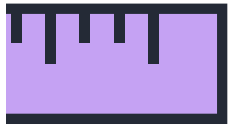


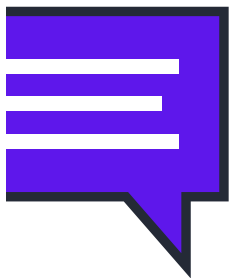


HOME-LEARNING

**YEAR 7**



**HALF TERM 1**



"EDUCATION IS THE MOST POWERFUL WEAPON WHICH YOU CAN USE TO CHANGE THE WORLD."

NELSON MANDELA



## **Core Values**

Our school community is built on three important values which underpin all we do. We believe that great learning comes from:

### **Politeness**

- We treat every person and thing as we want to be treated
- We are respectful, polite and courteous at all times
- We help others at all times

### **Hard-work**

- We never give up
- We remain positive so that we have the strength to persevere with even the hardest work
- We do what it takes, for as long as it takes

### **Honesty**

- We are true to ourselves and others and we do not make excuses
- We look to ourselves to see what needs to be done.

## What is learning?

A big part of learning is about getting knowledge to go into your long-term memory and then using this knowledge. Our brains will only remember knowledge in the long term if we think really hard about it. Just reading, or highlighting does not make our brains work hard enough. We must **practise** remembering things – this will feel difficult at the time but worth it in the end.

## What is a knowledge organiser?

A knowledge organiser is a document that contains key facts and information. A knowledge organiser will not include every possible fact on a topic; it will include facts needed to understand the main points. Knowledge organisers make knowledge clear. So, even if a learner misses a lesson, they have a constant point of reference.

## Why are knowledge organisers good for learning?

Research shows that our brains remember things more efficiently when we know the ‘bigger picture’ and can see the way that ‘nuggets’ of knowledge link. Making links helps information move into our long-term memory. A knowledge organiser shows linked facts on a single topic.

Knowledge organisers can be used for retrieval practice (practising remembering things). Regular retrieval of knowledge helps us remember more effectively with our long-term memory. Developing our long-term memory is a vital first step. Without knowledge we have nothing to work with, nothing to think about! Retaining knowledge over time is essential.

To help us understand learning better, Gateacre students and staff have created a series of videos that explain how memory works and what we can do to make it stronger. Follow the QR code or the [Learning to Learn](#) link to view them.



## How can you best use your knowledge organiser?

There are many ways you can use a knowledge organiser. The most important thing to say, however, is ‘use it’. Owning one does not make you remember facts... **you must practise** if you are to improve at anything! There will be mistakes – this is how you learn. Ultimately, the best way to remember things is to try and remember facts that you can’t quite remember instantly... practice, practice and practice.

Here are some ways you could try to improve your **long-term memory** – they are all based on making you **think**, getting you to **test your memory**. That way your memory will get stronger:

### Hide and seek

Read through a small section of your knowledge organiser (three or four key words), cover the facts and try to write out as much as you can remember. Check your answers and correct them if needed. Then choose your next words or check ones you have already done again.

### Quiz

Test your memory by asking someone to quiz you on facts from your knowledge organiser. Write down your answers and see how many you get right. Correct any facts you get wrong.

### Teach it!

Teach and explain to someone your key facts – you could even test them!

### Back to front

Write down a fact from memory and then compose a question that would lead to that answer.

### Sketch it

Draw pictures /diagrams to represent each of the facts or dates (time lines, flow diagrams, or labelled pictures are great ways of remembering parts of a system or orders of events).

### Repackage it (from memory)

Create a mind map that brings different facts together under one title. Check that your key words are spelt correctly... or, take a key word and create a sentence that uses it.

Take pride in how you present your work. Each page should be clearly labelled with an underlined date. There should be at least one page of work.

Always check your answers and correct anything you got wrong.... You are allowed to get things wrong... That is how you learn! Getting yourself to think is the key!

Do not just copy a knowledge organiser out – that would not help learning and would only waste your time! Make sure you are having to think!

