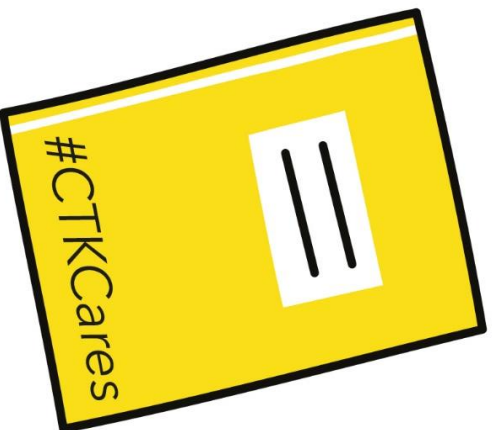




# CHRIST THE KING **KNOWLEDGE ORGANISER**

## YEAR 7 ADVENT (Term 1)





## 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 be very easily overwhelmed. Your long-term memory on the other than is effectively limitless.

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

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

## How often should I self quiz?

Research shows that regular self-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 ways to learn the material in your knowledge organiser.

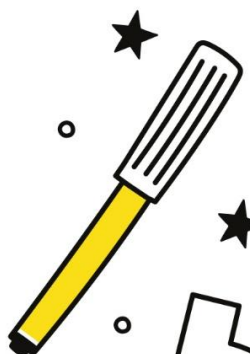
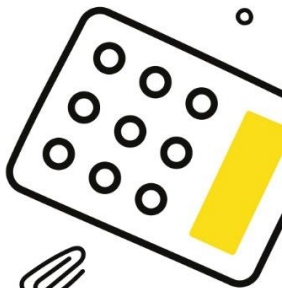
## How to use your Knowledge Organiser

- **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 a different coloured 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 that you struggled with.
- **Draw a mind map:** Jot down everything that you can remember from the knowledge organiser. Check accuracy, correct in a different coloured pen and repeat.
- **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.
- **Create Flashcards:** Use the information from your knowledge organiser to create flashcards - these could be double sided, with a question on one side and the answer on another, or a keyword on one side and the definition on the other.

## DID YOU KNOW?

Research shows a student remembers 50% more when they test themselves after learning something.





## Homework 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 minute 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?

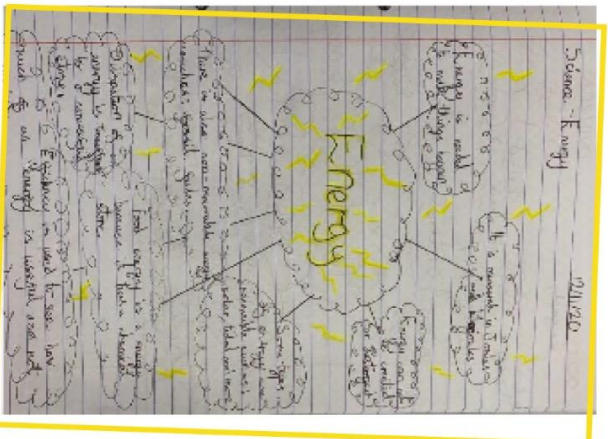
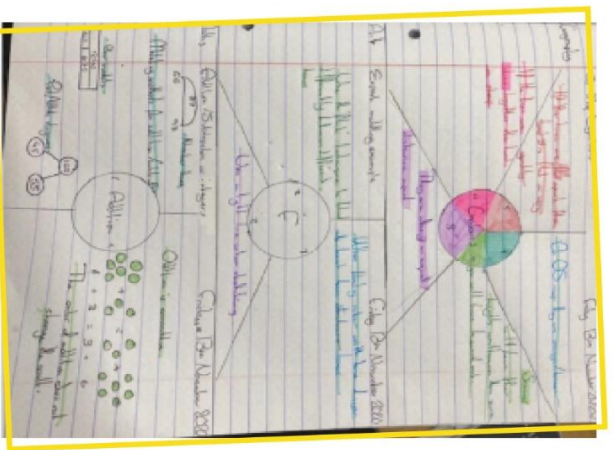
Each homework must meet the following 5 requirements:

- Write the complete title and date in full e.g Wednesday 7th June 2023 on each page and underline.
- You should include minimum of words to summarise the topic. Do not copy the words from the text.
- Make full use of the page for each topic by scaling your notes and images appropriately to use all the space.
- You must include diagrams, sketches, or cartoon doodles to visually represent the topic, try to use humour.
- Highlight key words and phrases, using underlines and highlighter pens, and explain technical terms.

## How should I present my work?

Please remember that the same rules apply to the presentation of your homework as applies 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:



**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.

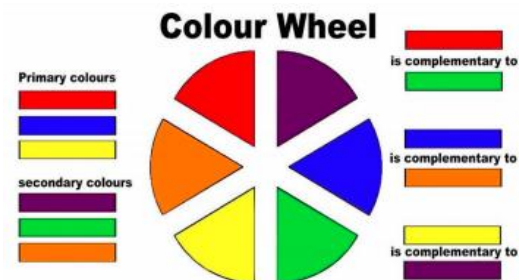
### The formal element Portrait Keywords

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 other 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)



1. Born in Augusta, Georgia, USA
2. He is a sculptor and printmaker whose work is associated with abstract expressionism, Neo-Dada, and pop art.
3. He is well known for his depictions of the American flag and other US-related topics.
4. 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
5. In 1952 and 1953 he was stationed in Sendai, Japan, during the Korean War.

### David Hockney (July 1937 - )



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

WHAT AM I  
DOING  
WELL ?

WHAT DO I  
NEED TO DO  
TO IMPROVE ?

WHAT SKILLS DO I NEED  
TO USE WHEN WORKING  
IN THE DRAMA STUDIO ?

## YEAR 7 INTRO TO DRAMA

What are our  
learning objectives  
in drama this term?

- To learn about drama lessons in school
- To understand the skills needed to succeed in drama
- To explore the various roles involved in creating a theatre production

### Theatre keywords

In the theatre there are many roles and responsibilities. It takes many people to put a production together. Below are some of the roles in a theatre we will explore together.

The **director** is responsible for the production as a whole- their main job is make sure that all elements of the play fit together. They also spend a lot of time with the actors, leading rehearsals.

An **actor** uses physical and vocal skills to create characterisation. They are helped by the director to represent their character in the play.

The **stage manager** oversees all of the design elements of the production.

The **lighting designer** designs the lighting for the production, This includes choosing the right colours and level of intensity for each moment of the play, They also have to decide which parts of the stage should be lit and which should be in darkness, Finally, they have to make sure the audience can see the action!

The **costume designer** undertakes research in order to design costumes that suit the character and the style of the production.

The **set designer** is responsible for how the stage looks. This includes the backdrop, and any stage furniture and set dressing. They must communicate with the lighting designer to make sure their set design is properly lit.

A **marketer** promotes the production so that members of the public want to buy tickets! This includes designing posters, advertising on social media and creating a programme for the show.



Proscenium Arch



Traverse

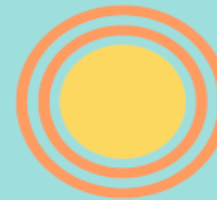
### Staging configurations

There are lots of different ways to layout a stage space. Here are the main four.

Yellow: Stage space

Orange: Audience

Can you name the pros and cons of each staging configuration? For the audience and for the production team?



In the round



Thrust

### Drama keywords

When we work together in drama, there are some essential skills we must practice. They include:

Respect      Effort      Teamwork      Focus      Communication      Listening      Cooperation



WHAT AM I  
DOING  
WELL ?

WHAT DO I  
NEED TO DO  
TO IMPROVE ?

WHAT ARE THE KEY SKILLS  
THAT I NEED TO LEARN TO  
USE IN THE STUDIO ?

## YEAR 7 INTRO TO DRAMA

What are our learning objectives in drama this term?

- To learn about drama lessons in school •
- To understand the skills needed to succeed in drama •
- To explore the various roles involved in creating a theatre production •

### Drama keywords

In drama, there are a number of skills we need to practice in order to create work in groups, and perform in front of one another. These skills are listed below.

In drama it's vital that we show **respect** by paying attention when someone else is speaking, and being positive about other people's contribution. We are all as important as each other in drama!

In drama, we use a skill called **acting**. This means to use physical and vocal skills to represent a character who is different to ourselves.



To **stay in role** is to stay focused on the character you are playing throughout a performance, even when you are not speaking. This involves maintaining any physical and vocal skills you are using throughout, and not giggling or staring into space!

One of the most important skills we use in drama is **focus**. This is the ability to concentrate and not be distracted during a performance, exercise, rehearsal or game.



**Effort** is how hard you work to give everything your best shot. You don't have to get everything right but you do have to try your best.

**Teamwork** is very important in drama! You will often work as part of a group, and it's important that you listen to each other and cooperate in order to complete each task and achieve your goals.



## DRAMA TECHNIQUES

**Characterisation**  
Making choices about the physical and vocal skills that you think will suit your character, and keeping them up throughout a performance.

**Freeze-frame**  
A group of actors become completely still and silent in order to create a still image which highlights an important moment in the action, making use of all physical skills.

**Thought-track**  
A character addresses the audience directly about their thoughts and feelings at a particular moment of the piece, while all other actors remain in a freeze-frame.

WHAT AM  
I DOING  
WELL ?

WHAT DO I  
NEED TO DO  
TO IMPROVE ?

WHAT CLUES ARE THERE IN THE  
SCRIPT THAT SHOW ME HOW  
TO PLAY MY CHARACTER ?

YEAR 7  
COWBOYS



### Performance Techniques

Exciting conventions which make each scene more interesting.

**Thought tracking:** A character speaks to the audience about their thoughts and feelings.

#### Doc the bar manager:

Doc is bored of the quiet life behind the bar and wishes for a life full of 'booze, birds and brawls'.

#### Jessie the barmaid:

Jessie is a young woman who works in the saloon. She once saw Wyatt Earp shoot a man.



**Cross cutting:**  
Allows the audience to see two scenes side by side on stage.

**Still image:**  
The actors on stage freeze to create a frozen picture which highlights an important moment

**Projection:** Using the muscles in your tummy to make your voice fill the entire performance space.



#### Sheriff Winter:

The Sheriff has been struggling with a group of trouble makers in the town.



#### Mrs Winter:

Mrs winter wants to be her own woman and misses the days of her youth before she had to marry for money.

Meet the characters in  
**COWBOYS**

**Audience awareness:**

Using positioning and clarity to improve the audience's experience.

## Key words

### CHARACTERISATION

Using a range of physical and vocal skills to show a character who is different to you.

### BACKGROUND

Your character's past life experiences- where they come from, their upbringing, how they have been treated.

### REHEARSAL

Working together in a group to practice a part of the script and share ideas about how it should be performed.

### ACCENT

The way a person speaks- can show where they are from and sometimes class or status.

### tone

The emotion behind what your character says e.g. an angry tone, a surprised tone.

### FACIAL EXPRESSION

Showing emotion through your face- eyes, mouth, eyebrows...

### PACE

The speed at which your character speaks or moves.

### STANCE

The way a person stands.

### GAIT

The way your character walks- do they have a narrow gait or a wide gait?

### POSTURE

The position in which someone holds their body when they sit or stand- can give us clues to their personality.

### GESTURES

Using your hands (or sometimes eyes and head) to communicate meaning with other characters and the audience e.g. pointing/winking.

### PITCH

How high or low your character's voice is.

### BODY LANGUAGE

Showing emotion through the way you sit, stand or position yourself.

Task A: Research 'The American Frontier'. What was life like in America in the 1700s?

Task B: Design the set and costumes for a production of Cowboys. What do you need to consider?



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

### Non-Fiction Keywords

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

### How to write about non-fiction:

<b>P</b> oint	The writer makes us think that...
<b>E</b> vidence	For example, ... One quote to show this is...
<b>T</b> echnique	This is an example of the writer using a...
<b>E</b> xplain	This suggests/shows/implies/connotes/indicates/ Evokes to the reader.... This is used to show that... The connotations of this are...
<b>R</b> 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**. This meant many of the poor were forced to **live on the street** and in **slums**.

### Why workhouses?

In 1834, the government amended (changed) the **Poor Law** and set up a network of **workhouses**.

The **middle** and **upper** classes felt that too much money was given to supporting the poor in local parishes and that this encouraged laziness. The government decided to only offer relief (aid) to the poor if they **worked hard** in return for a place to stay. This was intended to be harsh experience so that it reduced laziness and cut the costs of supporting the poor..

