

CHRIST THE

KING

KNOWLEDGE
ORGANISERS

> #CtKCares

Year 7

Advent Term 1





SELF-QUIZZING

Why should I self-quiz?

Your mind is split into two parts: the working-memory and the long-term memory. Everybody's working-memory is limited, and therefore it can very easily become overwhelmed. Your long-term memory, on the other hand, is effectively limitless.

You can support your working memory by storing key facts and processes in long term memory. These facts and processes can then be retrieved to stop your working memory becoming overloaded.

This booklet contains knowledge organisers for all of your subjects. Each knowledge organiser has the key information that needs to be memorised to help you master your subject and be successful in lessons.

How often should I self-quiz?

Research shows that regular testing improves knowledge retention; in order to learn the information in your knowledge organiser, you will need to work with it more than once! There are many different ways to learn the material in your knowledge organiser.

How to use my Knowledge Organiser

- 1. Cover – Write – Check:** Cover up one section of the knowledge organiser, and try to write out as much as you can from memory. Check the knowledge organiser to see if you are right; correct any mistakes and fill in any missing information in your green pen.
Repeat this process at least twice to fill your page. You could also include content from the previous week's homework – especially if there were some parts you struggled with.
- 2. Draw a mind map,** jotting down everything that you can remember from the knowledge organiser. Check accuracy, correct in green pen and then repeat.
- 3. Revision clock** – draw a clock and add the topic in the middle. Break the clock face into 10 minute sections. Add notes from the knowledge organiser in each section. Cover the clock and recite the information aloud.
- 4. Use your knowledge organisers to create flashcards.** These could be double sided with a question on one side and the answer on the other. Alternatively, a keyword on one side and a definition on

QUICK FACT

Did you know

Research shows students remember 50% more when they test themselves after learning something

50%





HOMWORK SCHEDULE

You should complete at least one hour of Home Learning per school day.

This will consist of:

- Knowledge Organiser and Online Learning as directed by your teachers.
- If you have no tasks set, carry out Knowledge Organiser activities as per the Knowledge Organiser timetable below.
- Two periods of 20 minutes reading each week

Week 1					
20 Minutes Per Subject	Monday	Tuesday	Wednesday	Thursday	Friday
Subject 1	English	Science	Maths (MyMaths)	Maths	English
Subject 2	RE	PE	RE	Science	Geography
Subject 3	Music	History	Technology/ IT	MFL	Art
Week 2					
20 Minutes Per Subject	Monday	Tuesday	Wednesday	Thursday	Friday
Subject 1	Science	English	English	Maths (MyMaths)	Science
Subject 2	RE	Maths	RE	Drama	Geography
Subject 3	Music (Practical)	History	Technology/ IT	MFL	Art (Practical)

Read **20 minutes** a day and you'll read **1,800,000 words** per year.

READING FOR
6 MINUTES A DAY
REDUCES STRESS
BY 68%.

Children learn
4,000 to 12,000 words per year
through reading.



WHAT ARE THE HOMEWORK EXPECTATIONS?

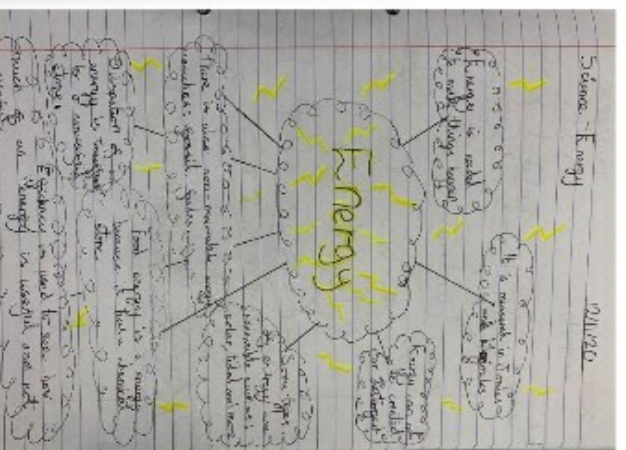
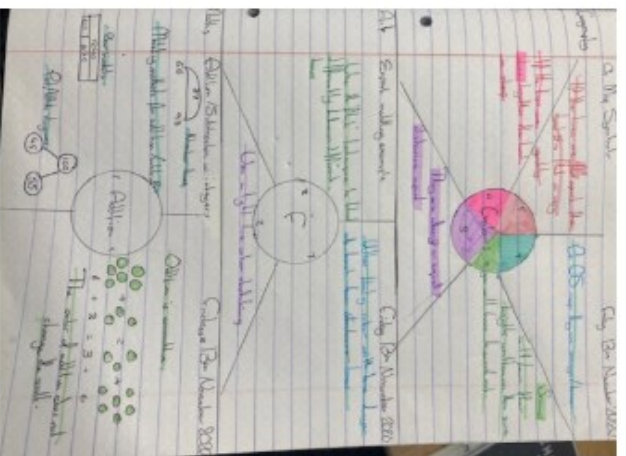
Each homework must meet the following 5 requirements:

1. Write the **complete title and date in full** eg. Tuesday 9th September 2017 on each page, **underlined**
2. You should include a **minimum of words** to summarise the topic. Do not copy the words from the text.
3. Make **full use of the page** for each topic by scaling your notes & images appropriately to use of all the space.
4. You must include **diagrams, sketches or cartoon doodles** to visually represent the topic, try to use humour.
5. **Highlight key words** and phrases, using underline, highlighter pens. Explain technical terms

HOW SHOULD I PRESENT MY WORK?

Please remember that the same rules apply to the presentation of your homework as apply for your class work: **dates and titles (which should be the name of the subject) need to be underlined with a ruler** and you should **present your work as neatly as you are able to**.

If you are self-quizzing correctly, there should be **evidence of green pen on your page**. Here are some examples of how to set out your work:



QUICK TIP

Don't forget

Always record the date, topic and page number in your Home Learning Book!

Formal Elements

These are the basic elements that are used by Artists in creating Art: they are what you use to create an aesthetically pleasing work. When we make Art, we need to understand and apply these Elements of Art.

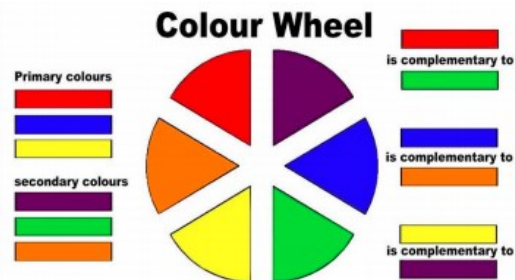
The formal element Portrait Keywords

1. Line	A single mark made by an implement
2. Tone	How dark or light a shape is. You can use a pencil to shade or make colours lighter or darker. This makes objects look real and solid
3. Form	a three dimensional shape
4. Pattern	When shapes, colours or lines are repeated
5. Colour	There are three primary colours: Red, Yellow & Blue. By mixing any two primary colours we get a secondary colour e.g. Yellow & Blue = Green
6. Texture	How the surface of something feels.
7. Shape	The outline or form of something
8. Composition	The position and layout of shape on the paper.
9. Focal Point	The place to which the eye is lead within a picture, the main interest.
10. Foreground /Background	The front of the composition and that which is behind it.
11. Proportion	Scale
12. Sketch	A rough drawing. A small trial run to see if ideas work.
13. Space	The distance around and between things.
14. Perspective	A way of making a drawing or painting look deep and real. A method of making things appear near or far
15. Medium	The tools and materials used by an artist.
16. Rhythm	A regular measured beat. In art this can be shown as repeat shapes, patterns or colours
17. Symmetry	When two sides or shapes are nearly the same.
18. Symbol	A simple sign which stands for something bigger or complex.
19. Two Dimensional - 2D	Having length and width only, something which is flat.

20. Three Dimensional - 3D	Having length. Width and depth. Something that is solid.
21. Still life	A painting or drawing of inanimate (still) objects
22. Landscape	A picture of a town or countryside, also a composition that is sideways.
23. Portrait	A picture of a person, also a composition that is upright
24. Chiaroscuro	(An Italian word meaning 'light and dark'.) The technique of suggesting 3 dimensional form by varying tones of light and dark paint
25. Impasto	Thick paint applied by brush or palette knife.
26. Cross-hatching	Lines are placed over each over at different angles to build up areas of tone.

Types of Drawing

1. Expressive drawing	A drawing that shows your thoughts and emotions
2. Design Drawing	A drawing that is detailed enough to allow someone to recreate what you have drawn
3. Observational drawing	A first hand study- when you are looking at the object in real life
4. Sketching	A quick drawing that shows the basic shapes and details
5. Development drawing	A longer more sustained drawing that may be on a larger scale
6. Perspective	How the surface of something feels.
7. Media	What you use in your hand to make a mark on the page



Tone—Light and Shade, pencil shading



Shading is used to make objects appear 3-Dimensional



Artist Profile

Jasper Johns (May 1930)

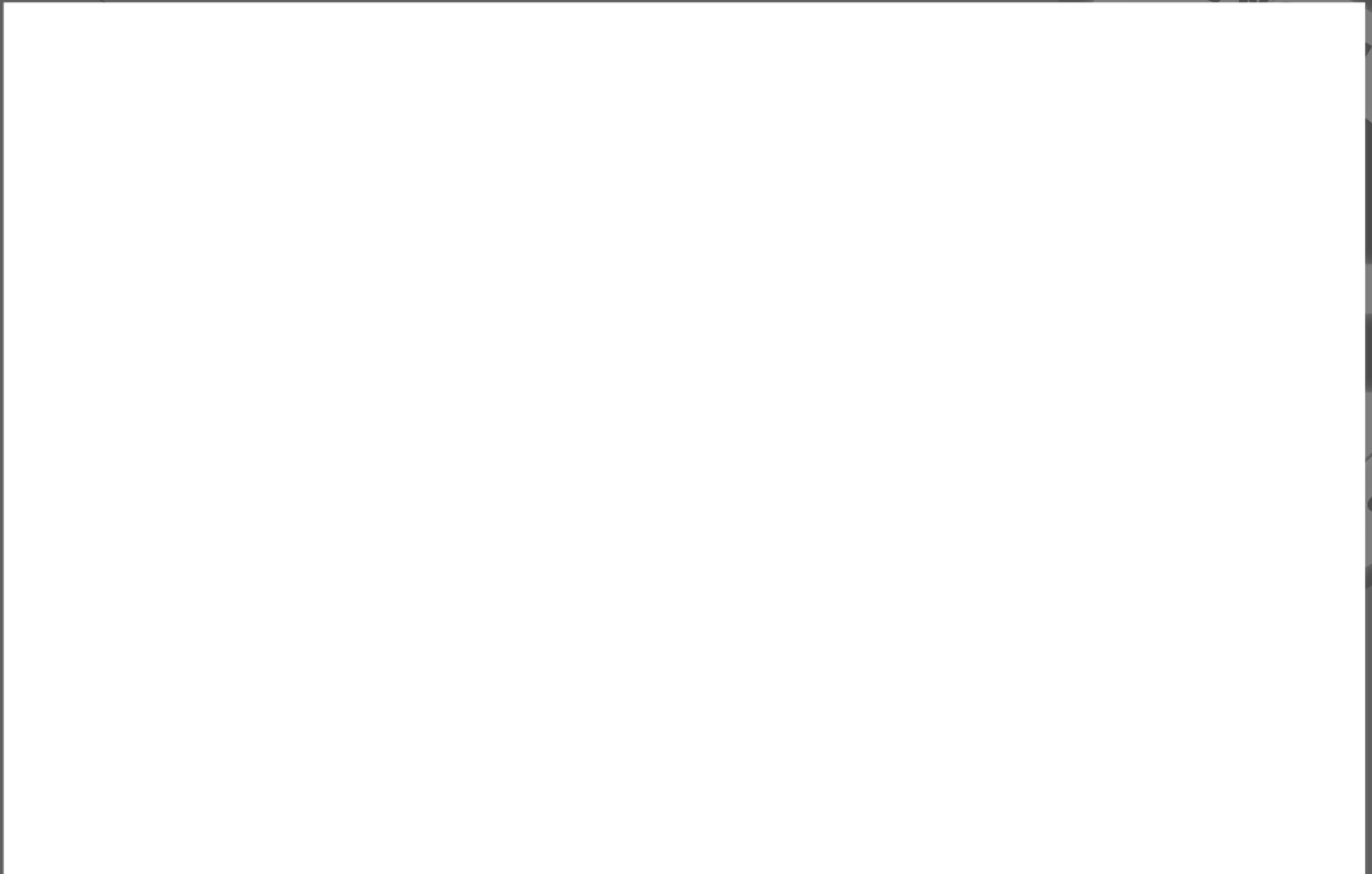


- Born in Augusta, Georgia, USA
- He is a sculptor and printmaker whose work is associated with abstract expressionism, Neo-Dada, and pop art.
- He is well known for his depictions of the American flag and other US-related topics.
- Johns has received many honours throughout his career, including receipt of the National Medal of Arts in 1990, and the Presidential Medal of Freedom in 2011
- In 1952 and 1953 he was stationed in Sendai, Japan, during the Korean War.

David Hockney (July 1937 -)



- He is British painter who lives and works in Yorkshire and California.
- He has also used photography and modern technology like iPads and fax machines in his work.
- His paintings sell for millions of dollars.
- The Tate Gallery says he is 'perhaps the most popular and versatile British artist of the 20th century'.



DRAMA KEYWORDS

RESPECT

Paying attention to and being positive about other people's contributions. No one is more or less important than anyone else.

ACTING

Using physical and vocal skills to show someone other than yourself.

EFFORT

How hard you work to give everything your best shot. You don't have to get everything right but you do need to try your best.

Drama Technique CHARACTERISATION

Using vocal and physical skills to show character

STAYING IN ROLE

Staying focused on the part that you play the whole way through a performance.

FOCUS

Your ability to concentrate and not be distracted (especially important during a game, rehearsal or performance).

TEAMWORK

Working with a group of people to achieve a goal.

Drama Technique FREEZE FRAME

A character tells the audience what the character is thinking

Drama Technique THOUGHT TRACKING

A character tells the audience what the character is thinking

Studio skills: Drama Expectations

Y7 Drama

Baseline Autumn 1

THEATRE KEYWORDS

- Theatre Maker
- Actor
- Stage Positions
- Proscenium Arch
- In The Round
- Thrust
- Set
- Naturalism

Self-Reflection

What did I do well today?

What do I need to improve?

Who am I?

Do I participate?

Do I listen?

Can I stay focussed on the task?

Can I cooperate in the studio?

In the first term of Drama, your teacher will be looking for...

- Cooperation
- Concentration
- Control
- Communication
- Confidence
- Focus on task
- Teamwork/Group skills
- Listening

Vocal Keywords

Accent to show an audience where a character is from; can also show emphasis in a word

Clarity you apply a clear speaking voice so the audience can hear you

Projection the strength of speaking whereby the voice is used loudly and clearly so an audience can hear you.

Physical Keywords

Movement how we change our bodies to walk in character. Movement is important to show we are **actors** (not just reading a script)

Body language changing your body to show character

Posture the way a character stands and holds their body

Performance Keywords

Audience Awareness
No backs to audience

Projection
Use a loud and clear voice so you can be heard

Movement
Add movement including gesture and facial expression

Space
Use all your space to make sure you tell the story

CHALLENGE
To learn all your lines and be 'off script' when performing

Expression facial expression to show a character's true feelings; vocal expression to ensure voice has feeling

Drama Technique Freeze Frame
A moment of stillness to enhance a scene

Drama Technique Cross cutting (or split scene) to show two scenes happening at once

Drama Technique Thought Tracking
A character tells the audience what the character is thinking

Retrieval Tasks

1. to complete the thought clouds with definitions/example
2. Revise the skills and definitions
3. Learn your lines

Y7 Drama Cowboys Autumn

Cowboy Creating Skills

- Change your body language
- Practicing an accent
- Apply posture
- Apply gesture
- Facial expression



Cowboy Rehearsal Skills

- Group skills
- Teamwork
- Listening
- Practice lines

Cowboy Performance Skills

- Accent
- Use of space
- Gesture
- Projection
- Off script
- Staying in role



Self-Reflection

What did I do well?

What do I need to improve?

Who am I?

- Do I participate?
- Do I listen?
- Can I stay focussed in rehearsal?
- Can I cooperate in the studio?

In this topic, you will be assessed on:

- Characterisation
- Vocal skills
- Accent

Teacher observation:

- Effort
- Focus
- Respect
- Support for others

Body language is...

I used movement when...

Cross cutting is...

Y7 Non-Fiction Reading and Writing

- When we read a text we make ASSUMPTIONS based upon what we read, this is called **INFERENCE**. Inference is an important part of reading because it is the way that we can determine what the writer thinks more deeply.
- Non-Fiction** texts are based upon facts and real-life events.
- Some examples of Non-Fiction texts are:

Newspaper – Autobiography - Advert Biography – Letter – Review – Advert - Leaflet - Instruction manual

Writing a comparison

When we are comparing two texts, we need to use the following vocabulary to show **similarities/ differences**:

Similarly

Whereas

Both

In contrast

Purpose

Non-fiction texts can have different purposes including:

Persuade - convince the reader to believe something

Inform - teach the reader new information about a topic

Explain – tell the reader how to do something or how it works

We change the language we use depending upon the purpose of the text.


Persuasive Language techniques

1	Direct Address	uses 'you' to speak to the reader directly
2	Metaphor	describing something as something else with similar qualities
3	Oxymoron	two adjacent words which are opposites
4	Hyperbole	exaggerated statements not meant to be taken literally
5	Simile	compares two things using 'like' or 'as'
6	Exaggeration	representing something as better or worse than it actually is
7	Adjective	describes a person, place or thing
8	Rhetorical Question	a question which requires no answer
9	Emotive language	words chosen to evoke an emotional response
10	Facts and Statistics	real evidence used to prove a point, can be %
11	Irony	say the opposite of what you mean in order to be humorous

Non-Fiction Keywords

1	Compare	state the similarities and differences between the language and meaning of two texts
2	Autobiography	writing about real events of your life
3	Biography	writing about real events of someone else's life
4	Viewpoint	how different people/writers see a situation/topic
5	Summarise	state the key points of what has been read

How to write about non-fiction:

P oint	The writer makes us think that...	
E vidence	For example, ... One quote to show this is...	
T echnique	This is an example of the writer using a...	
E xplain	This suggests/shows/implies/connotes/indicates/ Evokes to the reader... This is used to show that... The connotations of this are...	
R elate	This links to ... At the time that the text was written, ...	

Persuasive Structural features

To write an effective argument we can use:

Repetition – repeat words or phrases

Counterargument – acknowledge the other side to an argument

Short sentences – add impact



Overview of the Victorian Era

Victorian Era – this is the period of **Queen Victoria's** reign, from 1837 until her death in 1901. The 1800s was a period of rapid **industrial development** throughout Britain. It was characterized by the **growth of factories**, and the mass production of **manufactured goods**. There were many changes to how people lived because the population of England doubled between 1800 and 1850. **Cities** grew as people moved from the countryside to find work.

Living Conditions of the Poor

Previously, the rich and poor had lived in the same districts: the rich in the main streets; the poor in the service streets behind. Now, wealthier people moved out of town centres to the new **suburbs** – leaving the poor housed in the city centre. Much of the housing for the poor was demolished in order to make factories. Thus many of the poor were forced to live on the street and in **slums**.