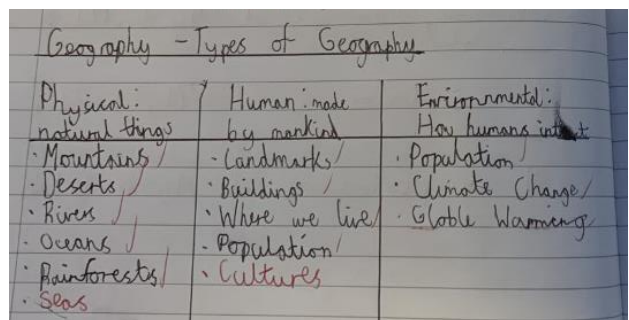
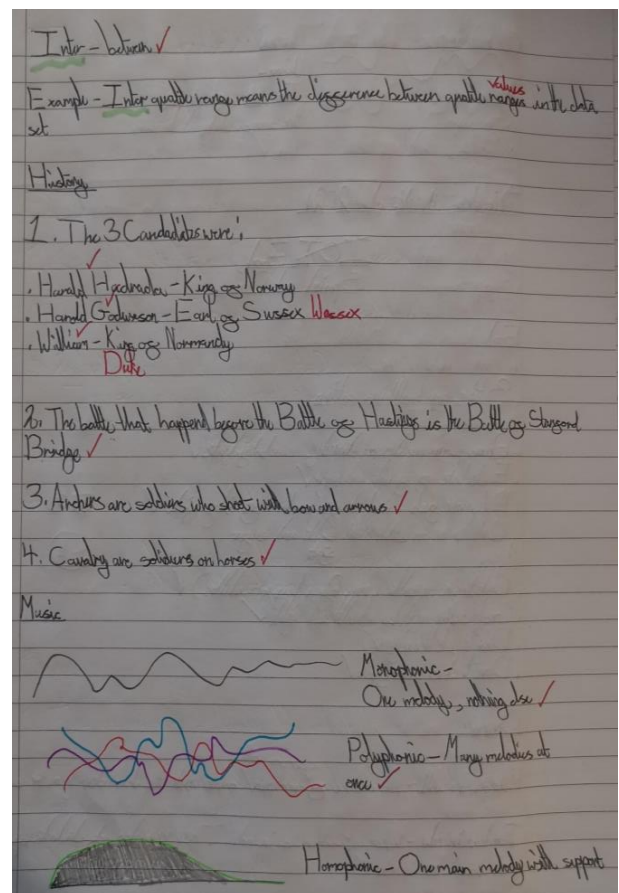
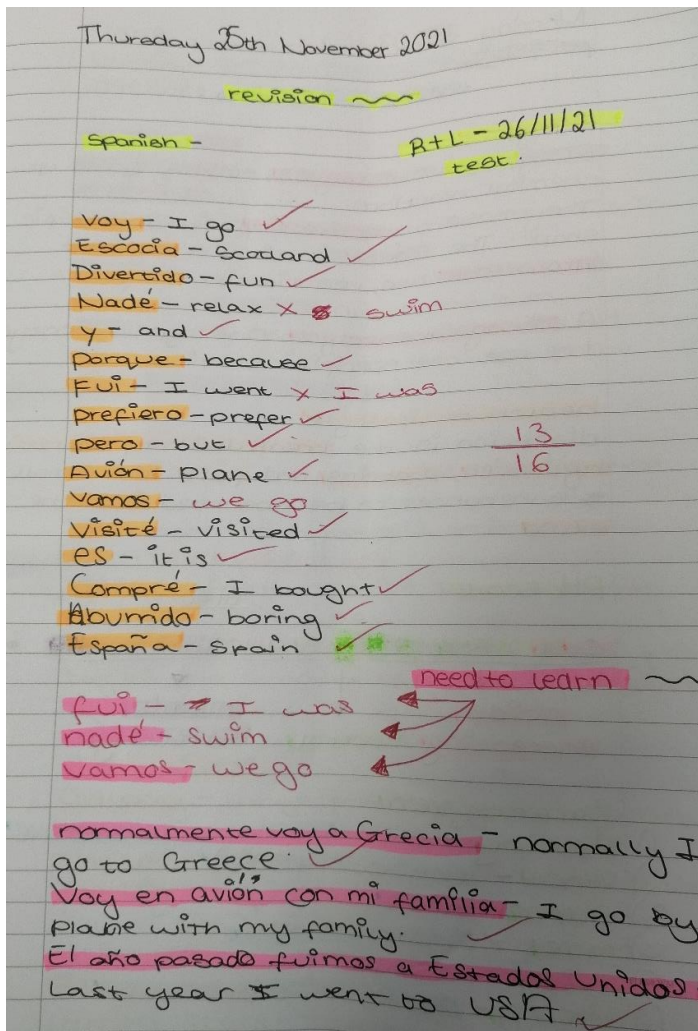


