock/choice of products may be limited and may not be rotated regularly
- ✓ range of products on sale may be limited
- ✓ parking may be limited

### **Shopping option: Supermarkets**

**Examples:** Asda, Sainsbury, Tesco

#### **Advantages**

- ✓ wide range of products and brands available, including own brand
- ✓ special offers and promotions that may save consumers money
- ✓ economies of scale - selling more products for less and therefore saving consumers money
- ✓ range of services and facilities on offer for a wide range of consumer needs/wants
- ✓ may have longer opening hours, for example 24 hours a day

#### **Disadvantages**

- ✓ impersonal service - staff may not know customers by name
- ✓ customers may overspend and make impulse purchases because of the special offers available
- ✓ often situated out of town and therefore may be more difficult to access
- ✓ often very busy and noisier than a smaller shopping option
- ✓ often limited local produce

### **Shopping option: Markets**

**Examples:** St George's Market in Belfast, Mourn Market in Newcastle

#### **Advantages**

- ✓ range of local produce available therefore helping the environment by reducing air miles and helping to support the local economy
- ✓ expert advice available
- ✓ may be cheaper than shops
- ✓ sociable experience for consumers

#### **Disadvantages**

- ✓ may only be available on certain days and possibly weather dependent
- ✓ may not have the range of products available from other shopping options
- ✓ packaging and labelling may not be available on the food products

### **Shopping option: Farm shops**

There are dozens of farm shops across Northern Ireland. They mostly sell meat reared on the farm which the shop is attached to. They also sell a range of other local produce such as dairy, fruit and vegetables.

#### **Advantages**

- ✓ support local community
- ✓ local produce, less air miles therefore better for the environment
- ✓ wider range of organic produce

#### **Disadvantages**

- ✓ generally more expensive than supermarkets
- ✓ often situated in rural locations
- ✓ may only have seasonal vegetables compared to the range available at a supermarket
- ✓ limited opening hours

### **Shopping option: Online shopping**

**Examples:** Asda, Sainsbury, Tesco

#### **Advantages**

- ✓ available 24 hours a day, seven days a week
- ✓ wide range of products available
- ✓ can purchase from the comfort of your own home

#### **Disadvantages**

- ✓ payment security issues (internet or payment card fraud)
- ✓ don't get to handle the product before purchasing it
- ✓ may have short sell by dates
- ✓ may have to pay postage or delivery charge
- ✓ don't get the product immediately

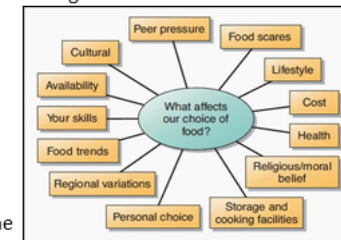
### **Shopping option: Shopping apps**

#### **Advantages**

- ✓ create and manage shopping lists at home, on the go or in store
- ✓ find products through search, filter and barcode scanner
- ✓ compare the price of individual items or your entire list across a range of grocery stores
- ✓ find the best offers
- ✓ set price alerts so you never overpay on your favourite items
- ✓ prices updated daily
- ✓ get saving suggestions and exclusive cash back vouchers to save even more
- ✓ your shopping list is automatically synced to your account

#### **Disadvantages**

- ✓ don't get to assess the aesthetical quality of the food, for example texture and smell
- ✓ difficult to know/check date of food items
- ✓ consumers need to have access to the apps and know how to use them



## 5. Food Waste

### Why do we waste food

Many of us buy more than we need, cook more than we are going to eat and don't use up food before it goes out of date.

Food ends up in the bin because:

- We buy more than we need.
- We cook and fill our plates with more than we are going to eat.
- We forget to use food up before it goes out of date.
- We do not store food correctly so it goes bad more quickly than it should.

### What is bad about food waste?

- Producing food uses up **natural resources** like **water** and **energy**. This has an impact on **climate change**.
- In some countries, people go hungry because they do not have enough food.
- We spend a lot of **time** shopping for food and preparing it into meals.
- Wasting food costs us **money**.
- Food waste often ends up in **landfill**. This is harmful for our planet.

### Ideas to prevent food waste

- ✓ **Plan meals** – talk about the dinners you would like to have for the week and buy only the ingredients needed.
- ✓ **Shopping list** – take a list to the supermarket and stick to it. Only buy what you need.
- ✓ **Buy wonky fruit and vegetables** – produce that is misshapen often gets left behind in the supermarket. It might look a little different but it tastes just as good!
- ✓ **Buy short shelf life food** – shops have to throw away food when it reaches its 'Use by' date so they sometimes reduce the price to sell it quickly. It can stop waste and save money if you will eat it before it is out of date.
- ✓ **Storing food** Storing food correctly can keep it fresher for longer. Here are some examples:
  - ✓ Bread needs to be stored in a cool, dark place to prevent mould.
  - ✓ Lettuce is best kept in the salad drawer of the fridge.
  - ✓ Cheese should be wrapped and chilled in the fridge.
  - ✓ Do not store highly gaseous produce, like bananas and avocados, with other fruits as they will make them turn bad quicker.
- ✓ **Fridge**-You should store milk, butter, yoghurt, meat, fish, and vegetables in the fridge to keep them cool and fresh.
- ✓ **Freeze** - store food in the freezer to keep it fresh and use it later leftover food and meat.
- ✓ **Cupboard**-You can store pasta, tins of soup and beans, cereal, bread, and jars in the cupboard. Once opened, tins and jars should be covered and kept in the fridge. Bread should be wrapped to stop it going stale.
- ✓ **Use all your food up** – use what you already have before you go shopping again. You can take leftovers for lunch or make banana bread from overripe bananas that would otherwise go to waste.
- ✓ **Get composting!** Sometimes even if we try not to waste, we are still left with food scraps. Before we bin them and send them to landfill, we should stop and think...**compost!**

### What is composting?

- ✓ Composting is a natural process that **breaks down rotting food** and plants and turns it into **soil**.
- ✓ Compost bins can be as simple as a plastic bin with air holes in it.
- ✓ Fill your compost bin with scraps of **fruit, vegetables, cut grass and other garden waste**. You can even compost **teabags** and **scrunched up paper**.
- ✓ Food waste and scraps from **animal products** like meat cannot be put in most compost bins.
- ✓ Over time the waste will break down and become **nutrient-rich soil**.
- ✓ This soil is perfect for helping new plants grow. You could use your compost to **grow your own vegetables**.

### The benefits and challenges of making sustainable food choices

#### Benefits

- \*By using sustainable food practices like reducing the amount of food we waste and making good decisions about the food we eat, we can **preserve the world's food supplies** and lessen our impact on the environment.
- \*By reducing food waste and planning your shopping, you can **save money**. The less food you buy and waste, the less money you spend.
- \*Composted food can be used to grow more food, or even **generate electricity**.

#### Challenges

- \*People might not know how to **plan meals** for a shopping list.
- \*People might be **too busy** to think about and plan the food they buy. Sometimes this can lead to buying too much and the food then goes to waste because it is past its sell by date.
- \*Composting and a lot of other recycling methods **take time and space**, which some people don't have. Others might not know how to get started.

## 6. Where food comes from

Different countries produce different types of food, which is often dependent on their . For example, Asian countries grow rice, African countries grow cocoa, South American countries produce , and European countries produce a lot of milk and fish. Of all in the world, around half is farmed.

Modern food production allows some, but not all, of the world's population to enjoy a varied diet throughout the year. For example, it is possible to eat strawberries in winter in the UK. This scale of food production can have negative impacts on people, animals and places.

Increasing adds to global . This is because fuel is required to move food between countries, which leads to increased .

#### What is sustainable fish and meat production?

food production involves farming the land whilst also protecting it for future generations.

#### Fish

Sustainable fishing involves allowing fish stocks to our seas. This means fewer fish are caught at any one time, ensuring there will be enough fish for the future. Catching fewer fish can be achieved through a better design of fishing nets that have holes that allow smaller fish to escape. Smaller fish can then grow and repopulate the oceans.

#### Meat

Some farmers feed to animals, as opposed to grass, as it increases their weight and heavier animals can be sold on for more money. This results in further in order to create the farms to grow the grain. Likewise, some cattle are given to make them grow more quickly. Sustainable meat production involves rearing animals on grass rather than grain, without using hormones.

### How else can food supplies be increased sustainably?

As well as meat and fish, various other types of food can be produced in a sustainable way.

**Organic farming**-relies on natural products and processes. These include:

- ✓ natural , such as , rather than chemicals.
- ✓ using natural predators, such as ladybirds, to control like .
- ✓ which allows soils to recover

### Urban and peri-urban horticulture (UPH)

involves growing food in and around cities. Small plots produce more food than the equivalent area of farmland. Urban plots also reduce food miles .

### Eating seasonal foods

Importing food allows us to eat a wider variety of produce throughout the year. For example, strawberries grow in the UK during the summer months.

Strawberries are imported to the UK during the winter so they can be bought in supermarkets throughout the year.

However, imported food has high food miles. In addition to this, growing food out of season in heated greenhouses or storing food generates . Eating locally grown food that is in season, therefore, helps to reduce carbon emissions.

### Farming

Farms can be categorised according to **what** is being grown or reared, the **size** of the operation and the **agricultural techniques** being used.

Farming can be:

- ✓ sedentary or nomadic
- ✓ subsistence or commercial
- ✓ arable, pastoral or mixed
- ✓ extensive or intensive

#### Sedentary or nomadic?

- ✓ Sedentary farming is when a farm is based in the **same location** all the time.
- ✓ Nomadic farming is when a farmer **moves** from one place to another. This is common in some **LEDCs**.

#### Subsistence or commercial?

- ✓ Subsistence farming is when crops and animals are produced by a farmer to **feed their family**, rather than to take to market.
- ✓ Commercial farming is when crops and animals are produced to **sell** at market for a profit.

#### Arable, pastoral or mixed?

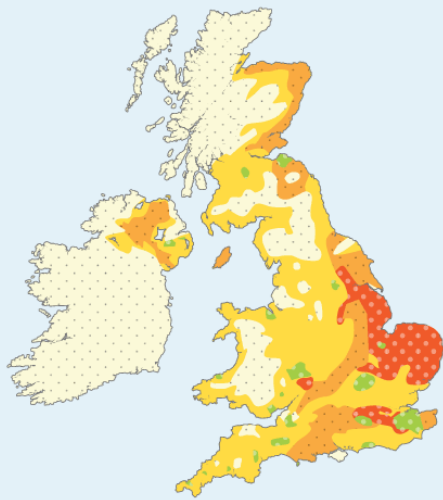
- ✓ Arable farms grow **crops**. Crops are plants that are harvested from the ground to be eaten or sold.
- ✓ Pastoral farms rear **animals** - either for animal by-products such as milk, eggs or wool, or for meat.
- ✓ Mixed farms grow crops **and** rear animals.

#### Extensive or intensive?

- ✓ Extensive farming is where a relatively **small amount** of produce is generated from a **large area** of farmland.
- ✓ Intensive farming is where a **large amount** of produce is generated from a relatively **small area** of land. Inputs will be **high** to achieve a high yield per hectare. Inputs could be either fertilisers, machines or labour.

### Distribution of farming

Physical factors will determine which **type** of farming takes place in a particular **area**. **Climate** and **relief** are the dominant factors in determining which crops will grow and which animals are suited to the landscape. Human factors, such as proximity to markets, are important with some types of farming, such as market gardening.



### Arable farming

Arable farming is common in the south east where the summers are warm and the land is low, flat and fertile. The south east also has good transport links and farms are close to markets in towns and cities such as London.

### Market gardening

Human factors such as finance and proximity to markets are important to market gardening. It is common in East Anglia where fruit, vegetables and flowers are grown.

### Hill sheep farming

Hill sheep farming takes place in the north and west of Britain in highland areas such as Snowdonia and the Lake District. There are cool summers and high rainfall. The climate and steep land make these areas unsuitable for growing crops.

### Dairy farming

Dairy farming is common in the south west and the west of England where the climate is warm and wet. There are also good transport links and good access routes to markets in these areas. The land may be flat or hilly, but not too steep.

### Mixed farming

Mixed farming is found in areas where the climate and relief suit both crops and animals. It needs to be warm, but not too wet, and the soils need to be fertile and flat. Mixed farms need good transport links and accessibility to markets.

### Case study: Cambridgeshire

Cambridgeshire is one of the most agriculturally productive areas in Europe. The area is used for arable farming because of:

Physical factors

- Low lying land
- Well-drained soil
- Warm summers (18°C in July)

### Human factors

- Good access to markets
- Large areas of farmland so larger machines can be used
- Investment by companies - farms are owned by large companies able to use **economies of scale**

### Farm diversification

Farming in the UK today is no longer as profitable for everybody as it has been. Reasons for this are:

- ✓ Supermarkets buy in bulk and are driving down the price of the food
- ✓ Imported food is often cheaper
- ✓ **Mechanisation** and changes to grants have meant smaller farms and hill farms go out of business

Farms can **diversify** to try and keep making money. This means that the farm will start to create other areas of income, such as creating a tourist attraction, offering bed and breakfast or selling produce via a farm shop. Some farms may also close and start a different business on the land.

### Organic farming

#### Organically farmed produce

Organic farming does not use chemical fertilisers or feed additives for livestock. It relies upon more natural forms of farming such as biological pest control and crop rotation. Using ladybirds which eat aphids is one example where a natural process replaces a chemical pesticide. Organic farming is less efficient and so produce does cost more. The demand for organic produce is increasing in the UK. However people may go back to non-organically produced produce if their income falls.

#### Positive aspects of organic farming

- ✓ The environment benefits because natural habitats are less threatened.
- ✓ The soil can be in better condition because of the manure used.
- ✓ It can provide healthier food for people.
- ✓ **Biodiversity** increases with fewer chemicals which harm bees and other insects.
- ✓ The industry is worth over £1 billion a year.

#### Negative aspects of organic farming

- ✓ More produce is damaged by pests.
- ✓ Weed control is time consuming as weeds are often removed mechanically.
- ✓ Organic dairy farms produce more methane per animal than non-organically produced. This is because of the diet of the cattle.
- ✓ Some organic farming methods use more water than non-organically produced methods.
- ✓ Yields from organic crops are usually lower than those from non-organically produced but the difference varies between types of crop and over time.
- ✓ Most of the organic food bought is actually imported.

## 7. Food Labeling

### Mandatory and voluntary information

Food labels have both mandatory and voluntary information.

**Mandatory** – this means information that must be included by law.

**Voluntary** – this is information that the manufacturer includes as they feel it may be useful for the consumer. For example, 'suitable for vegetarians'.

### Ethical and environmental food labelling

#### The Fairtrade Foundation

You may recognize the Fairtrade logo from different foods such as bananas, chocolate, coffee and tea.

The Fairtrade logo is displayed on foods which have been grown using sustainable methods by farmers in developing countries. These farmers will have received a fair price for their product and have decent working conditions.

Fairtrade helps disadvantaged producers or farmers in developing countries by promoting fair trading conditions, combatting poverty and helping them take control over their own lives.

Fairtrade provides the following for farmers and producers:

- ✓ fair prices for their product
- ✓ good working conditions
- ✓ support for the communities where the farmers live
- ✓ protection for the environment farmers work in

In turn this means that more money can be invested in schools, healthcare and better sanitation for the community. All of which improves the standard of living.



#### The Soil Association

The Soil Association works through the food chain to set high standards for healthy, humane, sustainable and organic food production.

The association works with farmers, manufacturers and retailers to maintain high standards of organic food production.

The Soil Association aims to change food culture by working with schools and work places, while securing the future of farming by helping the government to implement policy changes.

## 8. Cake making methods and what went wrong & why?

**What has gone wrong when...The cake sinks in the middle...**The oven door was opened before the cake was set. The cake was removed from the oven too soon, the cake is under baked **The surface of the cake is covered with little air holes...**The cake was not placed in the oven quick enough. The oven temperature was too low. The raising agent was not evenly mixed through the batter **The cake has a thick crust...**The oven temperature was too high. The cake is overbaked **The top of the cake is domed and cracked...**The oven temperature was too high **The cake has a sour flavour and odd colour...**Too much bicarbonate of soda was used

**Preparing the tin** The cake tin should be prepared before starting the recipe. Brush the tin lightly with vegetable oil. To line the base of the tin accurately use the tin as a template and draw around the outside of the base of the tin onto greaseproof paper or non-stick baking parchment with a pencil. Using scissors cut just inside the pencil mark and place into the tin



9. Practical Skills



# Year 9 Half-Term 3 French Knowledge Organiser

## Unit 3: Projets d'avenir

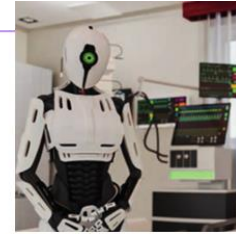
### Point de départ

Pour gagner de l'argent, on peut / je dois ...	<i>(In order) to earn money, you can / I must ...</i>
travailler dans le jardin.	<i>work in the garden.</i>
aider à la maison.	<i>help at home.</i>
aider les voisins.	<i>help the neighbours.</i>
trouver un petit boulot.	<i>find a part-time job.</i>
nourrir les animaux.	<i>feed the animals.</i>
faire du baby-sitting.	<i>do babysitting.</i>
Qu'est-ce que tu achètes avec ton argent?	<i>What do you buy with your money?</i>
J'achète ...	<i>I buy ...</i>
Je fais des économies pour acheter ...	<i>I am saving up to buy ...</i>
du maquillage.	<i>make-up.</i>
de la musique.	<i>music.</i>
du crédit téléphonique.	<i>phone credit.</i>
des fournitures scolaires.	<i>school supplies.</i>
des trucs à manger.	<i>things to eat.</i>
des billets de cinéma.	<i>cinema tickets.</i>
des jeux vidéo.	<i>video games.</i>
des vêtements.	<i>clothes.</i>
C'est ...	<i>It is ...</i>
une bonne idée.	<i>a good idea.</i>
une mauvaise idée.	<i>a bad idea.</i>
facile / difficile.	<i>easy / difficult.</i>
cool / ennuyeux.	<i>cool / boring.</i>



### Unit 1 Qu'est-ce que tu veux faire plus tard?

Qu'est-ce qu'on fait comme métier?	<i>What job do we do?</i>
Qu'est-ce que tu veux faire plus tard?	<i>What do you want to do later?</i>
Il/Elle est ...	<i>He/She is a ...</i>
Je veux être ...	<i>I want to be a(n) ...</i>
Je ne veux pas être ...	<i>I don't want to be a(n) ...</i>
scientifique	<i>scientist</i>
pilote	<i>pilot</i>
ingénieur(e)	<i>engineer</i>
danseur/danseuse	<i>dancer</i>
instituteur/institutrice	<i>primary school teacher</i>
infirmier/infirmière	<i>nurse</i>
policier/policieère	<i>police officer</i>
mécanicien/mécanicienne	<i>mechanic</i>
musicien/musicienne	<i>musician</i>
architecte	<i>architect</i>
vétérinaire	<i>vet</i>
car c'est ...	<i>because it is ...</i>
créatif.	<i>creative.</i>
dangereux.	<i>dangerous.</i>
fatigant.	<i>tiring.</i>
intéressant.	<i>interesting.</i>
passionnant.	<i>exciting.</i>
utile.	<i>useful.</i>
varié.	<i>varied.</i>