Key vocabulary for the Victorian Era

- Christmas Carol (published 1843)
- Dickens (1812 – 1870)
- exploitation (in particular child labour)
- Industrial Revolution (countryside / cities / suburbs / factories / poverty / slums)
- Malthus
- Victorian Era (1837 – 1901)
- workhouses (Poor Law / Poor Law Amendment)
- working class / middle class / upper class



Key skills: understanding context

The **context** of a text is information such as: **where** and **when** it was written, **who** it was written by, and **what** was happening at the time (politically and socially), when it was **published**. All of these influence the **writer's purpose** and the **effect** it has on its audience. In order to understand a text it helps to understand something about the time s/he was writing.

Charles Dickens

Charles Dickens (1812 – 1870) wrote 15 novels as well as short stories, essays, and articles. In Year 10 you will study **A Christmas Carol** which Dickens wrote in response to British social attitudes towards poverty, particularly child poverty. Although Charles Dickens is best described as **middle class**, he was sympathetic to the suffering of the poor (**working class**), perhaps because he had some insight into their working conditions. When he was 12, he was sent to work in a factory because his father had been imprisoned for not paying a debt.

Additional information

- Programme about Workhouses and Children's Homes in Victorian Britain (lesson 6)
<https://www.bbc.co.uk/programmes/p011t0t5>
- Interview with Jacqueline Wilson and the creators of the CBBC series 'Hetty Feather' (lesson 5)
<https://foundlingmuseum.org.uk/events/picturing-hetty-feather/>
- More information about Charles Dickens
<https://www.charlesdickensinfo.com/>

Y7 The Victorians & Christmas Carol Knowledge Organiser

P oint	The writer makes us think that . . .
E vidence	For <u>example</u> . . .
T echnique	This is an example of the writer using a . . .
E xplain E ffect	This is used to show that. . . The effect on the reader is . . .
R elate	I think the writer was trying to make the reader feel. . .



Make a Point
Sum up the main answer to the question in one full sentence. **Use Evidence to support** your point.

Can you identify any Techniques that the writer has used? **Explain** why you selected that quotation – what's the Effect on the reader?

Can you **Relate** your ideas to historical knowledge?



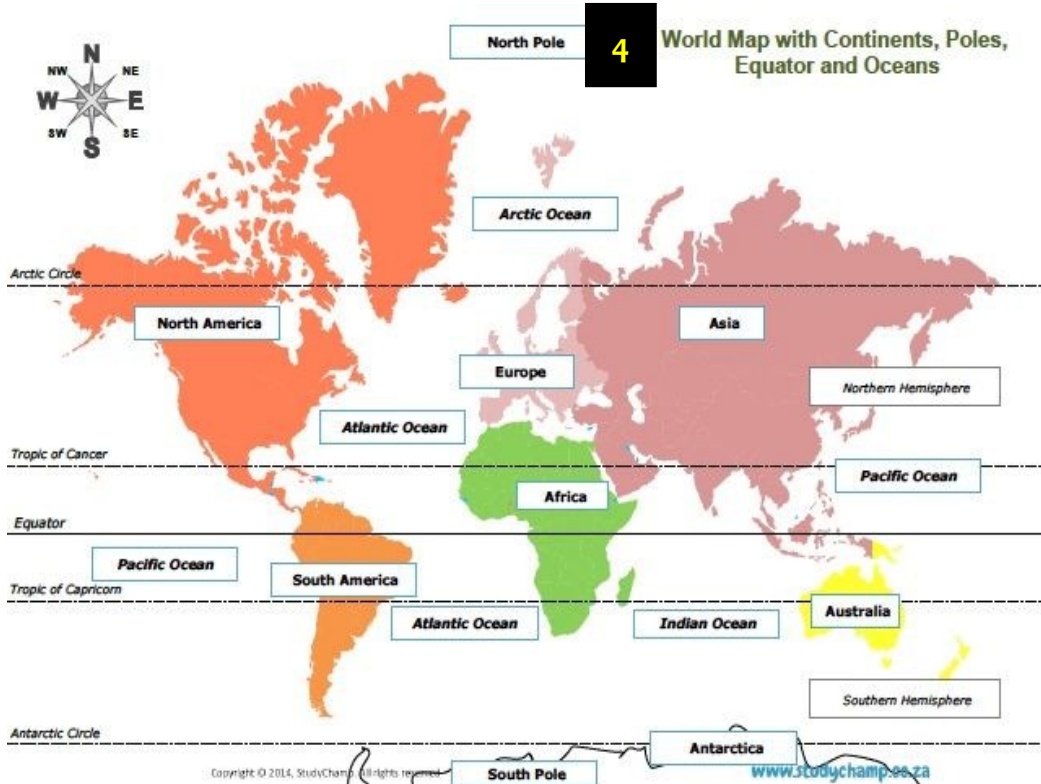
Geography topic 1: Becoming a Geographer

1. Three types of Geography	
Human	How and where people live
Physical	The natural world
Environmental	The processes which shape our world

2. Atlas Skills – Using the Index
 Page number
 Grid square
 Place name
 Place it is within (country/continent)

4

World Map with Continents, Poles, Equator and Oceans



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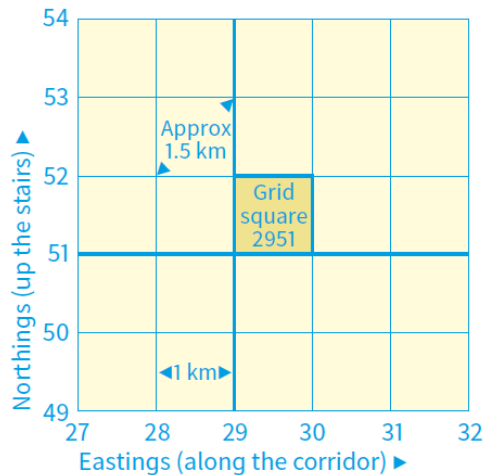
3. The UK	
4 Countries	England, Scotland, Wales, Northern Ireland
Capitals	London, Edinburgh, Cardiff, Belfast
Highest Peak in each country	Scafell Pike, Ben Nevis, Snowdon, Slieve Donard
Longest Rivers	Severn, Thames, Trent
Surrounding bodies of water	Atlantic Ocean, Irish Sea, English Channel, North Sea

5. Describing Places Key Terms	
Landmark	An object or feature which is easily seen and recognised from a distance, often used to establish our location.
Climate	The pattern of weather over time
Topography	The shape of the land
Biome	A large, naturally occurring major habitat
Settlements	A place people have established to live
Industry	Economic activity in a place
Population	The people who live in a place

Topic 2. OS Map Skills

6

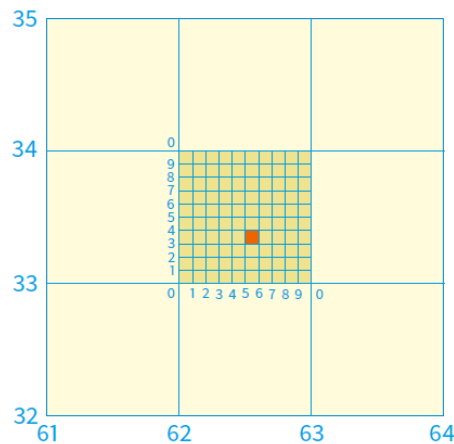
Four-figure grid references



1. Used to identify a square on a map.
2. Always go along the corridor and then up the stairs.
3. Follow the Eastings to the bottom left of the square you want. Write this down.
4. Use the Northings to find the same corner. Write this number after the Easting. The one shown is 2951.

7

Six-figure grid references



1. Used to pinpoint an exact place on a map.
2. Write the four figure reference for the square with a space after each set of numbers. The one above is **62_33_**
3. Imagine the square is divided into 100 squares with 10 along each side
4. Go along the corridor and up the stairs and add the numbers in in this order. The example above is **625333**

8

CONTOURS
 These are lines drawn on a map that join places of the same height

- On OS maps they are orange/brown
- Some will have their heights written on them—some you will have to work out
- They are always an EQUAL distance apart
- If the lines are CLOSE together the land is steep
- If the lines are FAR apart the land is flat or very gently

SPOT HEIGHTS
 Shows the exact height of the land by a black dot with a number next to it. The number is the height above sea level in metres.

RELIEF
 Relief is the shape and height of the land. OS maps use two systems to illustrate relief, **spot heights** and **contour lines**. A contour is a line drawn on a map that joins points of equal height above sea level.

Spot height
 The highest point in an area

Geography Topic 3: Russia



Location

Biomes in Russia	
Tundra	Taiga
Plain covered in permafrost	Coniferous forests
Coldest biome	Largest terrestrial biome
Plants grow low to the ground to be protected from cold and wind	Found in the Northern Hemisphere including Russia, UK, Canada and Sweden.

Sectors of Industry	
Primary	Collect raw materials
Secondary	Manufacturing
Tertiary	Providing services
Quaternary	Working with advanced technology

Economy in Russia key words	
Commercial farming	Farming to make a profit
Subsistence farming	Farming to provide food for yourself – anything left after can be sold.
Livestock	Animals reared to make a profit
Nomad	People travelling to find fresh pasture for their animals with no permanent home.

Plant adaptations in the Taiga
Evergreen trees
Thick, resinous bark
Pinecones
Long, shallow roots
Trees have long, thin needles
Downward sloping and springy branches

Population key words	
Population Density	Number of people living in a given area
Densely populated	Many people living in an area
Sparsely populated	Few people living in an area

Calculating population density

$$\frac{\text{Population}}{\text{Area}} = \text{Population Density}$$

Economic Development in the Arctic

What is the Arctic?
The Arctic is the area surrounding the North Pole. It is a large ocean (the Arctic) surrounded by land. Some of the ocean is covered in frozen saltwater called sea ice.

Who owns the Arctic?
Countries have an exclusive economic zone of 200 nautical miles from their coastline which they own according to the UN. This can be expanded to 350 nautical miles if a country can prove their continental shelf extends this far. Any resources found here belong to the country. Russia believes it has the rights to a large area of the Arctic because of this law.

Environmental impacts

- Oil spills
- Calving icebergs
- Melting sea ice
- Reduce population of species including seals
- Hinder Beluga whale communication
- Disrupt the food chain

Social and economic impacts

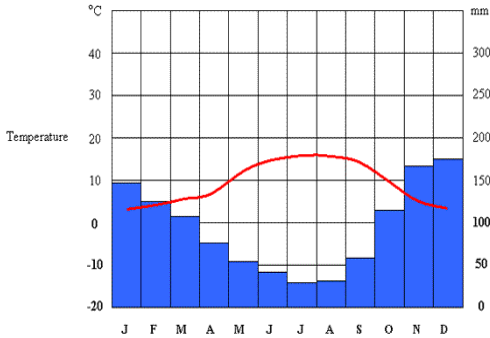
- Prevent nomads tending reindeer herds
- Reduce available land for settlements
- Conflict between nations
- Create jobs
- Lower energy prices
- Provide energy for populations

Facts about the scale of Russia
Largest country in the world by area
In both Europe and Asia
Contains 9 time zones
14 bordering nations
Population of 145m
Coastline on the Arctic and Pacific Oceans



The flag of Russia

Physical features key words	
Marsh	Low-lying area which is flooded in wet seasons or high tide and is waterlogged
Mountain	A large elevation rising to a summit
Mountain Range	A series of connected mountains
Peninsula	A piece of land almost surrounded by water or projecting into a body of water
Permafrost	Permanently frozen ground found in tundra and polar regions
Plain	Flat area at a low elevation
Plateau	Flat area at a high elevation
River	A large stream of water flowing in a channel to the sea, a lake or another river
Steppe	A large area of flat unforested grassland in SE Europe or Siberia
Volcano	A mountain or hill through which lava, rock, gas and ash has erupted



Climate graphs contain two pieces of information

- Temperature in degrees Celsius (line graph)
- Precipitation in millimeters (bar chart)

Temperature is read from the left and precipitation from the right



History Topic 1

1. Anglo Saxons: Government	
Edward the Confessor	The Anglo-Saxon King
Witan	A council who helped the king make decisions
Thegns	Noblemen who were given land by Earls
Earls	Most important member of the aristocracy, below the King. Earl Godwin, then Harold Godwinson, was the Earl of Wessex. Tostig (Harold's brother) was Earl of Northumbria.
Earldom	An area of land owned by an Earl. Wessex was the richest Earldom
Shire Reeves	A senior official with local responsibilities under the crown- like a magistrate/ sheriff
Aristocracy	Highest class in society consisting of the king/ Earls/ Noble

2. Anglo Saxons: society	
Peasants	A poorer person in society, usually a farmer
Slaves	A person who is the property of another person
Subsistence farming	Growing crops and raising livestock for the use of one's own family.
Danelaw	Area occupied by Vikings during Anglo-Saxon times

3. The Succession Crisis	
Heir	Someone who is next in line to be king or queen
Viking	People of Scandinavia (Denmark, Norway, Sweden). The Vikings living in England were called Danelaw.
William Duke of Normandy	Ruler of a small country, at the top of France, called Normandy. He was a distant cousin of Edward the Confessor.
Harald Hardrada	King of Norway. He believed he could invade England and take the throne. His claim was based on a secret deal with another Viking called Magnus.
Edgar Aethling	Edward the Confessor's 9 year old nephew. He had royal blood but was too young.

4. Battle of Hastings	
Normans	People from Normandy
Hostage	Taking someone to use as a bribe
Infantry	Soldiers on foot
Cavalry/Knights	Soldiers on horses
Shield wall	Soldiers stood in a line with their shields overlapping to protect them

5. Castles (Methods of control)	
Motte and Bailey castle	An original Norman castle. The Motte was a hill with the actual castle on the top, the Bailey was an area at the base where the soldiers lived.
Moat	A ditch surrounding the Motte and Bailey castle filled with water to stop enemies getting into the castle.
Keep	The structure/ castle on top of the hill. The Keep of a Motte and Bailey Castle was made from wood, they were then replaced with stone.
Stone castle	A castle made from stone
Flanking Tower	A tower on the outside of the castle wall and could be used to fire arrows or other weapons from.
Turret	A smaller tower that can be used to fire weapons from

6. Feudal System and Domesday Book (Methods of control)	
Feudal System	William's order of society which showed who was in charge of whom and who had to work for whom
Knights/ Tenants in chief	The landholders who held their land directly from the king.
Domesday Book	A book which contained a highly detailed survey of the whole of Norman England. It helped William know how much tax people should pay, it solved legal arguments over land and it helped to raise an army.

7. Narrative skill keywords	
Narrative	Similar to a story, which contains causes of an event, explains the event and finishes with an outcome
Causes	The reasons the event happened
Consequences	Something that happens because of the event
Connectives	Linking phrases together to show an outcome/ consequence
Analysing	Examine something in detail, usually in an order

8. Timeline	
1042	Edward the Confessor becomes King
1053	Earl Godwin died and Harold Godwinson becomes Earl of Wessex
January 1066	Edward the Confessor dies
20 th Sept 1066	Gate Fulford
25 th Sept 1066	Battle of Stamford Bridge
14 th Oct 1066	Battle of Hastings
1085-1086	Domesday Book created
Jul 1087	William Duke of Normandy dies

History Topic 2

1. Thomas Becket

Monarchy	A King or a queen
Archbishop of Canterbury	Senior bishop and principle leader of the Church of England
Medieval Court	The King's council and household, including relatives, Barons, lords
Church court	Where clergymen were tried
excommunicated	Excluded from the church
Cathedral	Church containing a bishop, follows the Pope
Monks	A person who lives alone or with other monks in a monastery

2. Magna Carta

Magna Carta	A royal charter (a formal document) of rights agreed to by King John
Baron	A member of the nobility
Tax	Money paid to the king
Freeman	A person who is not 'tied' to the land they farm on
Dictatorship	One person telling people what to do
Democratic	When people vote on possible laws/ rules
Laws	Rules put in place that people must follow
Parliament	Made up of MPs who advise the monarch and pass laws
Limited	Not much of it

3. Medieval Life

Peasants	Lower classes, usually farmers
Strip farming	A system of farming where crops are grown in rows
Mill	A machine which grinds grain or moves water to create power
Common land	Land that peasant farmers work on for the Lord of the Manor
Lord of the Manor	An important person who owns land in the countryside/ in a rural area
Cruck House	A simple style of house, very common in the countryside in the Middle Ages
Latin	A classic language spoken and written in England in medieval times
Countryside	An area with fields, trees and villages
Town	A more built up area with shops, markets, houses

4. Black Death

Disease	An illness
Germs	Tiny organisms that can cause infection and illness
Plague	A disease which spreads, caused by fleas on rats
Superstitious	A belief that something causes something bad to happen or leads to bad luck. Eg people believing that whipping themselves would stop them from getting the plague.
Miasma	What medieval people called 'bad air' which they believed would make you ill.
Social	Anything related to people and society
Economic	Anything related to money
Cure	Something to rid someone of illness or disease

5. Peasants' Revolt

Revolt	A break away or rise against authority/ people in charge
Riot	.A violent public disturbance
Political	Anything related to government and law
Grievances	A complaint about unfair treatment
Statute of Labourers	A law created by Parliament in 1351 in response to a labour shortage, which meant people weren't allowed to ask for more money and stopping people looking for work with better conditions

6. Cause and Consequence skill keywords

Cause	Something that leads to something else
Consequence	Something that happens as a result of a cause
Explain	Making a point clear by including more details/ relevant facts
Identify	Point out what someone or something is
Negative	Something which is bad
Positive	Something which is good

7. Timeline

Murder of Thomas Becket	29 th December 1170
Magna Carta is signed	June 15 1215
Black Death	June 1348
Statute of Labourers	1351
Peasants' Revolt	1381

Medieval Life

Year 7 Mathematics

Term 1A: Sequence



□ Δ ○ ×
△ × ○ Δ
× □ Δ ○

What do I need to be able to do?

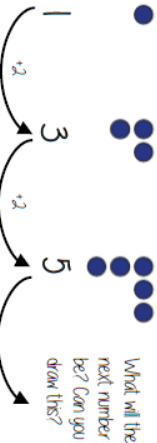
- By the end of this unit you should be able to:
 - Describe and continue both linear and non-linear sequences
 - Explain term to term rules for linear sequence
 - Find missing terms in a linear sequence

Keywords

- Sequence:** items or numbers put in a pre-decided order
- Term:** a single number or variable
- Position:** the place something is located
- Rule:** instructions that relate two variables
- Linear:** the difference between terms increases or decreases by the same value each time
- Non-linear:** the difference between terms increases or decreases in different amounts
- Difference:** the gap between two terms
- Arithmetic:** a sequence where the difference between the terms is constant
- Geometric:** a sequence where each term is found by multiplying the previous one by a fixed non zero number

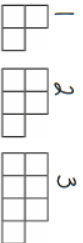
Describe and continue a sequence diagrammatically

Count the number of circles or lines in each image



Sequence in a table and graphically

Position the place in the sequence

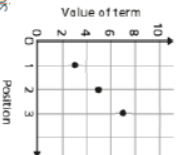


Term the number or variable (the number of squares in each image)

Position	1	2	3
Term	3	5	7

+2
+2

Because the terms increase by the same addition each time this is **linear** – as seen in the graph



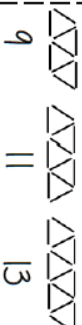
Graphically

"The term in position 3 has 7 squares"

Predict and check terms



CHECK – draw the next terms



Predictions:
Look at your pattern and consider how it will increase
eg How many lines in pattern 6?
Prediction - 13
If it is increasing by 2 each time - in 3 more patterns there will be 6 more lines

Linear and Non Linear Sequences

Linear Sequences – increase by addition or subtraction and the same amount each time

Non-linear Sequences – do not increase by a constant amount – quadratic, geometric and Fibonacci

- Do not plot as straight lines when modelled graphically
- The differences between terms can be found by addition, subtraction, multiplication or division

Fibonacci Sequence – look out for this type of sequence

0 1 1 2 3 5 8 ...