# What does effective home-learning look like?

Here are some essential points to remember and some examples to see.

- Long term memories are created when you have to **think**. Simply copying does not help you remember. Testing yourself will make you **think** and remember
- The process of reflection and self-assessment is important if you are to fix mistakes. Do not worry about getting things wrong as long as you check, fix it and try again

All these learners have **read, thought, tested themselves** and then **checked** their work. They will start to develop long term memory which they can then use in the future.



MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Maths</b> [Hegarty Maths On-Line and Prefixes & Suffixes]	<b>ICT/ Food</b>	<b>English</b> [Supported by Educake Tasks]	<b>Art/Dt</b>	
<b>History</b>	<b>Drama</b>	<b>Geography</b>	<b>Science</b> [Knowledge Organisers]	
<b>Music</b>	<b>Spanish</b>	<b>RS</b>	<b>Active Lifestyles</b>	
← <b>Science: Tassomai On-Line (complete one daily goal each day)</b> →				

Where subjects share a slot it is for you to decide which one you know less about - which one should you revise? You decide which one to do.

Science: Remember, you should do a **Tassomai daily goal each day** to help your science learning.

Literacy: Do take time to engage with the **Listening Project**. Developing our vocabulary is immensely important if we are to develop as learners. The **listening project** is an opportunity to listen to interesting ideas, facts and make our vocabulary better. You can do this short activity at any point within the week.

**Remember, you can always do more. Challenge yourself to be the best you can be!**

# How to use the 'Listen' Project

## Start Here

Being read to is a vital part of learning - hearing words that we are unfamiliar with, ideas that we don't understand yet and thoughts we haven't had a chance to think.

Even simple stories create links from one idea to the next. The fairy tales we heard when we were babies give us the first step to understanding the adventure stories we read in school.

**Take time out and listen...**

**Step 1 - Click the link and listen.**

You can follow the text as you are read to or just listen.



**Step 2 - Check the text.**

Have a look at the texts. There are three pieces of writing.

The first piece may appear to be very simple, maybe even too young for you. These stories are some of the first we hear and often start our journey to understanding more complicated ideas.

The second text may be something you recognise or have read yourself. Is there a link to the first story?

The third is the most complex and may even leave you with a lot of questions.



**Step 3 - What's the connection?**

The final step is to think about what links these texts and stories together?

Where have you thought about these ideas before?

Do you think about any of these ideas in school?

You can go back and listen to the texts being read as many times as you like.



*SCAN ME*



## Gladiators...Ready!

Gladiators were professional fighters in ancient Rome. Their fierce battles—sometimes to the death—thrilled stadium crowds.

Gladiators were usually slaves and criminals. They trained at special schools. They used many kinds of weapons. Some fought with swords, while others used knives or tridents (three-pointed spears). Some had to battle wild animals.

The shows were held in huge arenas called amphitheatres. A fight usually went on until one gladiator was wounded. The crowd then decided whether the loser had fought bravely enough to be allowed to live.

The winner received palm branches and sometimes also money. A champion might be allowed to retire. Sometimes he gained his freedom.

The first known gladiator show in Rome took place in 264 BCE. Some later shows went on for weeks and used thousands of gladiators. Shows were held throughout the Roman Empire.