Je dois gagner de l'argent.	<i>I must earn money.</i>
J'aime aider les autres.	<i>I like helping others.</i>
J'adore les enfants.	<i>I love children.</i>
J'adore les animaux.	<i>I love animals.</i>
J'adore les voitures.	<i>I love cars.</i>

À l'âge de 16 ans, je veux ...	<i>At the age of 16, I want ...</i>
rester à l'école.	<i>to stay at school.</i>
étudier les sciences.	<i>to study science.</i>
étudier les maths.	<i>to study maths.</i>
étudier le dessin.	<i>to study art.</i>
étudier les langues.	<i>to study languages.</i>
trouver un petit boulot.	<i>to find a part-time job.</i>
aller au lycée.	<i>to go to sixth form college.</i>
faire un apprentissage.	<i>to do an apprenticeship.</i>
faire du travail bénévole.	<i>to do voluntary work.</i>
travailler en équipe.	<i>to work in a team.</i>
travailler avec des personnes âgées.	<i>to work with elderly people.</i>



## Unit 2 Qu'est-ce que tu feras à l'avenir?

Qu'est-ce que tu feras à l'avenir?	<i>What will you do in the future?</i>
J'habiterai ... en Europe / en Afrique / à l'étranger.	<i>I will live ... in Europe / in Africa / abroad.</i>
Je travaillerai ... avec des enfants. chez Google.	<i>I will work ... with children. at Google.</i>
J'achèterai ... une belle maison. une Ferrari rouge.	<i>I will buy ... a beautiful house. a red Ferrari.</i>
J'aurai ... une Mobyette. cinq enfants. un petit copain. une petite copine.	<i>I will have ... a moped. five children. a boyfriend. a girlfriend.</i>
J'irai ... à New York / en Chine en Amérique du Sud.	<i>I will go ... to New York / to China to South America.</i>
Je ferai ... du travail bénévole. du snowboard.	<i>I will do ... voluntary work. snowboarding.</i>
Je serai ... célèbre / marié. heureux/heureuse.	<i>I will be ... famous / married. happy.</i>
Je gagnerai beaucoup d'argent.	<i>I will earn a lot of money.</i>
J'aiderai les autres.	<i>I will help others.</i>

## Unit 3 Retour vers le futur

À l'avenir, le monde sera comment?	<i>What will the world be like in the future?</i>
On portera des vêtements « intelligents ».	<i>We will wear "smart" clothes.</i>
On mangera des insectes.	<i>We will eat insects.</i>
On voyagera en voiture sans conducteur.	<i>We will travel by driverless car.</i>
On achètera tout en ligne.	<i>We will buy everything online.</i>
On ira en vacances sur la Lune.	<i>We will go on holiday on the moon.</i>
Il y aura ... un robot dans chaque maison.	<i>There will be ... a robot in every house.</i>
des collèges virtuels pour les élèves.	<i>virtual schools for pupils.</i>
des drones dans chaque entreprise.	<i>drones in every business.</i>

Ce sera ... très différent. passionnant. effrayant. dangereux / utile.

Il y aura un robot pour aider / travailler ...

Il ... organisera ... / fera ... ira ... / jouera ... coupera (les cheveux). appliquera (du maquillage). rapportera ... / examinera ... décidera ... / donnera ...

*It will be ... very different. exciting. frightening. dangerous / useful.*

*There will be a robot to help / work ...*

*It ... will organise ... / will do ... will go ... / will play ... will cut (hair). will apply (make-up).*

*will bring (back) ... / will examine ... will decide ... / will give ...*

## Unit 4 Profil I d'un inventeur ou d'une inventrice

Il est inventeur.	<i>He is an inventor.</i>
Il est né ...	<i>He was born ...</i>
Il a immigré ...	<i>He immigrated ...</i>
Il a fait des études ...	<i>He studied ...</i>
Il a développé ...	<i>He developed ...</i>
Il a inventé ... un robot pour aider les personnes handicapées.	<i>He invented ... a robot to help people with disabilities.</i>
des lunettes pour traduire en anglais.	<i>glasses to translate into English.</i>
Qu'est-ce que tu fais comme métier?	<i>What is your job?</i>

Où est-ce que tu travailles pour gagner de l'argent?

Pourquoi est-ce que tu veux être inventeur/inventrice professionnel(le)?

Qu'est-ce que tu as inventé récemment, et quand?

Avec qui est-ce que tu as travaillé sur ton invention?

J'ai travaillé seul(e).

J'ai travaillé en équipe.

Qu'est-ce que tu inventeras à l'avenir?

À mon avis, ce sera utile.

*Where do you work to earn money?*

*Why do you want to be a professional inventor?*

*What did you invent recently, and when?*

*Who did you work with on your invention?*

*I worked alone.*

*I worked in a team.*

*What will you invent in the future?*

*In my opinion, it will be useful.*

# Year 9 Half-Term 4 French Knowledge Organiser

## Unit 3: Ma vie en musique

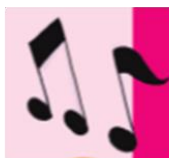
### Point de départ

Sur la photo, il y a un groupe pop.	<i>In the photo, there is a pop group.</i>
À gauche / droite, il y a ... une fille qui chante. un garçon qui porte ...	<i>On the left / right, there is ... a girl who is singing. a boy who is wearing ...</i>
Il/Elle a les cheveux ...	<i>He/She has ... hair.</i>
Derrière lui/elle	<i>Behind him/her</i>
Il/Elle joue ... du violon / du piano. de la batterie. de la clarinette. de la flûte. de la guitare. de la trompette. du jazz / du R'n'B. de la musique classique. du hip-hop / du rap. du hard rock. de la techno.	<i>He/She is playing ... the violin / the piano. the drums. the clarinet. the flute. the guitar. the trumpet. jazz / R'n'B. classical music. hip-hop / rap music. hard rock. techno music.</i>
Comment tu trouves ... le chanteur/la chanteuse? la mélodie? les paroles? le rythme? les musiciens? la chanson en général?	<i>What do you think of ... the singer?  the melody? the lyrics? the rhythm? the musicians? the song in general?</i>

Je le/la/les trouve ... démodé(s/e/es). original/originaux/ originale(s). ennuyeux/ennuyeuse(s). bon(s)/bonne(s). bête(s).	<i>I find it/them ... old-fashioned. original.  boring. good. stupid.</i>
Qu'est-ce que tu aimes comme musique?	<i>What sort of music do you like?</i>
J'aime toutes sortes de musique.	<i>I like all sorts of music.</i>
J'écoute souvent du hip-hop.	<i>I often listen to hip-hop.</i>
Ça me donne envie de Ça me rend heureux/ heureuse.	<i>It makes me want to dance. It makes me happy.</i>
Sa musique est inspirante.	<i>His/Her music is inspiring.</i>
Est-ce que tu joues d'un instrument?	<i>Do you play an instrument?</i>
Je ne joue pas d'un instrument.	<i>I don't play an instrument.</i>
Je joue de la flûte.	<i>I play the flute.</i>

### Unit 1 Tu étais comment?

Tu étais comment?	<i>What were you like?</i>
Quand j'étais petit(e) ... j'avais (les cheveux frisés). j'étais sage / méchant(e). timide / mignon(ne). je n'étais pas très sage.	<i>When I was younger ... I used to have (very curly hair). I used to be good / naughty. shy / cute. I didn't use to be very well behaved.</i>
Qu'est-ce que tu portais?	<i>What did you wear?</i>
Je portais (un sweat jaune).	<i>I used to wear (a yellow sweatshirt).</i>
Qu'est-ce que tu faisais à l'école?	<i>What did you do at school?</i>
Qu'est-ce que tu faisais à la maison?	<i>What did you do at home?</i>
Je jouais ...	<i>I used to play ...</i>
Je faisais ...	<i>I used to do ...</i>
J'allais ...	<i>I used to go ...</i>
Je lisais ...	<i>I used to read ...</i>
Je restais (dans ma chambre).	<i>I used to stay (in my bedroom).</i>
Qu'est-ce que tu aimais?	<i>What did you like?</i>
J'aimais (le chocolat).	<i>I used to like (chocolate).</i>
Cependant, je n'aimais pas (le poisson).	<i>However, I didn't use to like (fish).</i>



### Unit 2 Ton école primaire était comment?

Ton école primaire était comment?	<i>What was your primary school like?</i>
Mon école primaire était ... grande / petite.	<i>My primary school was ... big / small.</i>
de taille moyenne.	<i>middle-sized.</i>
Le bâtiment était ... moderne / vieux.	<i>The building was ... modern / old.</i>
beau / laid.	<i>beautiful / ugly.</i>
Il y avait combien d'élèves?	<i>How many pupils were there?</i>
Il y avait trois cents élèves.	<i>There were 300 pupils.</i>
Ton instituteur était comment?	<i>What was your primary school teacher like?</i>
Il/Elle était ... drôle / gentil(le).	<i>He/She was ... funny / kind.</i>
sévère / impatient(e).	<i>strict / impatient.</i>
patient(e) / sympa.	<i>patient / nice.</i>
Qu'est-ce que tu étudiais?	<i>What did you study?</i>
J'étudiais l'anglais.	<i>I studied English.</i>
Quelle était ta matière préférée?	<i>What was your favourite subject?</i>
Ma matière préférée, c'était le français.	<i>My favourite subject was French.</i>
J'adorais lire.	<i>I loved to read.</i>
Tu étais heureux/heureuse à l'école?	<i>Were you happy at school?</i>

### Unit 4 De jeunes réfugiés

Où est-ce que tu es né(e)?	<i>Where were you born?</i>
Je suis né(e) en / au ...	<i>I was born in ...</i>
J'habite maintenant en / au ...	<i>Now I live in ...</i>
Où est-ce que tu habitais?	<i>Where did you live?</i>
J'habitais ...	<i>I lived ...</i>
Maintenant, j'habite ...	<i>Now I live ...</i>

J'étais heureux/heureuse ...	<i>I was happy ...</i>
J'aimais ... / J'adorais ...	<i>I liked ... / I loved ...</i>
Je détestais ...	<i>I hated ...</i>
Je préférais mon école primaire.	<i>I preferred my primary school.</i>
Je préfère le collège.	<i>I prefer secondary school.</i>
Les activités extrascolaires du collège sont plus amusantes.	<i>The extra-curricular activities at secondary school are more fun.</i>
Mon instituteur était moins sérieux que mes profs au collège.	<i>My primary school teacher was less serious than my teachers at secondary school.</i>
La journée scolaire est trop longue!	<i>The school day is too long!</i>
Les repas de la cantine sont meilleurs.	<i>The meals at the canteen are better.</i>
L'emploi du temps est plus chargé.	<i>The timetable is fuller.</i>
Les cours sont plus stimulants.	<i>The lessons are more stimulating.</i>

Pourquoi est-ce que tu as quitté (le Soudan)?	<i>Why did you leave (Sudan)?</i>
Nous avons quitté le Soudan à cause de ...	<i>We left Sudan because of ...</i>
la guerre.	<i>war.</i>
la pauvreté.	<i>poverty.</i>
la famine.	<i>famine.</i>
la persécution.	<i>persecution.</i>
Quand est-ce que tu as immigré en France?	<i>When did you immigrate to France?</i>

### Unit 3 Autrefois ... aujourd'hui ...

il y a (six) ans	<i>(six) years ago</i>
Pour écouter de la musique, ...	<i>To listen to music, ...</i>
on achetait des CD.	<i>people used to buy CDs.</i>
on allait à un concert.	<i>people used to go to a concert.</i>
on utilisait Spotify.	<i>people used to use Spotify.</i>
Écouter de la musique à la radio était ...	<i>Listening to music on the radio was ...</i>
plus populaire.	<i>more popular.</i>
Pour écouter de la musique aujourd'hui, ...	<i>To listen to music today, ...</i>
on utilise un gramophone.	<i>people use a gramophone.</i>
on achète des cassettes audio.	<i>people buy audio cassettes.</i>
on écoute en streaming.	<i>people listen by streaming.</i>
Aujourd'hui, les jeunes Français écoutent ...	<i>Today, young French people listen to ...</i>
toutes sortes de musique.	<i>all sorts of music.</i>
de la musique rap.	<i>rap music.</i>

J'ai immigré en France il y a quatre ans.	<i>I immigrated to France four years ago.</i>
Qu'est-ce que tu fais maintenant?	<i>What do you do now?</i>
Je vais au collège.	<i>I go to school.</i>
Qu'est-ce que tu veux faire, à l'avenir?	<i>What do you want to do in the future?</i>
Je veux être (professeur).	<i>I want to be (a teacher).</i>
Je veux devenir infirmier/ infirmière.	<i>I want to become a nurse.</i>

## How developed is India?

Development is the progress of a country in terms of economic growth, the use of technology and human welfare.

### Development Indicators - Trend

GNI per capita	\$6500	Growing
HDI	0.6	Growing
Infant mortality	35 (per 1000 live births)	Falling
Literacy rate	75%	Growing

India is classed as a **NEE Country – Newly Emerging Economy**.

## Rural to Urban Migration – Mumbai

**Urbanisation** is the increase in number of people living in urban areas. In India this happening very quickly as lots of people move from the countryside (rural) to towns and cities (urban). They move due to different **Push** and **Pull** factors.

Push (people away from an area)	Pull (people to an area)
<b>Poverty</b> Few jobs available Lack of schools Lack of healthcare Harsh climate Lack of services	Chance of employment Healthcare Education Family links Entertainment and Better transport links

## The wealth and importance of Mumbai

Mumbai is on the west coast of India. It was once seven islands and the main industry was fishing. It is now a mega city with a population of over 21million. There are 51 billionaires living in Mumbai and this number is expected to increase. The number of billionaires will increase faster than USA and China. These billionaires generate huge tax revenues for the Indian government, giving them more money to spend on education, sanitation and healthcare. Property in Mumbai is amongst the most expensive in the world. Antilla house owned by a billionaire, cost over \$2.5 billion to build. The natural geography limits the amount of suitable land for development.

## Mumbai Trade links

Mumbai has become one of the most important cities in Asia and is India's most important trading port. Mumbai has trade and transport links all over the world. It is home to a number of huge Trans National Companies (TNCs) such as Tata. Jaguar Landrover is owned by Tata which is based in Mumbai. Jaguar Landrover employs over 37 000 people in the UK.

# Asian Giant - India

## Location of India

South Asia  
 South of China  
 SE of Pakistan  
 Indian Ocean to S  
 Himalayas to NE

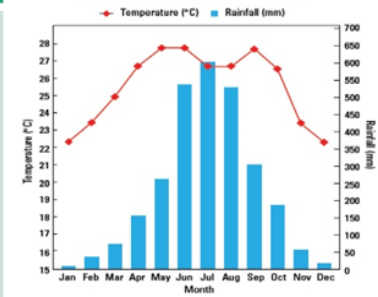


## Contrasting Climates

India has **6 different climatic zones**. They range from the arid in the north west to warm wet tropical climates in the south and west. Near the foothills of the Himalayas, in the north of India, temperatures drop as the altitude increases.

It has a monsoon season where areas of the country receive huge amounts of precipitation. These are known as **monsoon** rains and are triggered by warm, humid winds travelling towards the Himalayas in the north. Farmers have to adapt by growing water tolerant crops such as rice and jute.

## Monsoon climate



- Temperature range Moderate: 6°C
- Rainfall pattern Distinct wet (May- Sep) and dry (Oct-Apr) seasons
- Rainfall and temperature values High amount of rainfall of more than 2,000mm a year, high annual temperatures of around 22.2-27.8°C

## Life in Mumbai Slums

There are huge inequalities in the city. Street kids often get involved in crime and drug use whilst kids from affluent areas live luxurious lives. **Almost 1 million people live in Dharavi, the second largest slum in Asia.**

### Positives of Dharavi:

- Great community feel
- Low crime rates
- Good use of space – street turns into mosque
- 85% employment rate (lots of informal jobs)
- 15,000 factories
- 80% of Mumbai's plastic waste is recycled.
- \$1billion added to economy p/yr.

### Negatives of Dharavi:

- Hazardous working conditions
- Poor housing conditions
- Water rationed to 2 hours a day
- Limited sewage systems
- High levels of disease e.g. Cholera, Typhoid, TB
- Very cramped – 1 million people in 1sq mile.

## Slum Redevelopment in Mumbai

Authorities in Mumbai are trying to redevelop areas of the slums in order to improve peoples lives. Various techniques have been used:

**Slum sanitation project:** aims to improve sanitation facilities for up to a million slum dwellers across the city. So far over 300 community toilet blocks have been built, housing more than 5100 individual toilets, with separate facilities for men and women.

**Mumbai Electrification Project:** slum areas do not have access to electricity and rely on bottled gas for cooking and heating. This is expensive and dangerous. Also the fumes created can cause health problems. So the project provides 10 000 slum dwellers with new or upgraded electricity connections.

Plans to improve peoples homes have been controversial. Developers want to knock down areas of the Dharavi and replace it with high rise apartment blocks. Many local people are against this as they feel they will loose their sense of community and their homes which many have lived in for generations. The industries such as pottery will be destroyed too.

## The Sundarbans Mangrove Swamps

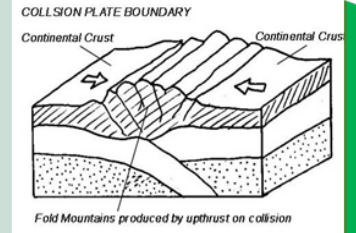
The Sundarbans is a network of marine streams, mud shores and mangrove forests. It is located in the Bay of Bengal and is part of the delta region of the Meghna and Brahmaputra rivers. It is home to the worlds largest coastal mangrove forest and extends east into Bangladesh.

The region is also known to contain numerous wildlife species, birds and reptiles, including Bengal tiger, crocodile and snakes; many of which are considered endangered. The forest is a National Park and is under threat from rising sea levels and industrial developments.

Local people travel around by boat to access different areas of the forest. The fertile soils are very good for agriculture. Each year poor local fisherman risk being killed by tigers, crocodiles and snakes in order to collect honey. At least 80 people are killed by tigers each year in the Sundarbans.

## The formation on the Himalayas

India lies south of the Himalayas. Home to Mt Everest, these are fold mountains formed by plate movements along a Collision Zone. Here, two continental plates collide and the land is forced the upwards and trigger huge earthquakes. The Indian Plate is moving north into the Eurasian Plate.