An economist called **Malthus** had published a theory about **population growth** which supported the changes to the Poor Law. He thought that there would never be enough food to feed the growing population so it made sense to let the poor die and reduce the population. **Charles Dickens** did not agree with this and neither did Thomas **Barnardo**.

### 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) 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. This influenced the way he saw the working class as he realised that many worked hard for low wages: they were not all lazy and lacking moral standards.

### What were workhouses like?

Programme about Workhouses and Children's Homes in Victorian Britain:

<https://www.bbc.co.uk/programmes/p011t0t5>

This programme covers information about what kind of things happened in workhouses and explains why people were so reluctant to go there.

- families were separated
- men did harsh physical activities like oakum picking and stone breaking women did all the cleaning and household duties
- punishments (for things like trying to escape) were public to deter others
- food was very basic

### 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?



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





### Geography topic 1: Becoming a Geographer



#### 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
Settlement	A place people have established to live
Industry	Economic activity in a place
Population	The people who live in a place

#### 6. OS map key terms

Ordnance Survey (OS)	The national mapping agency of Great Britain
Grid Reference	An exact location on a map found using northing and easting
Contour	Lines which joins places of equal height
Spot Height	The highest point in an area above sea level
Relief	The shape and height of the land

#### 1. Three types of Geography

Human	How human activity affects or is influenced by the earth
Physical	The natural world
Environmental	The processes which shape our world

#### 2. Atlas Skills – Using the Index

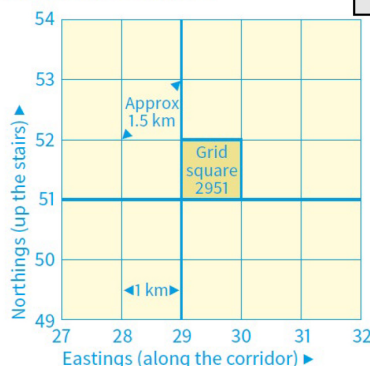
- Place name
- Place it is within (country/continent)
- Page number
- Grid square

3. Countries of the UK	England	Scotland	Wales	Northern Ireland
Capitals	London	Edinburgh	Cardiff	Belfast

4. Bodies of water around the UK	Atlantic Ocean	English Channel	North Sea	Irish Sea
Location from the UK mainland	West	South	East	West

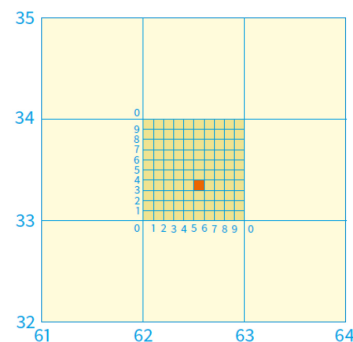
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#### Four-figure grid references



8

#### Six-figure grid references



#### 9. Using contours

- These are orange lines on an OS map with a number showing the height of the land
- They are drawn an equal distance apart
- The closer contours are together the steeper the relief
- The further apart contours are the gentler the relief

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

- Used to pinpoint an exact place on a map.
- Write the four figure reference for the square with a space after each set of numbers. The one above is **62 33**.
- Imagine the square is divided into 100 squares with 10 along each side
- Go along the corridor and up the stairs and add the numbers in this order. The example above is **625333**

#### 10. SEE

Social	To do with communities, people and how they live
Economic	To do with income, employment and businesses
Environmental	To do with the surroundings

## Geography Topic 2: Russia



### 1. Facts about the location of Russia

Largest country in the world by area

In both Europe and Asia

Coastline on the Arctic and Pacific Oceans



The flag of Russia

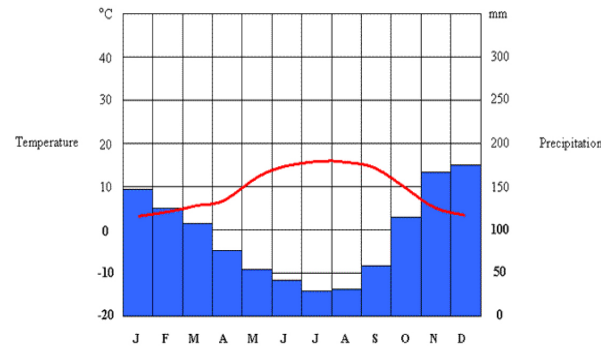
### 2. Physical features key words

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

### 3. Climate Graphs

Climate graphs contain three pieces of information

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



### 4. Biomes in Russia

Tundra	Taiga
Plain covered in permafrost	Coniferous forests
Found at high latitudes in both hemispheres	Found in the Northern Hemisphere including Russia, UK, Canada and Sweden.

### 5. Plant adaptations in the Taiga

Evergreen trees

Thick, resinous bark

Pinecones

Long, shallow roots

Trees have long, thin needles

Downward sloping and springy branches

### 6. 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

### 7. Calculating population density

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

### 8. Sectors of Industry

Primary sector	Includes jobs in which people extract raw materials
Secondary sector	Includes jobs in which people make products out of raw materials often in factories
Tertiary sector	Includes jobs in which people provide a service for others
Quaternary sector	Includes jobs in which people research and invent things using advanced technology
Raw materials	Basic materials, e.g. wood or metal which can be used to make something

### 9. 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

### 10. Levels of Development

HIC	High Income Country
NEE	Newly Emerging Economy
LIC	Low Income Country

## History Topic One: Anglo-Saxons and Normans

### 1. Anglo Saxons: Government

Edward the Confessor	The Anglo-Saxon King 1042-1066
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.
Earldom	An area of land owned by an Earl. Wessex was the richest Earldom
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
Danelaw	Area occupied by Vikings during Anglo-Saxon times

### 5. Castles

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.
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.
Palisade	A defensive wall made from wood around the Bailey
Siege	The surrounding of a key location to cut off supplies and cause surrender

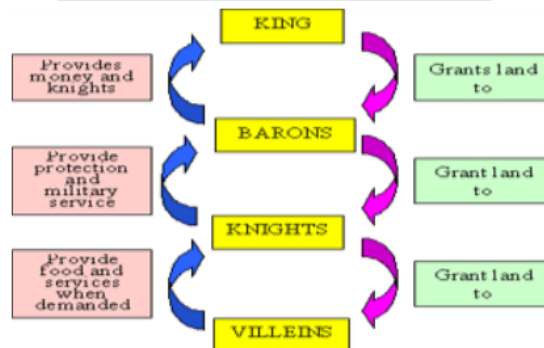
### 3. The Succession Crisis

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.
Harold Godwinson	The most powerful Earl in 1066 who went on to succeed Edward the Confessor

### 4. Battle of Hastings

Normans	People from Normandy
Infantry	Soldiers on foot
Cavalry/Knights	Soldiers on horses
Shield wall	Soldiers stood in a line with their shields overlapping to protect them
Feigned retreat	An army retreats to trick the other army in to breaking formation

## 6. The Feudal System



### 7. Methods of Norman Control

Feudal System	William's order of society which showed who was in charge of whom and who had to work for whom
Knights	Gentlemen-soldiers who were born into wealthy military status
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.

### 8. 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
Chronological	Putting events in order of time

### 9. 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 <sup>th</sup> Sept 1066	Gate Fulford
25 <sup>th</sup> Sept 1066	Battle of Stamford Bridge
14 <sup>th</sup> Oct 1066	Battle of Hastings
1085-1086	Domesday Book created
1087	William Duke of Normandy dies



**1. Thomas Becket**

Monarch	A King or a queen
Archbishop of Canterbury	Senior bishop and principal leader of the Church of England
Excommunicated	Excluded from the church
Henry II	The monarch who attempted to reduce the power of the Church

**2. Magna Carta**

Magna Carta	A royal charter (a formal document) of rights agreed to by King John
Tax	Money paid to the king
Democracy	A system in which the population vote on possible leaders/laws/rules
Parliament	Made up of Members of Parliament (MPs) who advise the monarch and pass laws

**3. Black Death**

Plague	A disease which spreads quickly often causing the formation of buboes
Miasma	What medieval people called 'bad air' which they believed would make you ill.
Beliefs	4 humors, God, planets, cats and dogs
Treatments	Lancing buboes, drain pus, rebalance the humors
Preventions	Prayer, moved house, used smoke and herbs

**5. Peasants' Revolt**

Revolt	A break away or rise against authority/ people in charge
Grievances	Living conditions, Black Death, inequality between rich and poor, taxes
Consequences	2000 people executed, rebellion crushed
Social	Anything related to people and society
Economic	Anything related to money
Political	Anything related to government and law

**6. Crusades**

Crusade	Medieval conquest by Europeans in the Holy Land
Holy Land	Jerusalem – birthplace of Jesus
Cause	Pope asked Europe to help the Byzantine emperor protect Jerusalem
Richard Lionheart	King who led the third crusade

**4. The 4 Humors****7. Timeline**

1154	Henry II Becomes King
1170	Murder of Thomas Becket
1189-1192	Third Crusade
1191-1194	Siege of Nottingham Castle
15 <sup>th</sup> June 1215	Magna Carta is signed
1348-1353	Black Death
1381	Peasants' Revolt

# Year 7 Mathematics

## Term 1A: Sequence

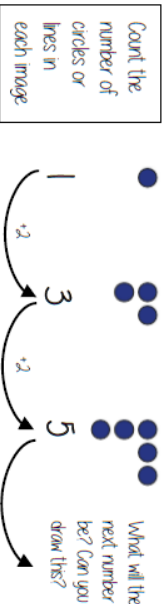


What do I need to be able to do?

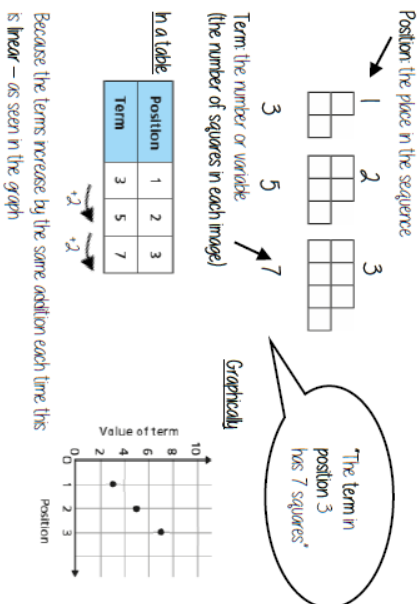
**Keywords**

- 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

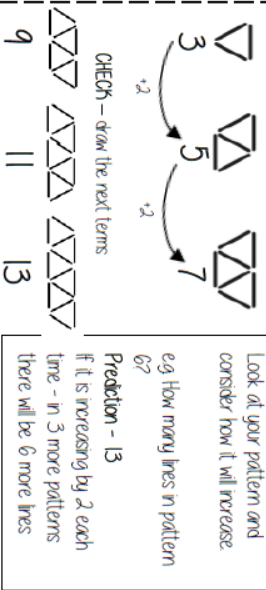
Describe and continue a sequence diagrammatically



Sequence in a table and graphically



Predict and check terms



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 | 2 | 3 | 5 | 8 ...
- Each term is the sum of the previous two terms

Continue Linear Sequences



- 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

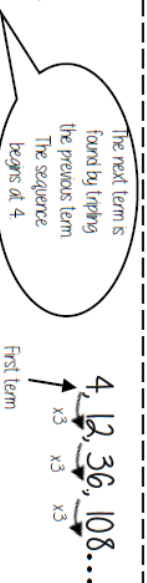
Continue non-linear Sequences



- 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

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...



# Year 7 Mathematics

## Term 1B: Algebraic Manipulations



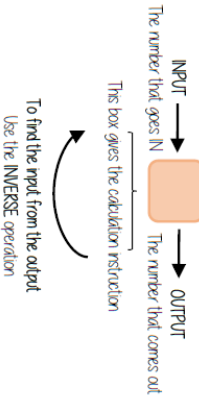
### What do I need to be able to do?

- 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.

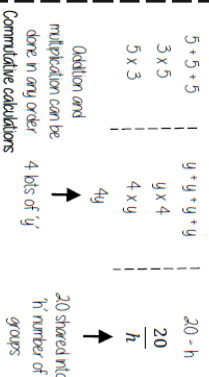
### Keywords

- 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.

