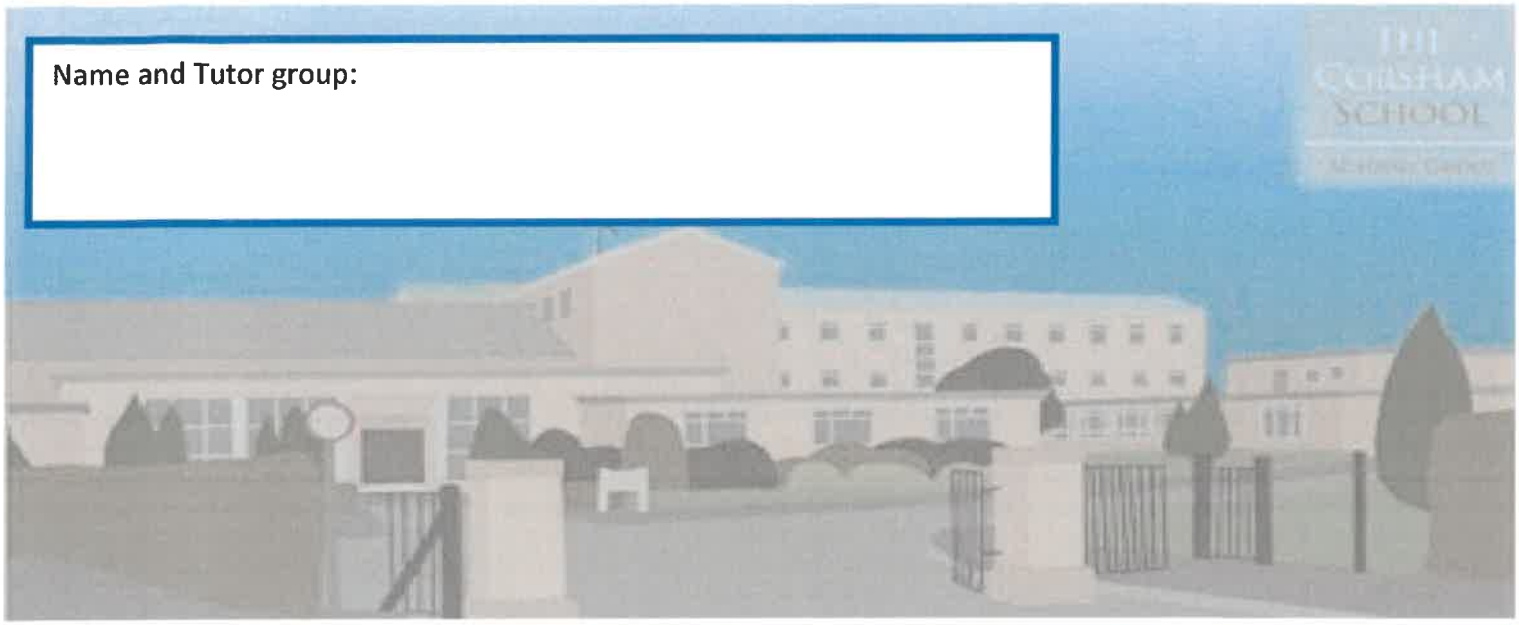
Name and Tutor group:



Year 7 Knowledge Organiser

Term 2

Contents

CORSHAM CHARACTER

INTELLECTUAL VALUES

The pursuit of truth, knowledge and understanding.

Be reflective. Be curious. Be open-minded. Be creative.

PERFORMANCE VALUES

Maximum effort, maximum focus.

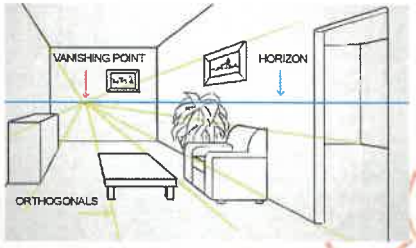
Be resilient. Always Persevere. Contribute to Teamwork. Be ambitious.

DREAM BELIEVE ACHIEVE

Knowledge Organiser – Year 7 Art

PERSPECTIVE

EXAMPLES OF FINAL OUTCOMES:



YOU WILL LEARN:

How to draw using one-point perspective

You will then produce your own one-point perspective city scene AND have a go at reverse perspective!

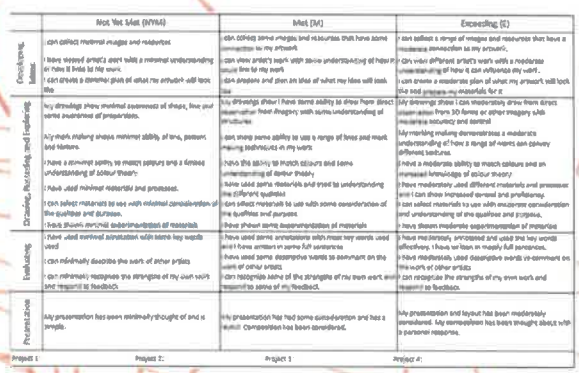
Why am I learning this?

The foundation skills in this project will enable you to tackle the varied concepts, artists, techniques and processes throughout all of year 7, 8 and 9.
You will build on your knowledge and skills with each project as they increase in difficulty, enabling you to express yourself in a confident way.

Homework tasks:

Tick when complete

1. Create an information page on the history of perspective.
2. Create your own one-point perspective drawing.



Keywords	
One Point Perspective	A drawing method that shows how things appear to get smaller as they get further away.
Vanishing Point	This is located directly in front of the viewers eye and is the point where all the objects meet.
Parallel	Lines that do not meet, but that run alongside each other.
Horizon Line	Also known as 'eye level'. It divides your line of vision. Objects below this line are below your eye level and objects above this line are above your eye level.
Reverse Perspective	Optical illusions are made up of multiple overlapping shapes and colors that appear flat from the front perspective but come alive when viewed from the side at a specific angle.

HOW WELL AM I DOING?

Look out for coloured dots in your book by your teacher to show where you are at! Check your curriculum expectations sheet!

Marking Your Work – Meeting Expectations

- NYM — **NOT YET MET = Yellow Dot**
- M — **MET = Green Dot**
- EX — **EXCEEDING = Blue Dot**

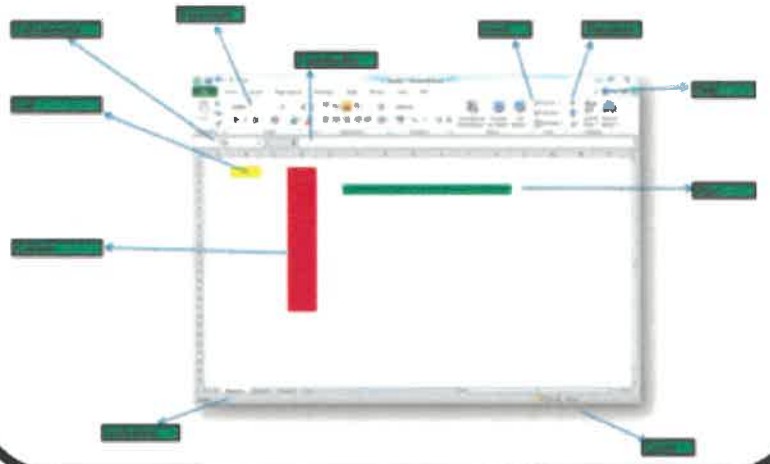
Why do we use Spreadsheets?

Spreadsheets are used to store information and data. Once we have our information in a spreadsheet we can run powerful calculations, make graphs and charts and analyse patterns.

Uses of spreadsheets:

- Budget tracker
- Stock tracking of a business
- Money use in a business
- Teacher may use it to keep a record of students grades

Layout of a Spreadsheet



Cell reference

A cell reference is the name given to a cell to uniquely identify it. E.g. E4

An **absolute cell reference** ensures that 1 cell always remains constant even when autofill is used.

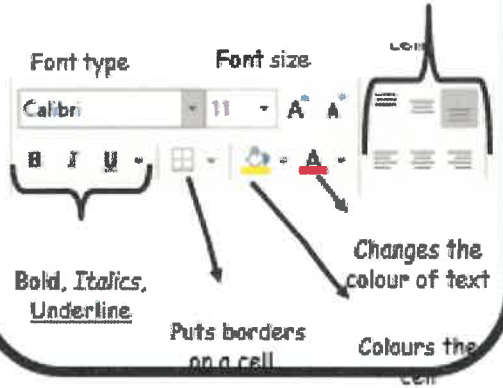
E.g. E4

Sort & Filter

Sorting data organises it in a specific way e.g. **alphabetically**

Filtering data makes it easy for us to find one specific piece of data without having to look through every piece of data

Formatting Cells



Formulas

Only use when creating a calculation between 2 cells.

E.g.