Gladiator shows gradually became unpopular. The Christian emperor Constantine I outlawed them in 325 CE. But they may have continued for at least 100 years after that.

## Wizard Chess

They were standing on the edge of a huge chessboard, behind the black chessmen, which were taller than they were and carved from what looked like black stone. Facing them, way across the chamber, were the white pieces. Harry, Ron and Hermione shivered slightly—the towering white chessmen had no faces.

‘Now what do we do?’ Harry whispered.

It’s obvious, isn’t it?’ said Ron. ‘We’ve got to play our way across the room.’

Behind the white pieces they could see another door.

‘How?’ said Hermione nervously.

‘I think,’ said Ron ‘We’re going to have to be chessmen.’

He walked up to a black knight and put his hand out to touch the knight’s horse. At once, the stone sprang to life. The horse pawed the ground and the knight turned his helmeted head to look down at Ron.

‘Do we - er - have to join you to get across?’

The black knight nodded. Ron turned to the other two.

This wants thinking about....’ He said. ‘I suppose we’ve got to take the place of three of the black pieces...’

Harry and Hermione stayed quieter, watching Ron think. Finally he said, ‘Now don’t be offended or anything, but neither of you are that good at chess...’

## Fighting for your life!

Sixty seconds. That’s how long we’re required to stand on our metal circles before the sound of a gong releases us. Step off before the minute is up, and land mines blow your legs off. Sixty seconds to take in the ring of tributes all equidistant from the Cornucopia, a giant golden horn shaped like a cone with a curved tail, the mouth of which is at least twenty feet high, spilling over with the things that will give us life here in the arena. Food, containers of water, weapons, medicine, garments, fire starters. Strewn around the Cornucopia are other supplies, their value decreasing the farther they are from the horn. For instance, only a few steps from my feet lies a three-foot square of plastic. Certainly it could be of some use in a downpour. But there in the mouth, I can see a tent pack that would protect from almost any sort of weather. If I had the guts to go in and fight for it against the other twenty-three tributes. Which I have been instructed not to do.

Scan the code  
or follow the  
link to listen



[The 'Listen' Project #1](#)

SCAN ME



## Gladiators...Ready!

**Gladiators**, men and women who fight for others entertainment, appear in many cultures, times and places throughout history. You may have seen the film 'Gladiator' which tries to show an accurate portrayal of ancient Roman life. You may have seen 'Thor: Ragnarok' which shows a form of **Gladiatorial** battle in space!



We often use the term **Gladiator** to refer to someone fighting a battle against the odds or demonstrating great courage.

## Wizard Chess



**Chess** is a board game for two players. It is played in a square board, made of 64 smaller squares, with eight squares on each side. Each player starts with sixteen pieces: eight pawns, two knights, two bishops, two rooks, one queen and one king. The goal of the game is for each player to try and checkmate the king of the opponent. Checkmate is a threat ('check') to the opposing king which no move can stop. It ends the game.

## Fighting for your life!

**The Hunger Games** is a **Dystopian** novel that imagines a cruel and dangerous future. **Dystopian** stories imagine worlds where things have not turned out well and the future does not bring everyone happiness.

The word **Dystopia** comes from the name of a novel that imagines a perfect city called **Utopia**. Can you see how the word has been changed to suggest an opposite meaning to the original?



# Mathematics

You will have two tasks each week.

Task 1 will be done in your Home Learning book, Task 2 will be to log on and complete your Hegarty Maths quiz.

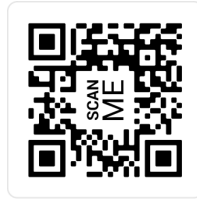
Each Monday your teacher will set you a new Hegarty Maths task.

⇒ Access it on [www.hegartymaths.com](http://www.hegartymaths.com)

⇒ Watch the video, making notes in your book.

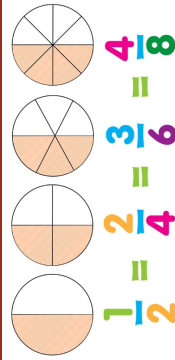
⇒ Complete the quiz.