## Himalayas Tourism – Opportunities and Challenges

### Opportunities:

- Provides the local Nepalese people (Sherpas) with jobs. Improving their quality of life.
- Money spent on improving education, healthcare, clothing.

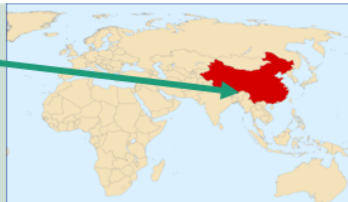
### Challenges:

- Waste left on mountainside
- Loss of life – High amount are Sherpas.
- Climate change – reducing snow and ice levels.

# Asian Giant - China

## Location of China

South East Asia  
East of India  
South of Mongolia  
Yellow Sea to the East  
Himalayas to the South West  
Gobi Desert  
Kun Lun Mountain range



## How is China developing?

China has the **world's fastest growing economy**. This economic growth is being powered by massive fossil fuel consumption and a large workforce. The **government is spending money on improving Quality of Life** in China and there is a growing, wealthy middle class. There are **still large areas of the country which are poor**; these tend to be in the rural areas.

### Development Indicators - Trend

Development Indicators - Trend		
GNI per capita	\$15 500	Growing
HDI	<b>0.74</b>	Growing
Infant mortality	9 (per 1000 live births)	Falling
<b>Literacy rate</b>	<b>96.4%</b>	<b>Growing</b>
<b>Life expectancy</b>	<b>76 years</b>	<b>Increasing</b>

China is classed as a **NEE Country – Newly Emerging Economy**.

## Population

China was the first country in the world to record a population in excess of 1 billion; it is **now over 1.4 billion**. This was largely due to past governments encouraging large families. In the 1960s the growth spiralled out of control and the country experienced widespread famine. **In 1979 the government introduced the controversial One Child Policy.**

- Couples had to be married to have a child
- Couples had to apply to the government to have a child
- Those who had one child received benefits and free health care
- Forced abortions were given if pregnant with 2<sup>nd</sup> child.

It led to a number of unplanned side effects:

- **Baby boys were favoured over girls; this led to a gender imbalance.**
- **The poorest became reliant upon the benefits**
- **Babies being abandoned or dumped in orphanages.**

+ **The policy was so successful that the government is now actively encouraging larger families.** There are concerns that some areas will be underpopulated and industry will suffer in the future and they will struggle to fund the elderly population

**The policy was formally phased out in 2015.**



**Population pyramids show the structure of the population in a country in any one year.** A narrow base means low birth rates. A wide top means people are surviving to old age like in China. They worried they won't be able to adequately support their elderly population now.

## What is China like?

China **has gone through massive economic, social and cultural change** since it opened its trading borders in 1978. China is also the world's **largest exporter and second-largest importer of goods**. They are now an **economic super power**. The government has invested heavily in transport systems in order to allow trade to take place easily and quickly.

This wealth is filtering down to the population and today only 10% of the **Chinese population lives below the poverty line of US\$1 per day**, down from 64% in 1978.

This economic growth has seen a huge rise in urbanisation and rural to urban migration.

Mandarin is the most widely spoken of 292 Chinese dialects.

China's climate is dominated by dry seasons and wet monsoons, which lead to temperature differences between winter and summer.

## TNCs in China – Apple and Foxconn

### Why are TNCs located in China?

There are a number of reasons why so many TNCs are choosing to locate factories in China (secondary Industry).

1. **Low Wages – reduced costs and increased profits.**
2. **Cheap land – cheaper to buy land here than in HICs.**
3. **Resources – lots of energy resources means reliable power.**
4. **Big population – means plenty of workers for factories.**
5. **Little Health and safety – factories can be up and running quickly.**
6. **Roads – products can be transported and exported easily and quickly.**
7. **Flat land – suitable and cheaper for construction.**
8. **Cities specialise**
9. **Special Economic Zones – financial incentives offered by the government in certain areas of the country.**

### What are they?

TNCs are also known as **Multi National Companies**. They are companies that operate in a number of different countries. **They often locate their factories in NEE/LIC countries and have their headquarters in HICs.** They have helped to increase **globalisation**. spoken.

### Positives

- **Employment is provided for local people.**
- **Roads and infrastructure are built by the TNCs.**
- **Increased taxes for the government can be spent on improving education/health/sanitation.**
- **Other local businesses benefit as people have more money to spend.**

### Negatives

- **Very long working hours.**
- **Wages are low.**
- **There is no job security.**
- **Health and safety regulations are not as stringent as in HICs**
- **Most of the profit goes back to HICs.**
- **Suicide rates amongst workers are very high.**
- **Poor quality of life amongst workers.**

## Environmental Issues

**Air pollution** – In 2010 over 250 000 people died due to air pollution. 1/3 of global lung cancer cases were recorded in China in 2012. Acid rain triggered by combustion of fossil fuels (which releases sulphur dioxide and nitrous oxides) has devastated forests and ecosystems throughout China.

**Water pollution** - Coastal pollution is widespread, leading to declines in habitat quality and increasing harmful algal blooms. This algae is poisonous to all life, and it uses all the oxygen in the water so fish die. Tests on tap water have found Benzene present at 200 micrograms of per litre of water. The national safety standard is 10 micrograms

## Powering Chinas' future Economic Growth

### The 3 Gorges Dam

Rising from the waters of the **Yangtze River**, the Three Gorges Dam stands more than 40 storeys high. The dam stretches for over 2km (1.25 miles), took tens of thousands of **workers over a decade to build** and cost more than \$40bn (£25bn)

### Why was it needed?

If China is to **sustain its economic growth into the future** then they need a reliable source of energy. They government knows that they need to **reduce the amount of fossil fuels they currently consume (namely coal).**

### Benefits

**Reduced risk of flooding.**  
Water stored behind the dam is available for irrigation.  
**Hydroelectric Power (HEP) is generated by turbines in the dam.** It's the worlds largest capacity HEP station.  
The electric produced means China saves 31 million tonnes of coal each year, reducing their **greenhouse gas emissions.**

### Negatives

Good **farmland has been lost**  
**Over 1.3million people were forced to move their homes**  
Archaeological sites were lost. These is an **increased risk of landslides in some places.**  
The project was very expensive. **US\$22.5 billion**  
Downstream areas been more at risk from flooding.

**Panda Solar Farm** - 248 acres in size, located in northern China . One of two built in the shape of a giant panda! There are plans to build another 98 around the country. **China will become the worlds largest producer of solar energy** . Construction created 1000s of jobs and reliable renewable energy.

**Investment in Africa** – China has invested billions of dollars throughout **Africa**, funding more than 1000 projects in Nigeria, South Africa and Zambia. **They have become Africa's most important trading partner.**

### Positives

New transport links enables better trade links and public transport  
**Jobs created in new mines**  
**Quality of Life increases for locals** who now access improved facilities such schools/healthcare

### Negatives

Valuable natural resources are exported out of Africa  
**Dangerous working conditions in copper mines**  
**Lots of jobs go to Chinese workers**

# Year 9 Half-Term 3 German Knowledge Organiser

## Pocket money and Shopping?

### Time phrases

jede Woche	every week
jedes Wochenende	every weekend
jeden Monat	every month
einmal / zweimal pro Monat	- once / twice per month
zum Geburtstag	for my birthday

Grammar point - When we want to say "in" a shop, the word for "the" changes:

Die Geschäfte	the shops
im Musikladen <i>m</i>	in the music shop
in der Buchhandlung <i>f</i>	in the book shop
im Modegeschäft <i>n</i>	in the clothes shop
in der Konditorei <i>f</i>	in the cake shop
in der Drogerie <i>f</i>	in the chemist's
im Sportgeschäft <i>n</i>	in the sportshop
in der Metzgerei <i>f</i>	in the butcher's
im Kaufhaus <i>n</i>	in the department store
in der Bäckerei <i>f</i>	in the bakery

Note: **IM** is short for **IN DEM**

To form the **future**, use **the correct part** of the verb **WERDEN** and the **INFINITIVE** of the other verb:

Ich werde	I will
Du wirst	you will
Er / sie / es / man wird	he / she / one will
wir werden	we will
ihr werdet	you will
sie werden	they will

**I will go** to town = **Ich werde** in die Stadt **gehen**  
**He will watch** a film = **Er wird** einen Film **sehen**

### Vocabulary

das Taschengeld	pocket money
Sportschuhe	trainers
Computerspiele	computer games
ein Fahrrad	a bike
Make-up	make-up
CDs / Musik	CDs / music
Bücher	books
Kleidung	clothes
ein Handy	a mobile phone
ein MP3 Spieler	MP3 player
Schmuck	jewellery
die Sporttausrüstung	sports equipment
Was trägst du?	What do you wear?
Ich trage...	I wear / I am wearing...
das / ein T-shirt	the / a t-shirt
das / ein Hemd	the / a shirt
der / ein Rock	the / a skirt
der / ein Pullover	the / a jumper
die / eine Hose	the trousers
die / eine Jacke	the jacket
das / ein Kleid	the dress
die / eine Mütze	the / a cap
der / ein Mantel	the / a coat
die Schuhe	shoes
die Socken	socks
die Stiefel	boots

bequem / modisch / altmodisch / gestreift / kariert / lang / schwarz / modern / glitzernd / neu

comfortable / fashionable / old-fashioned / striped / checked / long / black / modern / shiny / new

### Wichtige Verben!

You need to learn these verbs and be able to use them in ALL 3 TENSES:

INFINITIVE	PAST PARTICIPLE
kaufen = to buy	gekauft
sparen = to save	gespart
bekommen = to get (receive)	<b>bekommen</b>
verdienen = to earn	<b>verdient</b>
ausgeben = to spend	<b>ausgegeben</b>
tragen = to wear	<b>getragen</b>
kosten = to cost	gekostet
helfen = to help	<b>geholfen</b>
arbeiten = to work	gearbeitet
gehen = to go	<b>gegangen*</b>
einkaufen gehen = to go shopping	<b>einkaufen gegangen*</b>

\* These verbs use SEIN to form the past tense

**Verbs in bold are IRREGULAR**

### Grammar point:

To say what you wear we use the ACCUSATIVE case. So, if you use a masculine noun (der), the word for "a" changes and the adjectives need to add an ending too:

Ich trage **einen bequemen** Mantel = I wear / I am wearing a comfortable coat

Ich trage **eine schwarze** Jacke = I am wearing a black jacket

Ich trage **ein modernes** Kleid = I am wearing / I wear a modern dress

# Year 9 Half-Term 3 German Knowledge Organiser

## Pocket money and Shopping?

<p>Ich bekomme ( I get)</p> <p>Ich spare ( I save)</p>	<p>jeden Monat (every month) jede Woche (every week)</p> <p>auf ein Handy (for a phone) für die Ferien (for the holiday)</p>	<p>von meinen Eltern (from my parents) von meiner Oma (from grandma)</p>	<p>zehn Pfund (£10) fünf Pfund (£5)</p>	<p>Taschengeld.</p>
<p>Ich trage ( I wear) Er/ Sie trägt (he/she is wearing)</p>	<p>ein langes Kleid (a long dress) eine enge Jeans (skinny Jeans) einen modischen Pullover ( trendy jumper) neue Stiefel (new boots)</p>	<p>zur Schule. (to school) zur Party. (to the party)</p>		
<p>Ich werde (I will) Sophie wird (Sophie will ) Er wird ( he will) Wir werden (we will)</p>	<p>CDs und Bonbons (CDs and sweets) ein neues Handy (a new phone) eine blaue Mütze (a blue hat)</p>	<p>kaufen (to buy)</p>		
<p>Letztes Wochenende (last weekend) Gestern (yesterday) Letzten Sonntag (last Sunday)</p>	<p>habe ich (I have)</p>	<p>einen karierten Rock (a checked skirt) eine unbequeme Jacke (an uncomfortable jacket) ein gelbes T-shirt ( a yellow T-shirt)</p>	<p>gekauft. (bought) getragen. (worn)</p>	



# Year 9 Half-Term 4 German Knowledge Organiser

## Bleibst du gesund?

### Year 9 German – Knowledge Organiser Half term 4 – Bleibst du gesund?



#### Das Frühstück

der/das Joghurt

der Käse

der Schinken

der Speck

der Toast

der Kaffee

der Tee

der Orangensaft

die Butter

die Marmelade

die Orangenmarmelade

die Milch

die heiße Schokolade

das Brötchen

das Obst

das Ei

die Eier (pl)

die Frühstücksflocken (pl)

#### Breakfast

yoghurt

cheese

ham

bacon

toast

coffee

tea

orange juice

butter

jam

marmalade

milk

hot chocolate

roll

fruit

egg

eggs

cereal

#### Was isst du zum Frühstück? What do you eat for breakfast?

Ich esse einen Joghurt.

*I eat a yoghurt.*

ein Brötchen mit Butter

*a roll with butter and jam  
und Marmelade*

Ich esse kein Frühstück.

*I don't eat any breakfast.*

Max isst Toast mit Butter.

*Max eats toast with butter.*

Ellie und Sarah essen Eier.

*Ellie and Sarah eat eggs.*

Ich trinke einen Kaffee.

*I drink a coffee.*

eine Tasse Tee

*a cup of tea*

Das ist (un)gesund.

*That's (un)healthy.*

Das ist lecker/furchtbar.

*That's delicious/awful.*

#### Mein Lieblingssandwich

#### My favourite sandwich

das Ketchup

*ketchup*

der Senf

*mustard*

der Thunfisch

*tuna fish*

die Erdnussbutter

*peanut butter*

die Gurke

*gherkin*

die Mayo

*mayonnaise*

die Olive

*olive*

die Sardelle

*sardine, anchovy*



#### Oft benutzte Wörter

normalerweise

gestern

bis

früh

spät

mehr

wenig

weniger

oft

besser

mein

dein

sein

ihr

mit

ohne

in

auf

#### High-frequency words

usually

yesterday

until

early

late

more

little

less, fewer

often

better

my

your

his

her

with

without

in, into

on, onto

#### Wie ist das?

#### What is it like?

süß

*sweet*

sauer

*sour*

salzig

*salty*

scharf

*spicy*

vegetarisch

*vegetarian*

lecker

*delicious*

ekelhaft

*disgusting*

# Year 9 Half-Term 4 German Knowledge Organiser

## Bleibst du gesund?

### Year 9 German – Knowledge Organiser Half term 4 – Bleibst du gesund?

#### Seite 2

#### Die Mahlzeiten

die Vorspeise  
die Hauptspeise  
die Nachspeise

#### Im Restaurant

Was nimmst du?  
Ich nehme ...  
den Fisch  
die Gemüsesuppe  
das Hähnchen

#### Die Speisekarte

(der) Fisch mit Reis und Erbsen  
der Flammkuchen mit Sauerkraut

(die) Bratwurst mit Eiern  
(die) Gemüsesuppe mit Brötchen  
(das) Hähnchen mit Pommes  
frites und Karotten  
(das) Schnitzel mit Kartoffeln  
(das) Steak mit Rösti  
(die) Käsespätzle mit Salat

#### Mealtimes

*the starter*  
*the main course*  
*the dessert*

#### In the restaurant

*What are you having?*  
*I'll take/I'm having ...*  
*the fish*  
*the vegetable soup*  
*the chicken*



#### Menu

*fish with rice and peas*  
*Flammkuchen with pickled cabbage*

*fried sausage with eggs*  
*vegetable soup with a roll*  
*chicken with chips and carrots*  
  
*pork fillet in breadcrumbs with potatoes*  
*steak with rösti potatoes/ hash browns*  
*speciality cheesy pasta with salad*

#### Gesund bleiben

Man muss ...  
acht Stunden schlafen  
wenig Fett und Zucker essen  
viel Obst und Gemüse essen  
mehr Wasser trinken  
früh ins Bett gehen  
drei Stunden trainieren  
zweimal pro Woche joggen

#### Staying healthy

*One/You/People must ...*  
*sleep for eight hours*  
*eat little fat and sugar*  
*eat lots of fruit and vegetables*  
*drink more water*  
*go to bed early*  
*exercise for three hours*  
*jog twice a week*

#### Grammatik

Page 69

**müssen** (must, to have to) is a modal verb like **können** and **dürfen**. Use it with the infinitive of another verb, which goes at the end of the sentence:

Du **musst** jeden Tag **trainieren**. You have to train every day.

<i>ich muss</i>	<i>wir müssen</i>
<i>du musst</i>	<i>ihr müsst</i>
<i>er/sie/es muss</i>	<i>Sie müssen</i>
	<i>sie müssen</i>

# Year 9 Half-Term 4 German Knowledge Organiser

## Bleibst du gesund?

<p>Ich esse gern (I like to eat)          Ich trinke gern (I like to drink)          Ich esse nicht gern I don't like to eat)</p> <p>Meine Mutter isst gern (My mum likes to eat)          Mein Bruder isst nicht gern (My brother does not like to eat)</p>	<p>Gemüse (vegetables)          Obst (fruit)          Getreideflocken (cereal)          Fleisch (meat)          Wasser (water)          Orangensaft (orange juice)</p>	<p>weil (because)</p> <p>obwohl (although)</p>	<p>es lecker (it tasty)          es ekelhaft (it disgusting)          es gesund (it healthy)          es süß (sweet)</p> <p>es ungesund (unhealthy)          es salzig (salty)          es sauer (sauer)</p>	<p><b>ist</b></p>
<p>Ich esse (I eat)          Er isst/Sie isst (he eats/she eats)</p> <p>Ich trinke (I drink)          Er trinkt/Sie trinkt (He/she drinks)</p>	<p>oft (often)          immer(always)          wenig (a little)          normalerweise (normally)          kein/keine/keinen (no)          nicht gern</p>	<p>Suppe (soup)          Schaschlik (kebab)          Vorspeisen (starter)          Nachspeisen (deserts)          Milchprodukte (dairy products)</p>		
<p>Ich muss (I must)          Er/Sie muss (he/she must)          Wir müssen (we must)</p>	<p>früh ins Bett gehen. (go to bed early)          gesund essen. (eat healthily)          wenig Fett essen (eat little fat)          zweimal pro Woche trainieren (train 2x per week)</p>			

## 1. Why did America experience an economic boom?

The **First World War** was beneficial for the USA for the following reasons:

-They supplied the Allies with industrial goods such as weapons, which sped up their industrial production. This led to the **economic boom of the 1920s** and America replacing Britain as the most important creditor nation.

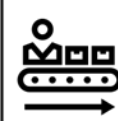
-The USA did not suffer any physical damage from the war, unlike France, meaning it was able to **take the lead in the post-war negotiations** leading to the Treaty of Versailles. They chose to adopt a policy of **isolationism**.



**L** **Laissez-faire** – They believed the government should not interfere in the economy so big businesses could expand without being held back by the government. They feared too much interference would upset the natural patterns in the economy.