= A1 + B1 (adds)

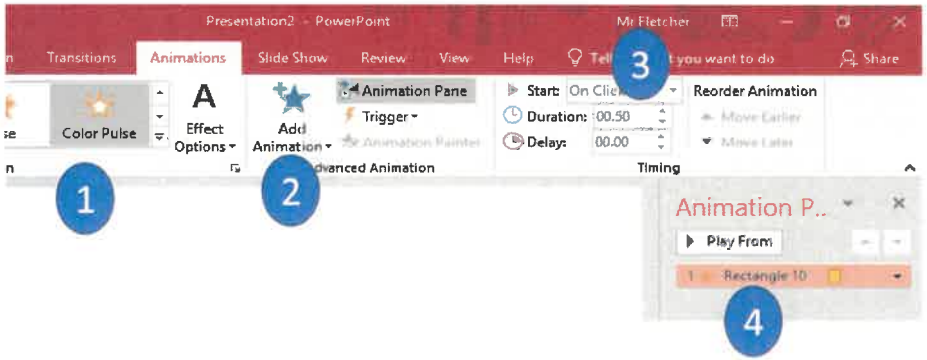
= A1 - B1 (subtracts)

= A1 * B1 (multiplies)

= A1 / B1 (divides)

COMPUTING CORSHAM

Year 7 Computing - Movie Project



Animation in powerpoint

1. Use these to quickly add just one animation to a shape. They wont let you add more than one.
2. This button lets you add any animation to a shape. You can add more than one. Green means entrance effects, yellow is emphasis, red means exit effects and dotted lines are for movement
3. Choose when to start the animation
4. Shows all the animations on the slide in the order they will happen

Key vocabulary

Animation Visual effects used on objects such as text boxes or pictures. They allow these objects to be bought on and off the slide in a certain way

Audio Any type of sound, such as music or voiceover

Design Templates A variety of ready-made templates with custom formatting (font, colour scheme etc.) which gives a certain look and feel

Entrance Animation The animation used to bring an object (such as a picture or text box) onto the slide

Font A set of type which shows words and numbers in a particular style and size

Media Images, videos or sounds which can be added to a presentation

Presentation A visual way of displaying information to an audience that is clear and engaging. It can contain text, images and videos

Presentation Program A computer program, such as PowerPoint, which is used to create apresentation

Slide A single page within a presentation

Slideshow A collection of pages arranged in sequence that contains text and images to present to an audience. Often referred to as a PowerPoint presentation

Stock image Existing photos and images which are available and free to use

Text box A box in which text can be inputted and formatted

Text formatting When you change the format of text on a page, including the font, the size and whether it is bold, underlined or in italics

Transition The interesting effect used when one slide moves onto the next

WordArt A way to treat text as a graphic so that you can add special effects to text

Drama Year 7 Knowledge Organiser

Term 2—Hogwarts—Exploring Character

Performance Skills

Vocal Skills

Name	Definition
Projection	The ability to speak loudly and clearly enough to be heard by the audience without straining the voice.
Accent	a distinctive way of pronouncing a language, especially one associated with a particular country, area, or social class
Articulation/diction	The clarity and distinctness with which words are pronounced.
Tone	The emotion you are presenting in the scene.
Pace	The speed at which dialogue is delivered.
Pitch	How high or low/deep your voice is.
Pause	Pausing and gaps in your speech. Long pauses to create thought or tension, or short to create a stutter
Volume	The loudness or quietness of the voice.
Emphasis	Highlighting certain words or phrases to convey meaning or emotion.

Physical Skills

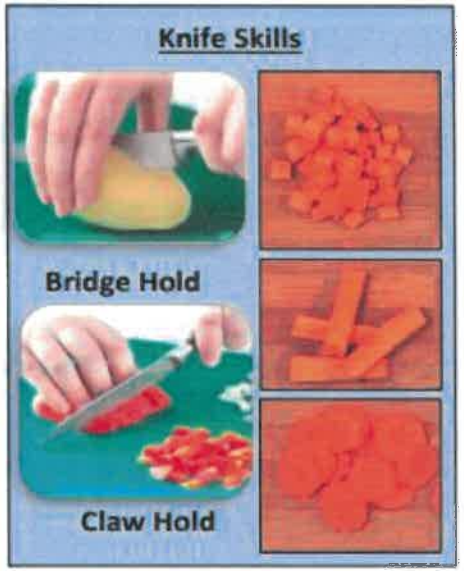
Name	Definition
Body Language	A range of nonverbal signals that you can use to communicate your feelings and intentions
Gesture	a movement of part of the body, especially a hand or the head, to express an idea or meaning.
Facial Expression	Changing your facial movements to convey an emotion and reaction to different situations.
Eye Contact	The way to look or where you look when reacting to different situations. Do you give eye contact or avoid?
Movement	Where and how the actor moves on stage and the impact it has on the character.
Posture	The position of a person's body when standing or sitting. E.g upright or slouched.
Gait (Walk)	How a character walks in stage.
Levels	How high or low your character presents themselves on stage.
Leading with part of the body	Which part of the body does the character lead by and what does it communicate?

Techniques

Freeze Frame/Tableaux	Participants freeze their bodies to create a scene. It's just like pressing pause on a video. Freeze frames (also known as still images and tableaux)
Montage	a series of short self-contained scenes grouped immediately after each
Thought Track	when a character steps out of a scene to address the audience about how they're feeling
Marking the Moment	a dramatic technique used to highlight a key moment in a scene or improvisation. You can do this in a variety of ways: slow motion, freeze frames, music, narration.
Slow Motion	reduce the speed at which a drama is enacted, to highlight a scene or bring a big moment into focus
World off-stage	Reacting to something happening off stage in front of you. I.e. imagining something is there that isn't.
Proxemics	how close or near you are to others on stage. This can help to communicate meaning e.g. if your character is scared of another character you might stand far away. Use of space is where you position yourself on the stage so the audience can see you and others clearly.
People as Prop	The actor creates the shape and form of a prop or object. This replaces the use of set/props. and/or physical objects on stage.

Year 7 Food and Nutrition- Knowledge Organiser

Nutrient/ Food group	Functions - Why do we need it?	Sources - Where they are found
Carbohydrates	These give us energy. Sugary ones give us quick release energy. Starchy ones give us slow release.	Bread, rice, pasta, potatoes
Protein	Needed for the growth and repair of our bodies and can also be used for energy.	Meat, fish, dairy products, tofu, soya, Quorn, nuts, sees, lentils
Fat	These keep us warm, protect us and provides our bodies with energy	Butter, oil, processed foods e.g. crisps, chips, chocolate, cake.
Water	Keeps us hydrated and keeps our body's working properly.	Fruit and vegetables, water, fruit juices, milk.
Vitamins	These are needed generally to keep us healthy. The allow all the chemical reactions in our body and protect us from diseases.	Fruit, vegetables, cereals, dairy products
Minerals	Helps build bones and teeth and allow muscles to work properly.	Green vegetables, dairy products and red meat
Fibre	These are needed to keep our digestive system working (help us go to the toilet) and helps to fill us up.	Wholegrain cereals, brown rice, pasta, bread, fruit and vegetables

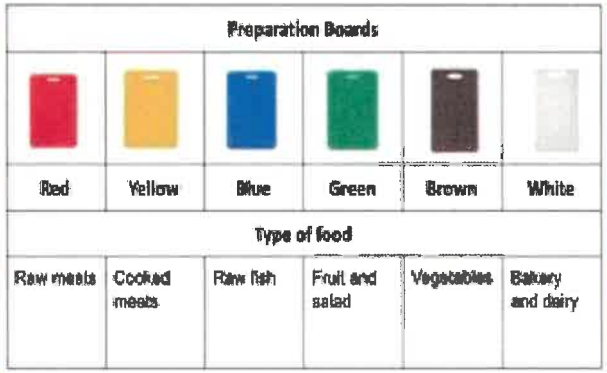


What is Energy balance

Energy in = energy out

Why is it important to keep it balanced?

To maintain a healthy weight and allow the body to stay healthy and work efficiently



Keywords

- Hygiene
- Cross - Contamination
- Safety
- Healthy eating
- Bacteria
- Nutrient
- Food Group
- Eatwell Guide

The 4C's	Description
Cooking	Always cook food properly. Check that food is cooked in the centre.
Chilling	Store food safely between 0 and 5°C
Cleaning	Always wash and dry your hands and equipment properly. Keep everything clean.
Cross Contamination	Wash your hands after touching raw foods. Keep raw and cooked foods separate.

Healthy eating

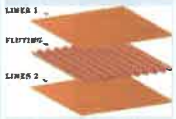
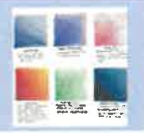
The Eatwell guide shows how much of what we eat in total should come from each of the five food groups.

Oils and Spreads	Fruits and Vegetables	Meat, eggs and pulses	Starchy foods	Dairy foods
Butter, Vegetable oil, Margarine	Apples, Bananas Oranges, Pepper Carrots, Cabbage Spinach, Frozen peas	Chicken, fish, Lentils Chickpeas, beans	Bread, Potatoes Pasta, Rice, Cereals	Milk, Cheese, Yogurt

Yr 7 Graphics – Healthy Bar Wrapper

DESIGN AND TECHNOLOGY

Tools, Techniques, Materials and Equipment

Paper		A compliant material made from wood pulp.
Board		Used for packaging, model making, photography and greeting cards.
Colour Rendering		A colour technique used for professional finish in DT.
Scoring		A method to create accurate folds.
Scissors / guillotine		To accurately cut paper.