Each term is the sum of the previous two terms

Continue Linear Sequences

7, 11, 15, 19...

How do I know this is a linear sequence? It increases by adding 4 to each term

How many terms do I need to make this conclusion?

At least 4 terms – two terms only shows one difference not if this difference is constant (a common difference)

How do I continue the sequence?

You continue to repeat the same difference through the next positions in the sequence

Explain term-to-term rule

How you get from term to term

Try to explain this in full sentences not just with mathematical notation

Use key maths language – doubles, halves, multiply by two, add four to the previous term etc

To explain a whole sequence you need to include a term to begin at...

Continue non-linear Sequences

1, 2, 4, 8, 16 ...

How do I know this is a non-linear sequence?

It increases by multiplying the previous term by 2 – this is a geometric sequence because the constant is multiply by 2

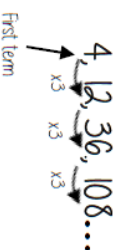
How many terms do I need to make this conclusion?

At least 4 terms – two terms only shows one difference not if this difference is constant (a common difference)

How do I continue the sequence?

You continue to repeat the same difference through the next positions in the sequence

The next term is found by tripling the previous term
The sequence begins at 4



Year 7 Mathematics

Term 1B: Algebraic Manipulations



What do I need to be able to do?

- By the end of this unit you should be able to:
 - Be able to use inverse operations and 'operation families'.
 - Be able to substitute into single and two step function machines
 - Find functions from expressions
 - Form sequences from expressions
 - Represent functions graphically

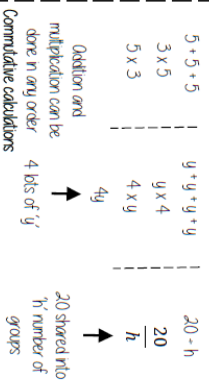
Keywords

- Function:** a relationship that instructs how to get from an input to an output
- Input:** the number/ symbol put into a function
- Output:** the number/ expression that comes out of a function
- Operation:** a mathematical process
- Inverse:** the operation that undoes what was done by the previous operation (The opposite operation)
- Commutative:** the order of the operations do not matter
- Substitute:** replace one variable with a number or new variable
- Expression:** a maths sentence with a minimum of two numbers and at least one math operation (no equals sign)
- Evaluate:** work out
- Linear:** the difference between terms increases or decreases by the same value each time
- Sequence:** items or numbers put in a pre-decided order

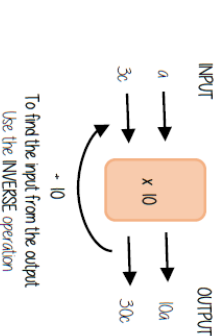
Single function machines



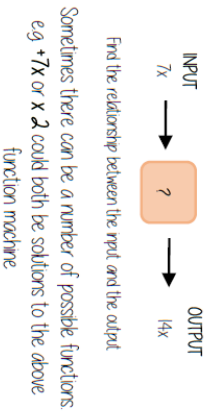
Using letters to represent numbers



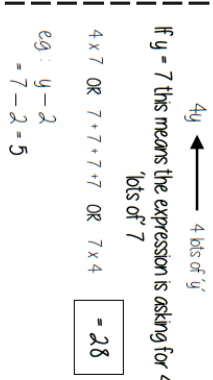
Single function machines (algebra)



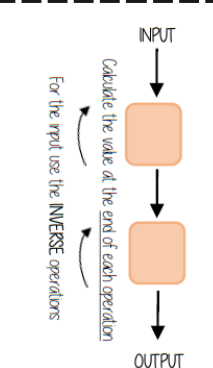
Find functions from expressions



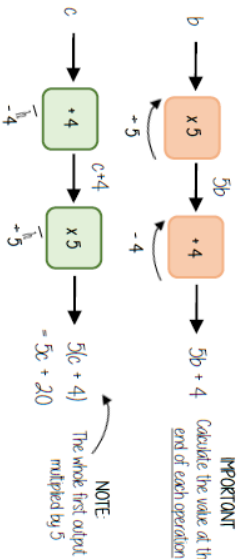
Substitution into expressions



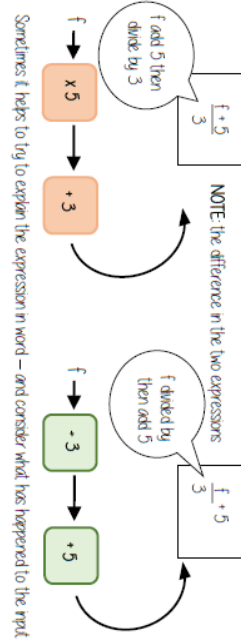
Two step function machines



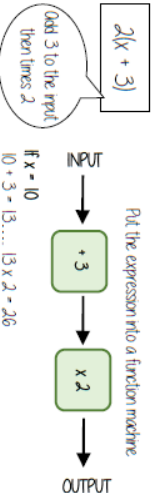
Two step function machines (algebra)



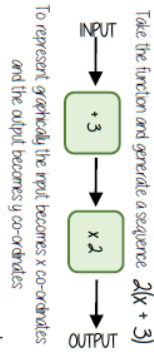
Find functions from expressions



Substitution into an expression



Representing functions graphically



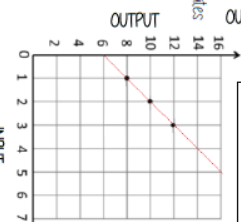
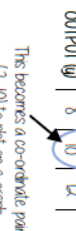
Not all graphs will be linear only those with an integer value for x

Powers and fractions generate differently shaped graphs

Forming a sequence



Forming a sequence



NOTE: Because this is a linear graph you can predict other values



Year 7 Mathematics

Term 1C: Equality and Equivalence

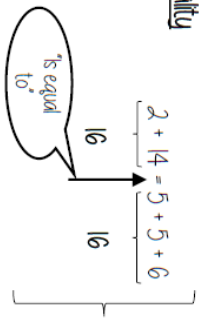
What do I need to be able to do?

- By the end of this unit you should be able to:
 - Form and solve linear equations
 - Understand like and unlike terms
 - Simplify algebraic expressions

Keywords

- Equality: two expressions that have the same value
- Equation: a mathematical statement that two things are equal
- Equals: represented by '=' symbol - means the same
- Solution: the set or value that satisfies the equation
- Solve: to find the solution
- Inverse: the operation that undoes what was done by the previous operation. (The opposite operation)
- Term: a single number or variable
- Like: variables that are the same are 'like'
- Coefficient: a multiplicative factor in front of a variable eg $5x$ (5 is the coefficient, x is the variable)
- Expression: a maths sentence with a minimum of two numbers and at least one math operation (no equals sign)

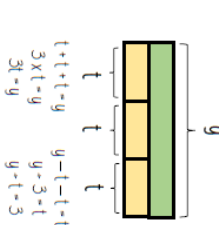
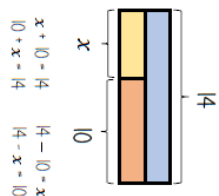
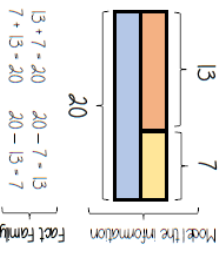
Equality



Saying it out loud sometimes helps you to understand equality

The sum on the left has the same result as the sum on the right

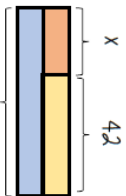
Fact Families



Solve one step equations (+/-)

There is more to the than just spotting the answer

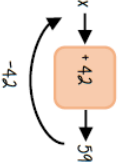
$$x + 42 = 59$$



Don't forget you know how to use function machines

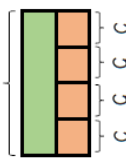
$$59 - x - 42$$

$$59 - 42 = x$$



Solve one step equations (x/×)

$$\frac{f}{4} = 5$$

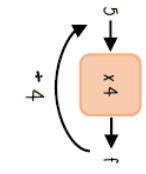


Don't forget you know how to use function machines

$$f \div 4 = 5$$

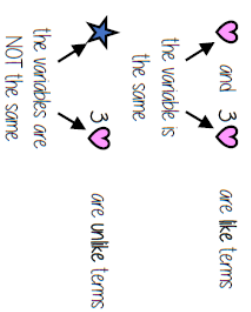
$$f = 5 \times 4$$

$$f = 20$$



Like and unlike terms

Like terms are those whose variables are the same



Examples and non-examples

Like terms

- $y, 7y$
- $2x^2, x^2$
- $ab, 10ba$
- $5, -2$

Unlike terms

- $y, 7x$
- $2x^2, 20x^2$
- $ab, 10a$
- $5, -2t$

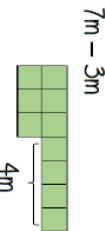
Note here ab and ba are commutative operations, so are still like terms

Equivalence

Check equivalence by substitution eg $m=10$

$5m$	$2 \times 2m$	$7m - 3m$
5×10	$2 \times (2 \times 10)$	$(7 \times 10) - (3 \times 10)$
$= 50$	$= 2 \times 20$	$= 70 - 30$
	$= 40$	$= 40$

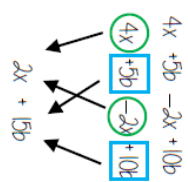
Repeat this with various values for m to check



Collecting like terms = symbol

The \equiv symbol means equivalent to. It is used to identify equivalent expressions

Collecting like terms
Only like terms can be combined



Common misconceptions

$$2x + 3x^2 + 4x \equiv 6x + 3x^2$$

Although they both have the x variable x^2 and x terms are unlike terms so can not be collected

Year 7 Mathematics

Term 1D: Place Value



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 =, ≠, ≤, ≥
 - 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

Integer Place Value

Billions	Millions	Thousands	Ones
H T O H T O H T O	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, forty three thousand and twenty nine
 Billion 1 000 000 000
 million 1 000 000

Compare integers using <, >, =, ≠

< less than Two and a half million = 2 500 000
 > greater than 300 000 000 = Three billion
 = equal to
 ≠ not equal to Six thousand and eighty < 68 000

Decimals

We say "nought point five two"

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

Comparing decimals

Which is the largest of 0.3 and 0.23?

Ones	Tenths	hundredths
	0.1 0.1	

Ones	Tenths	hundredths
	0.1 0.1	0.01 0.01

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

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:** 0 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:** 0 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

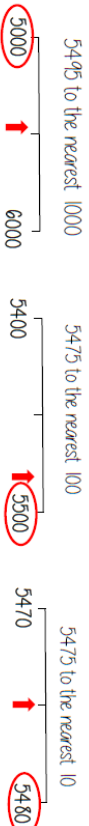
Intervals on a number line



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'



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

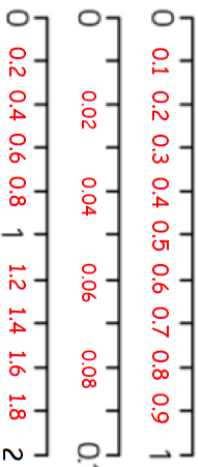
The middle value

Example 1 Median: put the in order 3 4 8 9 12
 4 3 9 8 12 find the middle number 3 4 8 9 12

Example 2 Median: put the in order 137 148 150 154 156 160
 50 54 148 There are 2 middle numbers 137 148 150 154 156 160
 137 160 158 Find the midpoint 152

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



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 Mathematics

Term 1E: Fractions, Decimals and Percentage



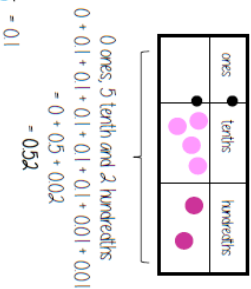
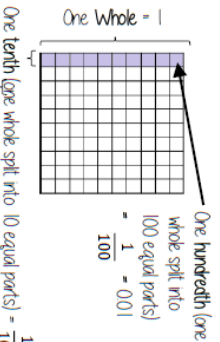
What do I need to be able to do?

- By the end of this unit you should be able to:
 - Convert fluently between fractions, decimals & percentages

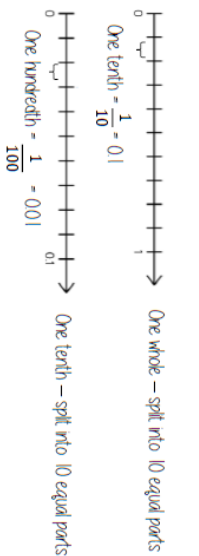
Keywords

- 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
- Tenths:** one whole split into 10 equal parts
- Hundredths:** one whole split into 100 equal parts
- Sector:** a part of a circle between two radii (often referred to as looking like a piece of pie)
- Repeating:** a decimal that repeats in a given pattern

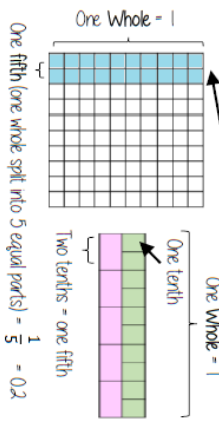
Tenths and hundredths



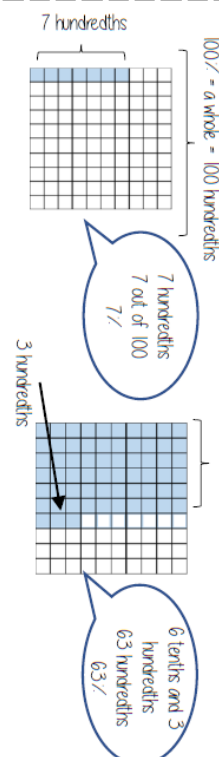
On a number line



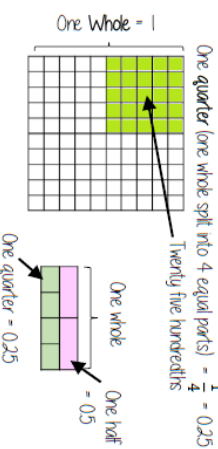
Fifths



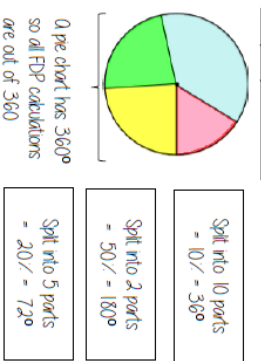
Percentages on a hundred grid



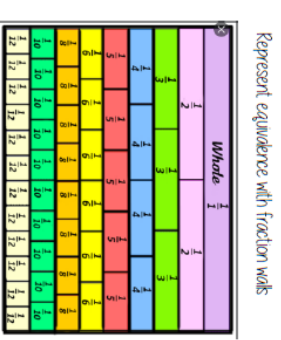
Quarters



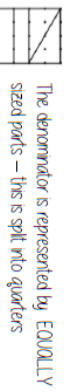
Simple pie charts



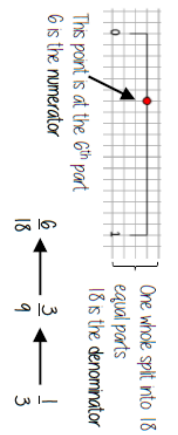
Equivalent fractions



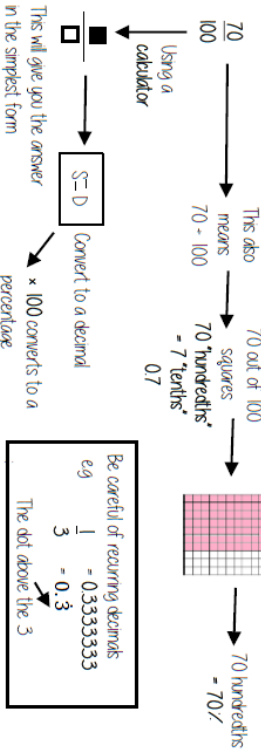
Fractions – on a diagram



Fractions – on a number line

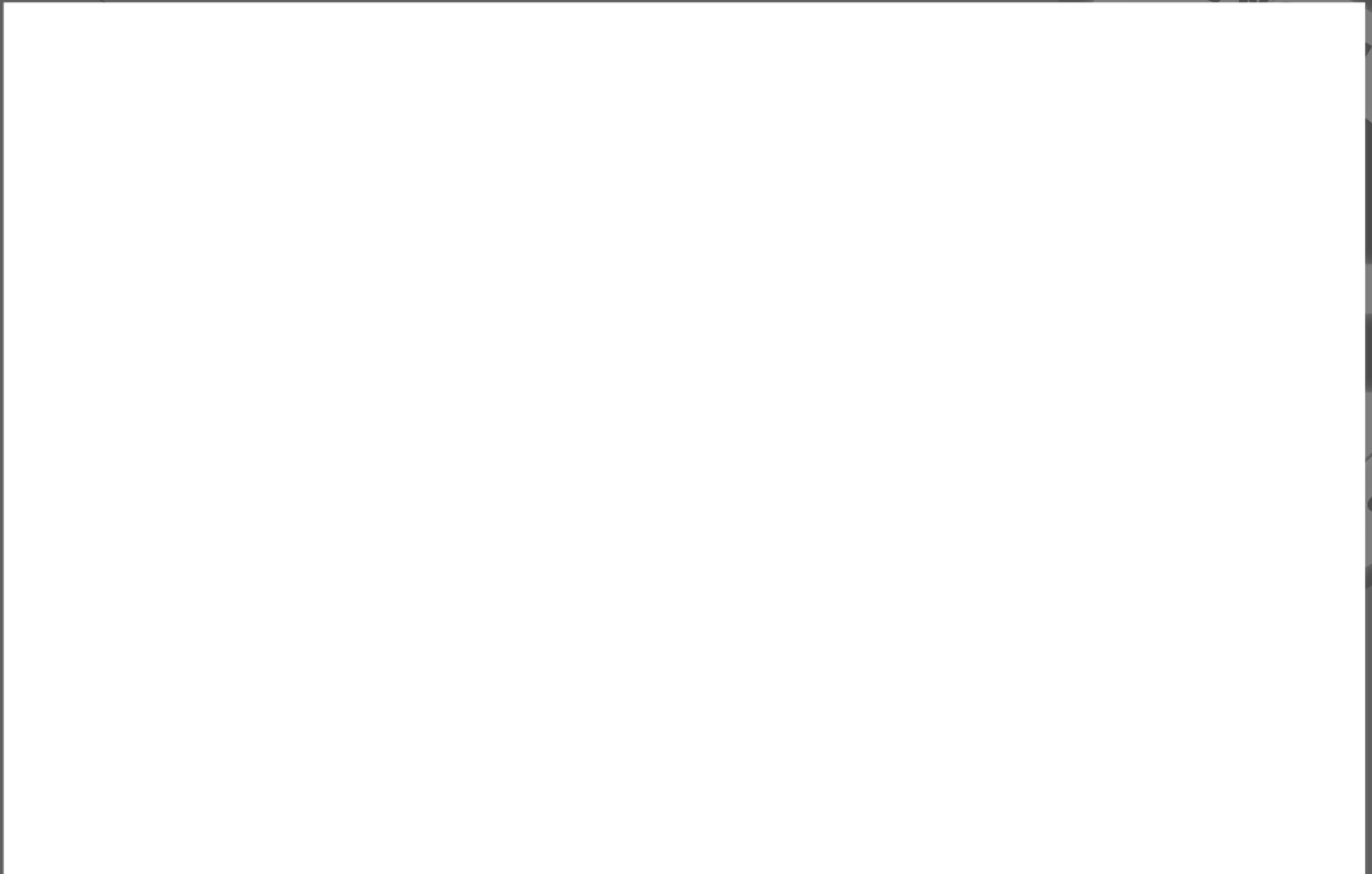


Convert FDP



Be careful of recurring decimals

eg $1/3 = 0.3333333$
 The dot above the 3



Year 7 French – HT1 – INTRODUCING YOURSELF

Salut! Ça va? Moi, ça va très bien

1

Hi! How are you? Me, I'm very well

Je m'appelle Elodie et j'ai douze ans



2

I am called Elodie and I have (am) 12 years old



Je suis née le vingt Janvier mais

3

I was born the 20th January but

L'anniversaire de ma soeur est le vingt-cinq mars.