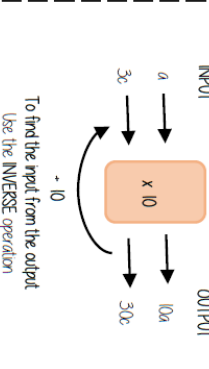
### Single function machines



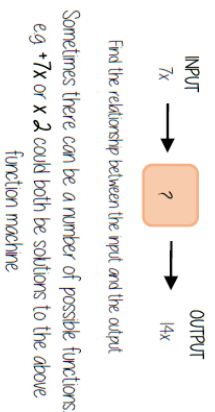
### Using letters to represent numbers



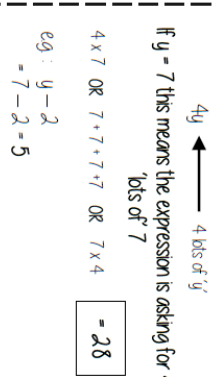
### Single function machines (algebra)



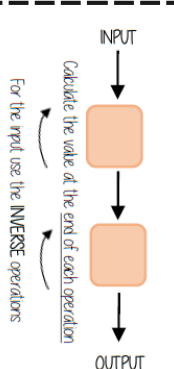
### Find functions from expressions



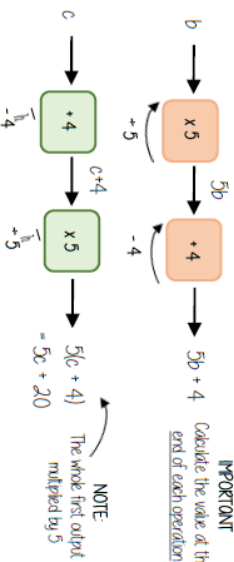
### Substitution into expressions



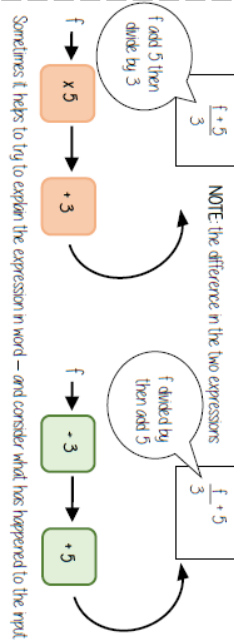
### Two step function machines



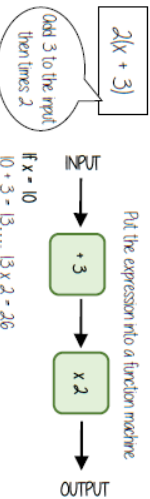
### Two step function machines (algebra)



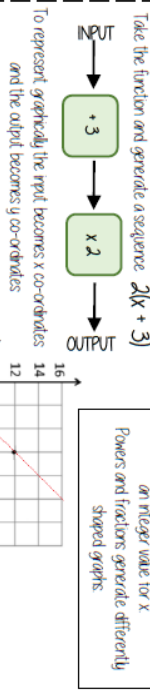
### Find functions from expressions



### Substitution into an expression



### Representing functions graphically



### Forming a sequence

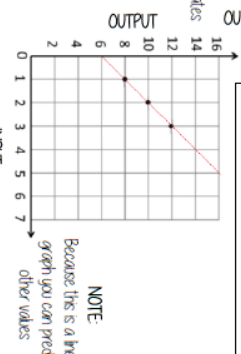
INPUT	1	2	3
OUTPUT	8	10	12

The substitutions the 'input' value

The OUTPUT becomes the sequence

INPUT (x)	1	2	3
OUTPUT (y)	8	10	12

The becomes a co-ordinate pair (2, 10) to plot on a graph





# Year 7 Mathematics

## Term 1C: Equality and Equivalence



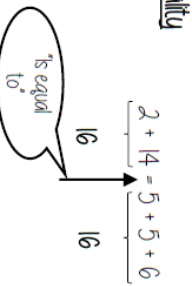
What do I need to be able to do?

- 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)

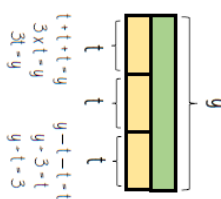
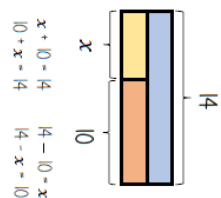
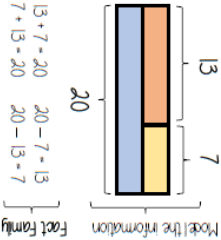
### Equality



Saying it out loud sometimes helps you to understand equality

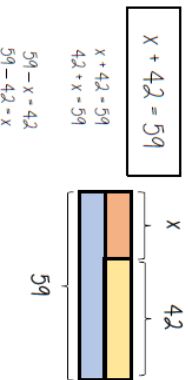
The sum on the left has the same result as the sum on the right

### Fact Families

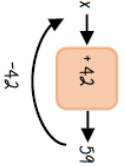


### Solve one step equations (+/-)

There's more to this than just spotting the answer

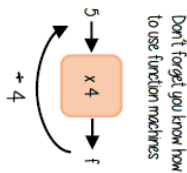
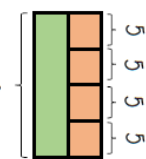


Don't forget you know how to use function machines



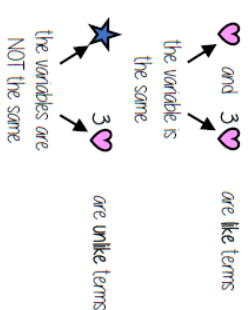
### Solve one step equations (x/÷)

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



### Like and unlike terms

Like terms are those whose variables are the same



Examples and non-examples

**Like terms**  
 $4y$ ,  $7y$   
 $2x^2$ ,  $x^2$   
 $ab$ ,  $10ba$   
 $5$ ,  $-2$

**Unlike terms**  
 $4y$ ,  $7x$   
 $2x^2$ ,  $20x^2$   
 $ab$ ,  $10a$   
 $5$ ,  $-2t$

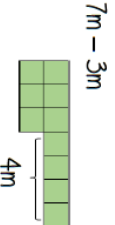
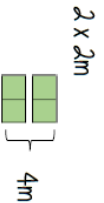
Note here  $ab$  and  $ba$  are commutative operations, so are still like terms

### Equivalence

Check equivalence by substitution eg  $m=10$

$$\begin{aligned} 5m &= 2 \times 2m \\ 5 \times 10 &= 2 \times (2 \times 10) \\ -50 &= -2 \times 20 \\ &= -40 \end{aligned}$$

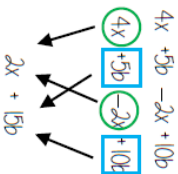
Repeat this with various values for  $m$  to check



### Collecting like terms $\equiv$ 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  $=$ ,  $\neq$ ,  $\leq$ ,  $\geq$
  - Work with terminating decimals and their corresponding fractions
  - Round numbers to an appropriate accuracy
  - Describe, interpret and compare data distributions using the median and range

### 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, thirty three thousand and twenty nine  
 1 billion 1 000 000 000  
 1 million 1 000 000

### Compare integers using $<$ , $>$ , $=$ , $\neq$

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

### Decimals

We say "nought point five two"

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

### Comparing decimals

Which the largest of 0.3 and 0.23?

Ones	Tenths	Hundredths
	0.3	0.3
	0.2	

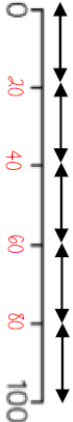
$0.3 > 0.23$   
 "There are more counters in the furthest column to the left"

Ones	Tenths	Hundredths
	0.3	0.01
	0.2	0.01

### Keywords

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

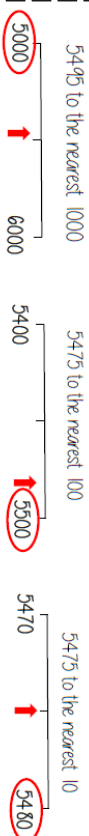
### Intervals on a number line



Double 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 n order 3 4 8 9 12  
 find the middle number 3 4 **8** 9 12

Example 2

Median: put the n order

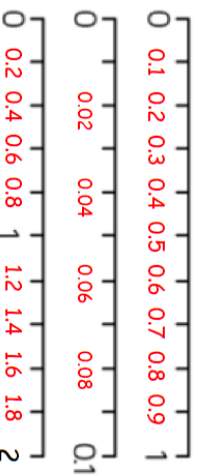
137 148 **150** 154 158 160

There are 2 middle numbers

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



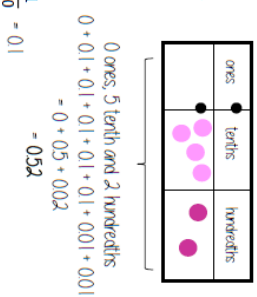
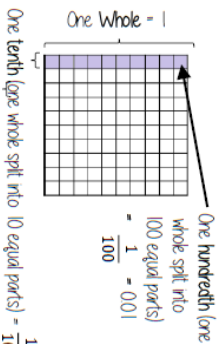
What do I need to be able to do?

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

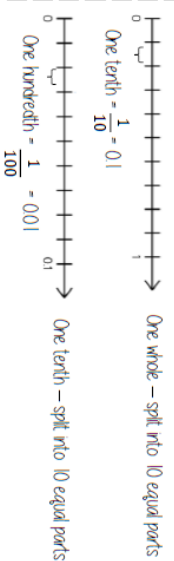
### Key words

- 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
- Interval: a range between two numbers
- Tenth: one whole split into 10 equal parts
- Hundredth: one whole split into 100 equal parts
- Sector: a part of a circle between two radius (often referred to as looking like a piece of pie)
- Recurring: a decimal that repeats in a given pattern

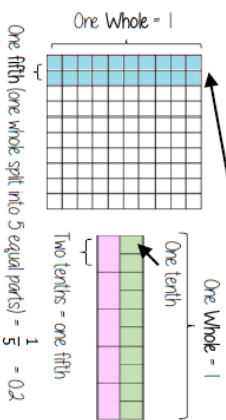
### Tenths and hundredths



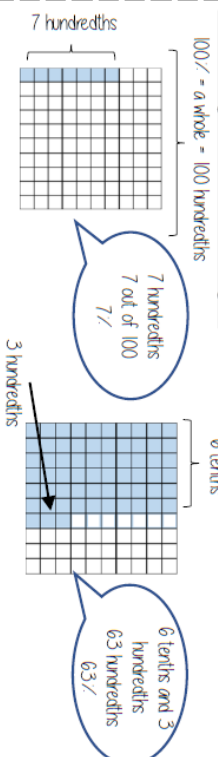
### On a number line



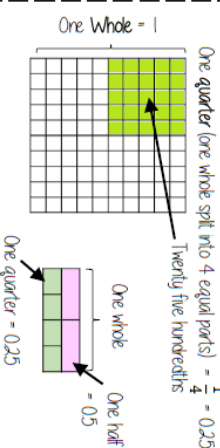
### Fifths



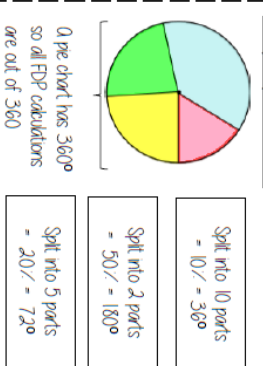
### Percentages on a hundred grid



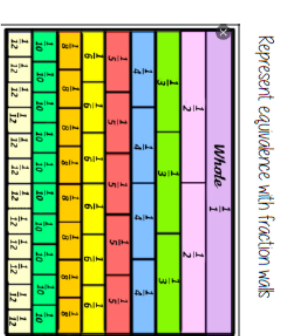
### Quarters



### Simple pie charts



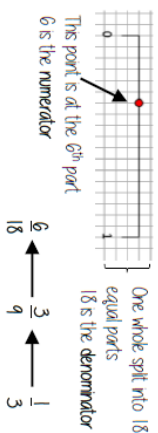
### Equivalent fractions



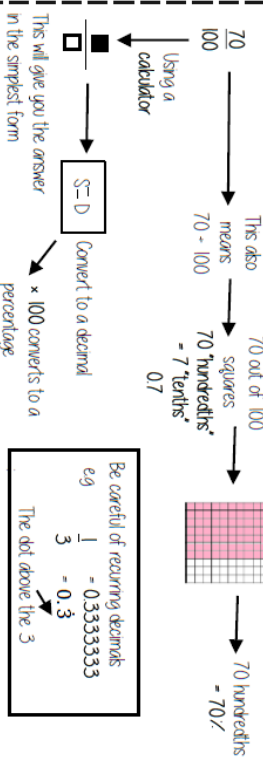
### Fractions - on a diagram



### Fractions - on a number line



### Convert FDP





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 20<sup>th</sup> January but

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



4

the birthday of my sister is the 25<sup>th</sup> 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 est la date de ton anniversaire?"