**A** **Assembly line** - Goods were produced in huge numbers and therefore more cheaply. For example, the price of cars dropped from \$940 in 1920 to \$290 in 1929. By 1929, Americans owned 23 million cars. The best known was Henry Ford's Model T car.



**C** **Credit** - buy now, pay later. Consumers paid for goods in instalments at low interest rates. Americans could buy goods they could previously not afford.



**K** **Knowledge** – Scientific progress also transformed the economy. The USA's chemical industry led the world in providing fertilisers and dyes, as well as introducing new materials like Bakelite and rayon.



**P** **Position of USA in the world** - The US came out of WW1 in a strong position. Largely unaffected by the enormous cost of the war, having sold arms and supplies to Western Europe. The USA was also very strong in natural resources such as timber, iron, coal, minerals, oil and land, so didn't have to import them from other countries.



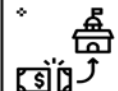
**A** **Advertising** – Advertising industry grew, and advertisements were sophisticated, colourful and full of catchphrases. They were placed on roadsides, on the radio, in newspapers and in cinemas. This encouraged people to buy more.



**N** **New consumer goods** - New, highly desirable goods began to be mass produced and purchased, such as telephones, radios, fridges and cars. E.g. in 1920 there were 60,000 radios in America and by 1929 there were 10 million.



**T** **Tariffs** – American products would be bought by consumers because they were cheaper than their foreign rivals. (More tax was put on foreign goods making them more expensive).



**S** **Share confidence** - Confidence in the economic boom amongst Americans was very high, which meant they were prepared to buy goods, try new ideas and invest in companies.



## 2. Why were the 20's 'roaring'?

Before the war, girls were expected to behave modestly and wear long dresses. When they went out, they had to be accompanied by an older woman or a married woman. Females were employed in jobs that were traditionally associated with women, for example servants, seamstresses, secretaries and nurses. By the end of the 1920s there were significant changes to the role of women. **In 1920 the Nineteenth Amendment to the Constitution gave women the right to vote.** The National American Woman Suffrage Association (NAWSA) had been campaigning for decades to get the vote. **By 1928, 145 women had seats in 35 State governments and 2 were State Governors**, but these were the exceptions. There was an increase of 25 per cent in the number of women working during the 1920s. **It became acceptable for women to wear short skirts, drive cars and take part in energetic sports.** It was all the rage for women to cut their hair in a bob. They wore a lot of jewellery and make-up. **Spending on cosmetics increased from \$17 million to \$200 million per year.** Chanel and Elizabeth Arden were favourites. Young women danced the **new daring dances, such as the Charleston** and the Bunny Hug. The women who either chose or could afford this lifestyle were mainly young, middle- class women. **They were referred to as 'flappers'.** Before the cinema became popular during the 1920s, the radio was the main medium of entertainment in America. **By the end of the 1920s, 50 million people had a radio set.** Spectator sports developed quickly, especially baseball and boxing. **Stadiums such as the Yankee Stadium were built and Madison Square Garden** was rebuilt in 1925 in order to hold sporting events, such as boxing, ice hockey and basketball. **Sports became a profitable business, attracting more and more people**



## 3. What was prohibition?

On 16 January 1918, the Eighteenth Amendment to the USA's Constitution made it **illegal to manufacture, transport and sell alcohol in the USA.** The following year, in 1919, the **Volstead Act** set out the details of what **Prohibition** meant and the punishments for breaking the new law. **Drinks containing more than 0.5 per cent alcohol were banned.** The aim of **Prohibition**, also known as "The Noble Experiment", was to stop the trade in alcohol. During the 19th century powerful groups (**Anti-Saloon League** and **The Women's Christian Temperance Union**) supported the idea of banning the sale of alcohol. They argued that **alcohol consumption damaged family life.** Many 'dries' argued alcohol was responsible for crime and violence. **Henry Ford** and other industrialists were concerned **drinking reduced efficiency** at work. Many religious groups saw alcohol as the **root of sin and evil.** It was thought prohibition would support traditional **American values.** **Many brewers were German** (for example, 'Budweiser') and after WW1 some people saw the sale and drinking of **German alcohol as unpatriotic.** Those who disliked Prohibition, i.e. the "wets", thought the government <sup>36</sup> was interfering too much in the lives of the individual.



**4. What was the impact of prohibition and why did it fail?**

**There was a lack of public support.** Many people were "wets" and it was impossible to persuade drinkers to change the habit of a lifetime. Plus, **the law did not forbid the consumption of alcohol** (only the manufacture, transport and sale of it), so many felt justified in drinking. **Alcohol was readily available.** It was supplied by bootleggers, moonshiners and rum-runners. There were 280,000 illegal stills seized, and **speakeasies were everywhere**, including 30,000 in New York by 1929. **Enforcement of Prohibition by government officials was very ineffective.** Patrolling the USA's borders was impossible. **Blocking the coastline was also difficult.** Rum continued to come in from the West Indies through rum-runners. There were only 2,300 special Prohibition Agents and they were on low salaries (\$2,500 per year). **One in twelve agents were sacked for taking bribes.** Judges and politicians were also often willing to take bribes. **Prohibition led to the growth of organised crime gangs,** like gangsters, such as **Al Capone**. They not only supplied alcohol on a massive scale, but they also ran prostitution, gambling and other rackets. Thus, **crime increased dramatically.**



**5. What was life like for immigrants?**

At the end of the nineteenth century, **the USA had an Open Door policy which encouraged immigration.** By 1920, more than 40 million people had arrived. As a result, there was a mixture of people from different races, cultures and religions living in America. This mixture became known as the 'Melting Pot'. **By 1920, many Americans began to disapprove of the government's Open Door policy** because they feared the economic, political and social impact of immigration. As a result of these concerns, the US Congress passed three laws to restrict immigration. **Literacy Test, 1917:** Immigrants had to pass a series of reading and writing tests. If they failed the tests they were refused entry. **The Emergency Quota Act, 1921:** This law restricted the number of immigrants to 357,000 per year. **The National Origins Act, 1924:** This law reduced the maximum number of immigrants to 150,000 per year. **Nicola Sacco and Bartolomeo Vanzetti** were Italian immigrants. They were convicted of armed robbery and murder. Although a man named Celestino Madeiros admitted that he had committed the crime, they were both executed.



**6. Did all Americans benefit from the 1920s?**

In 1920, there were 12 million black Americans living in the USA with 75 per cent of them living in the south. **Racial intolerance affected every aspect of their lives.** Although slavery had ended in 1865, black Americans in the southern states suffered more discrimination than those in the north. This was because of the **Jim Crow laws in the south, legalising and encouraging segregation.** When unemployment increased, they were the first to be sacked. **There was hostility from white people and attacks from the Ku Klux Klan (KKK)** because they felt the black Americans were taking their jobs. They also feared the crime and violence in the ghettos. Race riots, such as those in **Chicago in 1919, fuelled anxieties and sparked an increase in the membership of the KKK.** The **NAACP**, led by William du Bois, grew rapidly. In 1919, it had 90,000 members. It wanted to make black Americans more aware of their civil rights and to **campaign for the abolition of segregation, the right to vote and equality in education.** The Universal Negro Improvement Association (**UNIA**) was led by Marcus Garvey and had over one million members in 1921. Its aim was to **increase black American pride in their colour, culture and history. "Black is beautiful" was his most famous slogan.** UNIA members were more militant than the NAACP.



**7. What was the impact of the Wall Street Crash?**

In October 1929, **the 'Roaring Twenties' came to a dramatic end** and the USA economy went into deep depression. On 29<sup>th</sup> October, known as "Black Thursday", 16 million shares were sold at a fraction of their original price, and **consequently the economy collapsed. This became known as the 'Wall Street Crash'.** For many workers the Great Depression was a period of misery and destitution. **Unemployment increased: It rose from 1.6 million in 1929 to 14 million in 1933** (i.e. from 3 per cent to 25 per cent of the workforce). **People were desperate for work.** For example, in 1930 there were 6,000 men on the streets of New York trying to survive by selling apples. **Demonstrations, by both the unemployed and employed, at the lack of action by the government turned into violence.** In 1930, a rally of unemployed people became a riot as police charged the crowd. There were strikes and bitter clashes in many American cities because of starvation level wages. **Millions of people had to exist in "Hoovervilles"** under "Hoover blankets" (newspapers). **Natural disasters made the problems worse.** From 1930 onwards, farmers in the Midwest were hit by a series of droughts, which eventually **created the Dust Bowl of 20 million hectares of land.**



<b>Economic boom-</b> A period of prosperity in the economy. The economy was doing well and many people benefited.
<b>Isolationism-</b> a policy of remaining apart from the political affairs of other countries
<b>Consumer-</b> a person who purchases goods and services for personal use.
<b>Laissez-faire-</b> A government policy of interfering as little as possible in the economy.
<b>Prosperity-</b> wealth and success
<b>Flapper-</b> a liberated, young, fashionable woman in the 1920s
<b>Prohibition-</b> A name given to a period in the United States' history between 1920-1933 when alcohol was banned.
<b>Speakeasy-</b> A bar that sold alcoholic beverages illegally during Prohibition in the 1920s.
<b>Bootlegging-</b> illegal manufacture, distribution, or sale of alcohol
<b>Segregation-</b> setting someone or something apart from others.
<b>White Supremacy-</b> the belief that white people constitute a superior race
<b>Speculation-</b> purchasing and selling shares on the stock market in the hope that the value of what is purchased will increase
<b>Great Depression-</b> A prolonged economic downturn, beginning after the Wall Street Crash
<b>Hooverville-</b> Shanty towns, which are large settlements consisting of very poor quality housing

Y9 Unit 3: What's significant about WW2?		What was the main cause of WW2? (steps to war)				
<b>How did fascism lead to WW2?</b>		<p><b>S</b></p> <p><b>Saar Plebiscite 1935:</b> In 1935 the inhabitants of the Saar voted to return to Germany. The Saar plebiscite is cited by many historians as the first step to war. <b>It demonstrated that Germans were NOT just being forced into supporting the Nazis.</b> The result gave a massive boost to Hitler's prestige and provided him with <b>authority to advance his demands for unity with Austrian and the Sudeten Germans.</b></p>				
<p>In the 1920s, increasing numbers of people in Europe became drawn towards a new political idea known as Fascism. <b>Fascism emerged largely due to unhappiness with democratic governments</b>, such as Germany's Weimar Republic. Having experienced the chaos of WW1, many people were more willing to accept governments who used force to impose order and discipline. Hitler, <b>inspired by Mussolini in Italy</b> used the economic chaos in Germany gain to popularity by promising to restore Germany. <b>Hitler used fascist ideals to gain support. For example, nationalism and lebensraum.</b> He then enforced a brutal, fascist police state with himself as Fuhrer.</p>						
<b>Why did Britain try to appease Hitler?</b>		<p><b>C</b></p> <p><b>Conscription and re-armament 1933-1935:</b> Conscription was specifically forbidden by the Treaty of Versailles. <b>Rearmament had been going on secretly since 1933. In March 1935 Hitler reintroduced conscription.</b> Between 1932-9, the number of soldiers grew from 100,000 to a million, and the number of airplanes grew from 36 to 8250. No country questioned the breach of the Treaty of Versailles. It made Hitler <b>very popular in Germany – it reduced unemployment, it made Germany strong.</b></p>				
<p>Britain initially pursued a policy of appeasement, seeking to give Hitler some of what he wanted in order to preserve peace.</p>		<p><b>R</b></p> <p><b>Remilitarisation of Rhineland 1936:</b> Hitler invaded the Rhineland on 7 March 1936, there was no resistance - <b>Britain was not keen to provoke Germany.</b> Hitler openly broke the Treaty of Versailles.-Hitler's position strengthened and it increased his confidence. <b>It was the start of a feeling that he would always get away with it</b> (Britain &amp; France would always back down). It encouraged Hitler to try to reunite with Austria - Anschluss.</p>				
<table border="1"> <thead> <tr> <th>Arguments 'for' appeasement</th> <th>Arguments 'against' appeasement</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>- Many people agreed the Treaty of Versailles had been unfair to Germany.</li> <li>- Stalin and the USSR was a greater threat – Hitler might stop him.</li> <li>- Britain wasn't ready for another war – it gave chance to prepare.</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>- Appeasement gave Hitler an advantage. Germany was strong they had taken resources of Austria &amp; Czechoslovakia.</li> <li>- It allowed Hitler to break international law.</li> <li>- Britain looked weak</li> </ul> </td> </tr> </tbody> </table>		Arguments 'for' appeasement	Arguments 'against' appeasement	<ul style="list-style-type: none"> <li>- Many people agreed the Treaty of Versailles had been unfair to Germany.</li> <li>- Stalin and the USSR was a greater threat – Hitler might stop him.</li> <li>- Britain wasn't ready for another war – it gave chance to prepare.</li> </ul>	<ul style="list-style-type: none"> <li>- Appeasement gave Hitler an advantage. Germany was strong they had taken resources of Austria &amp; Czechoslovakia.</li> <li>- It allowed Hitler to break international law.</li> <li>- Britain looked weak</li> </ul>	<p><b>A</b></p> <p><b>Anschluss with Austria 1938</b> Hitler invaded Austria (11 March 1938). <b>This broke the Treaty of Versailles</b>, but Britain and France did nothing. Hitler was Austrian and many people welcomed the Anschluss. Over <b>99% voted in favour of union with Germany.</b> The result was influenced by Nazi pressure. There was a feeling that the Treaty of Versailles had been harsh on Germany and Britain should not defend it. <b>It was the first time Hitler had tried aggression outside Germany, Hitler's confidence grew.</b></p>
Arguments 'for' appeasement	Arguments 'against' appeasement					
<ul style="list-style-type: none"> <li>- Many people agreed the Treaty of Versailles had been unfair to Germany.</li> <li>- Stalin and the USSR was a greater threat – Hitler might stop him.</li> <li>- Britain wasn't ready for another war – it gave chance to prepare.</li> </ul>	<ul style="list-style-type: none"> <li>- Appeasement gave Hitler an advantage. Germany was strong they had taken resources of Austria &amp; Czechoslovakia.</li> <li>- It allowed Hitler to break international law.</li> <li>- Britain looked weak</li> </ul>					
<b>How do historians judge significance?</b>		<p><b>M</b></p> <p><b>Munich agreement September 1938:</b> In 1938, Hitler tried to take over the Sudetenland. At Munich, on 29 September 1938, <b>Britain and France gave Hitler the Sudetenland. Hitler had gained the Sudetenland without fighting.</b> Czechoslovakia was now defenceless. Britain and France had again shown their weakness, <b>Hitler decided that Britain and France were afraid of him and would not stop him whatever he did.</b></p>				
<p><b>Remembered:</b> The event/development was important to a large group of people</p> <p><b>Resulting in change:</b> It had consequences for the future. Did it cause other events?</p> <p><b>Revealing:</b> It reveals some other aspect of the past or further details about another event or individual.</p> <p><b>Remarkable:</b> The event/development was/is remarked upon – unusual/unexpected</p>		<p><b>C</b></p> <p><b>Czechoslovakia March 1939:</b> Hitler's troops marched into the rest of Czechoslovakia. <b>This broke the Munich agreement.</b> There were no German speaking people there and no demand from the people to join Germany. <b>Hitler had proved to Chamberlain that he could not be trusted.</b></p>				
		<p><b>U</b></p> <p><b>USSR/NAZI PACT – Nazi-Soviet Pact August 1939:</b> In August 1939, <b>Hitler made a secret treaty with Russia.</b> Both countries agreed not to attack each other. Germany was to attack Poland from the west, the USSR to attack from the east. <b>Hitler felt free to attack Poland. He thought Britain would back down as it had at Munich,</b> especially as Danzig was German &amp; the Polish Corridor separated Germany from East Prussia.</p>				
		<p><b>P</b></p> <p><b>Poland September 1939:</b> The <b>German army invaded Poland on 1 September 1939.</b> Chamberlain tried to get them to withdraw and hold a peace conference. This failed, and on <b>3 September 1939 Britain declared war on Germany.</b></p>				