4

the birthday of my sister is the 25th March.

Elle s'appelle Françoise et elle est plus âgée que

moi – elle a quinze ans.



5

My sister is called Françoise and she is more old than me - she has (is) fifteen years old

Je viens d'Espagne mais

6

I come from Spain but

j'habite à Nice en France, néanmoins



7

I live in Nice in France, nevertheless

Je voudrais habiter en Italie

8

I would like to live in Italy

BONJOUR!



A. GREETINGS

Bonjour	Hello
Salut	Hi
Ça va?	How are you?
Ça va bien.	I'm well.
Ça va mal.	I'm not good.
Comme ci comme ça.	I'm okay.
merci	thank you
au revoir	good bye
Comment t'appelles-tu?	What are you called?
Je m'appelle...	I am called...
Tu t'appelles...	You are called...
Il/elle s'appelle...	He/she is called...

L'ALPHABET

A	ah	H	ash	O	oh	V	vay
B	bay	I	ee	P	pay	W	doobla-vay
C	say	J	jjee	Q	coo	X	ix
D	day	K	car	R	air	Y	ee-grek
E	er	L	ell	S	ess	Z	zed
F	eff	M	emm	T	tay		
G	jjay	N	enn	U	ooo		

Comment ça s'écrit?
How do you spell that?



B. LES MOIS

janvier	février	mars	avril
mai	juin	juillet	août
septembre	octobre	novembre	décembre



Quelle âge as-tu?
How old are you?

J'ai _____ ans.
I am _____ years old.



"Quelle est la date de ton anniversaire?"

Mon anniversaire c'est
le (number) + (month)

E.g. Mon anniversaire c'est le sept juin.

C. LA SEMAINE

lundi	Monday
mardi	Tuesday
mercredi	Wednesday
jeudi	Thursday
vendredi	Friday
samedi	Saturday
dimanche	Sunday

1 2 3 4 5 6 7 8 9 10 11 12 13 14
un deux trois quatre cinq six sept huit neuf dix onze douze treize quatorze

Bonjour!

Dans mon sac il y a...
In my bag there is...



PHONICS

oi wa le poisson	ui wee Ouri	eu er le jeu-vidéo	au oh les ciseaux
ou oo la poule	i ih/ee le midi	u oo les lunettes	é ay le bébé
ez eh le nez	er eh danser	qu k la question	gn nyuh la montagne
in on le vin	en on le serpent	on on le pont	tion see-on la pollution

E. L'ÉCOLE

un cahier	an exercise book
un stylo	a pen
un crayon	a pencil
un livre	a textbook
une règle	a ruler
une gomme	a rubber
une calculatrice	a calculator
une chaise	a chair
une table	a table
le professeur/ la professeuse	the teacher
la porte	the door
la fenêtre	the window

F. INSTRUCTIONS

Notez	Note
Écrivez	Write
Écoutez	Listen (to)
Parlez	Say
Prenez	Take
Regardez	Look (at)
Fermez	Close
Ouvrez	Open

ESSENTIAL VERBS

AVOIR—TO HAVE		ÊTRE—TO BE	
J'ai	I have	Je suis	I am
Tu as	You have (singular)	Tu es	You are (singular)
Il/elle a	He/she has (singular)	Il/elle est	He/she is (singular)
Nous avons	We have	Nous sommes	We are
Vous avez	You have (plural)	Vous êtes	You are (plural)
Ils/elles ont	They have	Ils/elles sont	They are

Ouvrez les cahiers!

HIGH FREQUENCY WORDS

c'est - It is
et - and

mais - but
aussi - also
ou - or

quel/quelle - which
qu'est-ce que - what
comment - how

15 quinze 16 seize 17 dix-sept 18 dix-huit 19 dix-neuf 20 vingt 21 vingt et un 22 vingt-deux 23 vingt-trois 24 trente



Musical Knowledge 1: the essentials

Layers of sound

Melody = tune. One note at a time. Can be sung or played on an instrument.

1. Melody



See opposite

2. Chords

Bass line = the lowest part. One note at a time.

3. A bass line

played on a low-pitched instrument such as bass guitar, cello, double bass, tuba.



4. A beat



Beat = rhythm. Played on unpitched instruments such as drums.

Notes on a keyboard

- Notes are in alphabetical order, going up to G
- Say: 'C is to the left of the two black keys: C D E F G A B'



A note by itself CANNOT be major or minor!

- Every black note has two names: sharp # and flat b
- Flat = lower than white note
- Sharp = higher than white note



Chords

- Chord = 2+ notes played together

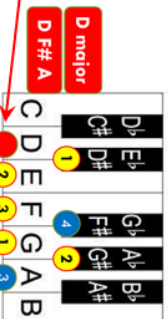


- Chords can be major or minor

Major = 4 then 3 semitones. Sounds happy

Minor = 3 then 4 semitones. Sounds sad

Semitone = the next note, counting white AND black

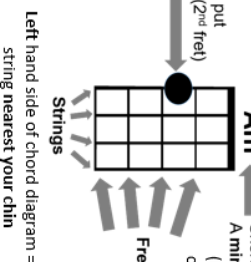


The bottom note of the chord = the root. The root gives its name to the chord.

- Chords are usually played on the keyboard, guitar, or ukulele.

Chord Name: Am

Where we put our finger (2nd fret)



Left hand side of chord diagram = string nearest your chin

Musical Knowledge 2: rhythm notation

Definitions

- Pulse** = the underlying count in the music. Like a heartbeat. You clap/dance to this. You *feel* it rather than *hear* it.

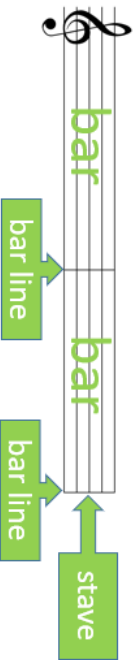


- Rhythm** = long and short notes, and the gaps between them:

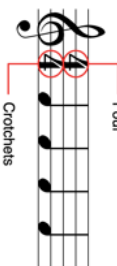


Bars and time signatures

- Notes on the staff are divided up into bars by bar lines.



- The time signature = two numbers at the start of the music. It tells us how many beats are in a bar: how we count in the piece.
- The top number tells us how many beats are in a bar. The bottom number tells us what sort of beats they are.



How to read rhythms

- These are the basic types of notes.

American note names are more logical: here, the UK names are in brackets.

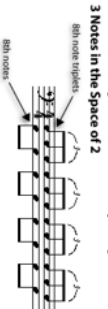
Note/Rest Name	Note Symbol	Rest Symbol	Note/Rest Value (Length)
Whole Note/Rest (Semibreve)	o	—	4 beats
Half Note/Rest (Minim)	∩	—	2 beats
Quarter Note/Rest (Crotchet)	∩	∩	1 beat
Eighth Note/Rest (Quaver)	∩	∩	1/2 beat

Pairs or 4s of quavers are beamed together. Remember each blob is a note.

- Rhythms can be made up of any combination of notes or rests, as long as each bar adds up correctly.
- A dot after a note adds on half as much again: $\dot{\cap} = \cap + \cap = 3$ beats

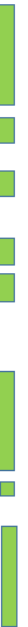

$$\cap = \cap + \cap = 1\frac{1}{2} \text{ beats}$$

- A triplet squeezes three notes into the time it normally takes to play two:



Musical knowledge 3: pitch notation

Definitions

- Rhythm** = long and short notes, and the gaps between them:
 
- Melody** = tune. This has **pitch** as well as rhythm (i.e. it goes up and down):
 

Words for describing melodies

Treble Clef

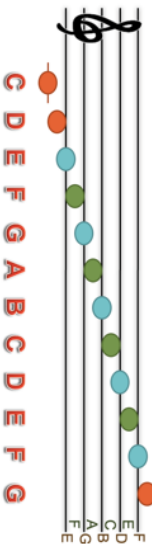


MELODY

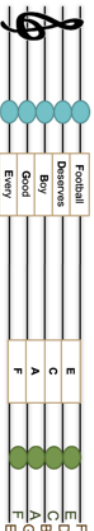
Register – how **high** or **low** the notes are
Range – the distance from the lowest note to the highest: **wide** or **narrow**
Sequence – a pattern that repeats, **ascending** or **descending**
Scale (moving in a scale) or **broken chord** (moving in chord shapes) movement
Steps (going to a **next-door note**) or **leaps** (**jumping** to a note further away)
Ornaments (extra notes added to **decorate**)
Melodic ostinato/riff: a **repeating pattern**

How to read pitches

- The blobs of the notes are arranged on the lines and spaces of the staff. The higher the blob on the staff, the higher the pitch.



- Notes alternate being on a line and in a space.
- Notes higher or lower than the staff have their own little line called a **ledger line**, like middle C shown above.



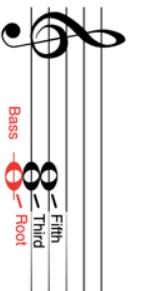
- You can remember the notes on the lines with '**Every Good Boy Deserves Football**', and the notes in the spaces spell '**FACE**'. Remember to go **upwards** when doing this!

Musical knowledge 4: a cappella

Definitions and theory

- A cappella** = music sung by voices alone: no instruments
- Key** = the set of notes used to create the music. Can be **major** (sounds happy) or **minor** (sounds sad)
- Inversion** = when you shuffle the order of the chord notes:

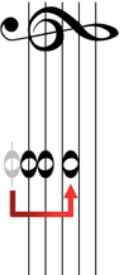
Root position chords follow the 4+3 or 3+4 pattern.



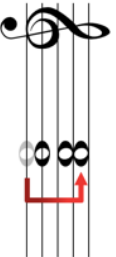
C major chord in **root position** (called this because the root note is in the bass (at the bottom))



C major chord in **first inversion** - now the **third** of the chord is in the bass.



C major chord in **second inversion** - now the **fifth** of the chord is in the bass.



These are all C major chords because they have C E and G in them.

Types of voices

- Soprano** = the highest female voice
- Treble** = a boy's unchanged voice
- Alto** = a lower female voice
- Tenor** = a high male voice
- Bass** = a low male voice

Articulation

Articulation is *how* the notes are played/sung.

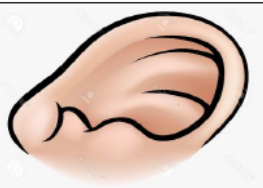
ARTICULATION

Strummed – on a guitar or ukulele, playing **all the notes of a chord**
Finger-picking – on guitar or uke, playing individual notes **one at a time**
Sustained – notes that are **held on**
Stab – a **short, accented chord**
Staccato – **short, detached notes**
Legato – notes that join **smoothly** together
Slurred – on a voice/wind instrument, going from one pitch to another **without articulating** the new note
Pizzicato – on a violin or cello, **plucking** the string
Arco – on a violin or cello, using the **bow**
Accents – notes that are **louder** than the surrounding notes

Musical Knowledge : Listening 5

Definitions

- When you are listening to a piece of music:
- Does it sound **happy** (major tonality) or **sad** (minor tonality)?
 - Which instruments can you hear?
 - How would you describe the rhythm?
 - What are the **key features** of the piece?
 - Which words could you use to describe the tempo? Is it fast or slow?



Use **TDRIPS** -
Tempo, Dynamics, Rhythm, Instrumentation, Pitch, Structure to describe music.

Key words

Tempo Fast: Allegro
Slow: Lento
Dynamics Forte: Piano
Rhythm Straight: Syncopated
Instrumentation
Pitch Treble Clef: High or Low
Bass Clef: Strophic: Rondo
Structure Ternary



Question using key words

- How are melodies used? Are they simple or complex?
 Are the notes high or low in pitch? Do the notes make sudden leaps or move in small steps?
 Are the dynamics (Volume) loud or soft?
 How would you describe the structure?
 How many different sections of music can you hear?
 How would you describe the style of music? Which genre of music would you describe it as?

LISTENING SKILLS

Appraisal

'an act of assessing something.'

"What am I hearing?"

Musical Knowledge : Composing 6

Definitions

What is 'harmony'?

The sound of two or more notes heard simultaneously. This includes chords and melodies heard in a piece of music.

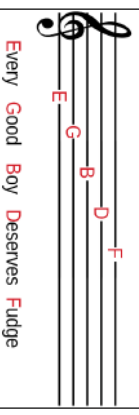
What does 'composition' mean?

Composition is the art of creating music, by composing parts and developing ideas to create a piece of music.

Composition Tips

- Listen to a range of music for inspiration.
- Play an instrument.
- Sing and train your ears.
- Practice.
- Learn the software well.

Ledger Line Notes in Treble Clef



Composing Using the Elements

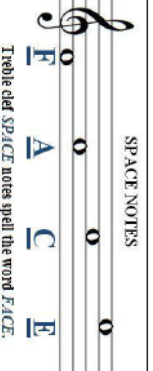
- Texture:** how layers of sound within a piece of music interact.
Dynamics: How loud or soft a musical sound is.
Rhythm: Musical patterns, measured in time e.g. 4 beats in every bar is common time.
Instrumentation: The instruments and musical sections used in a composition e.g. strings, percussion etc.
Pitch: how high or low a musical note or sound is.
Structure: the parts which make up a composition e.g. section A, section B.



COMPOSITION

Key Notes

Key words

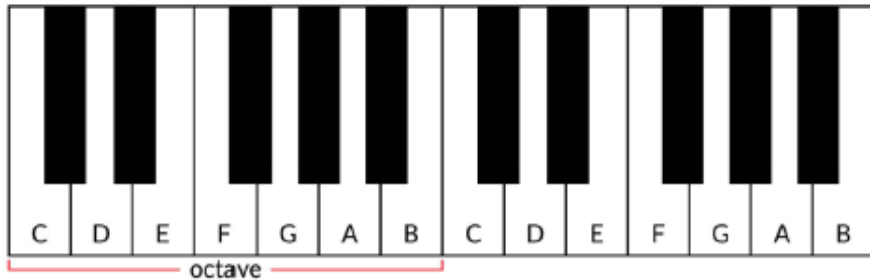


Using music notes in composition

- Crotchet:** a note worth 1 beat.
Quaver: a note worth 1/2 a beat.
Minim: a note worth 2 beats.
Semibreve: a note worth 4 beats.

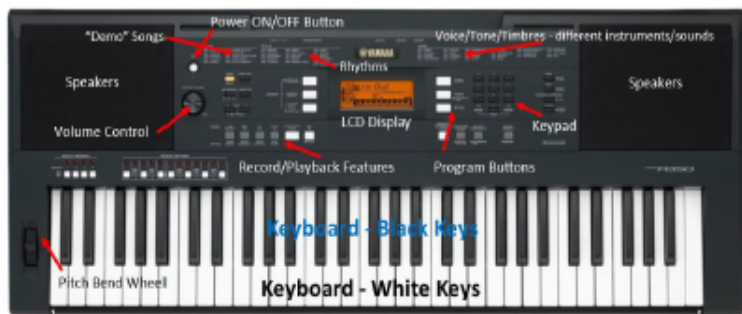
KEYBOARD SKILLS

A. Layout of a Keyboard/Piano



A piano or keyboard is laid out with WHITE KEYS and Black Keys (see section G). C is to the left of the two Black Keys and the notes continue to G then they go back to A again. Notes with the same letter name/pitch are said to be an OCTAVE apart. MIDDLE C is normally in the centre of a piano keyboard.

D. Keyboard Functions

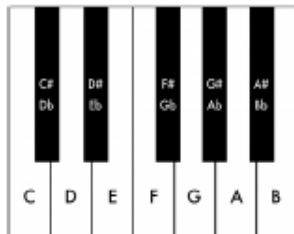


E. Left Hand/Right Hand (1-5)



F. Black Keys and Sharps and Flats

There are five different black notes or keys on a piano or keyboard. They occur in groups of two and three right up the keyboard in different pitches. Each one can be a SHARP or a FLAT. The # symbol means a SHARP which raises the pitch by a semitone (e.g. C# is higher in pitch (to the right) than C). The b symbol means a FLAT which lowers the pitch by a semitone (e.g. Bb is lower in pitch (to the left) than B). Each black key has 2 names – C# is the same as Db – there's just two different ways of looking at it! Remember, black notes or keys that are to the RIGHT of a white note are called SHARPS and black notes to the LEFT of a white note are called FLATS.



Exploring Treble Clef Reading and Notation



B. Treble Clef & Treble Clef Notation

A STAVE or STAFF is the name given to the five lines where musical notes are written. The position of notes on the stave or staff shows their PITCH (how high or low a note is). The TREBLE CLEF is a symbol used to show high-pitched notes on the stave and is usually used for the right hand on a piano or keyboard to play the MELODY and also used by high pitched instruments such as the flute and violin. The stave or staff is made up of 5 LINES and 4 SPACES.



Every Green Bus Drives Fast. Notes in the SPACES spell "FACE"



Notes from MIDDLE C going up in pitch (all of the white notes) are called a SCALE.