Paper and Board

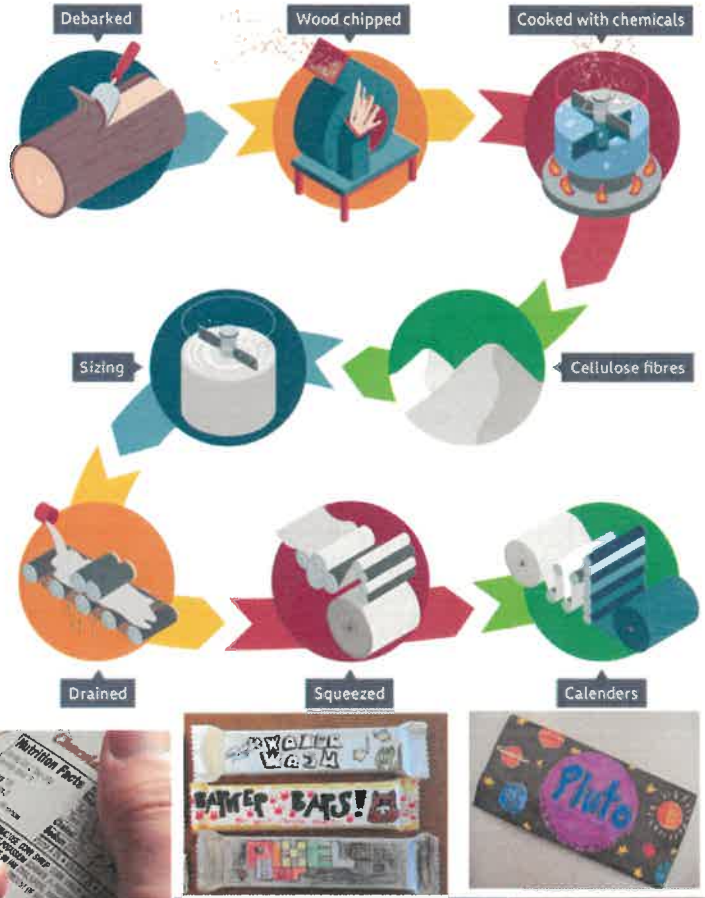
Papers and boards are made from wood pulp and are converted in a paper mill.
Paper is measured in Grams Per Square Metre (GSM).
Board thickness is quoted in microns or Grams Per Square Metre (GSM).

Packaging

To protect products, especially in transport
To promote product using attractive fonts, logos and designs.
To present the product.
To place the product.
To provide important information.

Keywords

Graphics
Communication
Commercial
Innovative
Onomatopoeia
Product
Branding
Logos
Font
Design Fixation
Collaboration
Paper
Packaging
Design Approach
Wrapper
Product information
Template



Maths in DT:

Multiplication
Divide
Add / Subtract
Measurement conversion
Ratios
Percentages
Surface area

What is good design?

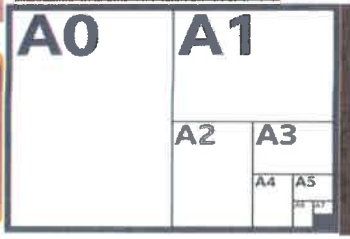
Clear ideas
Annotations
Measurements
Content
Presentation
Balance

Health and Safety in DT:

- Listen to your teacher's instructions
- Always wear an apron
- Long hair should be tied back
- Don't use equipment you are not trained on
- Always stand up during practical lessons
- When using machines, always wear safety glasses
- Only use the stop button in an emergency
- Work quietly and be sensible and careful at all times

Paper finishes:

Off set lithography
Embossing
Varnish



Year 7 / 9 D&T RESISTANT MATERIALS UCD &Modelling: Playgrounds

Tools and Equipment

Measuring and marking

Steel rule		An accurate tool for measuring and marking out.
Set square		A ruler to ensure you measure and mark accurate 45 / 90 degree angles.
Template		A template is a tool used to mark out shapes repeatedly

Card shaping and adhesives

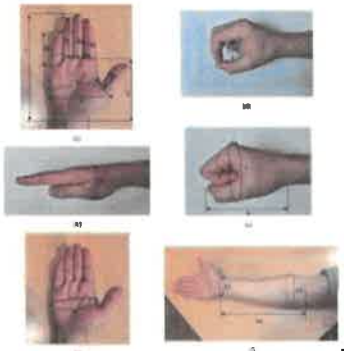
Slot		A joining technique to join card.
Curve cut		Kerf cutting (partial cuts) will ensure a smoother curve in the card.
Tabs		Tabs help to join the card components together.
Hot glue gun		An adhesive which joins card.
Masking tape		A temporary adhesive which joins card / paper.

Anthropometrics

Anthropometrics is the collection of maximum and minimum measurements of a target market. The data can be used to work out the dimensions of a product.

Ergonomics

Ergonomics Testing and analysing how a person interacts with the product can improve its ***functionality*** and how it fits into its surroundings.



Maths in DT:

Multiplication / Divide
Add / Subtract
Measurement conversion
Ratios /Percentages

Keywords

Modelling Iterative designs UCD
User needs Reformulate Creativity
Functional Innovative Anthropometrics
Ergonomics Social Client Testing
Evaluation

We use **ACCESS FM** to help us write a **specification** - a list of requirements for a design - and to help us **analyse and describe** an already existing product.

ACCESS FM - Helpsh

- **A** is for **Aesthetics**
- **C** is for **Cost**
- **C** is for **Customer**
- **E** is for **Environment**
- **S** is for **Size**
- **S** is for **Safety**
- **F** is for **Function**
- **M** is for **Material**

Cutting

Craft knife		A tool for precision cutting. This tool is used for accurate cutting of paper and card. Can cut in a straight or curved line.
Paper scissors		A tool for cutting paper or board.

Materials

Single corrugated card		Corrugations make the card strong.
Card		A compliant material which comes in a variety of colours .

Health and Safety in DT:

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- Always stand up during practical lessons
- When using machines, always wear safety glasses
- Only use the stop button in an emergency
- Work quietly and be sensible and careful at all times

KS3 YEAR 7 D&T RESISTANT MATERIALS

Tools and Equipment

Measuring and marking

Steel rule		An accurate tool for measuring and marking out
Try square		A tool used to check right angles on wood or plastic
Template		A template is a tool used to mark out shapes repeatedly

Shaping and finishing

Metal file		Used to shape or smooth wood, metal or plastic
Glass paper		An abrasive paper used to smooth the surface or edges of wood
Disc sander		A machine used to smooth the edges of materials

Softwood

Softwoods come from coniferous trees which are evergreen, needle-leaved, cone-bearing trees, such as cedar, fir and pine.

Hardwood

Hardwoods come from broadleaved, deciduous trees, such as oak, maple and beech.

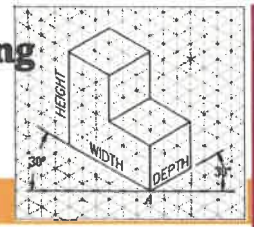
Manufactured board

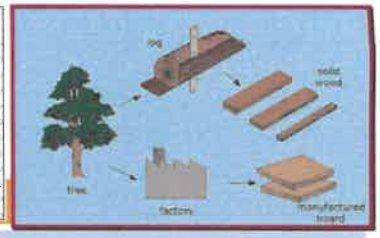
Manufactured boards are timber sheets which are produced by gluing wood layers or wood fibres together. Manufactured boards often made use of waste wood materials. Ply, MDF or chipboard.

Keywords

Bench hook
Bookend
Coping saw
Hardwood
Softwood
Joint
Tenon saw
Reciprocating saw
Vice
Abrasive
Template
Specification
Research
Design
Practical task
Evaluation
Timber cycle

Isometric Drawing





Cutting

Tenon saw		A hand saw with a stiff back used to cut straight lines in wood – back saw action
Coping saw		A hand saw used to cut complex shapes in wood and plastic
Scroll saw		A machine saw used to cut complex shapes in wood and plastic
Bench hook		Held against the front edge of a bench or table to support work
Pillar drill		A machine used to make holes in materials
Laser cutter		CAM: Laser cutting is the use of a high-powered laser to cut, etch and engrave your material

We use **ACCESS FM** to help us write a **specification** - a list of requirements for a design - and to help us **analyse and describe** an already existing product.

ACCESS FM - Helpsheet

A	is for	**Aesthetics**
C	is for	**Cost**
C	is for	**Customer**
E	is for	**Environment**
S	is for	**Size**
S	is for	**Safety**
F	is for	**Function**
M	is for	**Material**

Aesthetics means what does the product look like?
What is the: Colour? Shape? Texture? Pattern? Appearance? Feel? Weight? Style?

Cost means how much does the product cost to buy?
How much does it Cost to buy? Cost to make?
How much do the different materials cost? Is it good value?

Customer means who will buy or use your product?
Who will buy your product? Who will use your product?
What is their: Age? Gender?
What are their: Likes? Dislikes? Needs? Preferences?

Environment means will the product affect the environment?
Is the product Recyclable? Reusable? Repairable? Sustainable?
Environmentally friendly? Bad for the environment?
6R's of Designs: Recycle / Reuse / Repair / Refinish / Reduce / Refuse

Size means how big or small is the product?
What is the size of the product in millimeters (mm)? Is this the same size as similar products? Is it comfortable to use? Does it fit?
Would it be improved if it was bigger or smaller?

Safety means how safe is the product when it is used?
Will it be safe for the customer to use? Could they hurt themselves?
What's the correct and safest way to use the product? What are the rules?

Function means how does the product work?
What is the products job and role? What is it needed for? How well does it work? How could it be improved? Why is it used this way?

Material means what is the product made out of?
What materials is the product made from? Why were these materials used? Would a different material be better? How was the product made? What manufacturing techniques were used?

Traditional wood joints:

Butt Joint
Lap / Rebate Joint
Finger Joint
Dovetail Joint
Mitre Joint

Maths in DT:

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Divide
Add / Subtract
Measurement conversion
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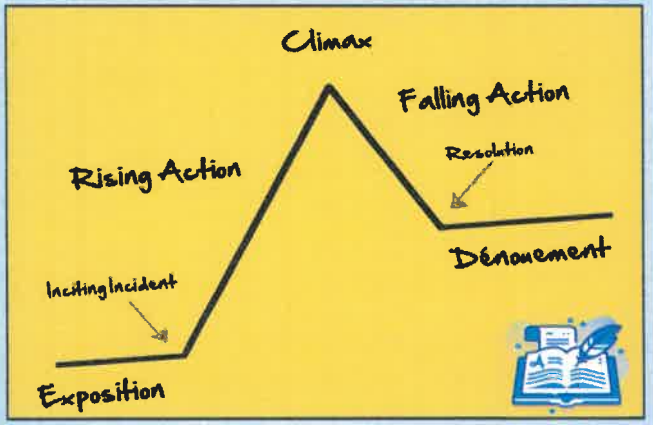
THE CORSHAM SCHOOL

Y7 MYTHS KNOWLEDGE ORGANISER

NARRATIVE STRUCTURE



The '1' Rule	
1	Place
	Character
	Event

STRUCTURE

Apostrophes	Connectives
Colons	Full Stops
Capital Letters	'In Media Res'
Commas	Semi-Colons
Complex sentences	Question marks
Compound sentences	Varied sentences

ENGLISH LANGUAGE DEFINITIONS

Adjective: a word that describes a noun.