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

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

Quelle âge as-tu?

How old are you?

J'ai \_\_\_\_ ans.

I am \_\_\_\_ years old.

## 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

<b>oi</b> wa le poisson	<b>ui</b> wee Oui!	<b>eu</b> er le jeu-vidéo	<b>au</b> oh les ciseaux
<b>ou</b> oo la poule	<b>i</b> ih/ee le midi	<b>u</b> oo les lunettes	<b>é</b> ay le bébé
<b>ez</b> eh le nez	<b>er</b> eh danser	<b>qu</b> k la question	<b>gn</b> nyuh la montagne
<b>in</b> an le vin	<b>en</b> on le serpent	<b>on</b> on le pont	<b>tion</b> 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
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 16 17 18 19 20 21 22 23 30  
quinze seize dix-sept dix-huit dix-neuf vingt vingt-et-un vingt-deux vingt-trois trente



# Layers of sound

## 1. Melody

## 2. Chords

### 3. A bass line

#### 4. A beat

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

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

up  
down

**A note by itself  
CANNOT be  
major or minor!**

3. Every black note has two names: sharp # and flat b

4. Flat = lower than white note

5. Sharp = higher than white note

## Definitions

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

P  
U  
L  
S  
E

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

1. Notes on the stave are divided up into bars by bar lines.

A diagram of a musical staff. The staff is a horizontal line with five vertical lines. A green arrow points to the first vertical line, labeled "bar". A green arrow points to the first vertical line, labeled "bar line". A green arrow points to the entire staff, labeled "stave".

2. 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.

3. The top number tells us how many beats are in a bar. The bottom number tells us what sort of beats they are.

**1. Chord = 2+ notes played together**

[illegible]

## 2. Chords can be major or minor

Major = 4 thers  
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.

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

Am  Chord Name:

Where we put our finger (2<sup>nd</sup> fret)















(if there is no 'm' in the chord name, it is **major**)

Frets

**Left hand side of chord diagram =  
string nearest your chin**

**1. 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)			4 beats
Half Note/Rest (Minim)	 		2 beats
Quarter Note/Rest (Crotchet)	  		1 beat
Eighth Note/Rest (Quaver)	   		1/2 beat

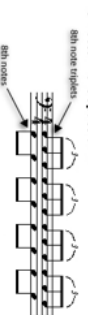
Pairs or 4s of quavers are beamed together. Remember each blob is a note

2. Rhythms can be made up of any combination of notes or rests, as long as each bar adds up correctly.

again:  $\frac{1}{2} + \frac{1}{2} = 3$  beats

$$j. = j + j = 1\frac{1}{2} \text{ beats}$$

4. 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

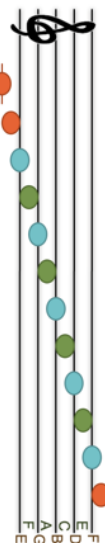

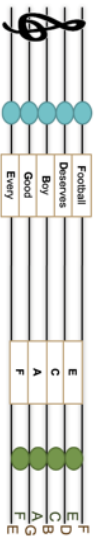
#### Treble Clef



### 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

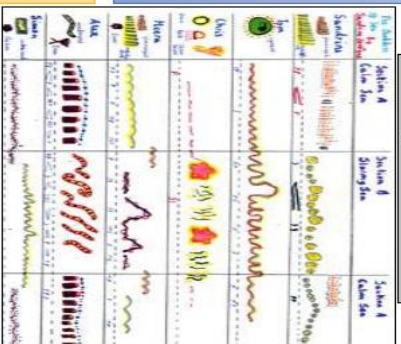
- The blobs of the notes are arranged on the lines and spaces of the staff. The higher the blob on the staff, the higher the pitch.  

- 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!

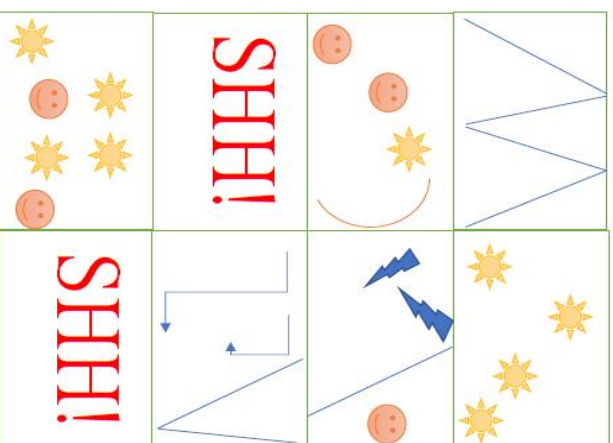
### What is graphic notation?

Graphic notation is the representation of music through use of visual symbols outside the realm of traditional music notation.

### Graphic Score



What does each box represent musically? How would you perform each box using **body percussion** and **vocals**?



### How do I use the **graphic score grid**?

- Each grid is 4x4 boxes, with each of the 4 '**instruments**' (students) per group composing 4 boxes (4 bars) of graphic notation.
- Remember to take a **rest** in music! You can use a '**shh!**' illustration to represent a rest.
- Your graphic score is notated from left to right, the same as musical notation.
- Each box must represent one bar of music, which is 4 beats.

### How do I use the **graphic score grid**?

- The **bottom** of the box represents **low-pitch notes** and **soft dynamics**. The **top** of the box represents **high-pitch notes** and **loud dynamics**.
- Short lines** represent **short notes**, whereas **long lines** represent **long notes**.
- Create weird and wonderful **symbols** to represent music and use of body percussion/ vocals.

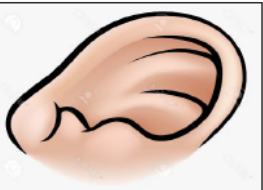
**Underline the date and title!** Remember to use a **pencil** and **rubber** to erase errors!

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?



**T.DRIPS**  
Use **IDRIPS** -  
**Tempo, Dynamics, Rhythm, Instrumentation, Pitch, Structure** to describe music.

Key words

LISTENING SKILLS

Appraisal

*'an act of assessing something.'*

"What am I hearing?"



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

Musical knowledge : Composing 6

Definitions

Composing Using the Elements

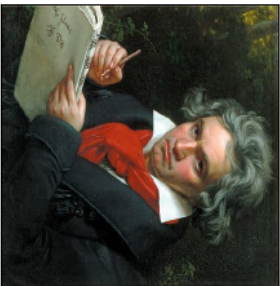
**Texture:** how layers of sound within a piece of music interact.  
**Dynamics:** How loud or soft a musical sound is.

**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.



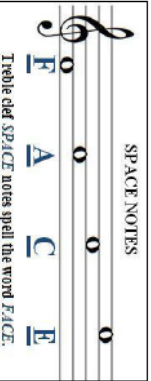
COMPOSITION

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.



What is 'harmony'?

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

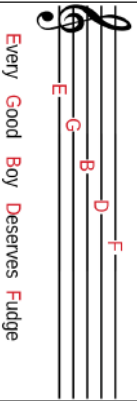
What does 'composition' mean?

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.

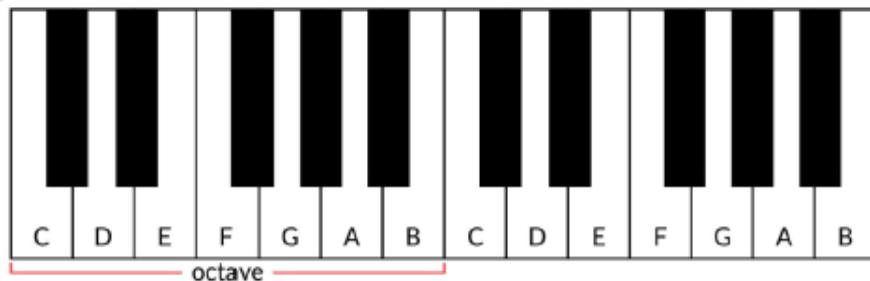
Ledger Line Notes in Treble Clef





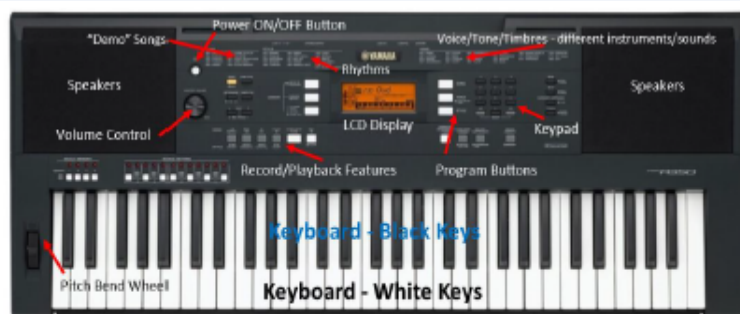
# KEYBOARD SKILLS

## A. Layout of a Keyboard/Piano

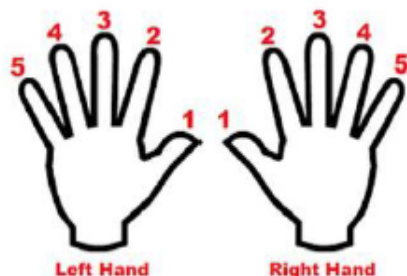


A piano or keyboard is laid out with **WHITE KEYS** and **Black Keys** (see section G). C is to the left of the two Black Keys and the notes continue to G then they go back to A again. Notes with the same letter name/pitch are said to be an **OCTAVE** apart. **MIDDLE C** is normally in the centre of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

## D. Keyboard Functions



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



## Exploring Treble Clef Reading and Notation

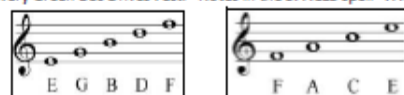


## B. Treble Clef & Treble Clef Notation

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 **LINE**s and 4 **SPACE**s.



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**.

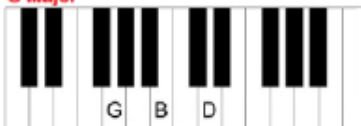


## C. Keyboard Chords

### C Major



### G Major



### F Major



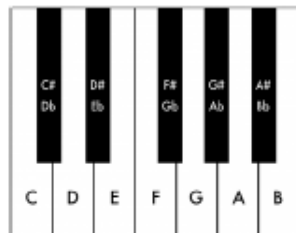
### A Minor



Play one - Miss one - play one - miss one - play one

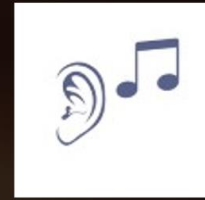
## F. Black Keys and Sharps and Flats

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**.





# T.DRIPS



• **TEMPO** - speed

• **DYNAMICS** - volume

• **RHYTHM** - beats

• **INSTRUMENTS**

• **PITCH** high/low sounds

• **STRUCTURE** The plan/map of the piece

• **Speed** – fast (allegro) medium (moderato) slow (lento) getting faster (accelerando) getting slower (rallentando)

• **Volume** – loud (forte), soft (piano), getting louder (crescendo) getting softer (diminuendo)

• **Beats** – simple or complex Crotchets, quavers, minims, dotted (bouncy) swung (jazzy) long notes (semibreves)

• **Instruments** – Classical orchestra or rock/pop band  
**Strings** – violin, cello, double bass  
**Woodwind** – flute, clarinet  
**Brass** – trumpet, trombone, tuba  
**Percussion** – timpani drum, triangle, maracas, glockenspiel, castanets  
**VOICE** is an instrument.