<p><b>Was Dunkirk a colossal military disaster?</b></p> <p>On 10 May 1940, the German army entered France, capturing Paris on 14 June. <b>The British Expeditionary Force (BEF), which had been sent to France to try and stop the German invasion, had to retreat.</b> They reached the English Channel and waited on beaches at Dunkirk to be rescued. Britain organised a huge evacuation effort, <b>sending over a whole range of naval and civilian boats to pick up the stranded soldiers.</b> Dutch, Belgian, French and Norwegian ships were also involved in the operation. The evacuation was considered to be a success, with <b>340,000 French and British soldiers brought back to England</b> in one week. However, there were also big losses: over <b>68,000 soldiers</b> were killed, wounded, captured or unaccounted for. <b>Over 400 tanks, six destroyers and 145 aircraft were also lost.</b> These losses were hugely damaging to the war effort. <b>The evacuation of the British Army was going on for 4 days before the British government told the people at home what was going on.</b> The British newspapers were told to keep quiet and then to write what they were told to report by the government.</p>	<p><b>How did Britain win the Battle of Britain?</b></p> <p>As Britain is an island, Germany needed to send soldiers in by sea to invade successfully. To do this safely, they would need to have control of the skies over the English Channel, so the German Luftwaffe needed to defeat the British RAF. <b>The Luftwaffe heavily outnumbered the RAF.</b> During the Battle of Britain, they had 2,550 fighter planes available, while the RAF only had 749. British pilots were also less experienced than the Luftwaffe pilots. <b>By September 1940, the Luftwaffe was not able to sustain the losses it was experiencing.</b> Germany had underestimated the strength and skill of the RAF. <b>The success of Britain's air force owed a great deal to the contributions of the British Empire: Jamaica, Canada, Australia and New Zealand.</b> The RAF's ranks were also boosted by pilots from Poland and Czechoslovakia, who had escaped capture by the German military. <b>Members of the Women's Auxiliary Air Force (WAAF) played a vital role.</b> Many women were employed as plotters. This involved tracking German planes as they made their way to Britain, and keeping an eye on how many aircraft were coming.</p>	<p><b>Was Britain strong enough to fight alone?</b></p> <p><b>World War Two was not the first time that Britain sought help from countries from across the British Empire.</b> Many nations whose soldiers made a valuable contribution to the war effort from 1939 – 1945 had already fought alongside British troops during World War One. When World War Two broke out, <b>India</b> was not self-governed. This meant that they were ruled directly by the British government, so the decision for them to join the war and fight with Britain was taken in London. <b>Men from the Caribbean, sometimes also called the West Indies,</b> who joined the war effort were placed in their own Caribbean Regiment. <b>The Caribbean Regiment</b> had 10,000 volunteer troops. There were still racist attitudes in the British armed forces. A ban on Black people serving in the Royal Air Force (RAF) was lifted in World War Two. <b>320,000 men in total were recruited from East Africa.</b> The British Army also recruited 200,000 men from <b>West Africa.</b> This included setting up an RAF base in Sierra Leone to search for submarines. <b>There was also contributions from Nepal, Australia and New Zealand.</b></p>
<p><b>Why did the USA enter the war?</b></p>		
<p>The USA had remained neutral when WW2 broke out. However, American President Franklin Roosevelt was keen to provide support to Britain. <b>On 7 December 1941 Japan carried out a surprise attack on the American Naval base at Pearl Harbor, in Hawaii.</b> The bombing followed several years of rising tension between Japan and the USA. The USA had imposed economic sanctions on Japan, which affected trade in goods such as oil and aircraft, and <b>prevented Japan from becoming a bigger global power.</b> The USA did not expect Japan to attack them in Hawaii. Japan took advantage of this in the knowledge. <b>On 8 December, the US declared war on Japan and Germany. This was one of the turning points in the war, resulting in American troops and supplies joining the war in Europe to support Britain.</b> The support of American forces was crucial for Britain. By early 1944, plans were being made to return to France to try and push Germany back. <b>The landings took place on 6 June 1944. This was known as D-Day.</b> 160,000 troops landed on the Normandy beaches; over 4,000 lost their lives. The invasion was a success, and German forces were driven back. <b>By February 1945, the Allies were confident enough of victory that they met at Yalta to discuss how to rebuild Europe and recover from the effects of war.</b> In April 1945, Allied troops entered Berlin. Hitler, realising that defeat was now inevitable, died by suicide on 12 April. <b>Germany surrendered on 8 May. This is known as VE Day (Victory in Europe Day)</b></p>		
<p><b>How truthful was 'Blitz Spirit'? (THE BLITZ IN MANCHESTER)</b></p>		
<p>'Blitz spirit' is a term used to reflect the endurance of pain or hardship without complaint and to show determination in a difficult or dangerous situation. <b>The government had realised the importance of using propaganda to maintain morale</b> and support for the war. <b>For 57 days, London was bombed night and day and fires raged through the city.</b> The government wanted to create the idea of a 'Blitz Spirit' so that, despite the bombing and damage being caused, British people would carry on their lives as normal. The Ministry of Information oversaw the stories that newspapers were printing. They censored information about planned military operations and details of troop movements. <b>When the Blitz ended in May 1941, over 300,000 Londoners were dead and thousands more injured and homeless.</b> The aim of the German bombings was to frighten the British people and so force British politicians to negotiate a peace. <b>The British government had to make sure people stayed focused on the war effort, on the need to win and to keep their morale high.</b> The Ministry of Information wanted people to feel as though life was carrying on as normal.</p> <p><b>MANCHESTER</b> was hit by two nights of air raids in December 1940. These are often referred to as the 'Christmas Blitz'. <b>As a result of these raids, an estimated 684 people died and more than 2,000 were injured.</b> During the air raids on 22-24 December, the Metropolitan-Vickers works in Mosley Road was just one of the area's factories to be badly damaged. In a later raid on Trafford Park in March 1941, <b>Manchester United's Old Trafford football ground was hit by a bomb and put out of action until 1949.</b></p>		

# CS - Computational thinking

## Sorting algorithms

### Bubble sort

- The first two values are compared
- The larger is placed first
- The next two values are compared and order is swapped
- Repeat until the items are in order

### Merge sort

- Repeatedly split data into halves until each bit contains only one item
- Merge the items back together in the order required

### Insertion sort

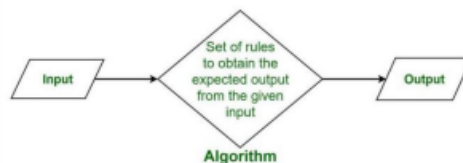
- Each item is examined
- Higher values are left in the same place, lower values are compared with each until they can be inserted into the correct place.
- Repeat until the list is in the correct position

## Searching algorithms

### Binary search

- Look for the specific item in an ordered list
- Compare with the middle value deciding if it is higher or lower
- Taking the half of the list and once again find the middle item
- Repeat the process until the specific value is found

### What is Algorithm?

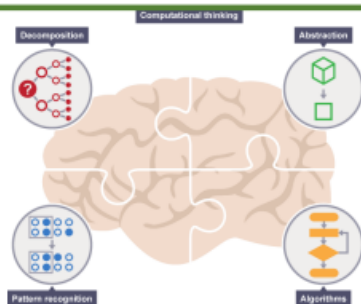


Thinking computationally is not **programming**. It is not even thinking like a computer, as computers do not, and cannot, think. Simply put, programming tells a computer what to do and how to do it. **Computational thinking enables you to work out exactly what to tell the computer to do.**

### Standard Flow Chart Symbols

	Used at the start or end point of a flow diagram.
	Used to represent the input or output of data in a process.
	Used when a decision or choice must be made.
	A process symbol, used to indicate a process or computational task being carried out.
	Used to represent a sub-routine that can be called at various points of an algorithm.

Key Terms	Definition
Searching algorithm	Searching for information based on a given criterion is a common task for computer algorithms.
Sorting algorithms	Sorting data means that data is generally easier to search, and it allows for more efficient algorithms.
Binary Search	First of all, for binary search to work, the list must be arranged in an order. Binary search is a faster method for searching for an item that is in an ordered list. A binary search algorithm takes the data and keeps dividing it in half until it finds the item it is looking for
Algorithm	A sequence of <b>logical instructions</b> for carrying out a task. In computing, algorithms are needed to design computer programs.
Linear Search	Linear search looks for an item within a data set by starting with the first item in the set and comparing it to the search criteria. If no match is found, then the next one is compared. This continues until a match is found or the end of the set is reached.
Bubble sort	A bubble sort algorithm goes through a list of data a number of times, comparing two items that are side by side to see which is out of order. It will keep going through the list of data until all the data is sorted into order. Each time the algorithm goes through the list it is called a 'pass'.
Merge sort	The merge sort was developed to handle the sorting of large lists. It does this by breaking them down into multiple smaller lists, quickly sorting them, and then merging them back together into one larger list
Insertion sort	An insertion sort is less complex and efficient than a merge sort, but more efficient than a bubble sort.



Computational thinking involves taking that complex problem and breaking it down into a series of small, more manageable problems (**decomposition**). Each of these smaller problems can then be looked at individually, considering how similar problems have been solved previously (**pattern recognition**) and focusing only on the important details, while ignoring irrelevant information (**abstraction**). Next, simple steps or rules to solve each of the smaller problems can be designed (**algorithms**).



# COMPUTER SCIENCE CYBERCRIME

<b>Virus</b> Harms your computer in some way, usually by deleting or altering files and stopping programs from running.	<b>Trojan</b> Starts by pretending to be a trusted file, but gives <b>unauthorised access</b> to your computer when you run it.	<b>Worms</b> Worms are difficult to get rid of. They copy themselves over networks to <b>external storage devices</b> .	<b>Spyware</b> Collects information from your computer and sends it to someone.	<b>Scareware</b> Tricks you into thinking it's software that you need to buy.	<b>Logic bombs</b> A logic bomb tells the computer to execute a set of instructions at a certain date and time or under certain specified conditions.	<b>Ransomware</b> Ransomware is software illegally installed on a computer so that the user cannot access their files until a ransom is paid.	<b>Phishing</b> Tricking someone into giving out information over email. They usually include a link to a fake website that looks identical to the real one.
--	--	--	--	--	--	--	---

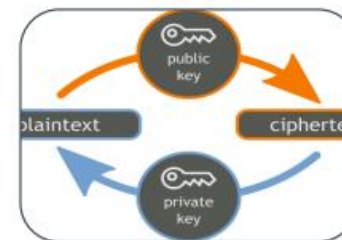


## The Caesar cipher

Plaintext	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
Ciphertext	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c

A simple method of encryption requires the use of a technique known as the Caesar cipher. Each **plaintext** letter is replaced by a new letter - the one found at the original letter's position in the alphabet plus or minus the value of the key.

For example, a key value of +three would change the plaintext message "see you tonight" to the **ciphertext** message "vhh brx wrqljkw".



### Cryptography

- Encryption** - is when you put data/text into **code** making it difficult to read or understand. A **cipher** is the **key** to an **encrypted** message. Decryption is when the encrypted message is no longer **ciphertext** but **plaintext** - meaning we can now read it.
- Like all methods of disguise, encryption is of little use if unauthorised users know the key. They can use it to unlock any message that is encrypted with that key.
- One way around this issue is to use an algorithm that generates two keys - a public key and a private key. This method is known as asymmetric encryption. A public key can be given to anyone. Anyone can then use this key to encrypt a message. However, the public key cannot decrypt a message - only the second key (the private key) can do that. So long as the private key is never given out, messages will stay safely encrypted.

**Hacking** is when someone accesses your computer or the data held on it without your permission or knowledge. Hackers generally come in one of three forms: Black Hat, White Hat, and Grey Hat

### White Hat

- White-Hat Hackers are also known as Ethical Hackers.
- They are certified hackers who learn hacking from courses.
- These are good hackers who try to secure our data, websites. With the rise of cyberattacks, organizations and governments have come to understand that they need ethical hackers.

### Black Hat

- They hack systems illegally.
- They use their skills to deceive and harm people.
- They conduct various attacks, write malware, and damage system security.
- They steal users' passwords, data, and credit card information by damaging system security.

### Grey Hat

- These types of hackers find vulnerabilities in systems without the permission of owners.
- They don't have any malicious intent. However, this type of hacking is still considered illegal.
- They find issues and report the owner, sometimes requesting a small amount of money to fix it.

### Common malware types

#### Browser

- Hijacks some browser functions, for example your default search page, or diverts you to particular websites. Also called **Spyware**

#### File infector

- The virus infects a particular file. It may completely or partially overwrite the file

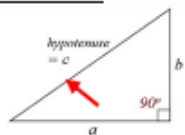
#### Macro virus

- Embedded in the template files (for example, of Word or Excel). The virus spreads if the file is opened on a different computer

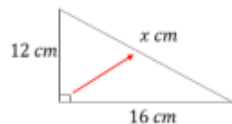
## Negative Effects OF SOCIAL MEDIA

- Depression
- Anxiety
- Lower self-esteem
- Less self-control
- PTSD Trigger
- Overeating
- Fear of Missing Out (FOMO)
- Hive Mind (Irrational conformity to a group's thinking)

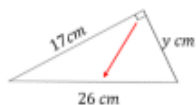
### Pythagoras' Theorem:



$$c^2 = a^2 + b^2$$



$$\begin{aligned} a^2 + b^2 &= c^2 \\ 12^2 + 16^2 &= x^2 \\ 144 + 256 &= x^2 \\ x^2 &= 400 \\ (\sqrt{\quad}) \quad (\sqrt{\quad}) \\ x &= 20\text{cm} \end{aligned}$$



$$\begin{aligned} a^2 + b^2 &= c^2 \\ y^2 + 17^2 &= 26^2 \\ y^2 + 289 &= 676 \\ (-289) \quad (-289) \\ y^2 &= 387 \\ (\sqrt{\quad}) \quad (\sqrt{\quad}) \\ y &= \sqrt{387}\text{ cm or } y = 19.7\text{cm}(3\text{sf}) \end{aligned}$$

### Sequences

Find the first 5 terms of the sequence with  $n$ th term:

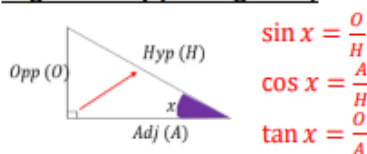
$$3n^2 + 2$$

Eg:  $n = 2$

$$3 \times (2^2) + 2 = 14$$

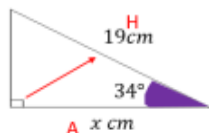
$n = 1$	$n = 2$	$n = 3$	$n = 4$	$n = 5$
5	14	29	50	77
Term 1	Term 2	Term 3	Term 4	Term 5

### Trigonometry (Finding Sides)

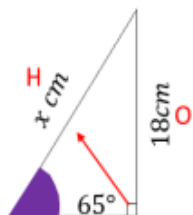


$$\begin{aligned} \sin x &= \frac{O}{H} \\ \cos x &= \frac{A}{H} \\ \tan x &= \frac{O}{A} \end{aligned}$$

Use the word **SOHCAHTOA** to help you remember!

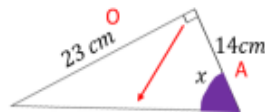


$$\begin{aligned} \cos(34) &= \frac{A}{H} \\ \cos(34) &= \frac{x}{19} \\ (\times 19) \quad (\times 19) \\ x &= 19 \times \cos(34) \\ x &= 15.8\text{cm}(3\text{sf}) \end{aligned}$$



$$\begin{aligned} \sin(65) &= \frac{O}{H} \\ \sin(65) &= \frac{18}{x} \\ (\times x) \quad (\times x) \\ x \times \sin(65) &= 18 \\ (\div \sin(65)) \quad (\div \sin(65)) \\ x &= \frac{18}{\sin(65)} = 19.9\text{cm}(3\text{sf}) \end{aligned}$$

### Trigonometry (Finding Angles)



$$\begin{aligned} \tan(x) &= \frac{O}{A} \\ \tan(x) &= \frac{14}{23} \\ (\tan^{-1}) \quad (\tan^{-1}) \\ x &= \tan^{-1}\left(\frac{14}{23}\right) \\ x &= 31.1^\circ(3\text{sf}) \end{aligned}$$

### Averages from Grouped Frequency Tables:

Height, $h$ (cm)	Freq	Midpoint, $m$	$m \times \text{Freq.}$
$0 < h \leq 10$	15	5	$5 \times 15 = 75$
$10 < h \leq 20$	37	15	$15 \times 37 = 555$
$20 < h \leq 30$	26	25	$25 \times 26 = 650$
$30 < h \leq 40$	22	35	$35 \times 22 = 770$
<b>Total</b>	<b>100</b>		<b>2050</b>

$$\text{Estimate for the Mean} = \frac{2050}{100} = 20.5\text{cm}$$

Using midpoints gives us an estimate as exact values are unknown

Modal Class =  $10 < h \leq 20$  (The category with the biggest frequency!)

Class in which the Median lies: The median is the  $\left(\frac{n+1}{2}\right)^{\text{th}}$  Value. There are 20 people, so the median is the  $\left(\frac{100+1}{2}\right)^{\text{th}} = 55.5^{\text{th}}$  Value. The median is therefore in the  $20 < h \leq 30$  category!

### Compound Interest:

£2000 is paid into an account that pays 4.8% compound interest per annum (pa). The amount in the account after 3 years is:

$$£2000 \times 1.048^3 = £2302.05(2\text{dp})$$

Reverse Percentages:

A Football shirt is reduced by 17%. It now costs £51.66. The original cost was:

$$51.46 \div 0.83 = £62$$

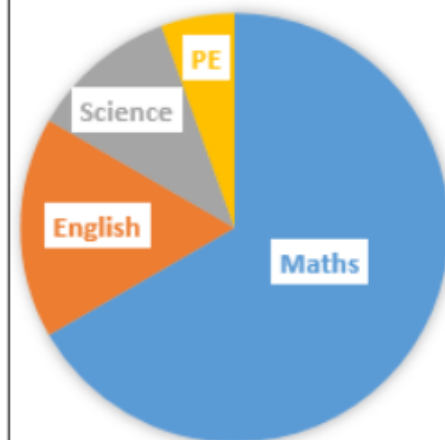
A House increases in price by 16%. It is now worth £162,400. The original price was:

$$162400 \div 1.16 = £140,000$$

### Pie Charts:

Subject	Frequency	Angle = Magic Number $\times$ Freq.
Maths	12	$18 \times 12 = 216^\circ$
English	3	$18 \times 3 = 54^\circ$
Science	2	$18 \times 2 = 36^\circ$
PE	1	$18 \times 1 = 18^\circ$
<b>Total = 20</b>		

$$\text{Degrees Per Person} = 360 \div \text{Total Frequency} = 360 \div 20 = 18$$



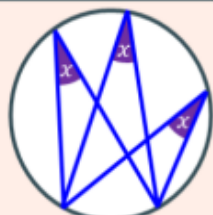
## Circle Theorems

Angle at the centre is twice the angle at the circumference



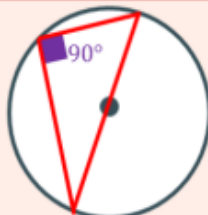
Look for the 'Arrow' Shape!

Angles in the same segment are equal



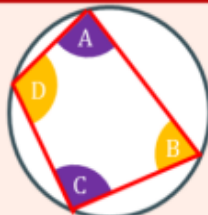
Look for the 'Bow' Shape!

Angle subtended at circumference by a semicircle is  $90^\circ$



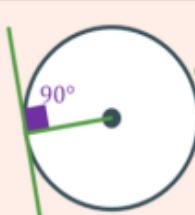
Opposite angle to the diameter!

Opposite angles in a cyclic quadrilateral sum to  $180^\circ$

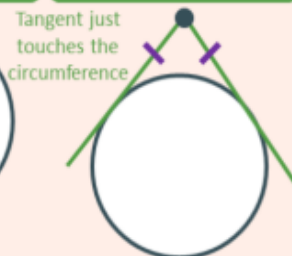


$A + C = 180^\circ$

Tangents and radii meet at  $90^\circ$

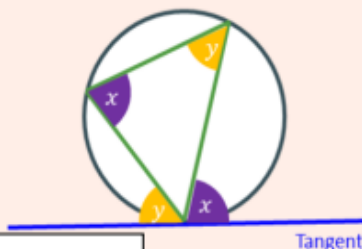


Tangents from a point have equal length



Tangent just touches the circumference

Alternate Segment Theorem



Tangent

Plotting Quadratic Graphs:

$$y = x^2 - 2x - 4$$

When  $x = -2, y = (-2)^2 - (2 \times -2) - 4 = 4$

x	-2	-1	0	1	2	3	4
y	4	-1	-4	-5	-4	-1	4

Coordinates are (-2, 4), (0, -4) etc.

Plot these coordinates on a coordinate grid and plot a **SMOOTH** curve.



Plotting Linear Graphs:

$$y = 3x - 5$$

When  $x = 2, y = (3 \times 2) - 5 = 1$

x	-2	-1	0	1
y	-11	-8	-5	-2

Coordinates are

(-3, -14), (-2, -11) etc.