C. Keyboard Chords



Play one – Miss one – play one – miss one – play one



Football

Key Words:

- 1 Shooting/ striking
- 2 Passing
- 3 Defending
- 4 Attacking
- 5 Tackling
- 6 Crossing
- 7 Chipping
- 8 Lobbing
- 9 Throwing
- 10 Heading
- 11 Dribbling
- 12 Control

Rules:

- 1 A senior football match consists of two 45-minute halves and must have a 15-minute break in the middle
- 2 A team can start with a maximum of 11 players, of which one is the designated goalkeeper
- 3 A team is able to make substitutions at any time of the match and are able to make a maximum of three changes
- 4 A referee may award a foul if they believe an unfair act is committed by a player. A foul contravenes the laws of the game and can be given for a range of offences (for example, kicking the player, pushing, handball etc).
- 5 In cases of foul play, a referee can penalise players with either a yellow or red card. A yellow card gives a player a warning about their conduct and a red card requires them to leave the pitch . 2 yellow cards is a sending off
- 6 A throw-in is awarded to a team if the opposition kicks the ball over the side-lines
- 7 A corner kick is awarded to a team if the opposition kicks the ball over the goal line and either side of the goal posts
- 8 A player is deemed offside if they are in front of the last defender when a teammate passes the ball through to them

Scoring

- The aim is to outscore your opponent bet getting the ball into the net
- The whole ball must cross the goal line for it to constitute a goal
- You may score with any part of your body excluding your arms and hands
- You can score from anywhere on the pitch
- Defending is as important as scoring. If you can't prevent opponents from scoring, you will struggle to win



Commercialisation in Sport

The Media in Sport

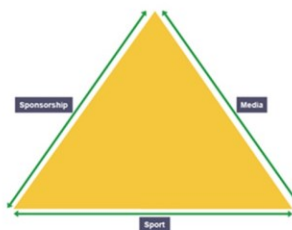
Positive influences of media:

1. Raise awareness of sport
2. Promote healthy active life-styles
3. Positive role models
4. Celebrate effort and success
5. Provide a sense of belonging
6. Generate revenue and attract investment

Negative influences:

1. Intrude on performers' privacy
2. Showcase negative values and behaviour
3. Undermine officials and their decisions
4. Under-representing women's, black and minority ethnic and disability sport

The golden triangle



The golden triangle shows the relationship between sport, the media and sponsorship. It represents the commercial – money-making – nature of sport

Sponsorship in Sport

Types of sponsorship

1. Individuals	wear a brand, endorse products and pay for travel costs
2. Teams/ Clubs	wear kit, have a company name for the stadium
3. Sports	rename competitions
4. Events	allow use of their logo and provide free product to athletes

Benefits of sponsorship for sports

1. Individuals	cover costs of kit/equipment
2. Teams/ Clubs	pays towards kit/equipment and facility maintenance
3. Sports	pays for coaching
4. Events	covers venue hire and catering

Disadvantages for sport

1. Sponsorship can be limited and withdrawn
2. Some sponsorships give a bad image to sport (e.g. alcohol)
3. Performers can become reliant on sponsor

Benefits for sponsors

1. Raise awareness of their brand/company Advertise products and services
2. Improves company reputation
3. Increases sales through media exposure

Disadvantages for sponsors

1. Uncertain investment as sporting success not guaranteed
2. If the sport or performers cause bad publicity, this reflects badly on the brand

Key Words:

- Lay-up
- Jump shot
- Travel
- Double Dribble

Skills:

- Dribbling
- Jumping
- Passing
- Catching
- Shooting
- Footwork

Famous basketball players:



Michael Jordan



Steph Curry

Basketball

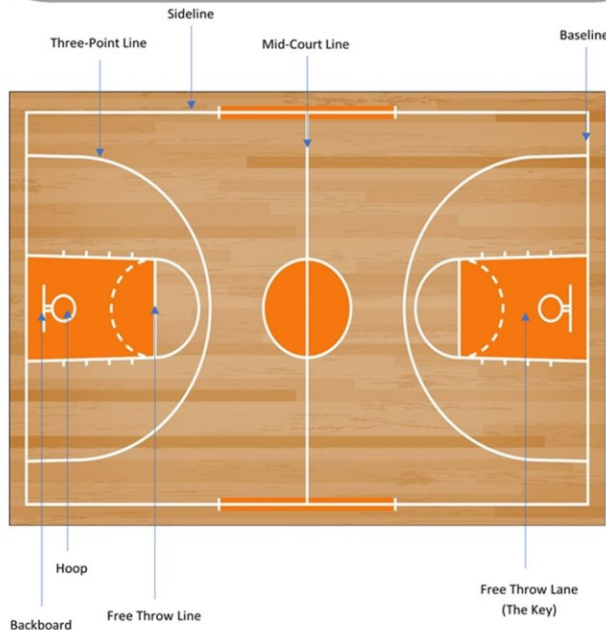
Rules:

Travelling—Players are not allowed to carry or move with the ball in their hands. Side line ball to the opposition is awarded if this occurs.

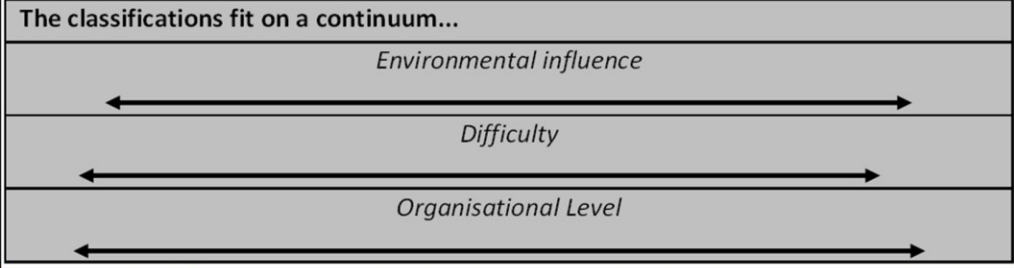
Double Dribble—This is when a player dribbles the ball twice after the ball comes to rest or they put two hands on the ball. Side line ball to the opposition is awarded if this occurs.

Scoring—2 points awarded for a basket scored within the 3 point line. 3 points are awarded for a basket scored from outside the 3 point line. 1 point is awarded for a free throw.

Physical contact—No contact is permitted between players. Side line ball is awarded to the opposition.



Classification of Skill



1. Open	Where the environment is constantly changing E.g. a tackle in rugby The timing and style of the tackle is heavily influenced by many factors including the ball carrier, the tackler's teammates and the position on the pitch
2. Closed	Where the environment always remains the same E.g. a darts throw The exact timing of the throw is down to the athlete, who is throwing the same weight dart in a similar each time
3. Basic	A skill the player finds easy and needs little concentration to do E.g. 400m race This skill has very few sub-routines
4. Complex	A skill that requires the performer's complete attention to do E.g. a somersault on a trampoline This skill has many sub-routines
5. Low Organisational	A skill that can be split into sub-routines easily and each sub-routine can be practiced separately E.g. front crawl Sub-routines that can be practiced separately include: arm pull, breathing stroke, leg kick, tumble turn
6. High Organisational	A skill that isn't made up of sub-routines and needs to be practised as a whole skill E.g. A cyclist completes the action of cycling in one go This skill is almost impossible to breakdown

Trampolining

Key Words:

- Routine
- Tuck
- Pike
- Straddle
- Execution

Skills:

- Full Twist
- Seat Drop
- Front Drop
- Back Drop
- Front Somersault

Famous Trampolinists:



Bryony Page



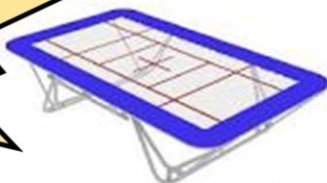
Lu Chunlong

Competitive Rules

1. A routine must always start and finish on feet.
2. Competitors must start their routine within 60 seconds of presenting to the judges.
3. Competitors are allowed one "out" bounce (a straight jump to control their height) at the end of a routine, before sticking the landing.
4. The trampolinist must stop completely—this means the bed must stop moving—and they have to hold still for 3 seconds before moving.
5. All moves must be performed in the 3 basic shapes; tuck, pike and straddle.

Top Tip!

More marks for moves performed on the cross.



Scoring

1. A final trampoline mark is based on a difficulty and execution score.
2. A difficulty score begins at 0.0 and goes up continuously with every difficult skill performed.
3. An execution score is different and begins at a score of 10.0 and is then deducted by judges for errors in performance.

Types of Guidance

<u>Visual Guidance</u>	<ul style="list-style-type: none"> • Demonstrations • Images • Videos • Observations 	Example— demonstration to perform a seat drop in trampolining.
<u>Verbal Guidance</u>	<ul style="list-style-type: none"> • Coaching points • Feedback • Peer Feedback • Questioning 	Example— A coach telling a trampolinist how to correct their position in a skill.
<u>Manual Guidance</u>	When a performer is physically guided or supported by the coach/teacher.	Example— A trampoline coach supporting a front somersault.
<u>Mechanical Guidance</u>	When a piece of equipment or an aid is used to help a performer learn and practise a skill.	Example— Using a hardness when learning somersaults in trampolining.

**Unit 1:
Introduction to
Catholicism
Term 1**



The cross reminds us that we are Christians who believe in the life and death of Christ who dies on the cross.



The crown to remind us Christ is a king.

CHI-RHO
The first two letters of Greek word for 'Christ' (ΧΡΙΣΤΟΣ).
X = CH and P = R.

Latin for 'Christ Conquers'

Latin for 'Christ Reigns'

Key Words

1	Bible	Sacred book of Christians containing both the Old and New Testaments
2	Church	The Holy People of God, also called the Body of Christ, among whom Christ is present and active. Members of a particular Christian denomination/tradition
3	Gospel	From the Anglo-Saxon <i>godespel</i> . Meaning 'good news'
4	Inspiration	The guidance from God to write what is in the Bible
5	Liberal View	The view that the Bible's authors were guided by God, but being human, could have made mistakes. This approach focuses on the spiritual truth within the parables and miracle accounts
6	Literal View	A belief that every word of the Bible is literally true, even when this defies common sense and logic
7	Reveal	Make known, show, make visible

Key Quotes

1	'We saw his glory, the glory which he received as the Father's only Son'. (John 1:14).
2	'I am the Lord's servant. May it be to me as you have said.' Luke 1:38

Key Facts

1	To help the CtK community carry out its Mission Statement, it uses #CTKCARES <ul style="list-style-type: none"> • Community –This means that we will accept everyone in our school for who they are • Achieve – We should want to do well and encourage others to do well too • Respect – We will accept and celebrate our differences making sure we treat people the way we would like to be treated • Encounter –We should be respectful of all beliefs and encourage each other to question and search for 'truth'
2	Jesus was a human, he grew from a baby into an adult, he made friends, got tired and hungry, he cried when his friend died and was frightened about the future. He was also the Son of God, according to Christians, and performed miracles, spread the message of God and taught us to care for the most vulnerable in our community.
3	Christians have used the Bible as a guide and resource book for both their beliefs and their actions. The Roman Catholic Church still uses the Bible as a basis for its teachings and God still speaks through the Bible and guides the Church through the Holy Spirit.
4	The Church is the group of believers that accepts Jesus as the Son of God , God-made-man. The Church as the Body of Christ performs the work of Christ on earth and helps other people to respond to the teachings of Christ.
5	In the 16 th century some Christians protested about the way the Pope in Rome was leading the Church. These Protestants broke away from Rome and formed separate Churches. This is known as the Reformation
6	In any particular country the Church is usually organised like this: <ul style="list-style-type: none"> • There may be one or more Diocese, each looked after by a bishop • Each Diocese is split into smaller areas called deaneries. • The smallest Church community is the parish, with the local community and a parish priest
7	Roman Catholics believe that Mary had remained a virgin throughout her life, being totally dedicated to the work of God. She is a role model for Christians of what will happen to all those who are faithful to God. Roman Catholics believe that Mary is a perfect human being.
8	Pope Francis' took the name Francis after his election when he was reminded of St Francis' call to look after the vulnerable and the environment. St Francis was an Italian friar who is remembered for his solidarity with the poor, his love of animals and his attempts at interfaith dialogue with Muslims.

Key Words

1	Covenant	An agreement or promise between God and people
2	Descendant	A future relation, for example, a child or child's child
3	The Fall	Adam and Eve's disobedience towards God by eating the forbidden fruit, bringing sin and evil into the world
4	Garden of Eden	The garden created by God for Adam and Eve to live in
5	Genesis	The first book in the Bible; it literally means 'origin'
6	Israelites	A name given to Abraham's descendants, chosen by God to be a great nation and have their own land
7	Old Testament	The first part of the bible, written between 800 BCE and 165 BCE
8	Original Sin	The Christian belief that everybody is born with a desire to do wrong

Key Quotes

1	Thus the heavens and the earth were completed in all their vast array... This is the account of the heavens and the earth when they were created, when the LORD God made the earth and the heavens. (Genesis 2:2-4)
2	You are to bring into the ark two of all living creatures, male and female, to keep them alive with you. ²⁹ Two of every kind of bird, of every kind of animal and of every kind of creature that moves along the ground will come to you to be kept alive. (Genesis 6:19-20)

**Unit 2: Biblical Literacy
Old Testament –
Genesis
Term 1**



Key Facts

1	The bible is a collection of 66 or more separate books written by about 40 different authors over several centuries. These books are organised into two sections: the Old Testament and the New Testament
2	Christians believe that the Bible is inspired by God. Some interpret the Bible literally and others think that some of its stories are myths.
3	In Genesis, God creates the first humans, Adam and Eve, and tells them they can eat the fruit from any tree in the Garden of Eden except the tree that 'gives them knowledge of good and evil.' They disobey him, and Christians believe this brought original sin into the world.
4	Adam and Eve had two sons called Cain and Abel. Christians believe the effects of original sin can be seen in Cain's murder of his brother Abel.
5	According to Genesis, as the earth's population increased, so too did the violence and evil. God decided to send a great flood to wipe out the human race, but he told a good man named Noah to build an ark to save himself and his family.
6	God wanted to establish a special nation of people who would follow his laws and be an example to others., He chose a man named Abraham to be the father of this nation. He tested Abraham's suitability by asking him to sacrifice his son, Isaac.
7	Isaac had two sons, Jacob and Esau. Jacob had 12 of his own sons, including Joseph. Joseph's brothers disliked him because he was his father's favourite and dreamed of his brothers bowing down to him.
8	Joseph's brother sold him into slavery in Egypt, where he work for Potiphar before being imprisoned when Potiphar's wife accused him of trying to get into bed with her. He was released from prison after interpreting Pharaoh's dreams. The pharaoh made him the second most powerful man in Egypt.

P1 Chapter 1: Forces

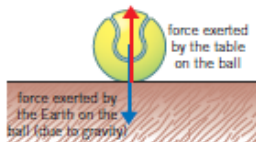
Knowledge organiser

Activate
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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

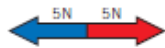
- Gravity** is a non-contact force that acts between two objects
- Gravitational force** pulls you back to Earth when you jump
- The size of the gravitational force depends on the mass of the two objects and how far apart they are
- Weight** is the downward force caused by gravity acting upon the mass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



resultant = zero
stationary or
constant velocity



resultant = 2N
accelerating
to the right

Speed

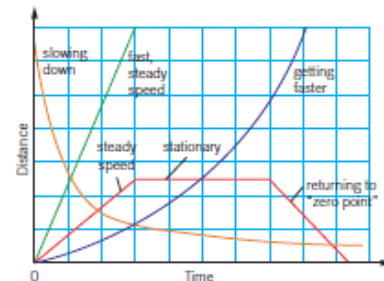
- Speed** is a measure of how quickly or slowly that something is moving
- We measure speed in meters per second (m/s), this means that distance must be in meters and time must be in seconds
- We calculate speed with the following formula:

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

- 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

Key word	Definition	Retrieval Question	Retrieval Answer
Acceleration	Speeding up	List 2 things that forces do	Push or pull
Air resistance	A non-contact force exerted by air particles on an object	Describe the difference between a contact force and a non-contact force	Contact forces act when you touch something, non-contact forces occur when objects are not touching
Balanced	Forces acting on an object are the same	State 2 examples of contact forces	Friction and air resistance
Contact force	When 2 objects are physically touching	State 2 examples of non-contact forces	Gravity and magnetism
Deceleration	Slowing down	What are pairs of forces called	Interaction pairs
Distance – time graph	A graph that shows the story of a journey	State the units of force	Newtons (N)
Field	The region where an object experiences a force	What is a resultant force?	The forces acting on an object added together
Force	A push or a pull	State what is meant by equilibrium	When the forces acting on an object are the same size
Motion	Movement	What force acts on stationary objects?	Reaction
Gravity	A non-contact force that acts between 2 objects	State an example of a resistive force	Air resistance, friction
Gravitational force	The force that brings you down to Earth when you jump	What happens to an object if the forces are not balanced?	The object changes speed or direction
Interaction pair	Equal forces acting in opposite directions	State what is meant by speed?	How far something travels in a time
Kilograms	The unit of measurement for mass	Give the equation for calculating speed	Speed (m/s) = distance travelled (m) ÷ time taken (s)
Mass	The matter which makes up an object	State what is meant by average speed?	The overall distance travelled divided by the overall time taken
Newton	The unit of measurement for force	State what is meant by relative motion	The speed of an object relative to the speed of an observer
Non-contact	When 2 objects are not touching	State what a distance-time graph shows	The distance something travels over a certain time
Pull	A force	What does a horizontal line on a distance-time graph show?	The object is stationary/not moving
Push	A force	What does a straight diagonal line on a distance-time graph show?	The object is moving at a constant speed
Relative motion	How quickly an object is moving compared to another	What does a curve on a distance-time graph show?	The object is accelerating

Key word	Definition	Retrieval Question	Retrieval Answer
Resultant force	The difference between 2 unbalanced forces	State what is meant by acceleration	How quickly the speed of an object increases or decreases
Speed	A measure of how quickly or slowly something is moving	What is gravity/gravitational force?	A non-contact force that pulls objects towards the Earth
Unbalanced	When forces acting on an object are different	What factors affect the size of a gravitational force?	The mass of the object, how far apart the objects are
Weight	A downward force caused by gravity	Describe what is meant by a field	A region where something experiences a non-contact force
		What is the difference between mass and weight?	Mass is the amount of "stuff" something is made of; weight is a force
		State the equation for calculating weight	Weight (N) = mass (kg) x gravitational field strength (N/kg)
		State what is meant by gravitational field strength	The force that acts on every 1kg of an object
		Describe how the Earth stays in orbit around the Sun	The Earth exerts a force on the Sun and the force of gravity on the Sun keeps the Earth in orbit

P1 Chapter 3: Energy

Knowledge organiser

Energy

- **Energy** is needed to make things happen
 - It is measured in **joules** or **kilojoules**
-
- The **law of conservation of energy** says that energy cannot be created or destroyed, only transferred
 - This means that the total energy before a change is always equal to the total energy after a change

Energy can be in different energy **stores**, including:

- **Chemical** – to do with food, fuels and batteries
- **Thermal** – to do with hot objects
- **Kinetic** – to do with moving objects
- **Gravitational potential** – to do with the position in a gravitational field
- **Elastic potential** – to do with changing shape, squashing and stretching

Food and energy

- Food has energy in a chemical energy store
- Different foods contain different amounts of energy
- Different activities require different amounts of energy
- Different people need different amounts of energy depending on what they do each day

Power and energy

- **Power** is a measure of how much energy is transferred per second
- Power is measured in **watts (W)**
- Each appliance has its own power rating to tell us how quickly it uses energy
- We can calculate power with the equation:

$$\text{power (W)} = \frac{\text{energy (J)}}{\text{time (s)}}$$

Non-renewable energy

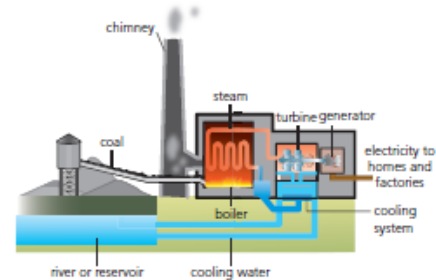
- **Non-renewable** energy cannot be replaced within your lifetime
- Non-renewable **energy resources** include coal, oil, natural gas and nuclear resources
- Coal, oil and natural gas are also known as **fossil fuels**, they release carbon dioxide when burned which contributes to global warming

Renewable energy

- **Renewable** energy can be replaced within your lifetime
- Renewable energy resources include wind, tidal, wave, biomass, solar, hydroelectric and geothermal
- Renewable energy resources do not produce much carbon dioxide, meaning that they have a smaller effect on global warming

Power stations

Thermal power stations burn coal, oil and natural gas, which are all non-renewable energy resources