• This links to the instrument being played. Eg flute is high pitch, tuba & double bass is low pitch

• **Verse/Chorus/Verse** – like in pop songs

• **Binary Form** – 2 contrasting sections of music A & B section

• **Blues** – 12 bar blues chord sequence

• **Ternary Form** – 3 sections of music A B A

• **Strophic** – repeating a verse/chorus, but with different lyrics, hymns, carols, nursery rhymes – Wheels on the Bus



## Key Words:

Lay-up

Jump shot

Travel

Double

Dribble

## Skills:

Dribbling

Jumping

Passing

Catching

Shooting

Footwork

## Famous basketball players:



Michael Jordan



Steph Curry

## Basketball

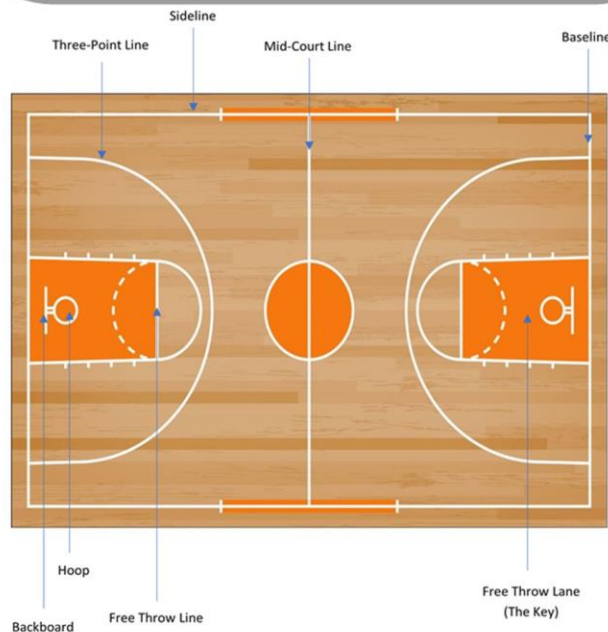
### Rules:

**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

The classifications fit on a continuum...

*Environmental influence*

*Difficulty*

*Organisational Level*

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



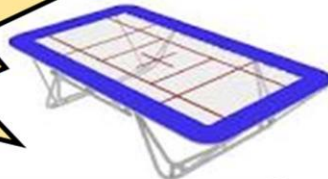
Lu Chunlong

### 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

### Visual Guidance

- Demonstrations
- Images
- Videos
- Observations

Example— demonstration to perform a seat drop in trampolining.

### Verbal Guidance

- Coaching points
- Feedback
- Peer Feedback
- Questioning

Example— A coach telling a trampolinist how to correct their position in a skill.

### Manual Guidance

When a performer is physically guided or supported by the coach/teacher.

Example— A trampoline coach supporting a front somersault.

### Mechanical Guidance

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.

## Handball

### Key Words:

<b>3 seconds on the ball</b>	Players are only allowed to have possession of the ball for 3 seconds.
<b>Contact</b>	Contact is allowed in handball.
<b>Goalkeeper</b>	Goalkeeper can leave the D but not in possession of the ball.
<b>Corners</b>	Awarded if the ball comes off a defender and goes behind the goal.
<b>Penalty throw</b>	Awarded if a defender steps into the D.

### Rules:

A match consists of two periods of 30 minutes each. Each team consists of 7 players; a goalkeeper and 6 outfield players.

Outfield players can touch the ball with any part of their body that is above the knee.

Once a player receives possession, they can pass, hold possession or shoot.

If a player holds possession they can have the ball for up to 3 seconds, after they can dribble or take three steps (without dribbling).

Only the goalkeeper is allowed to come in contact with the floor of the goal area.

Goalkeepers are allowed out of the goal area but must not retain possession if they are outside the goal area.

### Positions in Handball:

**Goalkeeper:** a player who is positioned inside the goalkeeping area responsible for defending goals.

**Left Wing:** attacking player responsible for left hand side of the court.

**Left Back:** stands to the left of centre back and tries to prevent the opposition from shooting.

**Centre back:** stands in the middle of the court and provides both defending and attacking options.

**Pivot player:** an attacking player who travels along the opponents six metre line.

**Right Back:** has some responsibilities as the left back down the opposite side.

**Right Wing:** has the same responsibilities as the left wing but down the opposite side.

### Skills:

<b>Shooting</b>	Players can shoot from outside of the D or by performing a jump shot.
<b>Dribbling</b>	Players can move with the ball by bouncing but only for 3 seconds.
<b>Passing</b>	Passing is done with one hand or two and can include a shoulder pass and bounce pass.

### Famous Player

Danish player Mikkel Hansen  
Threetime world player of the year.  
Olympic, World and European champion.



## Lifestyle Choices

Lifestyle choices - the choices you make that can affect your health and fitness.

### 1) Eating a healthy diet:

- Boosts your energy levels, so you are better able to enjoy life.
- Will supply your body with the central nutrients it needs for a healthy immune system helping you fight off illnesses
- Reduces the risk of developing serious health conditions such as heart disease type 2 diabetes high blood pressure high cholesterol or stroke
- Communication stress levels and improve your sleep patterns
- Will help you lose weight if you are currently overweight or maintain a healthy weight

### 2) Eating an unhealthy diet:

- Leads to deficiencies in essential nutrients and causes health conditions such as osteoporosis and rickets as well as fatigue and muscle weakness
- Leads to an increase in weight and body fat which puts you at risk of developing health conditions such as heart disease type 2 diabetes high blood pressure high cholesterol and stroke
- Can affect your concentration levels and make you feel lethargic making it more difficult to find the energy to exercise
- Can affect your quality of sleep
- Can cause you to feel guilty and depressed especially if you overeat

### 3) Living an active life:

- Lowers your risk of disease
- Lowers your risk of developing mental health conditions such as depression or dementia
- Please yourself esteem the quality of your sleep and your energy levels
- Reduces stress and anxiety
- Improve your fitness levels

### 4) Living an inactive life:

- Increases your risk of disease
- Increases your risk of low self esteem anxiety and depression
- Decreases your muscle mass overall strength and energy levels making daily tasks such as carrying shopping bags more difficult

### 5) A good work/rest/sleep balance:

- Improve your physical emotional and social health
- Makes you feel more in control of your life helping to reduce stress
- You are better at making good decisions

### 6) A poor work/ rest/ sleep balance can:

- Increase your risk of depression
- Lead to weight gain
- Increase your risk of illness and disease
- Increase stress and anxiety
- Results in poor quality sleep

## Christ the King School Badge

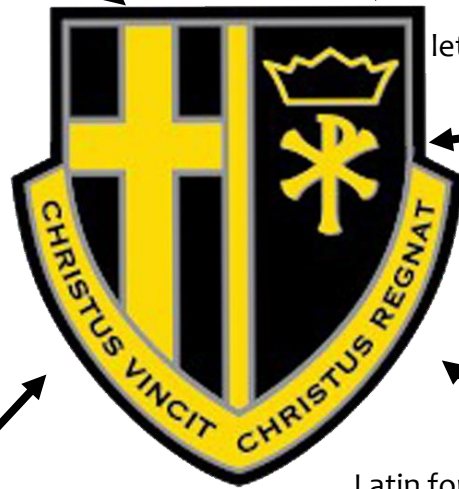
The **cross** reminds us that we are Christians who believe in the life and death of Christ who died on the cross.

**Crown.** Reminds us that Christ is a King

**Chi-Rho.** The first two letters for the Greek word for Christ.

Latin for 'Christ reigns'

Latin for 'Christ conquers'



### Key Facts

1	<p>To help the CtK community carry out its Mission Statement, it uses #CTKCARES</p> <ul style="list-style-type: none"> <li>• <b>Community</b> – This means that we will accept everyone in our school for who they are</li> <li>• <b>Achieve</b> – We should want to do well and encourage others to do well too</li> <li>• <b>Respect</b> – We will accept and celebrate our differences making sure we treat people the way we would like to be treated</li> <li>• <b>Encounter</b> – We should be respectful of all beliefs and encourage each other to question and search for 'truth'</li> </ul>
2	<p>Aristotle suggested that good and successful people have virtues. He taught that we should recognise them in others so that we can nurture and develop them in ourselves.</p>
3	<p>Aristotle identified that virtues are found in the middle of two vices – too much of a quality can be bad as much as too little of a quality. The virtue is the golden mean. For example having too little courage leads to cowardice but too much leads to rashness. Courage is the golden mean.</p>
4	<p>St Thomas Aquinas further developed Aristotle's thinking with Natural Law. He argued that there are universal laws of right and wrong that applies to all humans at all times. He argued that there were 5 natural laws people should follow so that human life can flourish (<b>W</b>orship God, <b>O</b>rdery Society, <b>R</b>eproduce, <b>L</b>earn through Education, <b>D</b>efend innocent life)</p>
5	<p>Catholics believe that there are moral habits human beings need to practice in order to be a good person. They are split into Cardinal Virtues (prudence, justice, fortitude, temperance) and supernatural virtues (faith, hope and charity).</p>
6	<p>At CTK we practice particular virtues linked with our mission statement:</p> <ul style="list-style-type: none"> <li>• Community – Hospitality, gratitude, compassion</li> <li>• Achieve – self control, love of learning, perseverance</li> <li>• Respect – Sanctity of Life, discipleship, equality, stewardship</li> <li>• Encounter – faith, hope, love</li> </ul>



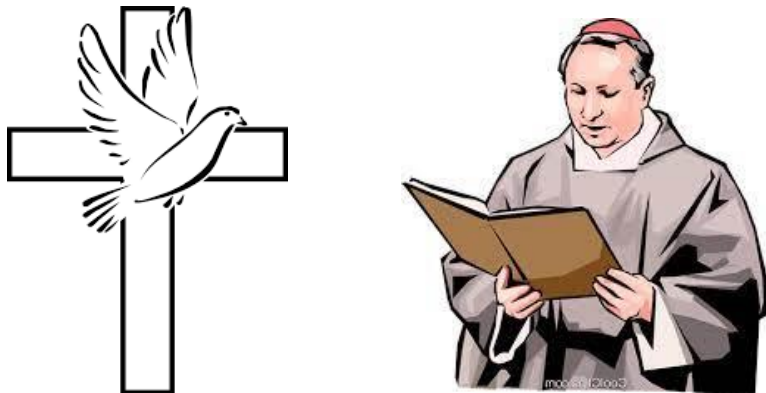
Key Quotes	
1	Thus the heavens and the earth were completed in all their vast array... This is the account of the heavens and the earth when they were created, when the LORD God made the earth and the heavens. (Genesis 2:2-4)
2	‘Prayer is the raising of one’s mind and heart to God’ (Catechism of the Catholic Church)

Key Words		
1	God	The one supreme being, who creates and sustains everything.
2	Revelation	The way in which God is made known to humans, which Catholics believe is most perfectly done through Jesus.
3	Literal sense	the meaning of the text as the author intended it to be; this is different to reading a passage literally which means accepting it as word-for-word truth.
4	Literary form	The style of writing used, for example a letter or a poem.
5	Creation	The act of bringing something into existence; or the universe and everything in it (which Catholics believe God created)
6	Creationism	The belief that the Bible accounts of creation are literally true.
7	Scientism	The belief that science can provide all the answers in life.
8	Prayer	The way in which humans communicate with God.
9	Stewardship	The duty to care for something. Catholics believe that God gave them the duty to care for the earth and everything in it.

Key Facts	
1	The Bible is the holy book for Christians and contains <b>God’s</b> word. It is split into the Old Testament and the New Testament. The Old Testament contains the history and faith of the Israelites.
2	Catholics do not read the Bible literally. Instead they aim to understand the <b>literal sense</b> of the Bible (the message that <b>God</b> wanted to communicate with them).
3	Catholics believe that <b>God</b> is responsible for all <b>creation</b> . Genesis 1 teaches that <b>God</b> created over 6 days and rested on the 7 <sup>th</sup> . This story helps to answer the questions of ‘Where did the world and everything in it come from?’ and ‘Why are we here?’
4	Genesis 2 shows <b>God</b> creating harmony from chaos and <b>God</b> creates man by breathing life into him. Woman is created from man’s rib. This story helps Catholics to answer the question ‘What is our purpose?’
5	Catholics believe that there is no conflict between science and religion. They believe in the theories of the Big Bang and Evolution.
6	The Catholic Church teaches that we should try to reduce human suffering and increase friendship between all people through Catholic Social Teaching. Catholics believe they have a duty to care for the world and everything in it.
7	Catholics believe they have a duty of care for the world and everything in it ( <b>stewardship</b> ). Pope Francis describes stewardship as responding to ‘the cry of the earth and the cry of the poor’.
8	<b>Prayer</b> in the way in which people communicate with <b>God</b> .

Key Words		
1	Revelation	The way in which God is made known to humans, which Catholics believe is most perfectly done through Jesus.
2	Dei verbum	The Latin phrase for 'Word of God'; also a document from the Second Vatican Council explaining how Jesus is the word of God.
3	Scripture	The holy books (s) of a religion; in Christianity it is the Bible.
4	Tradition	Also known as apostolic tradition, these are actions and teachings from the original apostles passed on from one generation of bishops to the next.
5	Magisterium	From the Latin term, <i>magister</i> , meaning teacher or master.; it is the authority of the Church to teach.
6	Inspired	'God breathed'; the belief that the Holy Spirit guides an individual to write what is good and true.