Plot these coordinates on a coordinate grid and join them together to form a **STRAIGHT LINE**



## Solving Simultaneous Equations using Elimination

$$4x + 7y = 15 \quad (1)$$

$$5x - 2y = 8 \quad (2)$$

Make the coefficient of  $x$  or  $y$  the same to eliminate one of the variables

$$(1) \times 2 \Rightarrow 8x + 14y = 30$$

$$(2) \times 7 \Rightarrow 35x - 14y = 56$$

**Add** the two equations together as the signs of  $y$  are **different**

$$43x = 86$$

$$(+43) \quad (+43)$$

$$x = 2$$

To find our  $y$  value, we need to substitute  $x=2$  into either equation. Using equation 1:

$$(4 \times 2) + 7y = 15$$

$$8 + 7y = 15$$

$$(-8) \quad (-8)$$

$$7y = 7$$

$$(\div 7) \quad (\div 7)$$

$$y = 1$$

$$\text{Solution: } x = 2, y = 1$$

$$3x + 5y = 14 \quad (1)$$

$$7x + 2y = 23 \quad (2)$$

Make the coefficient of  $x$  or  $y$  the same to eliminate one of the variables

$$(1) \times 7 \Rightarrow 21x + 35y = 98$$

$$(2) \times 3 \Rightarrow 21x + 6y = 69$$

**Subtract** the two equations together as the signs of  $x$  are **the same**

$$29y = 29$$

$$(+29) \quad (+29)$$

$$y = 1$$

To find our  $x$  value, we need to substitute  $y = 1$  into either equation. Using equation 2:

$$7x + (2 \times 1) = 23$$

$$7x + 2 = 23$$

$$(-2) \quad (-2)$$

$$7x = 21$$

$$(\div 7) \quad (\div 7)$$

$$x = 3$$

$$\text{Solution: } x = 3, y = 1$$

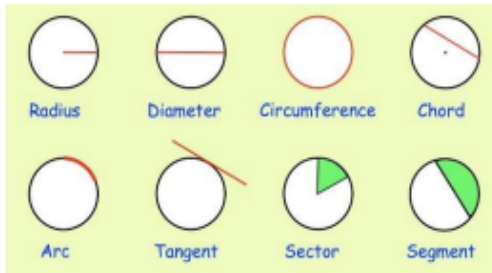
## Volume

*Volume of Prism*  
= *Cross sectional area*  
 $\times$  *Length*

*Volume of Cylinder*  
=  $\pi r^2 h$

<p><b>Areas of 2D Shapes:</b></p> <p>Rectangle = <i>base × perpendicular height</i></p> <p>Triangle = <math>\frac{\text{base} \times \text{perpendicular height}}{2}</math></p> <p>Parallelogram = <i>base × perpendicular height</i></p> <p>Trapezium = <math>\frac{(a+b) \times h}{2}</math></p>	<p><b>Percentage of Amounts without a Calculator:</b></p> <p>47% of £120  <math>10\% = £12 \Rightarrow 40\% = £12 \times 4 = \text{£}48</math>  <math>1\% = £1.20 \Rightarrow 7\% = £1.20 \times 7 = \text{£}8.40</math></p> <p>Add these two answers together to get 47%:  <math>\text{£}48 + \text{£}8.40 = 56.40</math></p>	<p><b>Percentage of Amounts with a Calculator:</b></p> <p>47% of £120  <math>47\% \times 120 = \text{£}56.40</math></p> <p>To use the Percentage Button on your calculator, press <b>SHIFT</b> and then the (%) button.</p>
<p><b>Generating Sequences</b></p> <p>Find the first 3 terms of the sequence with <i>n</i>th term: <math>3n^2 - 7</math></p> <p><math>n = 1, \Rightarrow (3 \times 1^2) - 7 = -4</math>  <math>n = 2, \Rightarrow (3 \times 2^2) - 7 = 5</math>  <math>n = 3, \Rightarrow (3 \times 3^2) - 7 = 20</math></p> <p>Find the first 3 terms of the sequence given by: <math>n(n - 4)</math></p> <p>Remember: <math>n(n - 4) = n \times (n - 4)</math></p> <p><math>n = 1, \Rightarrow 1 \times (1 - 4) = 1 \times -3 = -3</math>  <math>n = 2, \Rightarrow 2 \times (2 - 4) = 2 \times -2 = -4</math>  <math>n = 3, \Rightarrow 3 \times (3 - 4) = 3 \times -1 = -3</math></p>	<p><b>Percentage Decrease without a calculator</b></p> <p>1.) Decrease £48 by 13%  <math>13\% \text{ of } \text{£}48 = \text{£}6.24</math></p> <p>2.) To decrease, <b>SUBTRACT</b> the £6.24.  <i>New Amount</i> = <math>\text{£}48 - \text{£}6.24 = \text{£}41.76</math></p>	<p><b>Percentage Increase with a Calculator:</b></p> <p>Increase £48 by 13%</p> <p><math>100\% + 13\% = 113\%</math>  <math>113\% \times \text{£}48 = \text{£}54.24</math></p>
<p><b>Finding the nth term</b></p> <p><b>5, 7, 9, 11, ...</b></p> <p>The sequence goes up in 2's like the 2 times table. We write this as: <b>2n</b></p> <p>Each term is 3 bigger than the 2 times table so we need to <b>+3</b>.  Therefore, the <i>n</i>th term is:</p> <p><b><u>2n + 3</u></b></p>	<p><b>Percentage Decrease with a Calculator:</b></p> <p>Decrease £48 by 13%</p> <p><math>100\% - 13\% = 67\%</math>  <math>67\% \times \text{£}48 = \text{£}41.76</math></p>	<p><b>Percentage Increase without a calculator</b></p> <p>1.) Increase £48 by 13%  <math>13\% \text{ of } \text{£}48 = \text{£}6.24</math></p> <p>2.) To increase, <b>ADD</b> on the £6.24.  <i>New Amount</i> = <math>\text{£}48 + \text{£}6.24 = \text{£}54.24</math></p>
<p><b>Fibonacci Sequence</b></p> <p>1, 1, 2, 3, 5, 8, 13, 21, ...</p> <p>Add the two previous terms to get the next.  (1 + 1 = 2, 1 + 2 = 3, 2 + 3 = 5 etc.)</p>	<p><b>Other Sequences:</b></p> <p>Squares: 1, 4, 9, 16, 25 ...  <i>n</i>th term: <math>n^2</math></p> <p>Cubes: 1, 8, 27, 64, 125 ...  <i>n</i>th term: <math>n^3</math></p> <p>Triangular Numbers: 1, 3, 6, 10, 15 ...  <i>n</i>th term: <math>\frac{n(n+1)}{2}</math></p>	<p><b>Calculating Percentage Change:</b></p> <p><math>\text{Percentage Change} = \frac{\text{Difference}}{\text{Original}} \times 100</math></p> <p>A new car is valued at a price of £17000. 4 years later it is valued at £9450.</p> <p>The Percentage Change is:</p> <p><math>\frac{17000 - 9450}{17000} \times 100 = 44.4\% (1dp)</math></p> <p>The car has lost 55.6% of its original value</p>

## 9B Half-term 3



Area of a Circle =  $\pi r^2$

Circumference of a Circle =  $\pi d = 2\pi r$

A Circle has radius 5cm. The area and circumference are as follows:

Area =  $\pi \times 5^2 = 25\pi \text{ cm}^2 = 78.5 \text{ cm}^2$  (1dp)

Circumference =  $\pi \times 10 = 10\pi \text{ cm} = 31.4 \text{ cm}$  (1dp)

### Dividing into a Ratio:

Share £480 in the ratio 3:5:4

$$3 + 5 + 4 = 12$$

$$1 \text{ Part} = £480 \div 12 = £40$$

$$3 \text{ Parts} = £40 \times 3 = £120$$

$$5 \text{ Parts} = £40 \times 5 = £200$$

$$4 \text{ Parts} = £40 \times 4 = £160$$

**£120:£200:£160**

### Ratio:

Tom has 24 Xbox games and 38 PS4 games. The ratio of PS4 games to Xbox games is:

$$\begin{array}{l} \text{PS4: Xbox} \\ 38:24 \\ \div 2 \quad \quad \div 2 \\ \hline 19:12 \end{array}$$

## 9B Half-term 4

### Recipes and Proportion:

#### 8 People:

400g Pasta

2 Tins Chopped Tomatoes

1 Onion

4tbsp Tomato Puree

To find the recipe for 6 people, divide each amount by 8 and then multiply by 6:

#### 6 People:

$$(400 \div 8) \times 6 = \mathbf{300g \text{ Pasta}}$$

$$(2 \div 8) \times 6 = \mathbf{1.5 \text{ Tins Tomato}}$$

$$(1 \div 8) \times 6 = \frac{3}{4} \mathbf{Onion}$$

$$(4 \div 8) \times 6 = \mathbf{3tbsp \text{ Puree}}$$

### Ratio

Billy and James have some sweets in the ratio 9:2. Billy has **35 more** sweets than James. How many sweets are there altogether?

Billy has 7 more parts than James.

$$1 \text{ Part} = 35 \div 7 = 5.$$

$$2 \text{ Parts} = 2 \times 5 = 10$$

$$9 \text{ Parts} = 9 \times 5 = 45$$

$$\begin{array}{l} \text{Total Number of sweets} \\ = 45 + 10 = \mathbf{55} \end{array}$$

### Area and Perimeter of Part Circles:



Radius = 6cm  
Diameter = 12cm

12cm

$$\text{Area} = \frac{\pi r^2}{2} = \frac{\pi \times 6^2}{2} = \frac{36\pi}{2} = 18\pi \text{ cm}^2 = \mathbf{56.5 \text{ cm}^2}$$
 (1dp)

Perimeter = Curved Edge + Straight Edge

$$\text{Curved Edge} = \frac{\pi d}{2} = \frac{\pi \times 12}{2} = 6\pi \text{ cm} = \mathbf{18.8 \text{ cm}}$$
 (1dp)

$$\text{Perimeter} = 12 + 18.8 = \mathbf{30.8 \text{ cm}}$$
 (1dp)

### Sample Space Diagrams

We use sample space diagrams to list all outcomes when carrying out two probability experiments at the same time

		Player 2				
		Rock	Paper	Scissors		
Player 1	Rock	RR	RP	RS	1	2
	Paper	PR	PP	PS	3	4
	Scissors	SR	SP	SS	5	6
					7	8
					9	10
					11	12

$$P(\text{Scissors}) = \frac{3}{9}$$

$$P(\text{Prime}) = \frac{15}{36} = \frac{5}{12}$$

### Combining Ratios

In a field, the ratio is Cows to Pigs is 3:4 and the ratio of Pigs to Sheep is 6:1. The ratio of Cows to Pigs to Sheep is Given by:

$$\begin{array}{ll} \text{C:P} & \text{P:S} \\ \mathbf{3:4} & \mathbf{6:1} \end{array}$$

We need to make the number of Pigs the same as they are common to both ratios

$$\begin{array}{ll} \text{C:P} & \text{P:S} \\ \mathbf{9:12} & \mathbf{12:2} \end{array}$$

$$\begin{array}{l} \text{C:P:S} \\ \mathbf{9:12:2} \end{array}$$

**Y9 Music HT3&4 Sequencing, Main Element Focus:Texture**

**DAW** – Digital Audio Workstation: GarageBand/LogicProX

**Texture** describes how layers of sound within a piece of music interact.

**Melody** The main tune

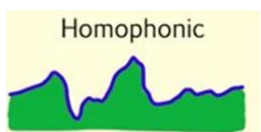
**Harmony** The chords that support the melody

**Layering** Introducing each new sound one by one. The addition of each layer creates a thicker texture.

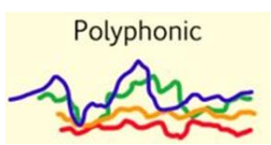
**Monophonic** music has only one melodic line, with no harmony or counterpoint.



**Homophonic** music has one clear melodic line; it's the line that naturally draws your attention. All other parts provide accompaniment.

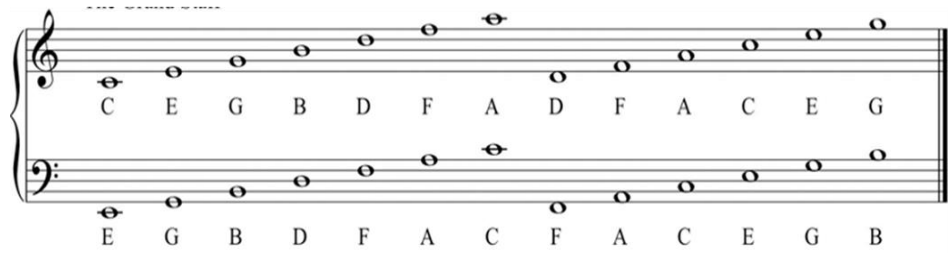


**Polyphonic** music has more than one independent melody is occurring at the same time, the music is polyphonic.

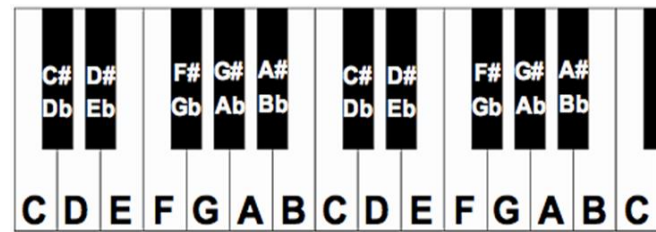


**Y9 Music HT3&4 Sequencing**

Treble and Bass clef notation



Piano keyboard diagram



**Velocity Shaping** altering the dynamic level of a layer

<i>ppp</i>		Quietest
<i>pp</i>	Pianissimo	Very Quiet
<i>p</i>	Piano	Quiet
<i>mp</i>	Mezzo Piano	Moderately Quiet
<i>mf</i>	Mezzo Forte	Moderately Loud
<i>f</i>	Forte	Loud
<i>ff</i>	Fortissimo	Very Loud
<i>fff</i>		Loudest

**What do Christians believe is right & wrong?**  
Year 9 Topic 3 - Religion, Philosophy & Ethics

Key Terms	Definition
Ethics	Moral principles that govern a person's behaviors
Moral Principles	Ideas that we try to follow in our attempt to live right and be good people
Moral Dilemma	A situation where a person must make a decision about what is right and wrong
Situation Ethics	A theory that to decide what is right and wrong we must consider the situation first
Parable	A story used to demonstrate a moral teaching, by Jesus in the Bible
Stewardship	is caring for others and the environment for the benefit of future generations

*"The greatest happiness for the greatest number"*  
Jeremy Bentham  
(Utilitarianism)

*"Only one thing is intrinsically good, namely love"*  
Joseph Fletcher (Situation Ethics)

*"Love your neighbour"*  
Jesus, Bible

Situation Ethics

**Focuses on doing the most loving thing in the situation**

This ethical theory takes the situation into account before deciding on what is right and wrong.

- Christian Philosopher Joseph Fletcher developed the theory of situation ethics in the 1960's, in his book entitled Situation Ethics.
- Agape love (unconditional love) is at the heart of Christianity and this theory.
- Based on Christian ethics, this theory suggests there are no set moral laws that apply to all circumstances, instead it is important to consider the circumstance and what the most loving thing to do is.
- For example, killing could be considered immoral (wrong) in one circumstance but morally permissible (allowed) in another. As each situation is different, the outcome therefore will be too.

- **Weakness:** each person's definition and interpretation of love is different so we cannot ensure the most loving action is always carried out



Christian Ethical Teachings

The Ten Commandments are written in the Old Testament (Jewish Torah). They outline five ways someone should show love to God and five ways someone should show love to their neighbour.

Jesus was born Jewish but rejected Jewish beliefs to promote a new covenant (set of beliefs) which is now known as Christianity.

When asked which of the Jewish teachings (10 Commandments) were most important Jesus said the Greatest Commandment is to Love God and Love your neighbour.

Parables like the Sheep and Goats explain how someone can do this.

**Ten Commandments**

- #1 You shall have no other gods before Me
- You shall make no idols
- OMG You shall not take the name of the Lord your God in vain
- Keep the Sabbath day holy
- Honor your father and your mother

**Bibleinfo**

- You shall not murder
- You shall not commit adultery
- You shall not steal
- You shall not bear false witness against your neighbor
- You shall not covet



## Other Moral Views...

### Charity

Judaism	Tzedakah means giving to those in need. Jews are taught to give one tenth of their wealth to the poor to help them survive.
Christianity	The Bible has many teachings that encourage giving to charity although here is no set amount. Parables such as the Sheep & the Goats encourage charity which will be rewarded in heaven.
Islam	Zakat is the Muslim duty to give to charity in order to reduce suffering in the world. Muslims believe that paying Zakat purifies, increases and blesses the wealth they have left. After bills, Muslims are taught to give 2.5% of any remaining wealth to charity




### Humanist (atheist) Ethics

Humanists actively seek to live good lives without following a religion. Their moral values are based on human nature and life experiences. Humanists base their moral principles on reason, shared human values and respect for others. They believe people should work together to improve the quality of life for all. Thinkers such as Charles Darwin, Marie Curie and George Eliot have all influenced Humanism.

Ethical Decisions -To live good lives, decisions must be weighed up for their positive and negative consequences for all. Humanists believe there are no perfect decisions.

### The British Humanist Association Values

Treating people with fairness and respect.	Respecting and promoting freedom, human rights and the law. Engaging in conversation and discussion with attention to detail.	Cooperating with others to make good things happen, including with those of different beliefs.
Celebrating human achievement, progress and potential.	Engaging in conversation and discussion with attention to detail and evidence.	



**Epistemology – What can I know?**  
Year 9 Topic 4 - Religion, Philosophy & Ethics

Key Terms	Definition
Epistemology	The study of knowledge, thinking about what we can and cannot know.
Philosophy	A love of wisdom and the study of life's big questions e.g. why are we here?
Empirical Evidence	Evidence that comes from using our senses
Truth	Something that is fact
Scientific Method	The process of find out what is true by applying 6 steps involving observation, testing and critical thinking
Doubt	To be unsure of something, to question if it is true
Universal Doubt	A method of doubting everything you believe in order to find out what is true
Empiricist belief	knowledge comes from our experiences and senses.
Rationalist belief	Knowledge comes from reason and logic, not experiences

"I think therefore I am"  
Descartes

"The only reason to believe anything is true is that there's evidence,"  
Dawkins

"Reality is created by the mind, we can change our reality by changing our mind."  
Plato

"All our knowledge begins with the senses"  
Kant

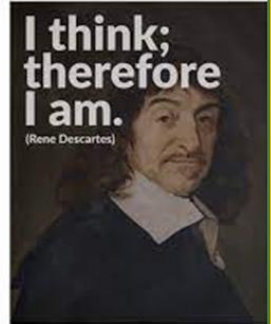
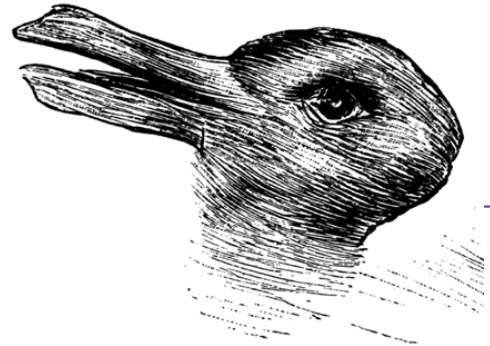
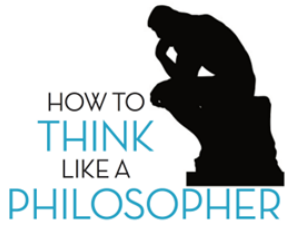
**All knowledge comes from our senses – Ayn Rand**

- Modern philosopher Ayn Rand believed that the only knowledge we can have comes from our senses.
- We cannot know anything through our "instinct" or by spiritual revelation (E.g. God appeared in a dream). We are not born with knowledge.
- Because of this belief, Rand did not believe in any religion or spiritual reality.