Fuel is burned underneath water → Water is heated and turns into steam → The steam turns a turbine which turns a generator → Electricity is generated

Dissipation of energy

- We say that energy is **dissipated** when it is transferred to a nonuseful store, it cannot be used for what it was intended for
- Energy can be wasted through friction, heating up components or heating the surroundings
- **Efficiency** is a measure of how much of the energy has been used in a useful way, we can calculate this with the equation:

$$\text{efficiency (\%)} = \frac{\text{useful energy output}}{\text{energy input}} \times 100$$



Key terms

Make sure you can write definitions for these key terms.

chemical dissipated efficiency elastic potential energy energy resources fossil fuels gravitational potential joules kinetic kilojoules
 law of conservation of energy non-renewable power renewable thermal watts

Keyword	Definition	Retrieval Question	Retrieval Answer
Chemical	The energy store referring to food, fuels, and batteries	State the unit of energy	Joules (J)
Dissipated	When energy is transferred to a non-useful store	How do you convert Joules to Kilojoules and vice versa?	From Joules to Kilojoules $\div 1000$. From Kilojoule to Joules $\times 1000$
Efficiency	The measure of how much energy has been used in a useful way	Name 3 fuels	Coal, Oil, Gas
Elastic potential	The energy store referring to objects changing shape, squashing, or stretching	List three things that your body needs energy for	Maintaining body temperature, Growth, Movement
Energy	Energy is needed to make things happen	What is meant by a fossil fuel	A fuel formed from the dead remains of animals and plants
Energy resources	A source from which useful energy can be extracted	State the name of 3 fossil fuels	Coal, Oil, Gas
Fossil fuels	Coal, Oil and Natural Gas. They are an example of a chemical energy store	Describe the stages of generating electricity in a power station	Creating steam, Turning the turbine, Spinning the generator, National grid to the homes
Gravitational potential	The energy store referring to an objects position in a gravitational field	Name the greenhouse gas that is produced when fossil fuels burn	carbon dioxide
Joules	The unit of energy. It has the symbol J	What is the difference between a renewable and non-renewable energy resource?	non-renewable energy resources cannot be replaced within a lifetime. Renewable energy resources can be replaced
Kinetic	The energy store referring to moving objects	List 5 renewable energy sources and describe how they work	solar, wind, tidal, geothermal, hydroelectric, biomass
Kilojoules	The unit of energy. There are 1000J in 1kilojoule (kJ)	State the unit of power	Watts (W)
Law of conservation of energy	Energy cannot be created or destroyed only transferred	Give the equation for calculating power	power (W)= energy (J) / time (s)
Non-renewable	An energy resource that cannot be replaced in a human lifetime	State the unit of energy that electricity companies use	Kilowatt hours (kwh)
Power	The measure of how much energy is transferred per second	Give the equation for calculating electricity cost	cost = power x time x price

Keyword	Definition	Retrieval Question	Retrieval Answer
Renewable	An energy resource that can be replaced in a human lifetime	State 2 ways of reducing energy costs at home	insulating the loft, installing double glazing
Thermal	The energy store referring to hot objects	State the law of conservation of energy	energy cannot be created or destroyed but transferred from one store to another
Watts	The unit of power. The symbol is W	Name 5 types of energy store	chemical, gravitational potential, kinetic, elastic, thermal
		State 3 ways that energy is transferred between stores	electric current, light, sound, heating
		Describe the energy transfer when a fuel burn	chemical, heating, light, thermal
		Describe how the energy store of an object is linked to its; speed, temperature, height, and compression	speed = kinetic, temperature = thermal, height = gravitational, compression = elastic
		What is meant by dissipation?	energy is wasted
		State the energy dissipated by a moving object	friction, air resistance
		State 2 ways to reduce dissipation in a car	aerodynamic design, reducing friction between the engine parts using oil, use insulation to reduce heat loss
		State what is meant by efficiency?	how much energy is transferred usefully and how much is wasted (dissipated)
		Give the equation for calculating efficiency	efficiency = useful energy out x 100 / total energy in

P1 Chapter 7: Earth
Knowledge organiser



The Earth

The Earth has three main layers:

- The **crust** is rocky and solid
- The **mantle** is made from mainly solid rock but this can flow
- The **outer core** is liquid metal and the **inner core** is solid

The spinning Earth

- The Earth takes 365 days to **orbit** the Sun, this is one Earth **year**
- The Earth takes 24 hours to spin on its axis, that is why we have day and night
- The Earth's **axis** has a tilt of 23.4° which gives rise to our **seasons**

The Moon

- The Moon is a **natural satellite** which orbits the Earth
- One orbit of the Earth takes 27 days and 7 hours, this causes us to see the **phases of the moon**
- The different phases of the moon are caused by different parts of the Moon being lit by the Sun

The night sky

- A **galaxy** is a collection of **stars**, our galaxy is known as the **Milky Way**
- Stars** produce their own light
- Planets** are large objects which do not produce their own light but orbit stars
- Natural satellites** include moons which can orbit planets
- Artificial satellites**, such as the International Space Station, are man made structures which can orbit planets

Types of rock

Type of rock	How it is formed	Properties	Uses
sedimentary rock	<ul style="list-style-type: none"> sediment piles up in one place and, over many years, sticks together by compaction or cementation compaction: weight of sediments above squeeze them into rocks cementation: another substance sticks the sediments together 	<ul style="list-style-type: none"> porous: made of small grains stuck together so there are holes that water can pass through soft: easy to break apart the sediments 	building materials (e.g. sandstone and limestone)
igneous rock	<ul style="list-style-type: none"> when liquid rock cools it turns into igneous rocks these are made of crystals locked tightly together magma: liquid rock underground-cools slowly and forms large crystal lava: liquid rock above the ground-cools quickly and forms small crystals 	<ul style="list-style-type: none"> durable and hard (difficult to damage): the crystals are locked tightly together not porous: there is no space between crystals 	pavement rail tracks
metamorphic rock	<ul style="list-style-type: none"> other rocks under that Earth are heated and put under pressure over time, these rocks become metamorphic 	<ul style="list-style-type: none"> not porous: there is no space between crystals 	marble used for kitchens slate used for roofing tiles

The Solar system

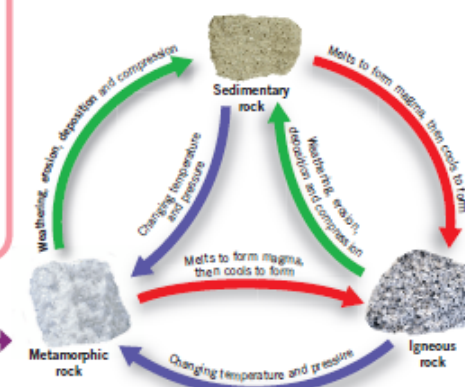
Our **solar system** consists of eight planets which orbit the Sun, four inner and four outer planets

Inner planets	Outer planets
Small and rocky planets (dwarf planets)	Gas giants
Mercury, Venus, Earth, Mars	Jupiter, Saturn, Uranus, Neptune

- Between the inner and outer planets, between Mars and Jupiter, there is the **asteroid belt**
- The planets all orbit the Sun, but the path of their orbits are all slightly different, giving them the look of 'wandering' in the sky

The rock cycle

The **rock cycle** shows how rocks change and how their materials are recycled over millions of years



Keyterms

Make sure you can write definitions for these key terms.

asteroid belt artificial satellite axis crust deposition durable dwarf planet galaxy gas giants igneous rock lava inner core
 magma mantle metamorphic rock milky way natural satellite outer core orbit phases of the moon planet porous rock cycle season
 sediment sedimentary rock solar system star sun universe year

Keyword	Definition	Retrieval Question	Retrieval Answer
Chemical	The energy store referring to food, fuels, and batteries	State the unit of energy	Joules (J)
Dissipated	When energy is transferred to a non-useful store	How do you convert Joules to Kilojoules and vice versa?	From Joules to Kilojoules $\div 1000$. From Kilojoule to Joules $\times 1000$
Efficiency	The measure of how much energy has been used in a useful way	Name 3 fuels	Coal, Oil, Gas
Elastic potential	The energy store referring to objects changing shape, squashing, or stretching	List three things that your body needs energy for	Maintaining body temperature, Growth, Movement
Energy	Energy is needed to make things happen	What is meant by a fossil fuel	A fuel formed from the dead remains of animals and plants
Energy resources	A source from which useful energy can be extracted	State the name of 3 fossil fuels	Coal, Oil, Gas
Fossil fuels	Coal, Oil and Natural Gas. They are an example of a chemical energy store	Describe the stages of generating electricity in a power station	Creating steam, Turning the turbine, Spinning the generator, National grid to the homes
Gravitational potential	The energy store referring to an objects position in a gravitational field	Name the greenhouse gas that is produced when fossil fuels burn	carbon dioxide
Joules	The unit of energy. It has the symbol J	What is the difference between a renewable and non-renewable energy resource?	non-renewable energy resources cannot be replaced within a lifetime. Renewable energy resources can be replaced
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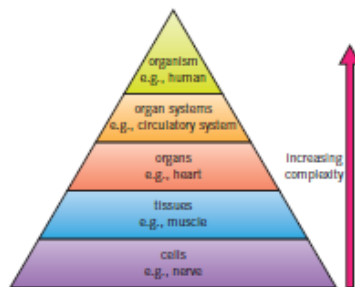
Keyword	Definition	Retrieval Question	Retrieval Answer
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Thermal	The energy store referring to hot objects	State the law of conservation of energy	energy cannot be created or destroyed but transferred from one store to another
Watts	The unit of power. The symbol is W	Name 5 types of energy store	chemical, gravitational potential, kinetic, elastic, thermal
		State 3 ways that energy is transferred between stores	electric current, light, sound, heating
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		Describe how the energy store of an object is linked to its; speed, temperature, height, and compression	speed = kinetic, temperature = thermal, height = gravitational, compression = elastic
		What is meant by dissipation?	energy is wasted
		State the energy dissipated by a moving object	friction, air resistance
		State 2 ways to reduce dissipation in a car	aerodynamic design, reducing friction between the engine parts using oil, use insulation to reduce heat loss
		State what is meant by efficiency?	how much energy is transferred usefully and how much is wasted (dissipated)
		Give the equation for calculating efficiency	efficiency = useful energy out x 100 / total energy in

B1 Chapter 8: Organisms

Knowledge organiser

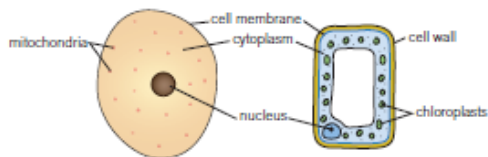
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Levels of organisation



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

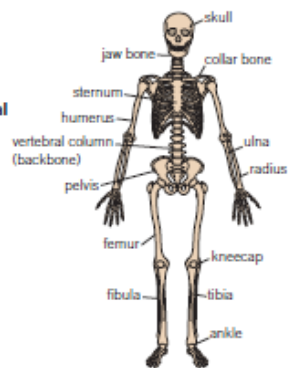


Specialised cells

- 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

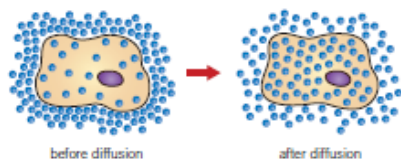
- Muscles** are a type of tissue which allows movement
- They pull on tendons which in turn pull on bones to allow movement
- Muscles like the triceps and biceps are known as **antagonistic muscle pairs**, they work together – as one contracts, the other will relax

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

For back and forward movement, e.g. knees

Ball and socket

For movement in all directions, e.g. hips

Fixed

Do not allow movement, e.g. skull

Joints have three main types of tissue:

Ligaments

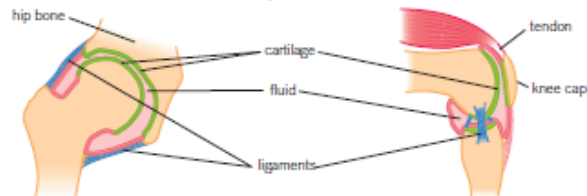
Connect bone to bone

Cartilage

Coats the end of bones as a protection

Tendons

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

Keyword	Definition	Retrieval Question	Retrieval Answer
Antagonistic muscle pair	Muscles that work together, but in opposition to one another	What is a cell?	building blocks of life
Bone	An organ that forms the skeleton of vertebrates	What is a tissue? Give an example	a group of similar cells that work together to perform a specific function
Bone marrow	The soft blood-forming tissue that fills the cavity of bones	What is an organ? Give an example	a group of tissues that work together to perform a certain function
Cartilage	Coats the end of bones as protection	What is an organ system? Give an example	a group of organs that work together to perform a certain function
Cell	The building blocks of all living things	What is an organism?	a living thing, plant/animal
Concentration	The density of particles in a stated volume	What is a bone?	a living tissue with a blood supply
Diffusion	The process where substances move into and out of cells	State 4 functions of the skeleton	support the body, protect organs, help the body move, make blood cells
Joints	Allow the movement between bones	Describe the structure of a bone	centre is soft tissue (bone marrow), middle spongy bone, rigid outer structure
Ligaments	Tissue that connects bone to bone	What does bone marrow produce?	red blood cells and some white blood cells
Microscope	Scientific apparatus used to observe objects too small for the naked eye	What is a joint?	where two or more bones join
Muscular skeletal system	The organ system of muscles and bones that provide movement to an organism	State the 3 types of joint and give an example of each	hinge - knee, elbow, ball-and-socket - hip, shoulder, fixed - skull
Nucleus	Hold s the genetic information of the cell	What is cartilage?	a strong smooth tissue that covers the ends of a bone in a joint that reduces friction
Organ	A group of tissues that work together to perform a function	What do ligaments do?	connects bones together in a joint
Organism	A living thing that has an organised structure of cells, tissues, and organs	State why a muscle is a tissue	they are made up of lots of muscle cells working together
Organ system	A group of organs that work together to perform a certain function in an organism	What are tendons?	a type of tissue that pull on bones to help them move
Skeleton	The supporting framework of an organism	What happens to the length of muscles when they contract?	shortens

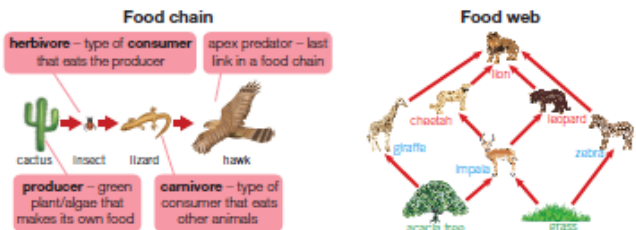
Keyword	Definition	Retrieval Question	Retrieval Answer
Specialised cells	Cells adapted to carry out a function	What is meant by an antagonistic muscle pair?	a pair of muscles that work together, so when one contracts the other relaxes
Tendons	Tissue that connects muscles to bones	Describe how the bicep and triceps work together	the bicep contracts and the triceps relax to bend the arm (vice versa to straighten it)
Tissue	A group of the same cells carrying out a function	State what all living organisms are made of	Cells
Retrieval Question	Retrieval Answer	Retrieval Question	Retrieval Answer
What is diffusion?	the movement of particles in and out of cells from high concentration to low concentration	State what is meant by a scientific observation	looking carefully and in detail at an object
What is meant by concentration?	the number of particles in an area	Give the equation for calculating magnification	total magnification = eyepiece lens magnification x objective lens magnification
State what uni-cellular means	made up of just one cell	Name the 4 key components of animal cells	nucleus, cell membrane, cytoplasm, mitochondria
What is an amoeba?	a uni-cellular organism found in water, soil, and animals	Name the 3 key components only found in plant cells	chloroplasts, cell wall, vacuole
What is euglena?	a uni-cellular organism found in fresh water that contain chloroplasts	Describe the function of the; cell membrane, cell wall, chloroplast, cytoplasm, mitochondria, nucleus, vacuole	cell membrane - controls what can come in and out of a cell, cell wall - strengthens and provides support, chloroplast - where photosynthesis happens, cytoplasm - where chemical reactions take place, mitochondria - where respiration happens, vacuole - contains cell sap
What is a flagellum?	a tail-like structure that helps a uni-cellular organism to move	What is a respiration?	a reaction that transfers energy for the organism
Describe how amoeba and euglena reproduce	binary fusion	State the function of a nerve cell	carry electrical impulses around your body
State the function of a root hair cell	absorb water and nutrients from soil	State the function of a red blood cell	transports oxygen around the body
Name 2 substances that move into body cells	glucose, oxygen	State the function of a sperm cell	carry male genetic material to the egg cell

B1 Chapter 9: Ecosystems
Knowledge organiser

Activate
Question • Progress • Succeed

Food chains and webs

- **Food chains** show the direction in which energy flows when one organism eats another
- The direction of the arrows represent the direction in which the energy flows
- **Food webs** show how a number of different food chains are connected



- **Producers** are the organisms which start the food chain, they convert energy from the Sun, making their own food, these are often plants
- **Prey** are organisms which are eaten by other organisms
- **Predators** are the organisms which eat the prey

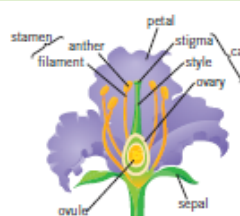
Disruption to food chains

- **Interdependence** is the way in which living organisms rely on each other to survive
- A food chain will be disrupted if one of the organisms die out
- If the producer dies out the rest of the food chain will also die out unless they have a different food source
- If the **consumer** population die out the number of organisms which they eat will increase unless they are eaten by another organism
- **Bioaccumulation** is the process by which chemicals such as pesticides and insecticides build up along a food chain

Parts of a flower

Stamen

- Male part of the flower
- The **anther** produces **pollen**
 - The **filament** holds up the anther



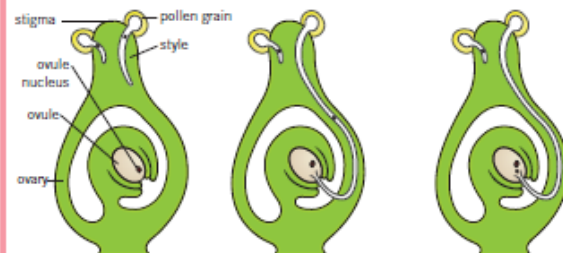
Carpel

- Female part of the flower
- The **stigma** is sticky to catch grains of pollen
 - The **style** holds up the stigma
 - The **ovary** contains **ovules**

Pollination and fertilisation

Pollination is the **fertilisation** of the ovule, the point at which the pollen is transferred to the ovule from the anther to the stigma, there are two types of pollination

- Cross pollination is between two different types of plant
- Self pollination happens within the same plant



The tube grows out of the pollen grain and down through the style.
The pollen nucleus moves down the tube.
The pollen nucleus joins with the ovule nucleus. Fertilisation takes place and a seed will form.