Adverbs: words that give extra information about the verb.

Connective: a word that joins parts of a sentence together.

Emotive Language: Language used to create a particular emotion in the reader.

Figurative Language: Using language techniques to describe something in a non-literal way.

Noun: a naming word.

Pronouns: a word that can replace a person's name to refer to them.

Verb: a doing word.

SENTENCE STARTERS

- **I** – **ING** – Whistling, Howling, Glancing
- **S** – **SIMILE** – As bright as a diamond, Like a creature from the darkness
- **P** – **PREPOSITIONAL** – Up above, Below, Under, Next to
- **A** – **ADVERBIAL** – Suddenly, Eerily, Stealthily
- **C** – **CONNECTIVE** – Yet, After, Meanwhile
- **E** – **ED** – Startled, Terrified, Poised,

SENSORY IMAGERY

FIGURATIVE LANGUAGE DEFINITIONS

Alliteration: use of the same consonant at the beginning of adjacent or closely connected words.

Hyperbole: exaggeration to emphasise a point.

Metaphor: comparing one thing to another, directly, in a way that isn't literally true.

Onomatopoeia: a word whose sound suggests its meaning.

Personification: giving human qualities to non-human things.

Sibilance: use of the 's' sounds in quick succession.

Simile: a comparison of two things that uses the words 'like' or 'as'.

KEY VOCABULARY

Audacious	Malicious
Betrayal	Perilous
Courageous	Valiant
Deceptive	Vengeful
Devious	Wrath
Labyrinth	Zealous

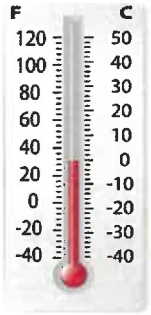
Geography Y7: Why is weather so changeable?

What is weather

Weather measures the temperature, precipitation and wind speed each day. (climate measures the averages over a period of time)

How do we record the weather

Temperature	Temperature is recorded using a thermometer and is given in degrees Celsius/Centigrade.
Precipitation	Precipitation is measured using a rain gauge and is measured in mm.
Wind speed/direction	Wind direction is measured by where the wind comes from and is measured using a wind vane. Wind speed is measured using an anemometer and is given in m per second.
Air pressure	Air pressure is measured in Bars and is measured using a barometer.



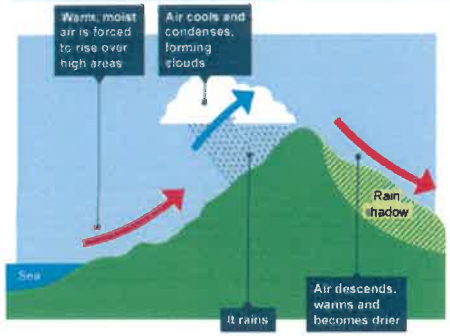
High pressure vs low pressure

High pressure	Low pressure
In a high pressure system, the air descends. This means that clouds don't form and we are left with clear skies. (High=Dry)	In low pressure system, air rises. It then cools, condenses and forms clouds. This can cause rain.

What causes precipitation?

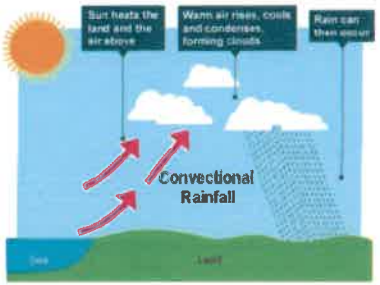
Relief rainfall

Warm air mass is forced up over mountains.
As it rises it cools, condenses to form clouds.



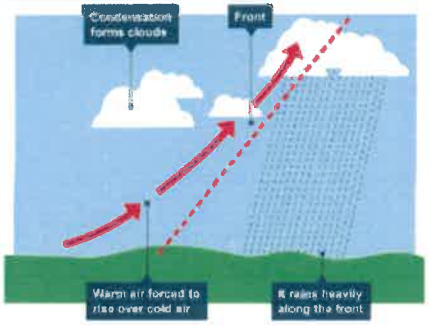
Convectional rainfall

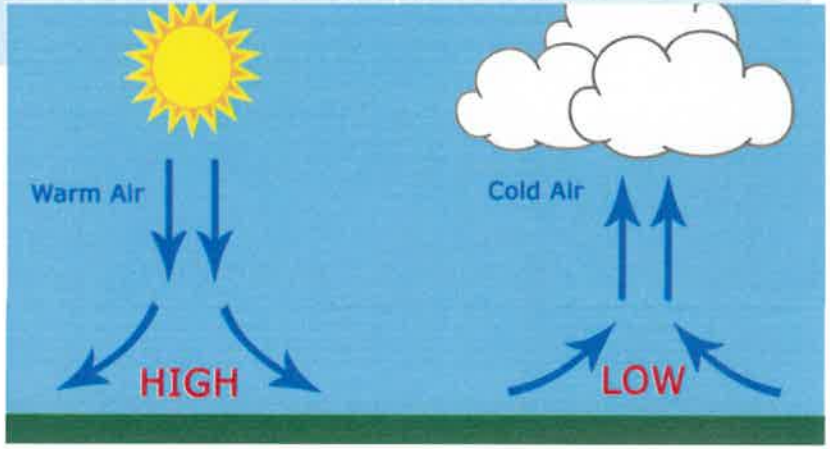
The sun's radiation heats up the air above the ground.
As hot air is less dense, it rises.
As it rises, the warm air cools and condenses to form clouds.



Frontal rainfall

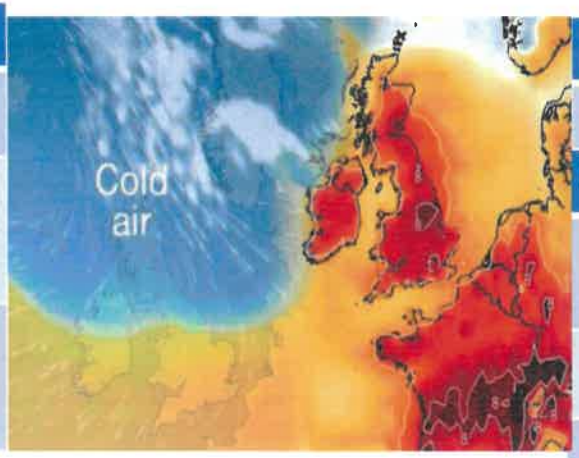
When a cold air mass meets a warm air mass the warm air mass is forced upwards as it is less dense.
As it rises, it cools, condenses to form clouds.





Geog Y7: Why is weather so changeable?

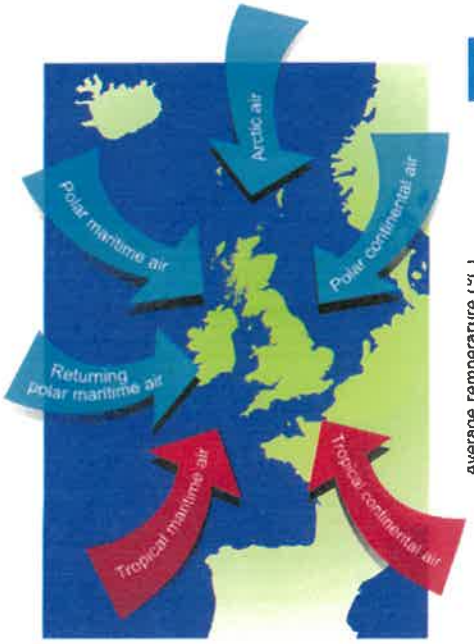
Why is our weather so changeable?	
Wind direction	Northerly winds bring cold weather. Easterly winds bring dry weather.
Latitude	Our latitude means that we sit right between a warm air mass from the equator and a cold air mass from the Arctic. This causes a lot of frontal rainfall
Climate change	Climate change causes weather to be more extreme so winters are getting colder and harsher but summers are getting hotter and dryer.



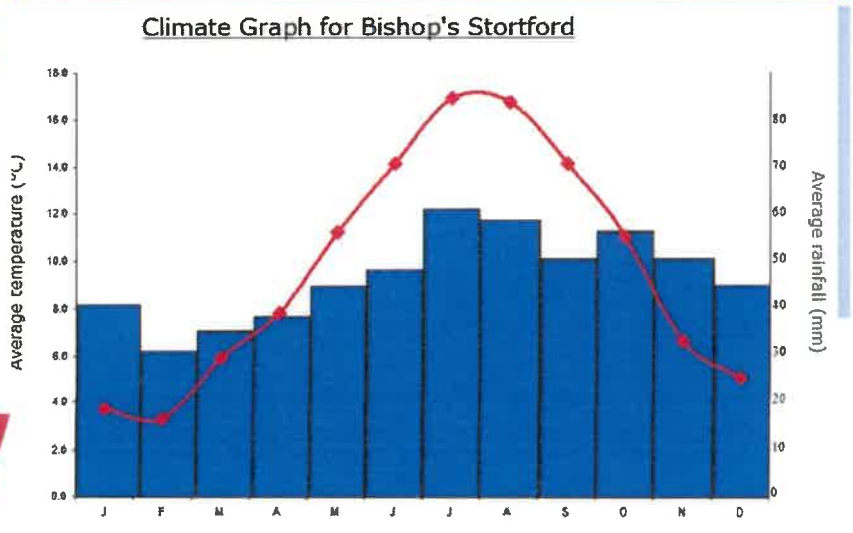
What is a microclimate?