You can always do some extra MemRi tasks if you have time!



*Hegarty Maths*

Week Beginning	Focus	Video	Task 1
5th September	Key Skill 01	27	Copy Key Skill 01 in your book and try to remember them
12th September	Class Focus		Copy the first Key word and their definition into your book.
19th September	Key Skill 02	33	Copy Key Skill 02 in your book and try to remember them
26th September	Class Focus		Copy the second Key word and their definition into your book
3rd October	Key Skill 03	61	Copy Key Skill 03 in your book and try to remember them
10th October	Class Focus		Copy the third Key word and their definition into your book
17th October	Key Skill 04	66	Copy Key Skill 04 in your book and try to remember them
24th October	Class Focus		Copy the fourth Key word and their definition into your book



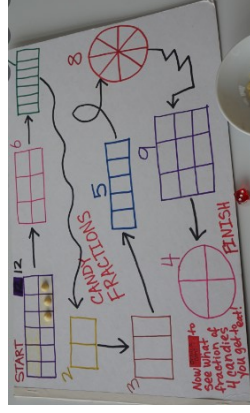
Fractions can be used across many different jobs including accountancy and engineering. Fractions are also used in everyday life, like when you're splitting a bill at a restaurant or in football game to predict who will win the game.

Key Skills Retrieval	Key Skill
<b>Skill 01</b> Identify common factors of two or more numbers	List the factors of both numbers and find any factors that appear in both lists. E.g. What are the common factors of 6 and 10? $6 = 1 \times 2 \times 3$ , $6 = 2 \times 3$ , $10 = 1 \times 2 \times 5$ , $10 = 2 \times 5$
<b>Skill 02</b> Identify common multiples of two or more numbers	List the multiples of each number and find ones that appear in both lists. E.g. What are the common multiples of 6 and 10? $6 = 6, 12, 18, 24, 30, 36, 42, 48, 54, 60$ and $10 = 10, 20, 30, 40, 50, 60$
<b>Skill 03</b> Fully simplify a given fraction	Divide both the numerator and denominator by the same number until you cannot divide it anymore. E.g. $\frac{6}{9} = \frac{2}{3}$
<b>Skill 04</b> Adding and subtracting fractions with different denominators	Use equivalent fractions to get both fractions to have the same denominator, then add or subtract numerators. E.g. $\frac{1}{3} + \frac{2}{4} = \frac{2}{4} + \frac{2 \times 3}{4 \times 3} = \frac{4}{4} + \frac{6}{12} = \frac{10}{12}$

Key Words	Definition
Factor	The factors of a number are all numbers that divide into it exactly.
Multiple	Multiples of a number are found by multiplying that number by a whole number (their times tables) 21 is a multiple of 7 because $7 \times 3 = 21$
Equivalent fraction	Where the same fraction can be shown using different numbers than the ones given $\frac{1}{2} = \frac{5}{10} = \frac{3}{6}$
Denominator	The bottom number of the fraction, represents the total amount of the fraction

### When will I use this?

Factoring is a useful skill in real life. Common applications include: dividing something into equal pieces, exchanging money, comparing prices, understanding time and making calculations during travel.





### What is History?

It is the study of:

- Famous people, such as Winston Churchill, Martin Luther King or Queen Boudicca.
- Famous events such as World War II, the Transatlantic slave trade or women gaining the right to vote.
- Epic eras such as the Roman empire, the Renaissance or the Industrial Revolution.



Well actually, History is all of these things and more. As a society, History is everything we know to have happened in the past. It can be anything at all that has happened in the past, which we can use to make the present, and our future, a better place for all.

### How is History divided into eras?

Periods of time are often given names, depending on the important events that were happening at that particular time. For example, in Europe, the Roman Empire was followed by the Dark Ages and then the Medieval era.

To make things easier, years are counted and names given to different lengths of time.

- 1 decade = 10 years.
- 1 century = 100 years.
- 1 millennium = 1,000 years.