Key Quotes	
1	'For Sacred Scripture is the word of God inasmuch as it is consigned to writing under the inspiration of the divine Spirit.' (Dei Verbum 9)
2	'All scripture is breathed out by God and profitable for teaching... that the man of God may be complete, equipped for every good work.' (2 Timothy 3:16-17)
3	'they, as the true authors, consigned to writing everything and only those things which He wanted.' (Dei Verbum 11)

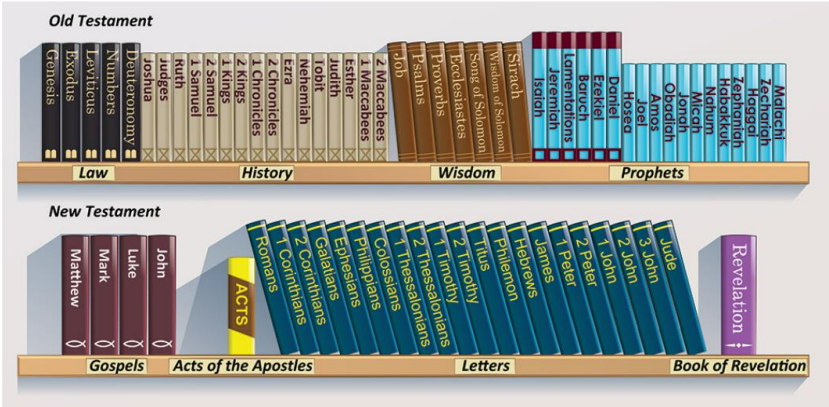


Key Facts	
1	The Bible is a form of <b>revelation</b> and has been divinely <b>inspired</b> which means they Holy Spirit guided human writers to write down the truth from God.
2	<b>Tradition</b> has developed teachings on the sanctity of life, the sacraments, the Creeds and Mass. <b>Tradition</b> is alive which means that as the Church grows, so does tradition.
3	The <b>Magisterium</b> is the teaching authority of the Church which was given to St Peter & the apostles who founded the early Church.
4	Catholics also use <b>scripture</b> in prayer, for example in the Rosary, which is connected to key events in the Gospels.

Key Words		
7	Canon	The agreed list of books that make up the Catholic Bible.
8	Old Testament	The books of the first half of the Bible showing the creation of the world and God’s relationship with the Israelites.
9	New Testament	The books of the second half of the Bible which tells the story of Jesus’ life, ministry and death, and the establishment of the early Church.
10	Hebrew, Aramaic Greek	Languages spoken in the area where Jesus grew up; some books of the Bible were written in these languages.
11	Tanakh	The Jewish Bible
12	Liturgy of the Word	The part of the Mass where Catholics are taught God’s word from the Bible.



Key Facts	
5	The Bible is like a library of books. It has around 40 different authors and each book has their own backgrounds and literally forms. Bible references are made up of book, chapter & verse.
6	The Bible is read in translation which means that it not usually read today in the original languages it was written in ( <b>Hebrew, Aramaic &amp; Greek</b> ) as most people do not speak these languages now.
7	The Tanakh (the Jewish Bible) and the <b>Old Testament</b> share many of the same books, however Jews and Christians arrange and interpret them differently.
8	The Catholic Church uses scripture as the foundation of the Mass. In the <b>Liturgy of the Word</b> , Catholics hear Bible readings that help them to feel closer to God and understand what God expects of them.





## Changes of state

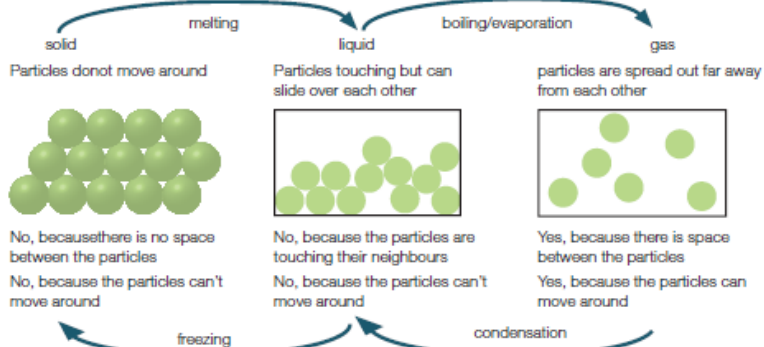
changes of state  
state of matter  
how do the particles move?

arrangement of particles

can it be compressed?

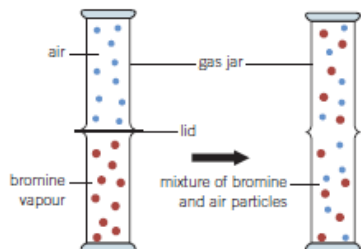
can it flow?

changes of state



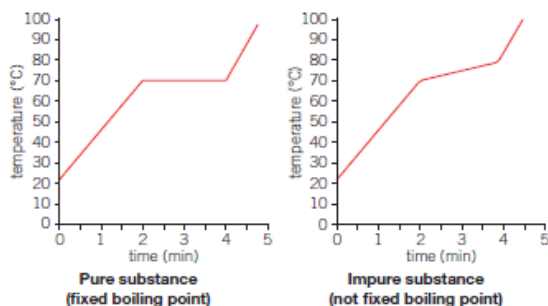
## Diffusion

- Diffusion** is the movement of particles from an area of high concentration (lots of the same particle) to an area of low concentration (not a lot of the same particle)
- It is a random process which does not need energy
- The speed of diffusion can be increased by:
  - A higher temperature
  - Smaller particles diffusing
  - A gas rather than a liquid
- Diffusion does not happen in a solid as the particles can't flow



## Melting and boiling points

- The **melting point** of a substance is the temperature at which it turns from a solid to a liquid, or a liquid to a solid
- The **boiling point** of a substance is the temperature at which it turns from a liquid to a gas or a gas to a liquid
- Pure substances** have a fixed (sharp) boiling or melting point, whereas **impure substances** have a range which appears as a diagonal line on a graph

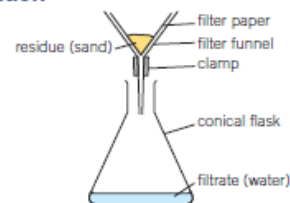


## Mixtures

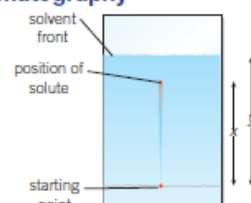
- Mixtures** are different **substances** which are together, they are not chemically bonded and so are easy to separate
- The substances which make up a mixture keep their own **properties** unlike those in a compound
- A mixture is an **impure** substance as it does not have a fixed melting point, instead it has a range
- A **solution** is a type of mixture which is made up of two parts
- A **solute** is the part which has dissolved in the solution
- A **solvent** is the liquid part which the solute has dissolved into
- The **solubility** of a substance is a measure of how much of it will **dissolve**
- Not all solutes will dissolve in all solvents
- Solutes which do not dissolve are known as **insoluble**
- Substances which do dissolve are known as **soluble**
- The **solubility** of a substance can be increased by increasing the temperature of the solution or by stirring the solution
- A **saturated solution** is one where the maximum amount of solute has dissolved in it, no more solute will be able to dissolve

## Separating Mixtures

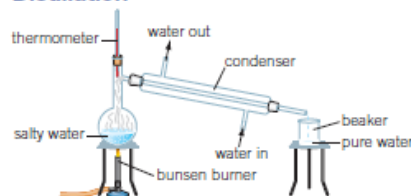
## Filtration



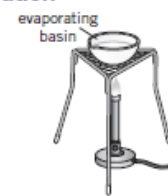
## Chromatography



## Distillation



## Evaporation



## Key terms

Make sure you can write definitions for these key terms.

boiling point   chromatography   condensation   diffusion   dissolve   distillation   evaporation   filtration   freezing   impure substance   melting point   mixture  
property   properties   pure substance   saturated solution   substance   soluble   solubility   solute   solution   solvent

Keyword	Definition
Boiling point	The temperature a liquid turn into a gas
Chromatography	The technique for the separation of mixed substances in a solution
Condensation	When a gas cools and forms a liquid
Diffusion	The movement of particles from an area of high concentration to an area of low concentration
Dissolve	When a solid disappears into a liquid
Distillation	The technique of separation of a mixture of liquids
Evaporation	When a liquid is heated and forms a gas
Filtration	The technique of separating a solid and a liquid
Freezing	When a liquid cool and forms a solid
Impure substance	2 or more elements or compounds not chemically joined
Melting point	The temperature a solid turn into a liquid
Mixture	Different elements or compounds that are not chemically joined
Property	A characteristic or behaviour of a substance
Properties	A group of characteristics or behaviours of a substance
Pure substances	A substance made up of just 1 chemical element or compound
Saturated solution	A solution that cannot dissolve any more solute (solid)
Substance	Any element, compound, or mixture
Soluble	The property of dissolving
Solubility	The measurement of how much substance will dissolve in a given volume of liquid
Solute	The solid that is dissolved into a solution
Solution	The solid and liquid mixture. It consists of the solute and the solvent
Solvent	The liquid part of a solution

Retrieval Question	Retrieval Answer
What are all materials made up of?	Particles
What is meant by a substance?	Something that is made up of one type of material
What 3 things does the property of a substance depend on?	What its particles are like, how the particles are arranged, how its particles move around
What is density?	How much matter there is in a certain volume/how heavy it is for its size
State why gold has a higher density than aluminium.	A gold particle has a greater mass than an aluminium particle
Name the three states of matter	Solid, liquid, gas
Can you compress a solid/liquid/gas?	Gas - yes, solid + liquid - no
Does a solid/liquid/gas flow?	Gas + liquid - yes, solid - no
Describe the shape of solid/liquid/gas?	Solid - particles touch each other, arranged in a pattern, liquid - particles are not as closely packed, particles move around randomly, gas - particles are widely spaced, move around randomly
Why can you compress a gas and not a solid or liquid?	Particles are widely spaced out in a gas, particles touch each other in a solid
Why do liquids and gases flow but solids do not?	Particles move randomly in a liquid, particles vibrate in a solid
What change of state happens during melting?	Solid to liquid
What change of state happens during freezing?	Liquid to solid
Describe how particle movement and energy changes during melting	Particle movement increases, energy of particles increases
Describe how particle movement and energy changes during freezing	Particle movement decreases, energy of particles decreases
What is a melting point?	Particle movement at which a substance melts
What change of state happens during boiling?	Liquid to gas
Describe how particle movement and energy changes during boiling	Particle movement increases, energy of particles increases
What is a boiling point?	The temperature at which a substance boils
What is evaporation?	When particles with the most energy leave the liquid state
State two differences between evaporation and boiling?	Evaporation - happens at any temperature, boiling - happens only at the boiling point
What is condensation?	Gas to liquid
What is sublimation?	Solid to gas
What is diffusion?	When particles in liquids and gases spread out
List three factors that affect the speed of diffusion?	Temperature, particle size, the state of the diffusing substance
How does temperature affect the speed of diffusion?	At higher temperature, diffusion happens more quickly
How does particle size affect the speed of diffusion?	The bigger the particle, the more slowly it diffuses
Why does diffusion happen faster in gases than in liquids?	Particles are far apart and travel a long way before hitting another particle
State what is meant by gas pressure	The force gas particle exert when they collide with a container
How does the number of particles affect gas pressure?	The greater the number of particles, the higher the gas pressure
How does temperature affect gas pressure?	The greater the temperature of particles, the higher the gas pressure
State what an element is	A substance that cannot be broken down into other substances
State what a molecule is	A group of two or more atoms joined together
State what a compound is	A substance that is made up of atoms of two or more elements joined together
<b>Retrieval Question</b>	<b>Retrieval Answer</b>
State what is meant by a pure substance	Contains one substance only/not mixed with anything else/particles are all the same
State what is meant by a mixture	Contains two or more substances, which could be elements or compounds
Name four common examples of mixtures	Air, seawater, rocks, foods (any sensible answers)
What is the melting point like for a pure substance?	A pure substance has a fixed melting point
What is the melting point like for an impure substance?	An impure substance melts across a range of temperatures
State what a solution is	A mixture of a liquid with a solid or gas in it
State what a solute is. Give an example	The solid dissolved in liquid, e.g. Salt, sugar (any sensible answers)
State what a solvent is. Give an example	The liquid that dissolves the solid, e.g. Water, alcohol (any sensible answers)
Describe what happens to particles when they dissolve	Water particles surround each solid particle
Can gases dissolve?	Yes (most)
State the meaning of the term saturated solution	A solution that cannot dissolve any more solid/solute
State what is meant by solubility?	The maximum mass of solute that dissolves in 100g of water
How does temperature affect solubility?	The higher the temperature, the greater the mass of solute that will dissolve
What does a solubility curve show?	How much solid can dissolve in a solvent across a range of temperatures
What type of mixture is filtration used for?	An insoluble solid from a liquid
What is a filtrate?	The solution that passes through filter paper
What is a residue?	The solid that remains in the filter paper
State 2 uses of filtration	Making coffee, river water (any sensible answers)
Describe how filtration can be used to separate sand from salt water	Add water to the mixture, stir to dissolve the salt, pour into a filter paper funnel, salt solution passes through, the residue is sand
Describe how evaporation can be used to separate salt from sea water	Heat the solution, water evaporates, the salt remains
State 2 uses of evaporation	Glue drying, making crystals (any sensible answers)
Describe how distillation uses boiling and condensing to separate water from salt water	Heat the solution, water boils leaving the solution as steam, steam travels down a condenser and cools down, steam condenses to form liquid water
State the difference in properties that allows you to separate water and salt using distillation	Salt has a higher boiling point than water
What is chromatography used for?	Separate a mixture of dyes
Describe how chromatography can be used to separate a mixture of substances	Place the substance on chromatography paper, lower into a beaker containing a solvent, allow the solvent to travel up the paper, dry the chromatogram
Why do some substances travel further up the paper than others?	Some substances mix better with water/some substances are more strongly attracted to the paper
State what a chromatogram is	The mixture separated on the paper
State 2 uses of chromatography	Separate colours in a dye, identify nutrients in food (any sensible answers)