An small area that has its own distinct temperature and windspeed.

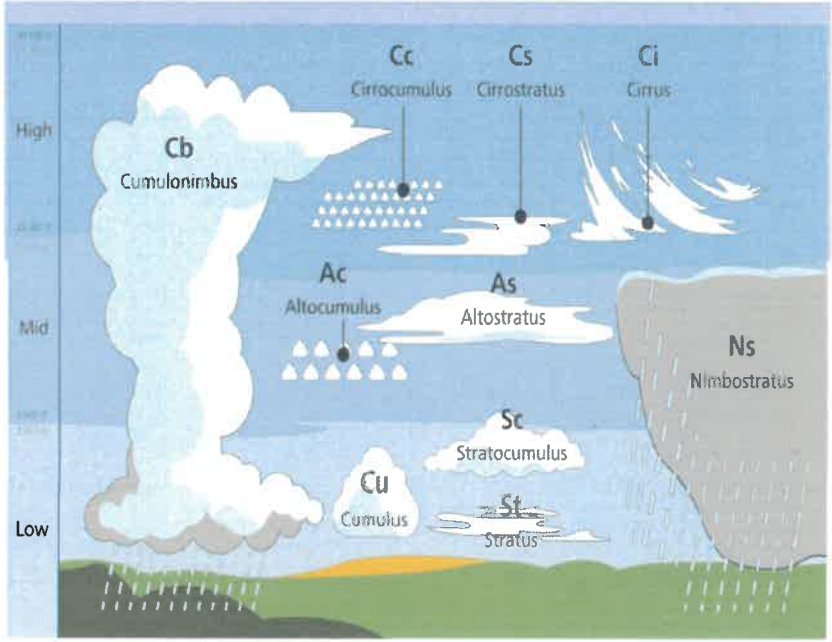
Factors that affect a microclimate	
Aspect	Which direction is the area facing? (compass points). South facing areas are warmer in the northern hemisphere.
Amount of buildings	Buildings absorb the suns energy then radiate the heat.
Shelter	Shelter can affect the windspeed.



Describe the UK's climate (climate graph)



Types of clouds



Enquiry: What makes a significant monarch?

Outline: During the Medieval and early Modern periods, there were many different kings and queens who ruled England. Some of these monarchs were strong and successful like Elizabeth I, but others were weak and caused many problems such as John.

Monarch	Dates	Summary
William I	1066-1087	Won the Battle of Hastings against the English king Harold and then brutally oppressed the English.
Henry II	1154-1189	Was a strong fighter but was harmed by his poor relationship with Thomas Becket.
John	1199-1216	Fought and lost many wars so he was named "lack-land" and he was forced to sign Magna Carta.
Henry V	1413-1422	Fought and won against France. Was seen as an ideal king.
Richard III	1483-1485	Took the throne from his nephews and then lost his crown in the Battle of Bosworth.
Elizabeth I	1558-1603	Helped to build England into a strong country and won a war against the Spanish.
Charles I	1625-1649	Fought a civil war and lost both his crown and his life.

Furthering learning
Want to find out more about Magna Carta?

History – Year 7
Knowledge Organiser
Topic 2

Key individuals

Empress Matilda. Should have been ruler of England after her father Henry I died. Instead her cousin Stephen ruled and she fought him for the crown and won it for her son, Henry II.

King John. His nobles rebelled against him so John was forced to compromise and share some power In Magna Carta in 1215.

Elizabeth I. Ruled for 45 years as England's second female monarch. Ensured that her country didn't fall into civil war. Never married (or did she marry England?)

Charles I. Fought a war against his own people over who should have the most power. Lost to Parliament and then was executed for treason.

Key vocabulary:

Civil War: a war fought between people from the same country.
Consolidation: strengthening of power as a monarch.
Execution: killing someone as a punishment for a crime.
Magna Carta: the Great Charter which took some power from the monarch and gave it to the nobles.
Misogyny: an intense dislike of women.
Monarch: a ruler of a country who passes the throne to their eldest born son.
Nobles: the richest people in the country who helped the monarch to rule. Sometimes called lords or barons.
Parliament: where laws are passed to rule the country.
Patriarchy: a system where men dominate the systems of power and who holds power.
Queen: originally the wife of a king. Became the name for a female monarch.
Regicide: the murder of a monarch.
Treason: betraying your monarch or country and therefore becoming a traitor. The punishment was death.
Usurp: to take the throne illegally, normally by killing the previous monarch.

Enquiry: What makes a significant monarch?

History – Year 7
Knowledge Organiser
Topic 2

The Rainbow portrait of Elizabeth I, made in 1600 by Marcus Gheeraerts the Younger

Historical skill focus: using evidence

- What is the nature, origin and purpose of a source?
- What makes a source useful?

Section C: Using evidence

How useful is this painting to a historian investigating the reign of Elizabeth I? Write a paragraph to explain and try to use your own knowledge to support your ideas.

What to focus on	Starting sentences
What is the NATURE of the source? Does this make it useful?	Source A is useful because...
What is the ORIGIN of the source? Does this make it useful?	This is shown by...
What is the PURPOSE of the source? Does this make it useful?	The source is also useful due to its purpose which was to...

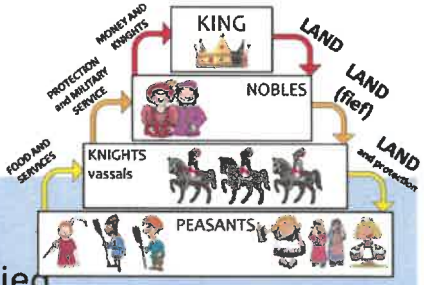
Developing	Secure	Exceeding
I can describe what I can see or read in a source.	I can make inferences using a source. I can ask questions about sources such as who made the source or when it was made	I can explain how a source can be useful/not useful in a PEE paragraph. I am starting to think about the nature, origin and purpose of the source and what its impact could be.

Nature = type of source like a painting or letter
Origin = date made and who made it
Purpose = why it was made = motivate/justify/persuade

Point = One way the source is useful is...
Evidence = This is shown by the nature of the source...
Explain = This is useful because...

Enquiry: What makes a significant monarch?

History – Year 7
Knowledge Organiser
Topic 2



Feudal Pyramid of Power

Historical skill focus: significance

- What makes a person significant?
- How can we judge significance?

Section B: Can you explain significance?

Choose one of the monarchs that you have studied.

How significant was _____ as monarch of England?

You should **write one or two paragraphs** to explain.

What to focus on:	Starting sentences
One or two reasons why the person was significant.	One reason why they were significant was...
Think about what makes them important; what did they do? Who did it impact?	This makes them significant because...
Think about the impact on them and the impact on others.	This is significant because...

Developing	Secure	Exceeding
I can describe the significance of an event or individual.	I can explain a reason for the significance of individuals in a PEE paragraph.	I can explain more than one reason for the significance of individuals in a PEE paragraph. I am beginning to compare different types of significance.

Point = One reason for _____'s significance is...
Evidence = This is shown by when they...
Explain = This is significant because...

YEAR 7 — PLACE VALUE AND PROPORTION...

FDP equivalence

@whisto_maths

What do I need to be able to do?

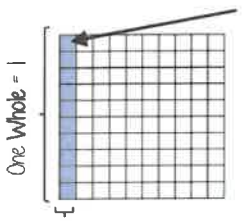
By the end of this unit you should be able to:

- Convert fluently between fractions, decimals & percentages

Keywords

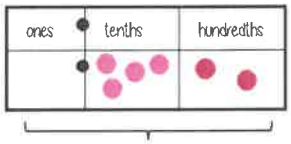
Fraction: how many parts of a whole we have
Decimal: a number with a decimal point used to separate ones, tenths, hundredths etc
Percentage: a proportion of a whole represented as a number between 0 and 100
Place value: the numerical value that a digit has decided by its position in the number
Placeholder: a number that occupies a position to give value
Interval: a range between two numbers
Tenth: one whole split into 10 equal parts
Hundredth: one whole split into 100 equal parts
Sector: a part of a circle between two radius (often referred to as looking like a piece of pie)
Recurring: a decimal that repeats in a given pattern

Tenths and hundredths



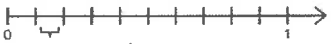
One **hundredth** (one whole split into 100 equal parts) = $\frac{1}{100}$ = 0.01

One **tenth** (one whole split into 10 equal parts) = $\frac{1}{10}$ = 0.1



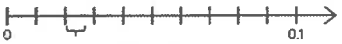
0 ones, 5 tenth and 2 hundredths
0 + 0.1 + 0.1 + 0.1 + 0.1 + 0.1 + 0.01 + 0.01
= 0 + 0.5 + 0.02
= 0.52