The way we count centuries can be confusing.

If we look at the first two digits of the year 2020 ('20'), we are actually living in the 21<sup>st</sup> century. This is because we count centuries in the same way that we count laps of a track during a race. If you complete 20 laps of a track, when you pass the finishing line you are on your 21<sup>st</sup> lap. So we've done 20 complete centuries and are 20 years into the 21<sup>st</sup> century!

### Sources

A source is evidence which historians use to find out about the past. These sources can be very old and they are how we know what actually happened in the past. Technology has meant that we now know an awful lot about the past, including what life was like in England a very long time ago!

This is a piece of information made at the time.



Examples include:

- Newspapers
- Diaries
- Photographs
- Human remains (bodies)
- Video recording
- Artefacts e.g. coins, weapons.



### Primary sources

This is a piece of information made after the event.



Examples include:

- Textbooks
- Films
- TV shows
- Websites
- Book by an historian
- Interview with a person.

### Secondary sources

### Analysing sources

When we **analyse** a source this means that we have to look at a source in detail and "pick it apart" to see what it can tell us about the past.

These sources can be what we are told by people as well as the primary and secondary sources above. We might know about events because a witness was there and recorded the event.

However, we have to be sure that we trust what a source or a witness tells us. There are a huge number of reasons why people might lie. How much a piece of information or person can be trusted to be true and accurate is known as reliability. So, as historians, we have to ask how trustful we think sources are to make sure we get the right story of events.

If a person has a certain point of view, for example they support a football team, then they may be **biased** when talking about their team. This means they might give an unfair picture of events and we have to figure out what is fact and what is their opinion.

### Analysing sources



## Key Terms

**Century:** A period of 100 years.

**Chronology:** Putting into date order.

**Decade:** A period of 10 years.

**Era:** A range of years in history e.g. The Tudors, 1485-1603.

**Facts:** Something that has been proved to be true.

**Opinions:** A person's point of view.

**Primary sources:** A source from the time of the event e.g. a newspaper from that day.

**Reliable:** When something can be trusted.

**Secondary source:** A source made after the time of an event e.g. a history textbook.

**Witness:** A person who was at an event.

## Tasks

### Task 1

Look at the "What is History" section on the page above. Create a fact file with 10 facts about any important historical person.

### Task 2

Look at the 'How is History divided into eras' section on the page above. Complete the match up of dates and historical eras below (the historical eras are not in the correct order).

<u>Dates</u>	<u>Historical eras</u>
753BC – 476 AD	First World War
410 – 1066	Second World War
1066-1485	Atlantic Slave Trade
1485-1603	Romans
16 <sup>th</sup> -19 <sup>th</sup> century	Tudors
19 <sup>th</sup> century	Industrial Revolution (Victorians)
1914-1918	Middle Ages (Medieval period)
1939-1945	Anglo-Saxons

### Task 3

Look at the 'Analysing sources' section. Create a list of points that could make a source reliable (trustworthy) and a list that may make a source unreliable (untrustworthy).

<u>Reliable</u>	<u>Unreliable</u>
<ul style="list-style-type: none"><li>• Made at the time</li><li>•</li><li>•</li><li>•</li><li>•</li></ul>	<ul style="list-style-type: none"><li>• The author of the source was not there themselves</li><li>•</li><li>•</li><li>•</li></ul>

### Task 4

Using the 'Key Terms' section, write a sentence for each key term which includes an example e.g.:  
*Century: A period of 100 years. The 20<sup>th</sup> century was the year 1900-1999.*

### Task 5

Visit BBC Bitesize by typing in the link below or scanning the QR code. Choose 1 of the 3 games of *History Detectives* to complete. Write a summary of what happened in the game in your home learning book as a record of your game.