## 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

## 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

## 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

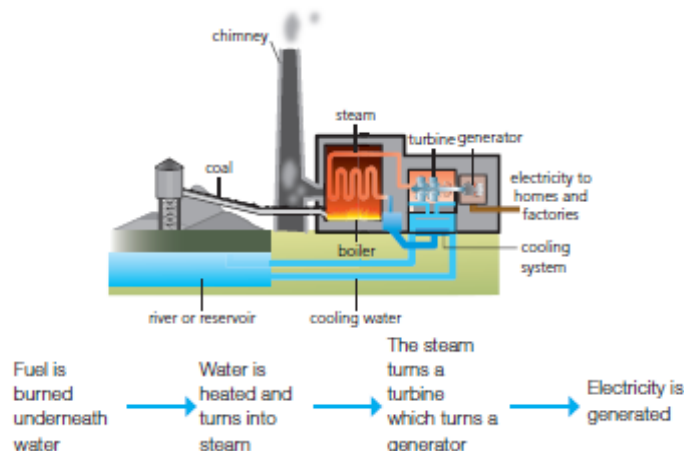
## Power and energy

- **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:

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

## Power stations

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



## 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

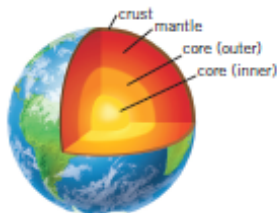
Make sure you can write definitions for these key terms.

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 $\times 100$ / total energy in

## The Earth

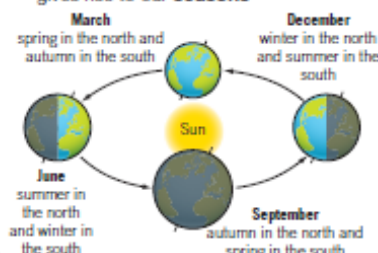


The Earth has three main layers:

- 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

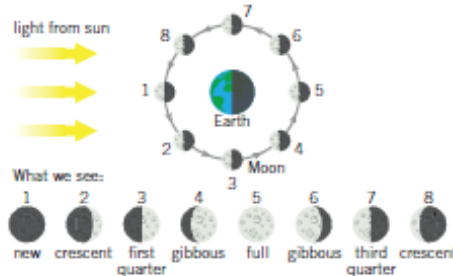
## The spinning Earth

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

## The Solar system

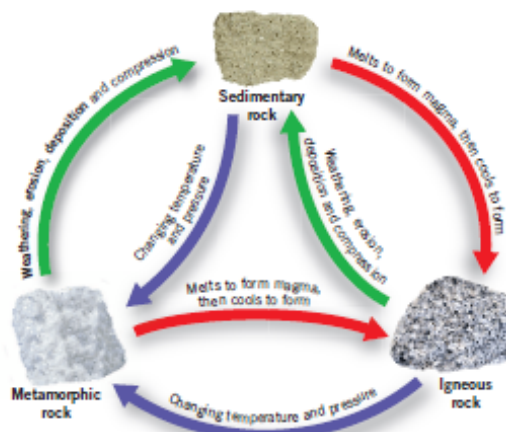
Our **solar system** consists of eight planets which orbit the Sun, four inner and four outer planets

Inner planets	Outer planets
Small and rocky planets ( <b>dwarf planets</b> )	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



### Key terms

Make sure you can write definitions for these key terms.

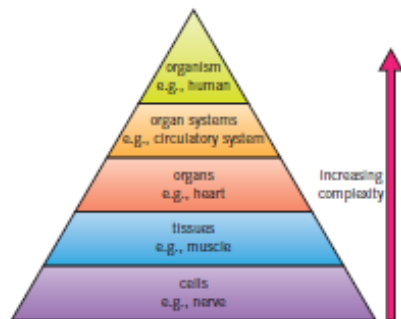
asteroid belt artificial satellite axis crust deposition durable dwarf planet galaxy gas giants igneous rock lava inner core  
magma mantle metamorphic rock milky way natural satellite outer core orbit phases of the moon planet porous rock cycle season  
sediment sedimentary rock solar system star sun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

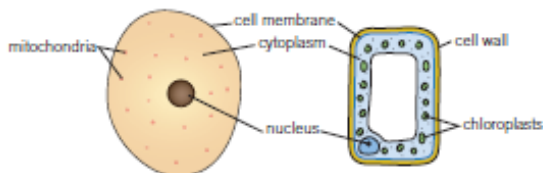
Keyword	Definition	Retrieval Question	Retrieval Answer
Renewable	An energy resource that can be replaced in a human lifetime	State 2 ways of reducing energy costs at home	insulating the loft, installing double glazing
Thermal	The energy store referring to hot objects	State the law of conservation of 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 $\times 100$ / total energy in

## 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

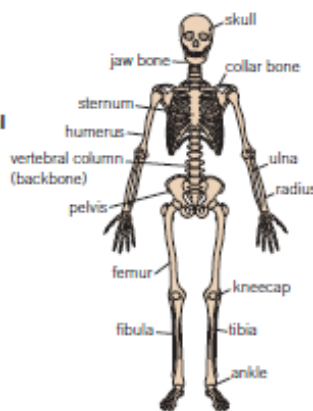


## Specialised cells

- 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

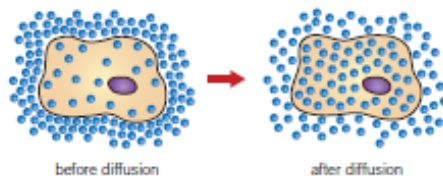
- Muscles** are a type of tissue which allows movement
- They pull on tendons which in turn pull on bones to allow movement
- Muscles like the triceps and biceps are known as **antagonistic muscle pairs**, they work together – as one contracts, the other will relax

## 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

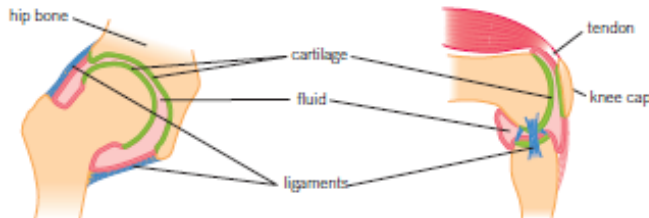
Connect bone to bone

## 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

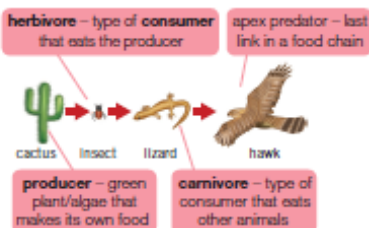
Keyword	Definition	Retrieval Question	Retrieval Answer
Specialised cells	Cells adapted to carry out a function	What is meant by an antagonistic muscle pair?	a pair of muscles that work together, so when one contracts the other relaxes
Tendons	Tissue that connects muscles to bones	Describe how the bicep 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



## 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

## Food chain



## Food web



- 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

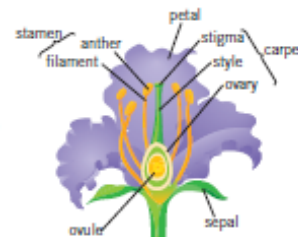
- Interdependence** is the way in which living organisms rely on each other to survive
- A food chain will be disrupted if one of the organisms die out
- If the producer dies out the rest of the food chain will also die out unless they have a different food source
- If the **consumer** population die 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

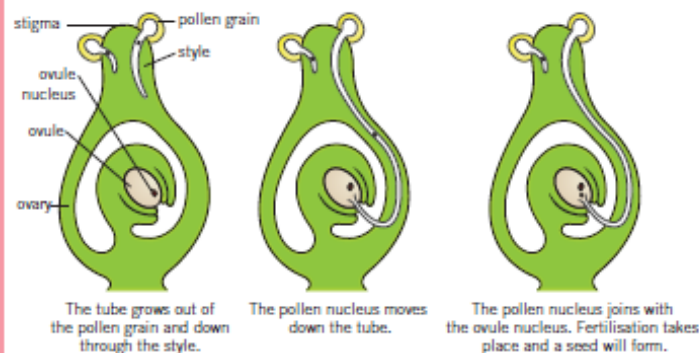
Female part of the flower

- 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



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

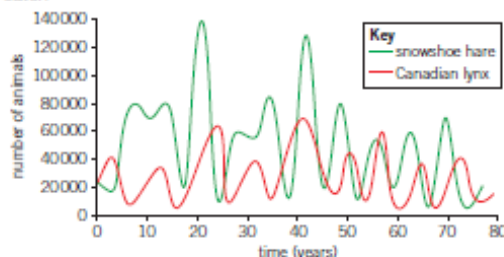
- Water to allow the seed to swell and grow and for the embryo to start growing
- Oxygen for that the cell can start respiring to release energy for germination
- Warmth to allow the chemical reactions to start to occur within the seed

## 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

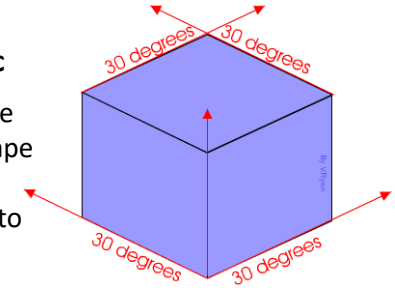
Keyword	Definition	Retrieval Question	Retrieval Answer
Producer	Organisms at the start of a food chain, they convert energy from the Sun	State what is meant by interdependence	Changes of one animal directly affects the population of the other
Pollen	The male sex cell of a plant	Describe the pattern in 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

### Key words

1	Oblique projection	A method of drawing something in 3D. Starting with a front view of a shape, 45° lines are drawn back from each corner of the shape. Lines have to be at 45° for it to be Oblique Projection. Squared grid paper can be used to help with Oblique Projection
2	Isometric	A method for drawing something in 3D. Isometric uses 30° angled lines to create the sides and top of a shape. Isometric grid paper can be used to help draw in an isometric view
3	Perspective	Creates the illusion of depth. When drawing in perspective objects appear to get further away into the distance
4	Rendering	Using pens, pencils, crayons or paints to add texture and tone to a drawing, making the drawing more realistic looking
5	Chisel Point	A flat surface on the tip of a pen or pencil allowing you to draw thick or thin strokes depending on the angle of the pen/ pencil
6	Aesthetics	Visual appearance of a product considering things such as colour, shape, texture and pattern
7	Horizon Line	A boundary at which the skyline meets with a flat surface of earth such as the ocean or the ground
8	Vanishing Point	The point that all lines go back to when drawing in perspective. Lines appear to disappear into the vanishing point to add depth to drawings
9	Horizontal line	a straight line that goes from left to right or right to left.
10	Vertical Line	A straight line going from top to bottom or bottom to top
11	Tone	How light or dark a colour is