**We cannot trust our senses; all I can know is that I exist= Descartes**

- Rene Descartes was a 17<sup>th</sup> Century mathematician
- Whilst trying to understand the world, Descartes concluded that we shouldn't accept that anything is true if there is a chance that it isn't.
- Descartes was famous for not trusting his senses and believing we can only know things through thought and logic.
- We have five senses – taste, smell, hearing, touch and sight – and we use them constantly to understand the world. However our senses can be fooled. For example optical illusions may show a stick bending when it is placed in water.
- Because our senses can't be trusted, everything we believe about the world may be wrong.
- However, we are able to know one thing... that we exist. Our ability to doubt is proof that we exist.
- This led to the famous phrase "cogito, ergo sun" (I think, therefore I am)



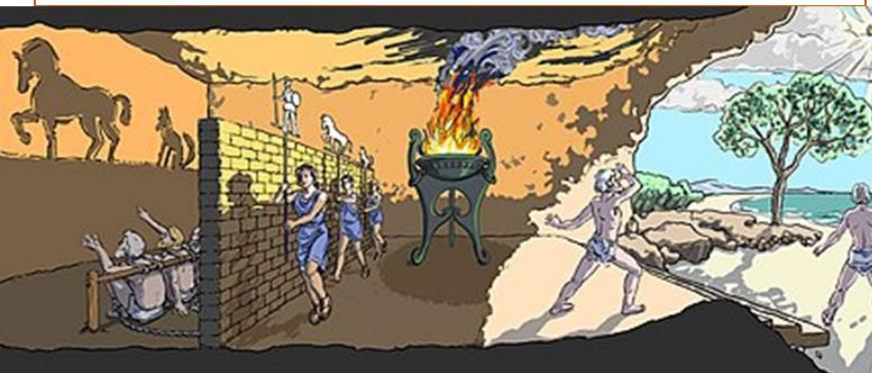
**Philosophy & Epistemology**

- Philosophers have a love of wisdom and question the world around
- One part of philosophy is epistemology, the study of knowledge and truth.
- Epistemology aims to understand what we can know as truth and fact.
- Many philosophers disagree on how we can know what is real and true. Some like to use their senses and observations of the world, others do not.
- Truth can be found in many different ways; through scientific experiments, from the evidence of historical document, by observation and through spiritual faith.

**Epistemology – What can I know?**  
Year 9 Topic 4 - Religion, Philosophy & Ethics

**The truth about reality is in our minds – Plato**

- Plato was a famous Greek philosopher born in the 4<sup>th</sup> century BC.
- A student of Socrates and teacher of Aristotle, Plato studied with some of the greatest philosophers.
- Plato wrote 36 dialogues – discussions between characters on philosophical issues.
- Plato's questioned what is real in his Allegory of the Cave. The allegory is a short story about three prisons in a cave, they have been chained up since birth facing a wall where shadows of passers by are cast. The prisoners have never seen anything outside of the cave, to them the shadows are real. They give the shadows names like 'dog' and 'hat'. Eventually one prisoner is freed and leaves the cave. At first he is blinded by the sun but soon he sees reality – he the shadows are imperfect copies of things passing by and, in fact, the shadows are not living things like him. He goes back to the cave to inform the other prisoners but do not believe him, they think he is crazy.
- Plato's story is meant to make us question reality. Is there something "more real" than what we experience in this life? Plato used this story to demonstrate that we cannot trust our senses.
- Plato believed that, just as a shadow is an imperfect copy of an object, our world could be an imperfect copy of something else (what he called 'the forms').
- **Some people have likened this allegory to humans existing within a game like Sims.**



**We cannot know everything about reality, but we should trust our senses - Kant**

- 18<sup>th</sup> Century philosopher, Immanuel Kant, was raised very religious but instead of following religion Kant focused his life on what it means to be a good person.
- Kant was an empiricist, he believed that we could trust our sense to find truth, however he argued there were some things we would never know, some things our senses could not tell us.

He claimed the world was divided into two:

1. The Phenomenon: The world we can understand through our senses
2. The Noumenon: The world we can never understand. We cannot access the noumenon as it is beyond human understanding. Answers to ultimate questions such as 'what is the meaning of life' all exist there and can never be accessed by humans using our senses.

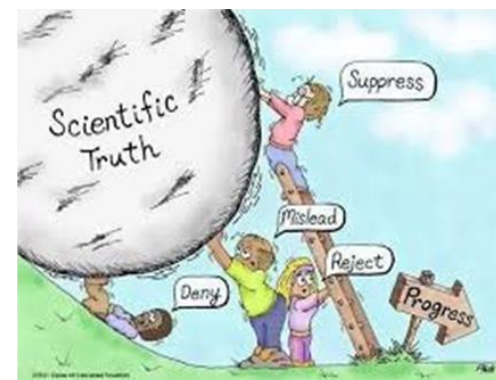


**"That all our knowledge begins with experience there can be no doubt."**

**Immanuel Kant (Critique of Pure Reason)**

**The truth about reality is found in science – Richard Dawkins**

- Modern scientist Richard Dawkins believes that what is true and real can be decided based on scientific studies. He is an atheist because religion cannot be proven scientifically. He used scientific methods to prove or disprove different ideas.
- Dawkins argues that we can learn facts about the world by testing it scientifically. If a test gives the same result every time then we can conclude that it is fact. For example, no matter where in the world someone stands, if they drop something it will always fall to the floor proving gravity exists.
- Using our senses is an important part of scientific investigation and we should trust those senses and use them to find evidence for our beliefs.



# Year 9 Biology Term 2 - Human Biology

### Principles of Organisation

cell	tissue	organ	organ system	organism
Cells are the basic building blocks of all living things.	A group of cells with a similar structure and function is called a tissue.	An organ is a combination of tissues carrying out a specific function.	Organs work together within an organ system.	Organ systems work together to form whole living organisms.

### The Heart and Blood Vessels

The heart is a large muscular organ which pumps blood carrying oxygen or waste products around the body. The lungs are the site of gas exchange where oxygen from the air is exchanged for waste carbon dioxide in the blood. Oxygen is used in the respiration reaction to release energy for the cells and carbon dioxide is made as a waste product during the reaction.

$$\text{glucose} + \text{oxygen} \rightarrow \text{carbon dioxide} + \text{water} + [\text{energy}]$$

vein	artery	capillary

The right atrium receives deoxygenated blood via the vena cava. It is then pumped down through the valves into the right ventricle. From here, it is forced up through the pulmonary artery towards the lungs where it exchanges carbon dioxide for oxygen. The oxygenated blood then enters the left atrium via the pulmonary vein and down into the left ventricle. The muscular wall of the left ventricle is much thicker so it can pump the blood more forcefully out of the heart and around the entire body, via the aorta.

### The Digestive System

The purpose of the digestive system is to break down large molecules into smaller, soluble molecules, which are then absorbed into the bloodstream. The rate of these reactions is increased by enzymes.

### Enzymes

An enzyme is a biological catalyst; enzymes speed up chemical reactions without being changed or used up. This happens because the enzyme lowers the activation energy required for the reaction to occur. Enzymes are made up of chains of amino acids folded into a globular shape.

Enzymes have an active site which the substrate (reactants) fits into. Enzymes are very specific and will only catalyse one specific reaction. If the reactants are not the complimentary shape, the enzyme will not work for that reaction.

Enzymes also work optimally at specific conditions of pH and temperature. In extremes of pH or temperature, the enzyme will denature. This means that the bonds holding together the 3D shape of the active site will break and the active shape will deform. The substrate will not be able to fit into the active site anymore and the enzyme cannot function.

Enzyme	Reactant	Product
amylase	starch	sugars (glucose)
protease	protein	amino acids
lipase	lipid	glycerol and fatty acids

The three types of blood vessels, shown above, are each adapted to carry out their specific function.

Capillaries are narrow vessels which form networks to closely supply cells and organs between the veins and arteries. The walls of the capillaries are only one cell thick, which provides a short diffusion pathway to increase the rate at which substances are transferred.

The table below compares the structure and function of arteries and veins:

	Artery	Vein
direction of blood flow	away from the heart	towards the heart
oxygenated or deoxygenated blood?	oxygenated (except the pulmonary artery)	deoxygenated (except the pulmonary vein)
pressure	high	low (negative)
wall structure	thick, elastic, muscular, connective tissue for strength	thin, less muscular, less connective tissue
lumen (channel inside the vessel)	narrow	wide (with valves)

The blood only flows in one direction. This is because there are valves in the heart which close under pressure and prevent the backward flow of blood.

### Blood

Blood is composed of red blood cells (erythrocytes), white blood cells and platelets, all suspended within a plasma (a tissue).

The plasma transports the different blood cells around the body as well as carbon dioxide, nutrients, urea and hormones. It also distributes the heat throughout the body.

Red blood cells transport oxygen attached to the haem group in their structure. It has a biconcave shape to increase surface area and does not contain a nucleus so it can bind with more oxygen molecules.

White blood cells form part of the immune system and ingest pathogens and produce antibodies. Platelets are important blood clotting factors.

at the lungs  
 $\text{haemoglobin} + \text{oxygen} \rightleftharpoons \text{oxyhaemoglobin}$   
 at the cells

The products of digestion are used to build new carbohydrates and proteins and some of the glucose is used for respiration.

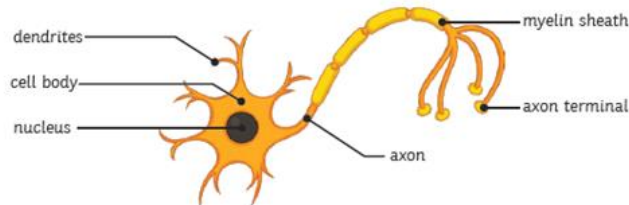
Bile is produced in the liver and stored in the gall bladder. It is an alkaline substance which neutralises the hydrochloric acid in the stomach. It also works to emulsify fats into small droplets. The fat droplets have a higher surface area and so the rate of their digestion by lipase is increased.

Right side of the heart pumps blood to the lungs as it has less muscle. Left side of the heart pumps blood to the entire body, it has much thicker muscle.

## The Human Nervous System

The nervous system allows a fast, short-lived response to a stimulus in the surroundings. The information is received by a receptor, passed along the neurons (nerve cells) as an electrical impulse and results in a response.

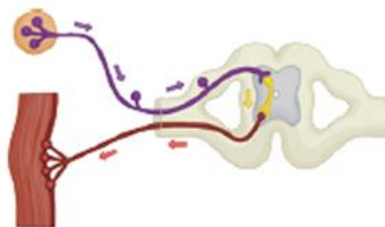
You might have to label the parts of a typical neuron:



- The axon is the main part of the nerve cell. It is a long, stretched-out fibre of cytoplasm which the electrical impulse will travel along.
- Some axons are surrounded in a layer of fatty cells called the myelin sheath and it helps to insulate the electrical impulse.
- The branched endings, dendrites, connect the neurons together to create a network.

## Reflexes

A reflex is a fast and automatic response to a particular stimulus which may be harmful to the organism. They are quick because there is no conscious thought or process to deliver the response (they are an involuntary action). The pathway which carries the information about a reflex action is called a reflex arc.



A reflex arc begins with the stimulus e.g. a bee sting or a hot object on the skin. The stimulus is detected by the receptor cells and an electrical impulse is transmitted along the sensory neuron. The impulse is passed through relay neurons in the spinal cord or the unconscious areas of the brain. The response is coordinated automatically and sent along the motor neuron to the effector cells.

## Synapses

A synapse is the gap where the ends of two neurons meet.



The information needs to be passed from one neuron to the next, but cannot be passed as an electrical impulse over the synapse (gap). Instead, the message is transmitted by chemical neurotransmitters.

When the electrical impulse arrives at the terminal of the first neuron, it causes a release of neurotransmitter chemicals into the synapse. They travel across the gap and bind to receptor sites on the terminal of the next neuron.

The receptor sites are specific for each type of neurotransmitter. A nerve impulse will only be created in the second neuron when a complimentary chemical binds.

## The Nervous Pathway

A stimulus is a change in the environment (internally or externally). In a typical response to stimuli, this information is received by the receptor and sent as an electrical impulse along a sensory neuron towards the central nervous system (CNS). The CNS is comprised of the brain and spinal cord. Here, the impulse is passed through relay neurons and a response to the stimulus is coordinated. This could be consciously or subconsciously. The CNS sends information about the response along a motor neuron as an electrical impulse. The effector receives the impulse and carries out the response.

[stimulus] → receptor → sensory neuron → CNS → motor neuron → effector → [response]

Examples of receptors include rod and cone cells within the eye which respond to light and allow us to see. Or it could be the cells in the skin which respond to pressure or temperature changes allowing us to feel.

An effector could be a muscle or a gland. In response, a muscle might contract to make a movement or a gland releases a chemical into the body.

# Year 9 Term 2 Chemistry - Atoms and Periodic Table

## Atoms

Contained in the nucleus are the **protons** and **neutrons**. Moving around the nucleus are the **electron shells**. They are negatively charged.

Particle	Relative Mass	Charge
proton	1	+1
neutron	1	0
electron	Very small	-1



Overall, atoms have no charge; they have the same number of protons as electrons. An ion is a charged particle - it does not have an equal number of protons to electrons.

## Elements

Elements are made of atoms with the same atomic number. Atoms can be represented as symbols.

N = nitrogen    F = fluorine    Zn = zinc    Ca = calcium

**Isotopes** – an isotope is an element with the same number of protons but a different number of neutrons. They have the same atomic number, but different mass number.

Isotope	Protons	Electrons	Neutrons
${}^1_1\text{H}$	1	1	1 - 1 = 0
${}^2_1\text{H}$	1	1	2 - 1 = 1
${}^3_1\text{H}$	1	1	3 - 1 = 2

**Compounds** – a compound is when two or more elements are chemically joined. Examples of compounds are carbon dioxide and magnesium oxide. Some examples of formulas are  $\text{CO}_2$ ,  $\text{NaCl}$ ,  $\text{HCl}$ ,  $\text{H}_2\text{O}$ ,  $\text{Na}_2\text{SO}_4$ . They are held together by chemical bonds and are difficult to separate.

## Equations and Maths

To calculate the relative atomic mass, use the following equation:  
relative atomic mass ( $A_r$ ) =

$$\frac{\text{sum of (isotope abundance} \times \text{isotope mass number)}}{\text{sum of abundances of all isotopes}}$$

## Balancing Symbol Equations

There must be the same number of atoms on both sides of the equation:



C = 1

O = 4

H = 4

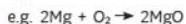
## Chemical Equations

A chemical reaction can be shown by using a **word equation**.

e.g. magnesium + oxygen  $\rightarrow$  magnesium oxide

On the left-hand side are the reactants, and the right-hand side are the products.

They can also be shown by a **symbol equation**.



Equations need to be **balanced**, so the same number of atoms are on each side. To do this, numbers are put in front of the compounds.



## Development of the Periodic Table

In the early 1800s, elements were arranged by atomic mass. The periodic table was not complete because some of the elements had not been found. Some elements were put in the wrong group.

Dimitri Mendeleev (1869) left gaps in the periodic table. He put them in order of **atomic mass**. The gaps show that he believed there was some undiscovered elements. He was right! Once found, they fitted in the pattern.

## The Modern Periodic Table

Elements are in order of **atomic mass/proton number**. It shows where the metals and non-metals are. **Metals** are on the left and **non-metals** on the right. The columns show the **groups**. The **group number** shows the number of **electrons** in the **outer shell**. The rows are **periods** – each period shows another full shell of electrons.

The periodic table can be used to predict the reactivity of elements.

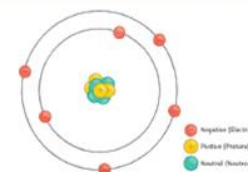


## History of the Atom

Scientist	Time	Discovery
John Dalton	start of 19 <sup>th</sup> century	Atoms were first described as solid spheres.
JJ Thomson	1897	Plum pudding model – the atom is a ball of charge with electrons scattered.
Ernest Rutherford	1909	Alpha scattering experiment – mass concentrated at the centre; the nucleus is charged. Most of the mass is in the nucleus. Most atoms are empty space.
Niels Bohr	around 1911	Electrons are in shells orbiting the nucleus.
James Chadwick	around 1940	Discovered that there are neutrons in the nucleus.

## Electronic Structure

Electrons are found in shells. A maximum of two in the most inner shell, then eight in the 2<sup>nd</sup> and 3<sup>rd</sup> shell. The inner shell is filled first, then the 2<sup>nd</sup> then the 3<sup>rd</sup> shell.



Ions are charged particles. They can be either positively or negatively charged, for example  $\text{Na}^+$  or  $\text{Cl}^-$ .

When an element loses or gains electrons, it becomes an ion.

Metals lose electrons to become positively charged.

Non-metals gain electrons to become negatively charged.

Group 1 and 2 elements lose electrons and group 6 and 7 elements gain electrons.

Group	Ions	Element Example
1	+1	$\text{Li} \rightarrow \text{Li}^+ + \text{e}^-$
2	+2	$\text{Ca} \rightarrow \text{Ca}^{2+} + 2\text{e}^-$
6	-2	$\text{Br} + \text{e}^- \rightarrow \text{Br}^-$
7	-1	$\text{O} + 2\text{e}^- \rightarrow \text{O}^{2-}$

## Metals and Non-metals

They are found at the **left** part of the periodic table. Non-metals are at the **right** of the table.

### Metals

Are strong, malleable, good conductors of electricity and heat. They bond metallically.

### Non-Metals

Are dull, brittle, and not always solids at room temperature.

190	<p>Mass number = Number of protons + Number of Neutron</p>
F	
9	

Finding out electrons: Overall an atom must be neutral this means that the number of positive protons is equal to the number of negative electrons.

# Year 9 Term 2 Physics - Magnets and Electromagnets

## Poles of a Magnet

A magnet has two ends called poles: the north pole and the south pole. The magnetic forces of the magnet are strongest at the poles.



When two magnets are brought close together, they will attract or repel, depending on which poles are brought together:

- Like poles will repel one another e.g. N-N or S-S.
- Opposite poles will attract e.g. N-S.