On a number line



One whole – split into 10 equal parts

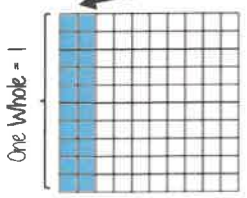
One tenth = $\frac{1}{10}$ = 0.1

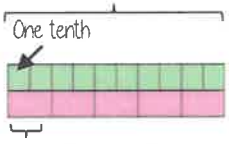


One tenth – split into 10 equal parts

One hundredth = $\frac{1}{100}$ = 0.01

Fifths

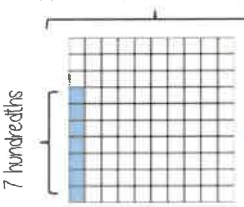




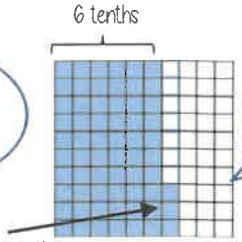
One **fifth** (one whole split into 5 equal parts) = $\frac{1}{5}$ = 0.2

Percentages on a hundred grid

100% = a whole = 100 hundredths



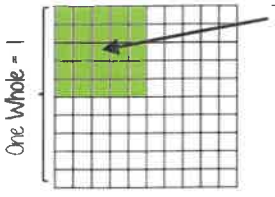
7 hundredths
7 out of 100
7%

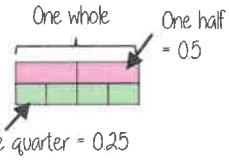


6 tenths and 3 hundredths
63 hundredths
63%

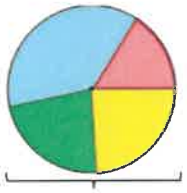
Quarters

One **quarter** (one whole split into 4 equal parts) = $\frac{1}{4}$ = 0.25





Simple pie charts



A pie chart has 360° so all FDP calculations are out of 360

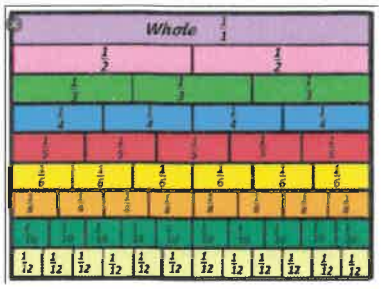
Split into 10 parts
= 10% = 36°

Split into 2 parts
= 50% = 180°

Split into 5 parts
= 20% = 72°

Equivalent fractions

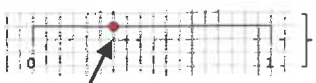
Represent equivalence with fraction walls



Fractions – on a diagram

The denominator is represented by EQUALLY sized parts – this is split into quarters

Fractions – on a number line



One whole split into 18 equal parts
18 is the **denominator**

This point is at the 6th part
6 is the **numerator**

$\frac{6}{18} \leftarrow \frac{3}{9} \leftarrow \frac{1}{3}$

Convert FDP

$\frac{70}{100}$ → This also means 70 ÷ 100 → 70 out of 100 squares → **70 "hundredths"** = **7 "tenths"** 0.7

→ 70 hundredths = 70%

Using a **calculator**

→ S⇔D → Convert to a decimal

This will give you the answer in the simplest form

× 100 converts to a percentage

Be careful of recurring decimals
e.g $\frac{1}{3}$ = 0.3333333
= $0.\dot{3}$
The dot above the 3

YEAR 7 — PLACE VALUE AND PROPORTION

Ordering integers and decimals

@whisto_maths

What do I need to be able to do?

By the end of this unit you should be able to:

- Understand place value and the number system including decimals
- Understand and use place value for decimals, integers and measures of any size
- Order number and use a number line for positive and negative integers, fractions and decimals;
- use the symbols $=, \neq, \leq, \geq$
- Work with terminating decimals and their corresponding fractions
- Round numbers to an appropriate accuracy
- Describe, interpret and compare data distributions using the median and range

Keywords

Approximate: To estimate a number, amount or total often using rounding of numbers to make them easier to calculate with
Integer: a whole number that is positive or negative
Interval: between two points or values
Median: A measure of central tendency (middle, average) found by putting all the data values in order and finding the middle value of the list
Negative: Any number less than zero; written with a minus sign
Place holder: We use 0 as a place holder to show that there are none of a particular place in a number
Place value: The value of a digit depending on its place in a number. In our decimal number system, each place is 10 times bigger than the place to its right
Range: The difference between the largest and smallest numbers in a set
Significant figure: A digit that gives meaning to a number. The most significant digit (figure) in an integer is the number on the left. The most significant digit in a decimal fraction is the first non-zero number after the decimal point.

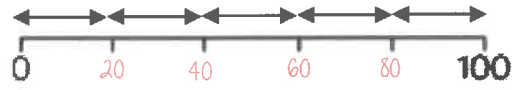
Integer Place Value

Billions			Millions			Thousands			Ones		
H	T	O	H	T	O	H	T	O	H	T	O
		3	1	4	8	0	3	3	0	2	9

Placeholder

Three billion, one hundred and forty eight million, thirty three thousand and twenty nine
1 billion 1, 000, 000, 000
1 million 1 000, 000

Intervals on a number line



Divide the difference by the number of intervals (gaps).
E.g. $100 \div 5 = 20$

Rounding to the nearest power of ten

If the number is halfway between we "round up"

5495 to the nearest 1000

5475 to the nearest 100

5475 to the nearest 10

Compare integers using <, >, =, ≠

< less than
> greater than
= equal to
≠ not equal to

Two and a half million = 2 500 000
300 000 000 = Three billion
Six thousand and eighty < 68 000

Range

Spread of the values

Difference between the biggest and smallest

3 9 8 12

Range: Biggest value – Smallest value

12 – 3 = 9

Range = 9

Median

The middle value

Example 1

4 3 9 8 12

Median: put the in order 3 4 8 9 12
find the middle number 3 4 (8) 9 12

Example 2

150 154 148
137 160 158

Median: put the in order

137 148 (150 154) 158 160

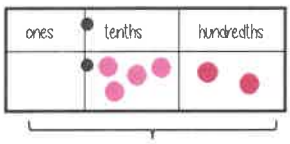
There are 2 middle numbers
Find the midpoint

152

Decimals

We say "nought point five two"

Five tenths and two hundredths



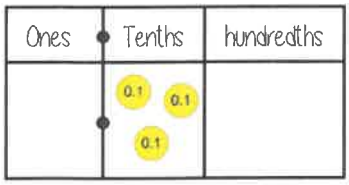
0 ones, 5 tenth and 2 hundredths
0 + 0.1 + 0.1 + 0.1 + 0.1 + 0.1 + 0.001 + 0.001
= 0 + 0.5 + 0.02
= 0.52

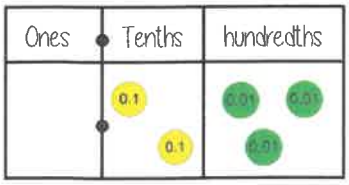
Decimal intervals on a number line

One whole split into 10 parts makes tenths = 0.1
One tenth split into 10 parts makes hundredths = 0.01

Comparing decimals

Which the largest of 0.3 and 0.23?





$0.3 > 0.23$

"There are more counters in the furthest column to the left"

0.30
0.23

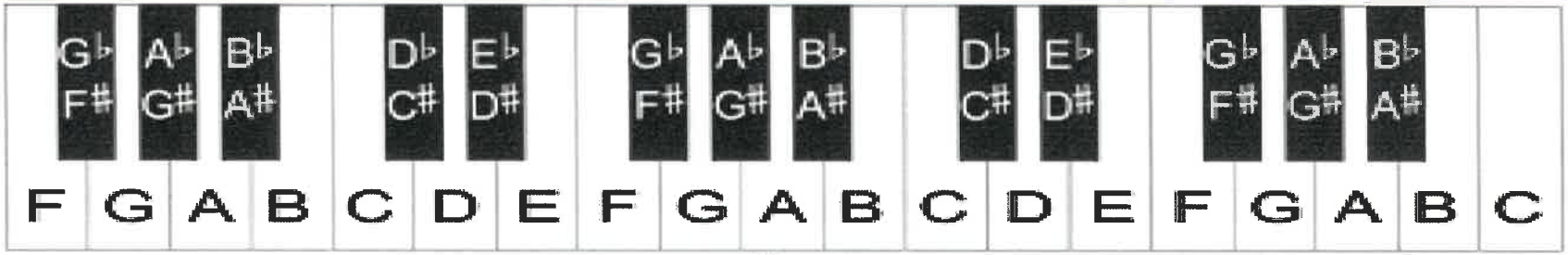
Comparing the values both with the same number of decimal places is another way to compare the number of tenths and hundredths