Germination is the process in which the **seed** begins to grow, for this to occur the seed needs:

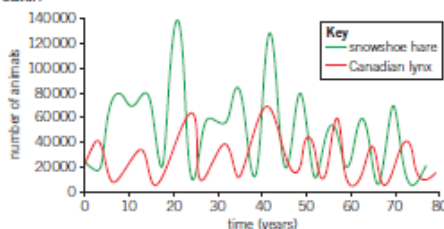
- Water to allow the seed to swell and grow and for the embryo to start growing
- Oxygen for that the cell can start respiring to release energy for germination
- Warmth to allow the chemical reactions to start to occur within the seed

Ecosystems

- All of the organisms which live in one area are known as a **population**
- An **ecosystem** is all of the organisms which are found in a particular location and the area in which they live in, both the living and non-living features
- A **community** are all of the areas in an ecosystem, the area in which the organisms live in is known as the **habitat**
- A **niche** is the specific role in which an organism has within an ecosystem, for example a panda's diet consists of 99% bamboo

Competition

- **Competition** is the process in which organisms compete with one another for resources
- Animals compete for food, water, space and mates
- Plants compete for light, water, space and minerals
- The best competitors are those who have adapted in order to best gain these resources
- As the number of a predator in a population increases the number of the prey will decrease as more are being eaten
- As the number of the predator decreases the number of the prey will increase as less are being eaten
- The relationship between the predator and the prey is known as a **predator-prey relationship**



Key terms

Make sure you can write definitions for these key terms.

anther bioaccumulation carpel community competition consumer ecosystem fertilisation food chain food web germination habitat interdependence
niche ovary ovule petal predator prey producer pollen pollination population seed sepal stamen stigma style

Keyword	Definition	Retrieval Question	Retrieval Answer
Anther	The part of a plant that produces pollen	State what a food chain is	It shows the transfer of energy between organisms
Bioaccumulation	The process by which chemicals build up in a food chain	What is a producer?	A green plant/alga that makes its own food by photosynthesis
Carpel	The female reproductive parts of a plant	What is a consumer?	An animal that eats plants or other animals
Community	All the areas of an ecosystem	What is the difference between a predator and prey?	Predator - an animal that eats other animals, prey - is eaten by another animal
Competition	Where resources are limited, and one species has more of that resource than another	What is a food web?	A set of linked food chains
Ecosystem	All the organisms which are found in a location and the area in which they live	What is a decomposer?	An organism (bacteria/fungi) that break down dead plant an animal material
Fertilisation	When a female sex cell joins with a male sex cell	What is meant by the term interdependence?	The way in which living organisms depend on each other to survive, grow, and reproduce
Food chain	The direction in which energy flows as one organism eats another	Describe what happens to the consumer population if producer population falls	The consumer population would also fall
Food web	A diagram showing how different food chains are connected	State one organism that is needed to pollinate crops	Bees
Germination	The process in which the seed begins to grow	State what a population is	The number of animals or plants of the same species that live in the same area
Interdependence	The way living organisms rely on each other to survive	State what is meant by bioaccumulation	The levels of chemicals that accumulate (build up) in a food chain
Niche	The specific role an organism has in an ecosystem	State what is meant by an ecosystem	The name given to plants and animals that are found in a location/area in which they live
Ovary	Contains the ovule	State what is meant by the environment	The conditions found in a habitat
Ovule	The part of plant containing the ovum or egg cells	State what is meant by a habitat	The area organisms live
Petal	The brightly coloured part of a flower	State what is meant by a niche	An area or role that an organism has within an ecosystem
Predator	An animal that eats another animal	State 4 resources that animals compete for	Food, water, space, mates
Prey	The animal eaten by the predator	State 4 resources that plants compete for	Light, water, space, minerals

Keyword	Definition	Retrieval Question	Retrieval Answer
Producer	Organisms at the start of a food chain, they convert energy from the Sun	State what is meant by interdependence	Changes of one animal directly affects the population of the other
Pollen	The male sex cell of a plant	Describe the pattern in a typical predator-prey graph	When prey population increases, predator population increases, the growing predator population eat more prey and numbers start to fall
Pollination	The fertilisation of the ovule	State why flowers have petals	To attract insects
Population	All the organisms that live in one area	State where pollen is made	Anther
Seed	An embryonic plant in a protective outer covering	List 3 ways pollen can be transferred between plants	Wind, insects, animals
Sepal	The outer casing of a flower	Describe the function of the; anther, carpel, filament, stigma, style, ovary	Anther - produces pollen, carpel - female part, filament - holds up the anther, stigma - catches pollen, style - holds up the stigma, ovary - contains ovules (female sex cells)
Stamen	The male reproductive part of a plant	What is nectar?	A sweet sugary fluid found
Stigma	The part of a plant that catches the pollen	Describe what happens during fertilisation in plants	Pollen lands on a stigma, grows a pollen tube down the style, the nucleus travels down the tube and joins with the nucleus of the ovule
Style	The part of the plant that holds up the stigma	Name the part of the flower that becomes the fruit	Ovary
		State the 3 things needed for germination	Water, oxygen, warmth
		Name 4 methods of seed dispersal	Wind, animal, water, explosive
		Describe 2 features of seeds that are transported by the wind	Small mass, extensions that act of wings/parachutes
		Describe how animals can transport seeds internally and externally	Internally - animals eat fruits containing seeds, passed out through droppings, externally - seeds stick to animals and then drop off
		Describe 2 features of seeds that are transported by water	Small mass, waterproof

Year 7 DT – Resistant Materials

Key Word	Definition
Resistant Material	A group of materials that are grouped together because they show certain common features
Smart Material	Smart materials have a property that changes when their environment changes e.g. heat, wet
Softwood	Softwood comes from coniferous trees. These are trees that keep their needles all year round, so they typically grow faster than hardwood trees. Softwood trees can reach a size where they can be cut thirty years.
Hardwood	Hardwood comes from deciduous trees. These shed their leaves each autumn. Hardwood trees can take one hundred years to grow to a size where they can be harvested
Manufactured board	Manufactured boards are made by gluing particles or pieces of wood together. These can be the waste materials from the cutting of hardwood or softwood or recycled woods
Polymer	Polymers are made of a large number of similar, smaller chemical units called monomers
Thermo setting	Thermosetting polymers cannot be reshaped when heated.
Thermo plastic	Thermoplastic polymers can be reshaped when heated unless deformed
Ferrous Metal	Metals that contain iron, will rust
Non-Ferrous Metal	Metals that don't contain iron, but will tarnish
Alloy & Modern Materials	Mixture of two or more metals



Polypropylene

- Polypropylene is normally tough and flexible.
- Polypropylene is reasonably economical.
- Polypropylene has good resistance to fatigue.
- Processed through injection or blow-moulding production
- Available in a range of colours
- Can be easily cleaned and is generally chemical resistant

4

Types of thermoplastic polymer

Type	Common uses	Characteristics
Acrylic and Perspex	windows, bath tubs	Can be transparent, hard wearing and tough. Softens 85°C - 165°C
High density polyethylene (HDPE)	Pipes, buckets, bowls	Strong and stiff. Softens at about 130°C.
PET	Drinks bottles, food packaging	High strength and toughness and heat resistant. Softens about 80°C.
High impact polystyrene (HIPS)	Packaging	Good toughness and reasonable strength. Softens about 90°C.

4

Types of thermosetting polymer

Type	Common uses	Characteristics
Polyester resin	Car bodies, boats, suitcases/luggage	Good strength & stiffness. Very good temperature resistance.
Melamine formaldehyde	Laminate coverings for kitchen worktops	Stiff, hard, strong, resistant to many chemicals and stains.
Polyurethane	Foam insulation panels, hoses, sealants	Hard with high strength, flexible and tough.

4

Material	Smart property	Typical use
Thermochromic pigments	Changes colour with temperature.	Plastic strip thermometers. Mugs or spoons that change colour when hot.
Photochromic pigments	Changes colour with temperature.	Lenses in sunglasses that get darker as the light gets brighter. Security markers that can only be seen in ultraviolet light.
Shape memory alloys (SMA)	If bent, will return to its original shape when heated.	Spectacle frames Sensors in fire sprinkler systems.

3

Sustainability
<ul style="list-style-type: none"> • Renewable energy sources are naturally replenished by nature – they will never run out and do not create carbon emissions in use. • Wind power uses wind to turn turbines. However, it only works when it is windy, so needs a way of storing energy. • Hydropower uses the movement of tides or water flowing through a dam to turn a generator, however, it is expensive to set up. • Solar power makes electricity directly from sunlight without needing a turbine, however, it only works when there is daylight

3

Year 7 DT – Resistant Materials

Types of Hardwoods

Type	Common uses	Characteristics
Oak	High quality furniture	Very strong and hard Light brown colour
Mahogany	High quality furniture	Fairly strong and durable Pink to reddish brown colour
Beech	Wooden toys, household items	Hard and tough, but easy to work with Light brown with darker brown flecks
Ash	Tool handles, sports equipment	Tough and flexible Light, creamy-brown colour
Balsa	Modelling	Soft – can be marked using a finger Off-white to tan colour

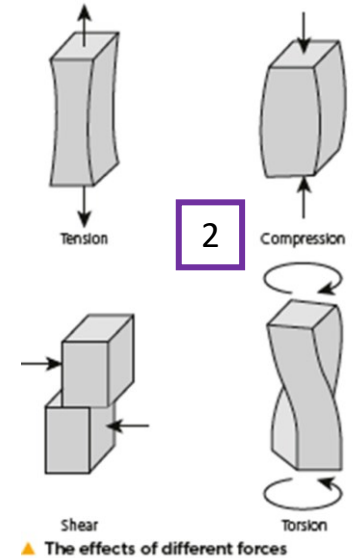
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Types of Softwoods

Type	Common uses	Characteristics
Pine	Interior structures in buildings, furniture	Fairly strong, easy to work with Light brown or yellowish colour
Spruce	Wooden aircraft frames	Strong and hard, but low resistance to decay Yellowish-white colour

Types of Manufactured Boards

Type	Common uses	Characteristics
Medium density fibreboard (MDF)	Low-cost furniture, interior panelling	Made from fine particles of timber, mixed with glue and compressed together. Smooth, even surface, easily machined.
Chipboard	Kitchen worktops (covered with a laminate)	Made from coarse chips of timber, mixed with glue and compressed together. Rough surface with uneven texture.
Plywood	Furniture making	Made from layers of veneer (plies), glued together. Surface looks like timber.



2

Types of Ferrous Metals

Type	Common uses	Alloying elements
Cast iron	Anvils, engineering vices	Typically 3-3.5% carbon
Low carbon steel	Nails and screws, car bodies, steel sheet	Less than 0.3% carbon
High carbon steel	Tools such as saw blades, hammers, chisels	0.8-1.4% carbon

3

Types of Non-Ferrous Metals

Type	Common uses	Characteristics
Aluminium	Drinks cans, pans, parts for aeroplanes	Costs more than steel, good corrosion resistance, lower density than steel
Copper	Electrical wires, water pipes	Excellent conductor, malleable

Types of Alloys

Type	Common uses	Characteristics
Stainless Steel	Knives and forks, medical equipment, sinks	Cleans up well, Hygienic, good strength. At least 11.5% chromium
Brass	Statues, door knobs	Brass is an alloy of copper and zinc; bronze is an alloy of copper and tin

Year 7 GR – Graphics Products

1 Key Words—Graphics	
Product	Something that is designed and manufactured usually to sell.
Lignin	Organic polymers that help form structures in plants. The make plants and trees more rigid.
Pulp	Broken down wood chips. With the lignin dissolved it is now soft and fibrous.
Paper machine	A continuously running series of manufacturing processes that turns pulp into paper...
Product Analysis	Exploring existing products for inspiration and to consider what to avoid. It helps with the designing process.
Dimensions	Measurement of something. Width, height, depth.
Design Brief	A description of what is required from a new project or product. What it should do, who it is aimed at, etc.
Score	The process of making a crease in card so it will fold easier. This can be done using a craft knife, ruler or a metal edge
GSM	Paper is measured in grams. GSM stands for grams per square metre.

2 Paper Manufacture	
1	Trees chopped down and logs put into a rotating drum to remove the bark.
2	Wood is then put through the chipper to make wood chips. Sometimes these are taken from unused offcuts from sawmills. This saves waste.
3	Mixed with chemicals to dissolve the lignin in the wood. This create pulp.
4	Pulp is washed to remove the colouring from the chemicals. Bleach is added to ensure the paper is white.
5	Pulp is mixed with water and put through various rotating blades. Dyes may also be added at this stage to colour the paper.
6	Pulp is added to the paper machine and water is removed along the way. The pulp is put through a range of rollers. Pressure is applied throughout to remove water. Some rollers are heated.

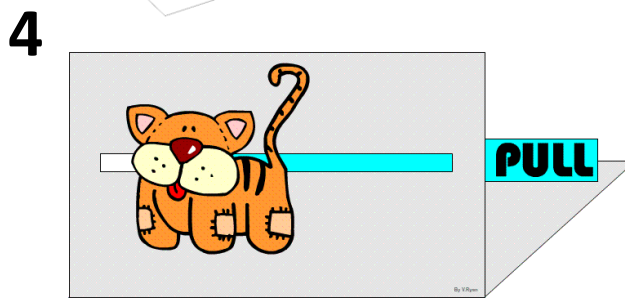
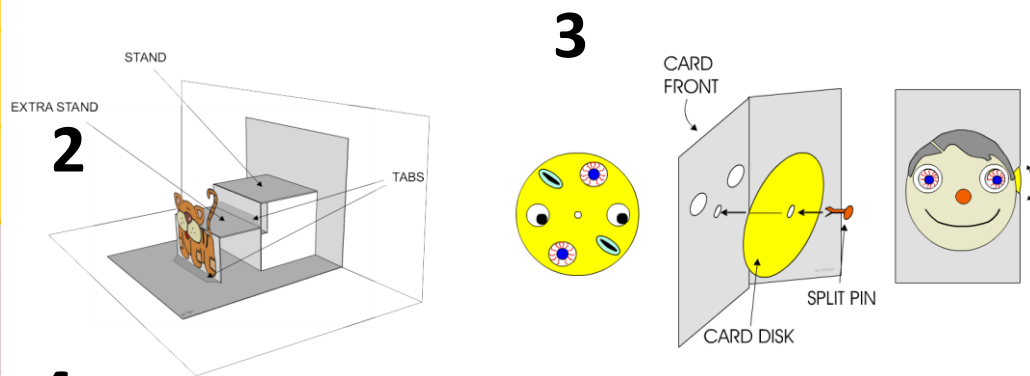
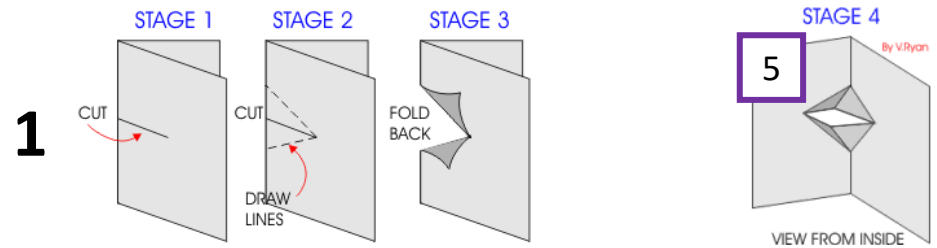
ACCESS FM—Product Analysis		
1	A—Aesthetics	What does the product look like? Colours, shape, pattern, texture and appearance
2	C—Cost	How much does it cost to buy, to make?
3	C—Customer	Who is the product aimed at? Who will use it? Who will buy it?
4	E—Environment	What impact on the environment is there from the start of the products life to the finish? Can it be recycled?
5	S—Size	What are the dimensions? – measured in mm
6	S—Safety	What safety considerations are there for the product?
7	F—Function	What does the product do and how does it work?
8	M—Materials/ Manufacture	What is it made from and how is it made?

4 Grams per square meter (GSM)		
1	35gsm 55gsm	This is very thin paper indeed. Most newspapers will commonly be printed on this thickness of paper.
2	80gsm 100gsm	This is the weight of most household printer paper. The type of paper you might use in school.
3	120gsm 140gsm	This range covers the paper thickness of most posters you are likely to find. Sturdy enough to withstand a bit of wear and tear.
4	210gsm 300gsm	Moving onto premium flyers now. This GSM range, covers most of the typical printed flyers that are handed out in the high street. This stock forms is approaching card but will still have a bit of a bend when held with two fingers.
5	350gsm 400gsm	This GSM is essentially card. It will stand up under its own weight and is most commonly associated with premium flyers and business cards and high-quality wedding invitations.
6	450gsm 700gsm	This range of GSM is moving towards very thick card & mountboard

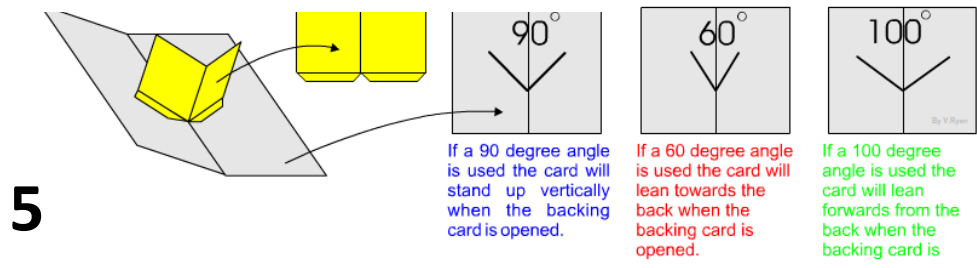
Year 7 GR – Graphics Products

		Tools	5
1	Craft Knife	A knife with a retractable blade. We use it in Graphics to cut and score.	
2	Metal Rule	A basic measuring tool that prevents the ruler from getting damaged when used with a craft knife. They often have ridges to protect the users fingers.	
3	Adhesive	A type of glue used to stick components together. It can also be in the form of a cement or paste for heavier jobs.	
4	Split Pin	A fastener that is inserted into punched holes in a stack of paper before being bent to secure them.	