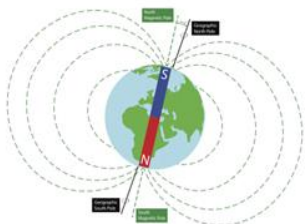
The forces exerted between the poles of two magnets are a type of non-contact force: the magnets do not have to be touching for the effect to be observed.

Remember that only iron, cobalt and nickel (or alloys containing these metals) are magnetic.

A permanent magnet is one with its own magnetic field. The magnetism cannot be turned on or off e.g. a bar magnet or a horseshoe magnet.

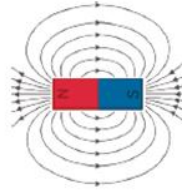
An induced magnet is a material which becomes magnetic only when placed within a magnetic field. Induced magnets only attract other materials and lose most (if not all) of their magnetism when removed from the magnetic field e.g. iron filings.

## The Earth's Magnetic Field



## Magnetic Fields

The magnetic field is the area surrounding a magnet where the force is acting on another magnet or magnetic material. It can be observed using a compass placed at different points around a bar magnet. The field lines can be drawn by using the compass to mark the direction at a range of points.



A magnet always causes a magnetic material to be attracted. The strength of the magnetic field is determined by the proximity to the magnet.

When looking at a diagram of magnetic field lines, the force is strongest where the lines are closest together. The magnetic field of the magnet is strongest at the poles. The direction of the magnetic field shows the direction the force would act on another north pole.

As a result, magnetic field lines always come away from the north pole (like poles repel) and towards the south pole (unlike poles attract).

The earth produces a magnetic field and a magnetic compass uses this to help aid navigation. The core of the earth is made of iron (a magnetic material). A compass contains a small bar magnet shaped as a needle, which points in the direction of the earth's magnetic field.

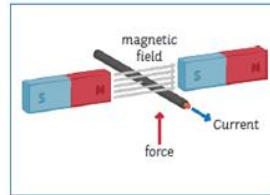


## The Motor Effect and Flemings Left-Hand Rule

When a wire with a current flowing is placed in a magnetic field, it experiences a force. This is called the motor effect.

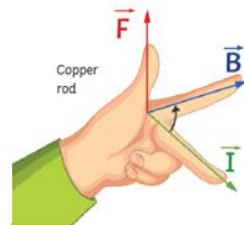
The size of the force can be calculated:

$$\text{Force} = \text{magnetic field strength} \times \text{length} \times \text{current}$$



The force on the wire, direction of current and direction of the magnetic field are all at right angles to one another. You can work out the directions using your **left hand**.

Thumb represent the force on the wire  
 First finger represent the direction of the field  
 Second finger represents the direction of the current.



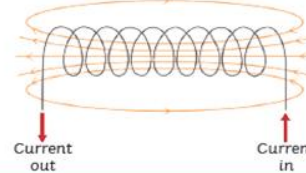
## Electromagnetism

A circular magnetic field is produced when a current is passed through a conducting wire. This produces an induced magnet.

Switching off the current causes the magnetism to be lost.

The strength of the magnetic field can be increased by increasing the current flowing through the wire. The strength of the magnetic field is stronger closer to the wire.

Coiling the wire to form a solenoid will also increase the strength of the magnetic field. The strength of the magnetic field created by a solenoid is strong and uniform throughout.



To increase the strength of the magnetic field around a solenoid you can...

- add an iron core;
- increase the number of turns in the coil;
- increase the current passing through the wire.

An electromagnet is a solenoid with an iron core. Electromagnets are induced magnets and can be turned on and off.

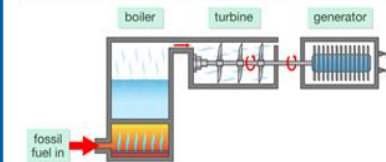
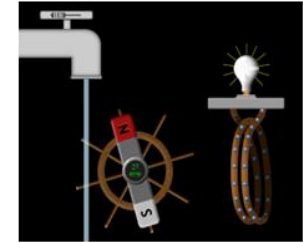
Electric motors, loudspeakers, electric bells and remotely controlled door locks all use electromagnets.



## Electromagnetic induction

Turning a magnet in a coil of wire (or vice versa) creates an **alternating current** in the wire. This where the electrons flow back and forth.

This is how generators work.



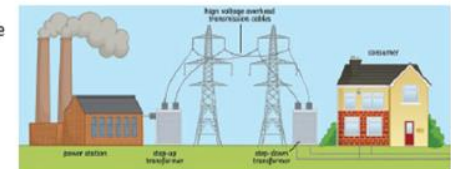
In the generator, a magnet turns inside a coil of wire. The turbine turns the magnet.

## The National Grid

The National Grid is a system of cables and transformers. They transfer electrical power from the power station to where it is needed. Power stations are able to change the amount of electricity that is produced to meet the demands. For example, more energy may be needed in the evenings when people come home from work or school. Electricity is transferred at a low current, but a high voltage so less energy is being lost as it travels through the cables.

**Step-up transformers** – increase the voltage as the electricity flows through the cables.

**Step-down transformers** – decrease the potential difference to make it safe.



# Year 9 Spanish Knowledge Organiser

## Unit 2: Por fin vacaciones

### 2.1 ¡Allá voy!



	Alemania	Germany
	Egipto	Egypt
	Escocia	Scotland
	Estados Unidos	United States
	Francia	France
	Gales	Wales
	Grecia	Greece
	Inglaterra	England
	Irlanda	Ireland
	Italia	Italy
	Turquía	Turkey
	estar de vacaciones	to be on holiday
	ir de vacaciones	to go on holiday
	ir de visita	to pay a visit
	una escapada a la ciudad	city break
	unas vacaciones en la playa	beach holiday
	un viaje cultural	cultural trip
el autocar	coach	
el avión	plane	
el barco	boat	
la bicicleta	bicycle	
el coche	car	
la motocicleta	motorbike	
el tren	train	
voy...	I go/I'm going...	
...a pie	on foot	
...en autocar	by coach	
...en avión	by plane	
...en barco	by boat	
...en bicicleta	by bike	
...en coche	by car	
...en motocicleta	by motorbike	
...en tren	by train	

### 2.2 Tengo mucho que hacer

alojarme en un hotel	to stay in a hotel
comer en restaurantes típicos	to eat in typical restaurants
ir de compras a mercados	to go shopping in markets
jugar al vóley-playa	to play beach volleyball
nadar en el mar	to swim in the sea
pasear por la playa	to stroll along the beach
sacar fotos	to take photos
tomar el sol	to sunbathe
visitar los monumentos históricos	to visit historical monuments
la arena	sand
la estrella	star
el plato	dish
el puerto	port



### 2.3 ¡Esto es la pera!

¡es flipante!	it's amazing!
¡es la pera!	it's incredible!
¡es muy guay!	it's very cool!
¡es un rollo!	it's a pain!
¡mola mucho!	it's out of this world!
¡qué aburrimiento!	what a bore!
¡qué chulo!	how awesome!
¡qué fastidio!	how annoying!
hacer un picnic	to have a picnic
hacer senderismo	to go hiking
montar en globo	to go up in a hot-air balloon
recoger conchas en los charcos	to collect shells in rock pools
visitar el museo arqueológico	to visit the archaeological museum
aproximado/a	approximate



arriesgado/a	risky
educativo/a	educational
estimulante	stimulating
peligroso/a	dangerous
relajante	relaxing



### 2.4 Te cuento qué pasó...

el año pasado	last year	bailar en una discoteca	to dance in a night club
el mes pasado	last month	comprar	to buy
en mis últimas vacaciones	on my last holiday	recuerdos	souvenirs
el verano pasado	last summer	hacer ciclismo	to go cycling
al aire libre	in the open air	nadar en la piscina	to swim in the pool
la barbacoa	barbecue	probar la gastronomía local	to try the local cuisine
el camping	campsite		
la isla	island		
sacar selfis	to take selfies		
salir con los amigos	to go out with friends		
ver un partido	to watch a match		
		la tribu	tribe
		el tucán	toucan
		el valle	valley



### 2.5 Mi aventura amazónica

hacer una visita guiada	to take a guided tour
observar la naturaleza	to observe nature
planear	to plan
subir una montaña	to climb a mountain
la capibara	capybara (large rodent)
la deforestación	deforestation
el delfín	dolphin
la experiencia	experience
el mono capuchino	capuchin monkey
la rana venenosa	poisonous frog
el río Amazonas	the Amazon river
la selva tropical	tropical rainforest



### 2.6 ¡El verano que viene vamos a flipar!

el año que viene	next year	trabajar de voluntario/a	work as a volunteer
el miércoles que viene	next Wednesday	ganar la lotería	to win the lottery
la semana que viene	next week	ver muchos animales salvajes	to see many wild animals
el verano que viene	next summer	viajar alrededor del mundo	to travel around the world
voy a...	I am going to...	volar en un avión privado	to fly in a private plane
alojarme en un hotel	stay in a hotel	el comedor social	soup kitchen
dar de comer a las llamas	feed the llamas	incluido/a	included
dormir mucho	sleep a lot	el mar	Mediterranean Sea
no hacer nada	not do anything	Mediterráneo	
hacer un crucero	go on a cruise	primera clase	first class
pescar en el río	fish in the river	sin techo	homeless
planear mis vacaciones en Internet	to plan my holiday on the Internet	el/la voluntario/a	volunteer
		wifi	wifi



# Year 9 Spanish Knowledge Organiser

## Unit 2: Por fin vacaciones

### 2.1 ¡Alla voy!

normalmente	normally	voy	I go	a Alemania	to Germany	en coche	by car	con	mi familia
siempre	always	va	he/she goes	a Italia	to Italy	en avión	by plane		mis padres
a veces	sometimes	vamos	we go	a España	to Spain	en autobús	by bus		mis amigos
nunca	never	van	they go	a Grecia	to Greece	en tren	by train		la familia de mis amigos
						a pie	on foot		

### 2.2 Tengo mucho que hacer

suelo	I usually	tomar el sol	sunbathe	y	visito	I visit	los mercado	the markets
suele	he/she usually	nadar en el mar	swim in the sea		visito	I visit	sitios de interés	interesting sites
solemos	we usually	jugar al voley-playa	play beach volleyball		vistamos	we visit	los monumentos	monuments
suelen	they usually	ir de compras	go shopping				los museos	museums
		sacar fotos	take photos					

### 2.3 ¡Esto es la pera!

voy a I am going to	hacer senderismo	to go hiking	porque	¡es flipante!	it's amazing
	recoger conchas en los charcos	collect shells in rock pools		¡es la pera!	it's incredible
	montar en globo	to go up in a hot air-balloon		¡mola mucho!	it's out of this world
	hacer un picnic en la playa	to have a picnic on the beach		¡es un rollo!	it's a pain

### 2.4 Te cuento qué pasó .....

el año pasado	last year	fui a fuimos a	I went to we went to	España	y
el mes pasado	last month			Grecia	
el verano pasado	last summer			Francia	
en mis últimas vacaciones	on my last holiday			los Estados Unidos	

### 2.5 Mi Aventura amazónica

fui a	I went to	Peru Lima Colombia	primero hice una visita guida	first of all I did a guided tour	fue it was
fuiste a	you went to		luego observé las plantas exóticas	later I saw exotic plants	
fue a	he/she went to		vimos delfines	we saw dolphins	
fuimos a	we went to		hizo sol	it was sunny	
fueron a	they went to		hubo tormenta	there was a storm	

### 2.6 ¡El verano que viene vamos a flipar!

el año que viene	next year	voy a	I'm going to	dormir mucho	sleep a lot
el verano que viene	next summer	va a	he/she is going to	ganar la lotería	win the lottery
la semana que viene	next week	vamos a	we are going to	planear mis vacaciones	plan my holidays
el martes que viene	next Tuesday	van a	they are going to	hacer un crucer	go on a cruise
		me gustaría	I would like to		



# Year 9 Spanish Knowledge Organiser

## Unit 3: ¡Aquí mando yo!



### 3.1 Generación digital

descargar música	<i>to download music</i>
gastar batería	<i>to waste/use battery</i>
hacer la compra por Internet	<i>to do the shopping online</i>
jugar a videojuegos	<i>to play video games</i>
llamar por videollamada	<i>to make a video call</i>
sacar fotos	<i>to take photos</i>
subir fotos	<i>to upload photos</i>
ver vídeos	<i>to watch videos</i>
la aplicación/la app	<i>application ('app')</i>
las compras	<i>shopping</i>
la conexión wifi	<i>Wi-Fi connection</i>
la cuenta	<i>account</i>
el navegador	<i>sat-nav</i>
la radio digital	<i>digital radio</i>
el supermercado virtual	<i>virtual/online supermarket</i>
la tableta	<i>tablet</i>



### 3.2 ¿Qué ponen en la televisión?

el concurso	<i>game show/quiz game</i>
los dibujos animados	<i>cartoon/animation</i>
el documental	<i>documentary</i>
la película	<i>film</i>
el programa de deportes	<i>sports programme</i>
el programa de humor	<i>comedy programme</i>
el programa musical	<i>music programme</i>
la serie	<i>series</i>
el telediario	<i>news</i>
la telenovela	<i>soap opera</i>
a la carta	<i>on demand</i>
el canal	<i>channel</i>
el capítulo	<i>episode, chapter</i>
el dispositivo	<i>device</i>
la experiencia	<i>experience</i>
hacer un maratón de	<i>to binge-watch</i>
la programación	<i>TV guide/schedule</i>
la variedad	<i>variety</i>



### 3.3 ¿En el cine o en casa?

una película...	<i>a... film</i>
...cómica	<i>comedy</i>
...de aventuras	<i>adventure</i>
...de ciencia ficción	<i>science fiction</i>
...de dibujos animados	<i>animated</i>
...de miedo	<i>horror</i>
...de misterio	<i>mystery</i>
...del oeste	<i>western</i>
...musical	<i>musical</i>
...romántica	<i>romantic</i>
cautivador(a)	<i>captivating</i>
complejo/a	<i>complex</i>
decepcionante	<i>disappointing</i>
entretenido/a	<i>entertaining</i>
espeluznante	<i>terrifying</i>

### 3.4 Somos melóman@s

los instrumentos	<i>instruments</i>
la música	<i>music</i>
tocar	<i>to play (an instrument)</i>
la batería	<i>drums</i>
la flauta	<i>flute</i>
la gaita	<i>bagpipes</i>
la guitarra	<i>guitar</i>
la pandereta	<i>tambourine</i>
el piano	<i>piano</i>
la trompeta	<i>trumpet</i>
el violín	<i>violin</i>
el/la artista	<i>artist, performer</i>
la banda	<i>band/group</i>
el/la cantante	<i>singer</i>
el concierto	<i>concert</i>
el/la melómano/a	<i>music lover</i>
la pasión	<i>passion</i>



### 3.5 Mis intereses personales

los datos personales	<i>personal data</i>
el estado	<i>status</i>
la obsesión	<i>obsession</i>
el perfil de Internet	<i>Internet profile</i>
la red social	<i>social network</i>
la tendencia	<i>trend</i>
el tuit	<i>tweet</i>
cambiar mi estado	<i>to update/change my status</i>
comentar las fotos	<i>to comment on photos</i>
dar 'me gusta'	<i>to 'like' (e.g. a photo)</i>
hacer vídeos en directo	<i>to make live videos</i>
leer las noticias	<i>to read the news</i>
estar de moda	<i>to be in fashion/fashionable</i>
estar bien informado/a	<i>to be well informed</i>
estar obsesionado/a	<i>to be obsessed</i>
poner efectos	<i>to add effects</i>
poner filtros	<i>to add filters</i>
subir selfis	<i>to upload selfies</i>



### 3.6 Quiero ser...

el/la actor/actriz	<i>actor/actress</i>
el/la arquitecto/a	<i>architect</i>
el/la bibliotecario/a	<i>librarian</i>
el/la bloguero/a	<i>blogger</i>
el/la carnicero/a	<i>butcher</i>
el/la científico/a	<i>scientist</i>
el/la cocinero/a	<i>chef</i>
el/la dentista	<i>dentist</i>
el/la electricista	<i>electrician</i>
el/la enfermero/a	<i>nurse</i>
el/la escritor(a)	<i>writer</i>
el/la fontanero/a	<i>plumber</i>
el/la fotógrafo/a	<i>photographer</i>
el/la granjero/a	<i>farmer</i>
el/la jugador(a) de fútbol	<i>football player</i>



# Year 9 Spanish Knowledge Organiser

## Unit 3: ¡Aquí mando yo!



Spanish

### 3.1 Generación digital

normalmente siempre a veces nunca	normally always sometimes never	uso Internet para	llamar por videollamada sacar fotos subir fotos ver vídeos	to make a video call to take photos to upload photos to watch videos	mi aplicación favorita se llama..... my favourite app is called.....
--	--	-------------------	---	---	---

### 3.2 ¿Qué ponen en la television?

Mi programa favorito se llama.... My favourite TV programme is called....	es it is	un concurso un documental un programa de deportes un programa de humor	game show/quiz game documentary sports programme comedy programme	Me gusta porque es I like it because it is	divertido educativo graciosos	fun educational funny
--	-------------	---	--	---	-------------------------------------	-----------------------------

### 3.3 ¿En el cine o en casa?

Mi película favorita se llama.... My favourite film is called....	Es mi película favorita porque Its is my favourite film because	me da miedo me hace pensar me hace reír	it scares me it makes me think it makes me laugh	Acabo de ver una película I have just watched a .....film	...cómica ...de aventuras ...de ciencia ficción	comedy adventure science fiction
--	--	---	--	--	---	--

### 3.4 Somos melómano@s

Toco Tocaba Tocaría Voy a tocar	I play I used to play I would play I am going to play	la guitarra la pandereta el piano la trompeta el violín	guitar tambourine piano trumpet violin	Prefiero tocar la bateria a I'd rather play the drums than	ver la televisión jugar fútbol en el parque ver vídeos en YouTube	watch the TV play football in the park watch videos on YouTube
--	--	---	--	---	---	--

### 3.5 Mis intereses personales

En mi opinion Creo que Pienso que	In my opinion I think that I think that	las redes sociales son social media is	buenas malas útiles inútiles	good bad useful useless	para	hacer vídeos en directo leer las noticias estar de moda estar bien informado/a	to make live videos to read the news to be in fashion/fashionable to be well informed
---	---	---	---------------------------------------	----------------------------------	------	---	--

### 3.6 Quiero ser.....

En el future Cuando sea mayor Cuando tenga 20 años	In the future When I am older When I am 20	quiero ser me gustaría ser trabajaré como	I want to be I would like to be I will work as	porque because	es interesante es útil es mi sueño está bien pagado es fácil	it is interesting It is useful it is my dream it's well paid it's easy
--	--	---	--	-------------------	--	--