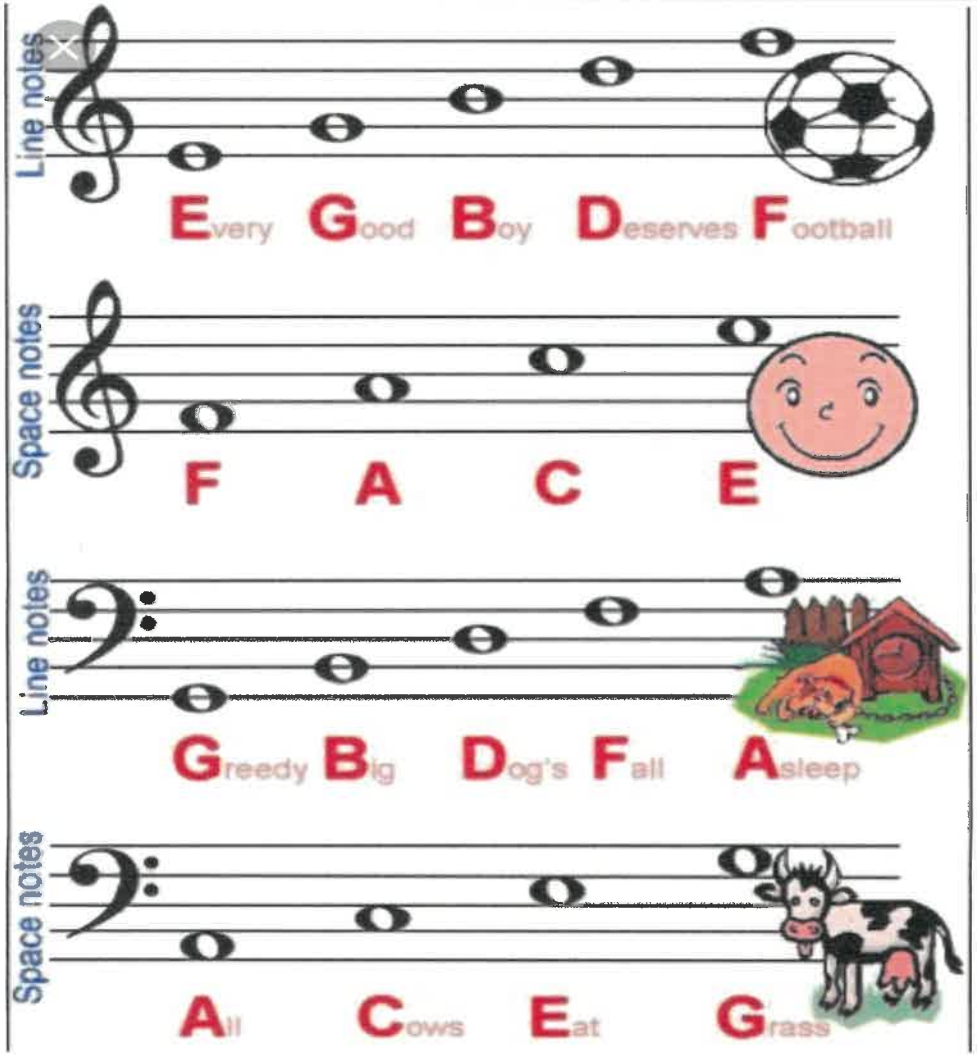
Round to 1 significant figure

370 to 1 significant figure is 400
37 to 1 significant figure is 40
3.7 to 1 significant figure is 4
0.37 to 1 significant figure is 0.4
0.00000037 to 1 significant figure is 0.0000004

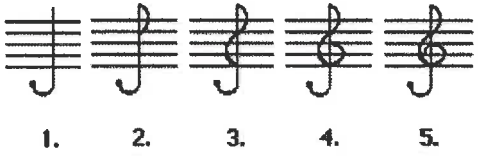
Round to the first non zero number

Year 7 Music Topic 4 – Reading Music

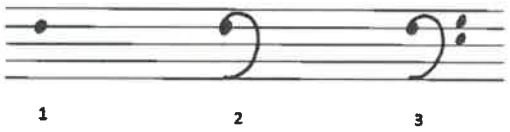




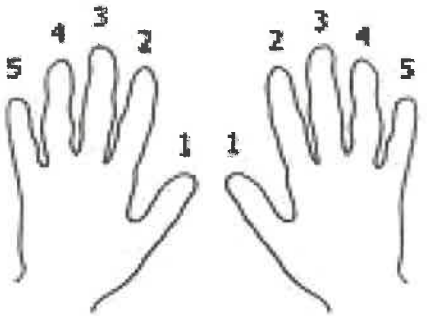
Key Word	Definition
Melody	The tune.
Rhythm	The length of the notes and how they fit with the beat.
Fluency	No gaps or pauses in a performance.
Pitch	How high or low a note is.
Triad chord	Three notes played together at the same time, using notes 1, 3 and 5 of the scale.
Keyboard	An electric keyed instrument with a wide pitch range that can play different sounds.
Piano	An acoustic keyed instrument with a wide pitch range.
Treble clef	The clef that higher pitched instruments and voices read, as well as the right hand for keyboard/piano.
Bass clef	The clef that lower pitched instruments and voices read, as well as the left hand for keyboard/piano.
Clef	The symbol at the start of each line of music that tells you what the pitch of the music is.



How to draw a treble clef



How to draw a bass clef



Philosophy Knowledge Organiser

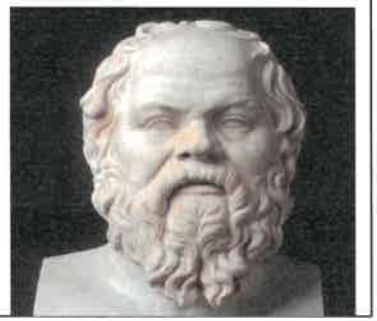
Overview

Philosophy is the study and love of wisdom.

The Big 3 all played an influential part in the development of modern philosophy. Each encouraged people to question their ways of life and the reality of it.

There are 7 branches of **Philosophy**: Metaphysics, Axiology, Logic, Aesthetics, Epistemology, Ethics And Political.

Statue of Socrates, considered the father of philosophy.



The Big 3 (Greek)

Socrates

Socrates believed that ultimate wisdom comes from knowing yourself and to be willing to question human choices. This led to **Socrates** being accused of corrupting young minds, but he maintained that "the unexamined life is not worth living" through **Socratic Questioning**.

Plato

Plato believed that life was imprisonment for the soul and described that a perfect society would be ruled by a philosopher. He argued that just because we perceive something to be 'real' does not mean it truly is through his allegory of **Plato's Cave.**

Aristotle

Aristotle believed that happiness is the goal of life (**Eudemonia**) and that to achieve this happiness people would need to avoid extremes (**The Golden Mean**).

Answers to Important Questions and Key Vocabulary

Where did Western philosophy originate?		Western philosophy is often thought to have started pre-Socrates in Ancient Greece.
What do philosophers discuss?		Philosophers search for meaning in everything and attempt to answer 'ultimate questions' like why do we suffer?
Who are the key philosophers?		Although we focus on the Big 3, there are numerous philosophers including religious figures like Siddhartha Gautama.
Why do philosophers use allegories?		Allegories help easily convey complex moral easily.

Key Vocabulary

- Philosophy
- Socratic Questioning
- Allegory
- Eudemonia
- Empirical Knowledge
- Rational Knowledge
- Authoritarian Knowledge
- Belief

Top 10 Facts/Quotes

1. Socrates once said: "the only thing I know is that I know nothing."
2. Pythagoras started a school that taught both men and women in 530 BC.
3. Aristotle said: "Knowing yourself is the beginning of all wisdom".
4. 'Carpe Diem' meaning 'seize the day' comes from Roman poet, Horace.
5. Rene Descartes said: 'Conquer yourself rather than the world.'
6. Kierkegaard often wrote under different names so that he could argue with himself!
7. Bertrand Russell said: 'Science is what you know. Philosophy is what you don't know.'
8. John Dewey said: 'Education is not preparation for life; education is life itself.'
9. Plato was a wrestler.
10. Socrates chose to drink Hemlock to avoid exile.

Philosophy Timeline

Socrates (469 – 399 BC) → Plato (20) meets Socrates (60) → Plato (429 – 347 BC) → Aristotle (17) meets Plato (62) → Aristotle (384 – 322 BC)

Philosophy Knowledge Organiser

Asking Better Questions

Plato believed there was more to life than we can see. Using **Socratic Questioning** or asking **deeper questions** we can begin to understand the world we live in.

You can start to dig deeper by structuring your questions like this:

- What do you mean by X?
- How do you know?

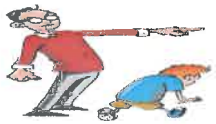
You can also use your question mats to develop your questioning and make you more critical of the world.

Try asking questions about the year 2100 and consider the following:

School
Food
Transport
Movies
Racism
Pandemics
Global warming
Politics
Technology
Equality

E.g. When might men and women be truly equal.

Different Types of Knowledge

Empirical		This is the knowledge requires you to use your sense to discover information.
Authoritarian		When you are told information by authoritive figures, e.g. teachers, law enforcement or adults.
Reason		When you use logic or reasoning (deductive and inductive) to work something out.
Belief		What you choose to think is true and real.

How deep do you want your questions to go?

	Is! Does! Present	Did! Past	Can! Possibility	Could!/ Should! Probability	Will! Prediction	Might! Imagination
What (Event)						
Where (Place)						
When (Time)						
Who (Person)						
Why (Reason)						
How! (Meaning)						

Plato's Cave

Socrates' Death

P1 Chapter 1: Forces
Knowledge organiser

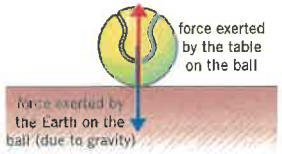
Activate
Question • Progress • Succeed

What is a force?