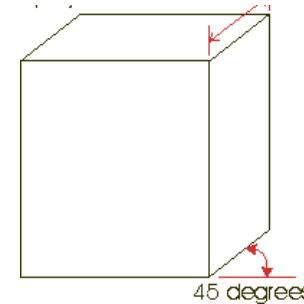
### Isometric

Start from the edge of a shape and use 30 degree lines to add the side



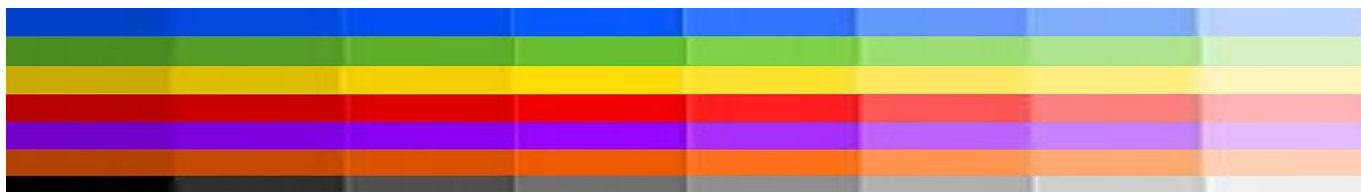
### Oblique

Start from the front face of an object and use 45 degree lines to project backwards



### One point perspective

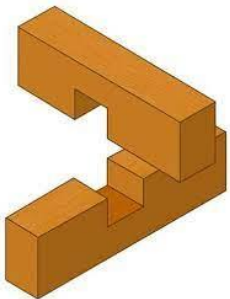
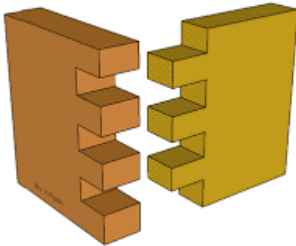
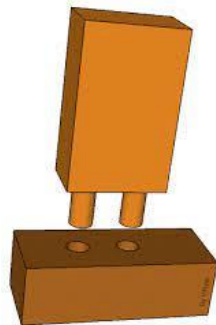
Start by drawing a horizon line and a vanishing point. Ensure all lines always go back to the vanishing point








**Key words**

<b>Timbers</b>	wood prepared for use in building and carpentry
<b>Hardwoods</b>	the wood from a deciduous (broadleaved) tree. Typically these trees take longer to grow and lose their leaves during winter. Hardwoods are often more expensive to buy than softwoods
<b>Softwoods</b>	The wood from a coniferous tree. Typically these trees grow quickly and have needle or scale like leaves. Coniferous trees are evergreen, meaning they keep their leaves all year round. Softwoods are often cheaper to buy than hardwoods
<b>Template</b>	A shaped piece of rigid material that is used to draw or cut around to increase accuracy. They can also be used when shaping or drilling.
<b>Recess</b>	A groove cut into a piece of material to house
<b>PPE</b>	Personal Protective Equipment. Different items of PPE are used in the workshop to keep you safe when using particular tools and machines

**Halving Joint****Finger Joint****Dowel Joint****Mitre Joint****Processes**

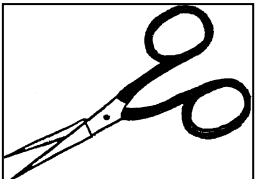
Cutting	Sawing	Drilling	Chiselling
Sanding	Marking Out	Gluings	Finishing

**Tools**

<b>Marking Gauge</b>		Mark out lines by running it along an edge and using the pin to mark a line into the material
<b>Try Square</b>		Used for marking out and checking 90° angles on wood, metal or plastic
<b>Tenon Saw</b>		A saw used for cutting wood. Its flat blade makes it good for cutting straight lines
<b>Belt Sander</b>		A machine that rotates a belt of sand paper at high speeds. Used to neaten up edges of wood
<b>Coping Saw</b>		A saw used to cut wood and plastic. Its thin blade makes it ideal for cutting curved lines
<b>Chisel</b>		Is a cutting tool with a sharp edge. Sometimes used with a mallet to run along the surface of wood and remove shavings
<b>Sand Paper</b>		An abrasive paper used to smooth the surface of wood. It comes in a range of 'grit sizes' which range from rough to very fine

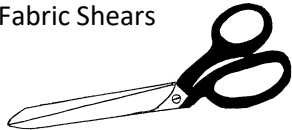
Key word	Definition
Fibre	A fibre is the smallest element of a fabric; it looks like a human hair.
Fabric	Textile fabrics are woven or knitted from <b>yarn</b> , which is made from <b>fibres</b> :
Woven	Fabric which constructed by interlacing two yarns at right angles to each other
Natural Fibre	Natural fibres are from <b>plants</b> and <b>animals</b>
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
Dyeing	changing a textile's colour by soaking it in a dye bath

Embroidery Scissors



Iron

Fabric Shears



Needle



Fibres		
Fibres come from several sources and can be either:		
<b>Natural</b>	From plants or animals. Plants – Cotton and Linen Animals - Silk and Wool	They are renewable, sustainable and biodegradable
<b>Synthetic</b>	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.

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

**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.**

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

**Applique**

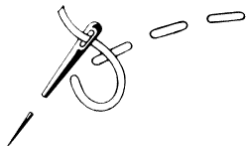
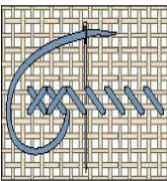

Applique is where fabric is sewn on to another piece of fabric using hand or machine stitches. It is mainly used to add decoration and colour, but can also have a function, for example, to strengthen or repair the knee area on children's trousers.

**Hand Applique**

Sewing applique by hand is time consuming, and stitching must be neat. Stitches are used that will seal the edges and stop them from fraying, for example, blanket stitch or satin stitch.

**Machine Applique**

Machine applique is the most common type, as it is quick and easy to do. A close zigzag stitch is often used to do this type of applique

Embroidery	Use	Process	Image
Running Stitch	This is used to hold fabric in position while it is being permanently stitched. Or create a dashed line.	To make a running stitch, bring the needle and thread up through the first hole then down through the next.	
Back Stitch	Used to create a solid line and join fabric together securely.	Bring the thread through on the stitch line and then take a small backward stitch through the fabric.	
Cross Stitch	Used to create decorative pictures	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.	
Blanket Stitch	Used on the edges of material for decoration or for fabric that is too thick to be hemmed	Secure the thread and bring the needle through both layers of the fabric. Pull the thread through gently but stop to leave a loose loop. Bring the needle and thread through the loop and pull tightly. From underneath the fabric bring the needle through wrap the loose thread under the needle and pull it tightly. Repeat this process along the edge of the fabric	



Year 7 – Food Preparation and Nutrition:  
A healthy balanced diet

1 The 4 C's

Cooking	Cleaning	Chilling	Cross Contamination
<p>Cooking kills bacteria.</p> <p>Food needs to be heated till steaming hot with the core temperature reaching 75°C for 30 seconds.</p>	<p>Cleaning kills bacteria.</p> <p>Wash hands before, during and after food preparation.</p> <p>Wash all work tops, utensils, chopping boards and equipment.</p> <p>Rinse fruit, salad and vegetables.</p>	<p>Chilling prevents microbial growth.</p> <p>Cool food to below 5°C as quickly as possible.</p> <p>Defrost food in the fridge.</p>	<p>Bacteria is transferred from one object to another.</p> <p>Keep raw and cooked food separate. Never wash raw meat.</p> <p>Keep raw meat and shellfish on the bottom shelf of the fridge.</p>

3 Basic knife skills



- Ensure you don't hurt yourself or others.
- Use a firm grip and even pressure.
- Always cut down towards the chopping board, never cut towards yourself.
- Carry a knife with the point facing downwards.
- Don't touch the knife blade.
- Always put a knife down, don't hand it to someone else.
- Never leave your knife soaking in the washing up bowl.
- Never catch a falling knife.
- Always hand your knife back in at the end of the lesson.

2 Preparing for a practical

1 Tie long hair back

2 Remove jewellery

3 Wear a clean apron

4 Make sure your equipment and food preparation area is clean

5 Roll up your sleeves

6 Wash your hands

**Notes**

**Wash your hands again:**

- if you have touched your face, coughed or sneezed
- after touching raw meat (including poultry)
- after going to the toilet
- after touching the bin
- after touching pets or handling money.

For safety reasons it is better not to wear nail varnish when cooking.

Wear shoes to cover and protect your feet (not sandals or bare feet).

This resource was originally developed with funding from the Big Lottery Fund

**CHILDREN'S FOOD TRUST**  
*Eat. Better. Be Better.*



**8 tips for a healthy lifestyle.****5**

- Base your meals on starchy foods.
- Eat lots of fruit and vegetables.
- Eat more fish.
- Cut down on saturated fat and sugar.
- Try to eat less salt- no more than 6g a day.
- Get active and try to be a healthy weight.
- Drink plenty of water.
- Don't skip breakfast.

**8 Key Terms**

Keywords	Definition
<b>Cross contamination</b>	When bacteria is transferred from one object to another.
<b>Diet</b>	The type of foods that a person eats. Some people have special diets depending on their age or needs.
<b>Nutrients</b>	Nutrients are chemical compounds in food that are essential for the body to function properly and maintain health.
<b>Macro nutrients</b>	These are nutrients that are needed by the body in large quantities; they are Carbohydrates, Proteins and Fats.
<b>Micro Nutrients</b>	These are nutrients that are needed by the body in small amounts; they are vitamins and minerals.
<b>Health</b>	This defines your physical wellbeing. Good health indicates that you are free from illness.
<b>Enzymic browning</b>	an oxidation reaction that takes place in some foods, mostly fruit and vegetables, causing the food to turn brown.

**Nutrients**

6	Nutrient	Function	Food sources
<b>Macronutrients</b>	<b>Carbohydrate</b>	This is the primary source of <b>energy</b> , it also makes you feel full.	Bread, pasta, rice and potatoes.
	<b>Protein</b>	The bodies building block. Helps the body to <b>grow and repair</b> itself.	Nuts, eggs, fish, meat, beans and pulses.
	<b>Fat</b>	This is used as a secondary source of <b>energy</b> . It helps to <b>insulate</b> the body and maintains <b>brain function</b> .	Meats, cheese, butter, oils, nuts and seeds.
<b>7</b>	<b>Vitamins</b>	There are many different vitamins and they play a vital role in keeping <b>skin, eyes, hair</b> and <b>blood healthy</b> .	Fruits and vegetables, meats, dairy, eggs, cereals, sunlight etc.
	<b>Minerals</b>	Minerals help your body <b>grow, develop</b> and stay healthy. They help build <b>strong bones, teeth, blood</b> and <b>nervous systems</b> .	Dairy, vegetables, fish, meat, cereals etc.
	<b>Fibre</b>	Prevent <b>constipation</b> , increase the feeling of <b>fullness</b> , reduce the risk of heart disease, diabetes and some cancers.	Wholegrain cereals, fruits and vegetables.
	<b>Water</b>	Keeps you <b>hydrated</b> , controls body temperature, helps kidneys filter waste.	Fruit, vegetables, milk, soup.

**9**

Chopping board



Weighing scales



Saucepan



Measuring spoons



Measuring jug



Grater



Colander



Sieve



Peeler



Frying Pan



Rolling pin



Cooling rack



Vegetable knife



# 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](mailto: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.

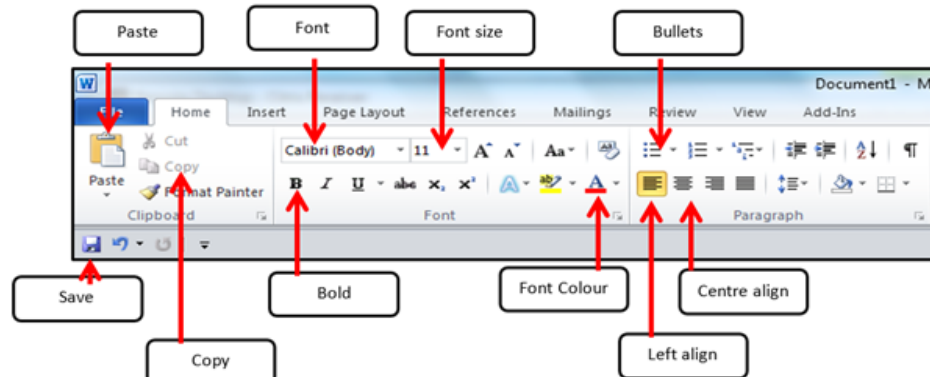


## Microsoft Teams

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](http://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  
Can't be bothered going 2 school today I hate school



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

### 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 don't 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