		Paper/ card mechanisms	
1	Pop up	A pop up feature that fits on the crease of the paper/ card. Often used to create mouths for characters	
2	Stand	A feature that creates a stand across a crease in the paper/ card. Design features are usually added to it so they stand out	
3	Rotating	A disk that rotates, usually used in conjunction with a window cut into a piece of card that goes over the disk. A split pin secures the two pieces together.	6
4	Sliding	A moving component that moves across the page with the use of a slide bar.	
5	V-Fold	A feature that stands up from the page. V folds have to be created on the crease of the paper or card.	
6	Spring	A feature that uses two strips of paper that are overlapped to create a spring. A design feature is usually placed on top of the spring	



- 1 Pop up
- 2 Stand
- 3 Rotating
- 4 Sliding
- 5 V fold



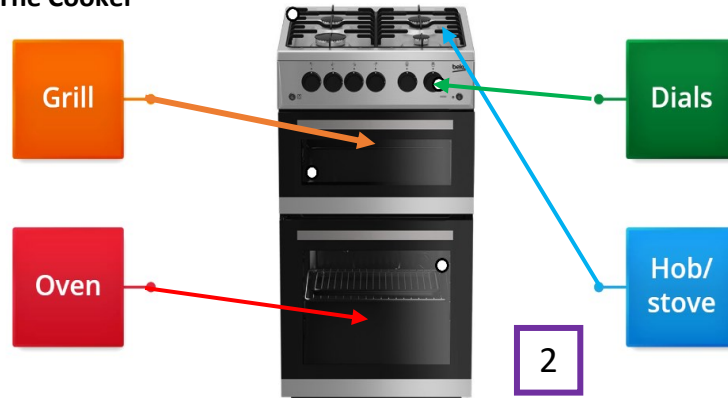
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Year 7 FPN – Food Preparation & Nutrition

Key Word	Definition
The Eatwell Guide	The Eatwell Guide is a Government guideline which can be used to help people plan a healthy diet
Complex Carbohydrates	A range of foods that provides the body with slow release energy.
Fruit	The sweet and fleshy product of a tree or other plant that grows from a flower, contains seed and can be eaten as food
Vegetables	A plant or part of a plant used as food, such as a cabbage, potato, turnip, or bean.
Protein	A protein is a naturally occurring, extremely complex substance that consists of amino acid. Meat, fish, nuts and pulses are a rich source of protein
Fats	Fats is the term usually used for fats that are solids at room temperature. Examples of are butter, margarine, and lard. Oils are also a kind of Fat
Dairy	Food that are made from cows milk
Heat Transfer	Heat transfer describes the flow of heat (thermal energy) due to temperature differences
Cooker	The piece of equipment that we use to heat food
Hob	The top part of the cooker. Conduction heat transfer
Grill	The part of the cooker that has radiant heat generated from the top.
Oven	The main part of the cooker. Heat is generated from the sides and sometimes has a fan at the back to help with convection heat transfer
Dial	A control knob
Microwave Oven	An oven that uses microwaves to cook or heat food. Food can be Defrosted, warmed or cooked in this type of oven. Uses Radiation as heat transfer
Hydration	The <u>process</u> of making your <u>body</u> <u>absorb</u> <u>water</u> or other <u>liquid</u>
Fibre	Dietary fibre or roughage is the portion of plant-derived food that cannot be completely broken down by human digestive system
Diet	The total amount and range of food and drinks consumed

1

The Cooker



A Cooker is the overall name for the piece of equipment used to cook food. It can be broken down into 4 main sections
Hob or Stove – Dials - Grill - Oven

Fridge Temperature 5 Degrees Celsius
Freezer Temperature -18 Degrees Celsius
Danger Zone Between 6 and 63 Degrees Celsius

- Parts of the Cooker**
- Some cookers have a combination grill/oven in the same space
 - Some cookers have a gas hob, some have an electric hob.
 - Some cookers have a gas grill, gas oven and hob
 - Some cookers are all electric
 - Some cookers have a gas hob but an electric oven

2

In Food, Preparation and Nutrition, (FPN) we use the 4 'C's' to remember food safety: **Clean, Cook, combat Cross Contamination, Chill**

Heat Transfer	Image
Convection combines conduction heat transfer and circulation to force molecules in the air to move from warmer areas to cooler ones. Part of the Cooker- Oven	3
In cooking, Radiation is the process where heat and light waves strike and penetrate your food. Part of the Cooker- Grill. Also a Microwave Oven	
Conduction is the process of heat being transferred between objects through direct contact, and it's the most common type of heat transfer. Part of Cooker- Hob	

Year 7 FPN – Food Preparation & Nutrition

Food Selection

- People around the world choose and combine different food to make meals and snacks. The total amount and range of food and drinks consumed is called the diet. A healthy diet is made from a variety of different food and drinks, as depicted in The Eatwell Guide. Being active is important for health, making the body fitter and stronger.
- There are many different types of food from around the world.
- People all around the world need a variety of food from different food groups to have a healthy diet.
- Dishes and meals eaten around the world often comprise similar food (or ingredients) combined in different ways

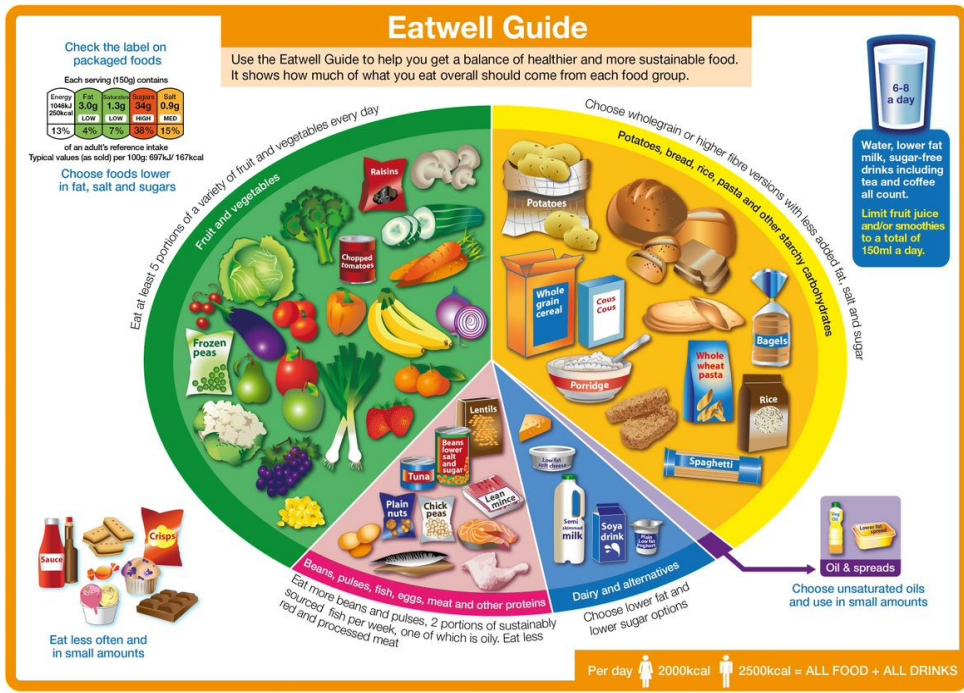
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Fruit and vegetables
Eat at least five portions every day.

Foods high fat, salt and sugar
This type of food is not needed to be healthy. If eaten, have less often and in small amounts.

4

Beans, pulses, fish, eggs, meat and other protein
Eat some foods every day.



Activity should make:
you feel warmer;
you breathe harder;
your heart beat faster.



Being active is important for health.
Children should be active for 60 minutes a day.

6

Moderate activity includes:
Dancing, riding a bike.

Vigorous activity includes:
Football, swimming.



Parts of a pizza

Tomato sauce	Ham, Beans, pluses, fish, eggs, meat & other proteins
Fruit and vegetables	
Base - Potatoes, bread, rice, pasta and other starchy carbohydrates	Cheese
	Dairy and alternatives

6

Hydration
Water and lower fat milk are healthier drink choices.
A max of 150ml of juice or smoothie a day.

4

Water
Drink plenty of fluids – the government recommends 6 to 8 cups or glasses a day

Potatoes, bread, rice, pasta or other starchy carbohydrates. Eat a food from this group at every meal. Go for wholegrain varieties.

Oils and spreads
Eat in small amounts.

Dairy and alternatives
Have some of these foods every day, e.g. a pot of yogurt and a cheese sandwich.

The Eatwell Guide is a **Government guideline** which shows the general public the proportions in which different types of foods are needed for a well-balanced and healthy diet. The Eatwell Guide can be used to devise meals and snacks.

Source: Public Health England in association with the Welsh government, Food Standards Scotland and the Food Standards Agency in Northern Ireland. © Crown copyright 2016

Year 7 F&F – Fabric & Fibres

Key word	Definition	1
Fibre	A fibre is the smallest element of a fabric; it looks like a human hair.	
Fabric	Textile fabrics are woven or knitted from yarn , which is made from fibres :	
Woven	Fabric which constructed by interlacing two yarns at right angles to each other	
Natural Fibre	Natural fibres are from plants and animals	
Synthetic Fibre	Man-made fibres, such as those made from oil	
Knitted	Fabric which is constructed using interlocking loops	
Printing Technique	Fabric printing is a fun way to add colour and pattern to the surface of textiles	
Renewable	They are replaced by new growth	
Sustainable	They are replaced at a rate equal to or greater than the rate at which they are used)	
Biodegradable	They decompose/rot	

Fibre	Source	Used for	2
Cotton	grows in hot climates, on bushes from seeds. When the seeds ripen, they split open to reveal fluffy white cotton.	Products made from cotton include jeans, blouses, T-shirts, sheets and towels.	
Linen	is made from the inner bark of the flax plant. The plants have a straight stalk with blue flowers, and are grown mostly in Europe.	Products made from linen include tea towels, tablecloths and summer clothing.	
Silk	is made from the cocoon larvae of the silkworm and was first developed in China.	The fabric is smooth, soft texture and is one of the strongest natural fibres.	
Wool	is taken from the coats of sheep and other animals, such as goats, alpacas and even rabbits!	It is used for clothing, suits, blankets and furniture upholstery. However, wool can shrink and is not as durable as cotton or silk.	
Nylon	is made by combining chemical taken from coal, water, air, petroleum, natural gas and agricultural by-products.	Nylon is lightweight, strong, durable and resistant to damage. Nylon is used to make swimwear, umbrellas and waterproof bags.	
Polyester	comes from crude oil. When made into fabric, it tends to feel slippery and silky. Some polyester is blended with other fabrics to provide more stretch, or to reduce skin irritation.	Polyester is used to make clothing such as shirts, jackets and furnishings.	

Fibres			3
Fibres come from several sources and can be either:			
Natural	From plants or animals. Plants – Cotton and Linen Animals - Silk and Wool	They are renewable, sustainable and biodegradable	
Synthetic	Manmade/ manufactured) From fossil fuels (coal, oil and gas). Nylon, Polyester, acrylic	Cannot be replaced, do not decompose and contribute to environmental problems if they end up in landfill.	

Equipment

Embroidery Scissors Iron Fabric Shears Needle

3

Year 7 F&F – Fabric & Fibres

Construction	Properties	Details	Example
<p>Weaving</p> <p>4</p>	<p>Weaving is a method of making fabric on a piece of equipment called a weaving loom. Woven Fabrics are strong and stable.</p>	<p>The yarns that go horizontally in direction across the loom are called weft yarns The threads that lie in a vertical direction in the loom are called warp yarns</p>	
<p>Knitting</p>	<p>Knitted fabrics are stretchy, comfortable and warm to wear. Weft knit: the rows of knitting in weft knitted fabric interlock with each other during the knitting process.</p>	<p>In weft knitting, the loops that run horizontally are called courses, and the threads that run vertically down the knitted fabrics are called wales. Weft knitted fabrics can be created on flat bed machines or circular knitting machines.</p>	

Adding colour

Adding Colour to Fabric

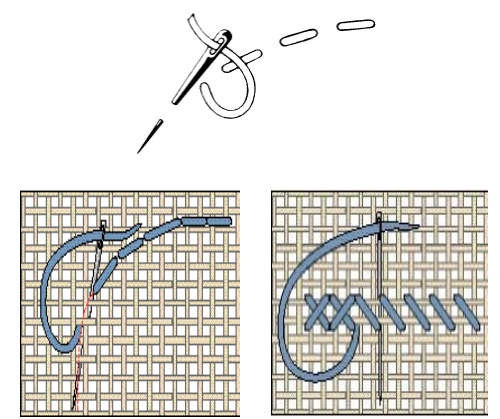
Most fabrics start out as beige or white (loomstate).

There are 2 main ways to add colour to textiles – **Dyeing and Printing**.

<p>Printing</p>	<p>Fabric printing is a fun way to add colour and pattern to textiles and can be done using various methods.</p>	<p>There are many ways to do this both by hand and by machine.</p> <ul style="list-style-type: none"> • Block Printing • Screen Printing • Roller Printing • Transfer Printing
<p>Dyeing</p>	<p>Fabric dyeing involves soaking fabric in a dye bath so that it absorbs the colour into the fibre</p>	<p>There are many ways to do this:</p> <ul style="list-style-type: none"> • Tie dye • Batik • Space dye • Dip Dye

Embroidery	Use	Process
<p>Running Stitch</p>	<p>This is used to hold fabric in position while it is being permanently stitched. Or create a dashed line.</p>	<p>To make a running stitch, bring the needle and thread up through the first hole then down through the next.</p>
<p>Back Stitch</p>	<p>Used to create a solid line and join fabric together securely.</p>	<p>Bring the thread through on the stitch line and then take a small backward stitch through the fabric.</p>
<p>Cross Stitch</p> <p>6</p>	<p>Used to create decorative pictures</p>	<p>Bring the needle through on the lower right and take it through to the back one block up and one block to the left, bringing it through to the front again one block down to form a half cross. Continue in this way to the end of the row, and then complete the upper section of the cross.</p>

Image



Year 7 ICT Knowledge Organiser

Logging on

USERNAMES these begin with 20 followed by First Name Initial and then Surname. Bob Smith would be 20bsmith

Strong Passwords are usually more than 8 characters with a mixture of uppercase, lowercase letters, numbers and symbols. They should be changed frequently. You should never share passwords.

ONE DRIVE is where you save all your personal documents at Christ the King. You can access this using your email address to login to Office.Com.

Email Address example: 20bsmith@christtheking.notts.sch.uk

Sending Email we use Outlook at Ctk to send Emails. You should type an email address into the To: field. If you want to send a copy of the message to another person use the CC: field – this stands for **CARBON COPY**. If you do not want anybody to know you are sending a person a copy you should use the **BCC – Blind Carbon Copy box**. You can use the **High Importance button** to mark your message as important.

Key Vocabulary

Personal Data – data that can be used to identify an individual. This could be Name, date of birth or home address.

Spam – irrelevant or unwanted emails or messages, usually sent to a lot of people. Normally used for advertising or spreading harmful programs. To reduce spam, tick the 'do not share my email box' on forms.

Identity Theft is when somebody pretends to be you using your person information, usually stolen online or through theft. Thieves may set up bank accounts and credit cards in your name.

Geo Tagging is when your location is tagged in social media posts or saved to a picture when you take it. Posting your location can be dangerous.

Phishing is when somebody pretends to be somebody you trust, usually in an email and asks for information which will help access your accounts or steal your identity. You should always check emails asking for information to see if they are trustworthy.

Firewall – security software preventing unauthorised access to a computer.

Anti Virus – Software that scans and removes malicious/harmful software on your computer.

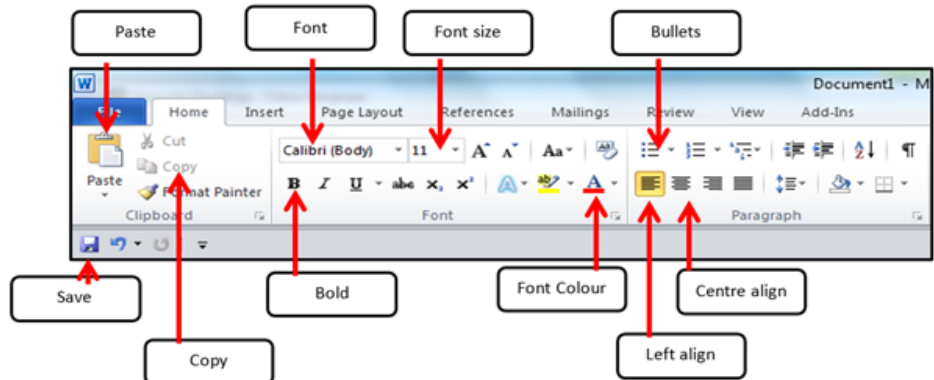


Microsoft Teams

At CTK we use Microsoft Office Teams in class, for assignments, and to connect with students. You can also download the 'Teams' app on your desktop or phone, then use your **School email and password** to sign in to access it.

Vocabulary

File	A specific piece of data held on a computer
Folder	A virtual location where programs, files and other folders can be located
Shortcut key	A combination of keys that when pressed simultaneously, perform some task that ordinary requires to use a mouse.
Email	Messages sent electronically over a computer network
Attachment	A computer file sent along with an email message
Search engine	A computer program that is used to look for information on the internet
Social network	An online platform that allows users to create a public profile and interact with other users on the website
Online profile	A social identity that an internet user establishes in online communities and websites
Privacy settings	The part of a social networking website, internet browsers, piece of software. Etc. that allows you to control who sees information about you
Cyberbullying	Using technology to bully someone
Virus	A program or piece of code that is loaded onto your computer without your knowledge and runs against your wishes and has detriment effect



E-Safety

ICT

Unit - Keywords

Cyberbullying	The bullying of another person using the internet, mobile phones and other digital devices, with the intent to deliberately upset them.
Netiquette	Correct or acceptable way of communicating on the internet.
Cyberstalking	Repeated use of electronic communication to harass or frighten someone.
Online Grooming	Deliberate act taken to befriend and create an emotional connection with a child, resulting in not good intentions.
Sexting	Sending sexually explicit messages or images by cell phones and other electronic devices.
Password	A secret word or phrase that must be used to gain access to something.
Hacking	Gaining access to a computer, with the intention of stealing data or causing damage
Download	Copying data from one computer system to another, typically over the internet.
Chat room	A website, or part of a website which allows people to communicate via a computer network in real time.
Block	Action taken to stop interactions from set people via online communication.
Spam	An email that is sent to a large number of people and mostly consists of advertising.

Websites you can Trust

No one is in charge of the internet so anyone can post or publish anything to it. Some content may be unsuitable. Websites that you can trust include those from:

- the Government – if the address has 'gov.uk' in it, it's a UK Government website
- the National Health Service (NHS) – if the address has 'nhs.uk' in it, it's an NHS website
- the Police – the official website is www.police.uk
- the BBC – all of the BBC's websites have 'bbc.co.uk' in their address

10 Ways To Stay Safe On Facebook

- 1) Monitor suspicious activity/links.
- 2) Remove friends as appropriate.
- 3) Keep your wall clean.
- 4) Turn off Facebook Chat.
- 5) Change your password often.
- 6) Be careful who you share your password with.
- 7) Hide your year of birth.
- 8) Keep your private info private.
- 9) Adjust your privacy settings.
- 10) Protect your mobile device.

Ways in which to reduce SPAM

Spam is very difficult to avoid but there are ways to reduce it:

- Use a spam filter – most email clients try to stop spam from reaching you by using a spam filter. It recognises common spam emails and stops them from getting through. Check your spam email regularly as sometimes real emails are mistaken for spam.
- Do not give your email address out – if you don't trust the website or if supplying your email address is optional, don't give it to them.

Free anti-virus applications

- AVG
- Avast!
- Microsoft Security Essentials

Digital Footprint

Your digital footprint is everything on the Internet that's about you. This could mean photos, audio, videos, texts, your posts on friends pages, etc.

As you get older, a strong online presence can bring with it all kinds of benefits

Does this give a good online impression/digital footprint?



Andrew Field @andyfield · 2m
Cant be botherd going 2 school today I hate school



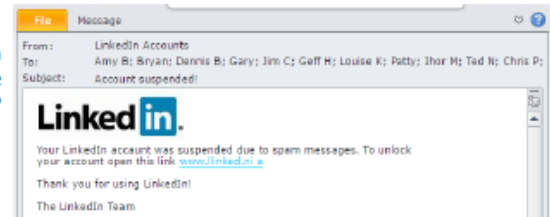
As an internet user, you need to know if something is real or fake. Criminals on the internet try to get information from people.

Phishing

Top Ten ways to Prevent Phishing

1) The message contains a mismatched URL	2) You didn't initiate the action
3) URLs contain a misleading domain name	4) You're asked to send money to cover expenses
5) The message contains poor spelling and grammar	6) The message makes unrealistic threats
7) The message asks for personal information	8) The message appears to be from a government agency
9) The offer seems too good to be true	10) Something just doesn't look right

Spot the Problem
What is the issue with the following email?



What would you?

You get an email from someone you dont know

1. Delete it straight away and tell a parent
 2. Reply to the email and ask who they are
 3. Open the email to see what it is
- A random person in a chatroom asks for your picture
1. Find a good photograph and send it to them
 2. Ask them to send their picture to you first
 3. Do not send your picture and tell an adult