- A **force** can be a **push** or a **pull**
- A force is measured in **Newtons** (N)
- We measure forces with a **newton meter**
- Forces explain why objects will move, change direction and change speed

- Forces always act in pairs, we call these **interaction pairs**

e.g. the tennis ball exerts a downward force of **weight** onto the table, the table exerts an equal and opposite reaction force onto the ball



Types of forces

- **Contact forces** act when two objects are physically touching
- **Air resistance** and **friction** are examples of contact forces

- **Non-contact forces** act when two objects are physically separated (not touching)
- Examples of non-contact forces include **gravitational force** and magnetic forces
- We call the region where an object experiences a non-contact force a **field**, examples of these include gravitational fields and magnetic fields

Gravity

- **Gravity** is a non-contact force that acts between two objects
- **Gravitational force** pulls you back to Earth when you jump
- The size of the gravitational force depends on the mass of the two objects and how far apart they are

- **Weight** is the downward force caused by gravity acting upon the mass of an object, it is measured in Newtons (N)
- **Mass** is the amount of matter within an object, whereas weight is the downward force of the object, we measure mass in **kilograms**
- We calculate weight with the equation:

$$\text{weight (N)} = \text{mass (kg)} \times \text{gravitational field strength (N/kg)}$$

- The value of the gravitational field strength can vary, so although a person's mass would be the same on different planets, their weight would not be

Balanced and unbalanced forces

- When forces acting on an object are the same size, but acting in different directions, we say that they are **balanced**
- When forces are balanced, the object is either not moving (stationary) or moving at a constant **speed**

- When the two forces acting on an object are not the same size, we say that the forces are **unbalanced**
- When forces are **unbalanced**, the object will either be in **acceleration** or **deceleration**
- The **resultant force** is the difference between the two unbalanced forces

Speed

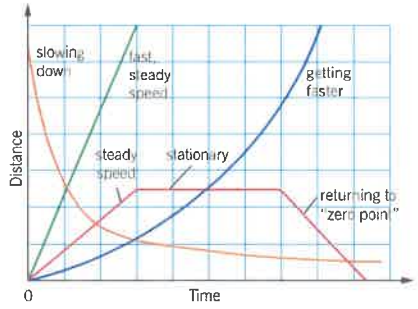
- **Speed** is a measure of how quickly or slowly that something is moving
- We measure speed in meters per second (m/s), this means that distance must be in meters and time must be in seconds
- We calculate speed with the following formula:

$$\text{speed (m/s)} = \frac{\text{distance travelled (m)}}{\text{time taken (s)}}$$

- **Relative motion** compares how quickly one object is moving compared to another
- If both objects are moving at the same speed, they are not changing position in comparison to one another, meaning that their relative speed is zero

Distance-time graphs

- **Distance-time graphs** tell the story of a journey, they show how much distance has been covered in a certain period of time



- To find the average speed, the total distance must be divided by the total time

Key terms

Make sure you can write definitions for these key terms.

acceleration, air resistance, balanced, contact force, deceleration, distance-time graph, field, force, friction, gravity, gravitational force, interaction pair, kilograms, mass, Newton, newton, non-contact, pull, push, relative motion, resultant force, speed, unbalanced, weight

P1 Chapter 2: Electricity
Knowledge organiser

Activate
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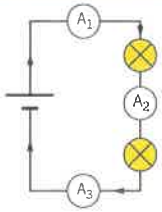
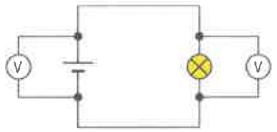
Current

- **Current** is the amount of **charge** flowing per second
- The charges that flow in a circuit are **electrons**, they are negatively charged
- **Electrons** leave the negative end of the **cell** and travel around the circuit to the positive end of the cell
- Current has the unit of Amps (A) and is measured with an **ammeter** (which is placed in series or in the main circuit)



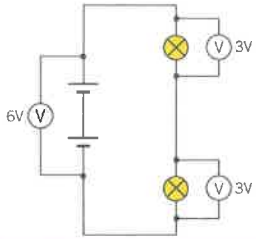
Potential difference

- **Potential difference** is the amount of energy transferred by the cell or **battery** to the charges
- The value of potential difference tells us about the force applied to each charge and then the energy transferred by each charge to the component which it passes through
- Potential difference has the unit of volts (V) and is measured with a **voltmeter** (which is placed in parallel to the circuit)



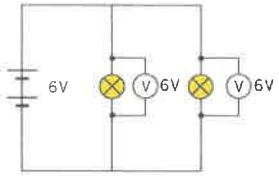
Series circuits

- **Series** circuits only have one loop
- If one component breaks, the whole circuit stops working
- Current is the same everywhere in a series circuit
- The total potential difference from the battery is shared between the components in a series circuit
- Adding more bulbs decreases the brightness of the bulbs



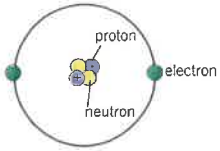
Parallel circuits

- **Parallel** circuits have more than one loop
- If one component breaks, the rest of the circuit will still work
- Current is shared between the different loops in the circuit
- The potential difference is the same everywhere in the circuit
- Adding more bulbs does not affect the brightness of the bulbs



The atom

- The **atom** consists of a central nucleus with electrons orbiting around the outside in shells
- **Electrons** have a negative charged
- **Protons** are inside the nucleus and have a positive charge
- **Neutrons** are inside the nucleus and have a neutral charge



Static electricity

- Static electricity is the caused by the rubbing together of two **insulators**
- This causes electrons to be transferred, leaving one object with a positive charge, and one object with a negative charge

- Like charges will **repel**, opposite charges will **attract**

Resistance

- **Resistance** is a measure of how easy or how hard it is for charges to pass through a component in a circuit
- Resistance has the unit of ohms (Ω)
- Resistance is calculate by measuring potential difference and current and using the following equation:

$$\text{resistance } (\Omega) = \frac{\text{potential difference (V)}}{\text{current (A)}}$$

- Materials with a high resistance are said to be **insulators**
- Materials with a low resistance are said to be **conductors**

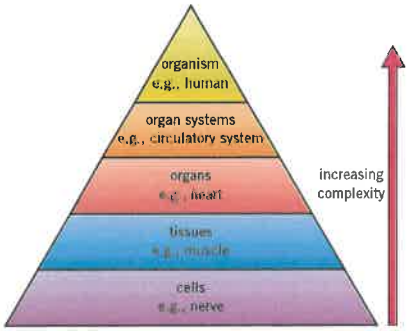
Key terms Make sure you can write definitions for these key terms.

ammeter atom attract battery cell conductors current electrons electric charge insulator neutral neutrons parallel potential difference protons repel resistance series voltmeter

B1 Chapter 8: Organisms
Knowledge organiser

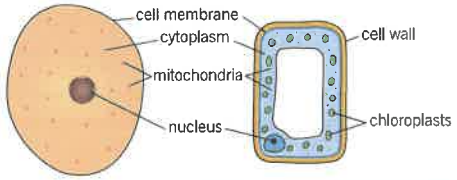
Activate
Question · Progress · Succeed

Levels of organisation



Plant and animal cells

- To be able to **observe** a **cell** we need to use a **microscope**, this magnifies the cell to a point to which we can see it
- Plant and animal cells have small structures inside known as **organelles**, each of these performs a certain role which allows the cell to survive

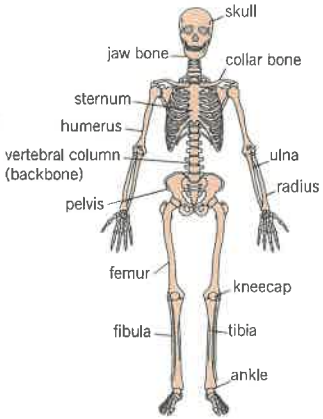


Specialised cells

- **Specialised cells** are designed to carry out a particular function, because of this they have specific features and adaptations to allow them to carry this out
- Both plant and animal cells can be specialised, with these specialised cells working together to help the organism to survive

The skeleton

- The **skeleton** is made up of 206 **bones** which are a type of **tissue**
- Bones have a blood supply and are a living tissue
- The skeleton is part of the **muscular-skeletal system**
- The four main functions of the skeleton are:
  - To support the body – to keep you upright and hold **organs** in place
  - Protect organs – such as the skull protecting the brain
  - Movement – by working with muscles to allow you to move
  - Making blood cells – the **bone marrow** produces red and white blood cells



Muscles

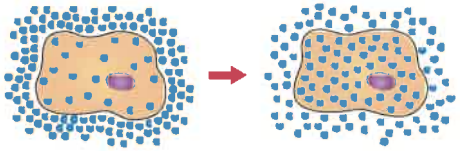
- **Muscles** are a type of tissue which allows movement
- They pull on tendons which in turn pull on bones to allow movement
- Muscles like the triceps and biceps are known as **antagonistic muscle pairs**, they work together –as one contracts, the other will relax

Organs

- An organ is a group of tissues that have the same function
- They can work with other organs in an **organ system**, such as the respiratory system which uses organs like the heart and lungs to transfer oxygen around the body
- Vital organs are the organs that need to keep functioning for an **organism** to stay alive, e.g. the heart

Movement into and out of cells

- The process in which substances move into and out of cells is known as **diffusion**
- This occurs across the **cell membrane**
- During diffusion particles move from an area of high **concentration**, to an area of low concentration



- Oxygen and nutrients enter the cell by diffusion, carbon dioxide and waste products leave

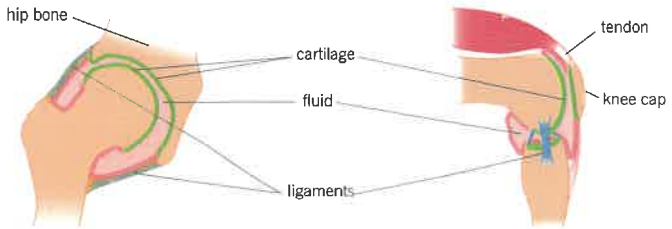
Movement

Joints occur between bones and allow movement, there are three main types of joints

Hinge	Ball and socket	Fixed
For back and forward movement, e.g. knees	*For movement in all directionse.g. hips*	*Do not allow movement, e.g. skull*

Joints have three main types of tissue:

Ligaments	**Cartilage**	**Tendons**
Connect bone to bone	*Coats the end of bones as a protection*	*Connects bone to muscle*



Key terms Make sure you can write definitions for these key terms.

antagonistic muscle pair · bone · bone marrow · cartilage · cell · concentration · diffusion · joints · ligaments · microscope · muscular skeletal system · nucleus · organ · organism · organ system · skeleton · specialised cells · tendons · tissue