<https://www.bbc.co.uk/bitesize/topics/z6wvg316/articles/z2h3vdrn>



SCAN ME

# NOTATION

## RHYTHMS

Symbol	Name	Number of beats	Rest
	Semibreve	4 beats	Hangs from the line
	Minim	2 beats	Sits on the line
	Crotchet	1 beat	Z+C
	Quaver	½ beat each – often grouped in 2s (½ + ½ = 1 beat)	No. 7
	Semiquaver	¼ beat each – often grouped in 4s (¼ + ¼ + ¼ + ¼ = 1 beat)	Double 7

### SPACE NOTES



**TREBLE CLEF** is used for higher notes (right hand).

**STAVE** – the 5 lines that music is written on.

**DOUBLE BARLINE** shows the end of the music.

### LINE NOTES



**BARLINE** – breaks music into bars

### Other key words:

- **Chords:** Notes played together. Normally three notes played in a pattern (**play**, miss, **play**, miss, **play**).
- **Sharp: #** the note immediately to the right (higher). This is normally a black note on the keyboard.
- **Flat: ♭** the note immediately to the left (lower). This is normally a black note on the keyboard.
- **Natural: ♮** back to normal/do not play a sharp or flat. This is always a white note on the keyboard.
- **Scale:** play notes by step (C,D,E,F,G,A,B,C,)

### TASKS:

1. Learn the symbols, number of beats and rests for: **semibreve**, **minim** and **crotchet**.
2. Revise Task1, and learn the symbol, number of beats and rests for **quaver** and **semiquaver**.
3. Learn the **line notes** box, including the word **barline**.
4. Learn the **space notes** box, including the words **stave**, **treble clef** and **double barline**.
5. Learn the **other key words** box.
6. MUSIC SPELLING BEE NOTE GAME – challenge: draw stave and make your own words!



# Year 7 - Food And Nutrition

## Stages of washing up

### Getting Ready

- Collect pans, dishes and cutlery & take to the sink area.
- Scrape left over food into the food waste bin.
- Empty waste liquids down the sink.
- Stack everything neatly.
- Put on rubber gloves, if available.

### Washing and rinsing

- Run hot water into the washing-up bowl, adding a small amount of washing-up liquid.
- Wash up sharp knives first, dry and return. Don't let them drop into the washing-up water.
- Wash everything else up, the cleanest things first - use a dish cloth or washing-up brush.
- Rinse as you go with hot water (or all at once at the end) to remove the bubbles.
- Allow to drain, and make sure bowls, cups, etc. are upside down to allow water to drain off them.
- Empty the washing-up water out and fill again if it starts to look dirty or feels cold.
- Rinse the dirtiest things under a running tap and leave to soak, if necessary.

### Dry and put away

- Dry with a clean tea towel.
- Put everything away in the correct place.
- Pick out any bits of food from the plug hole and put in food waste.
- Wipe the sink and work surfaces with a hot, soapy cloth.



## Preparing for practical work - HATTIE

- H** - Tie your hair back or wear a hat. Wash your hands.
- A** - Put an apron on.
- T** - Clean your table with antibacterial spray.
- T** - Collect a tray to keep all your ingredients together.
- I** - Collect all the ingredients you need.
- E** - Collect equipment you need; prepare any tins/baking sheets (e.g. grease or line).

### Gas cooker

**HOB:** Gas cookers have gas burners. Electrical cookers have hot plates.

**DIALS:** This is what controls the temperature of the hob. These are usually located on the front of the cooker.

**GRILL:** Heat radiated down from the hot wire at the top of the grill.

**OVEN:** The top of the oven is the hottest and the lower part the coolest. Ovens can be pre-heated



### Electrical cooker

## Knife Skills

### Claw Grip



### Bridge Hold



## Safety Rules

- ✓ Always use the bridge or claw technique.
- ✓ Make sure the knife is clean and sharp.
- ✓ Use the correct-sized knife for the food you are cutting.
- ✓ When carrying a knife, carry it by the handle with the point downwards.
- ✓ Do not leave knives in washing-up bowls, and wash knives separately.
- ✓ Do not leave knives on the edge of the table or chopping board.
- ✓ Always cut away from your fingers.

## Weekly Tasks

**Week 1** - Practice Washing up at home.

**Week 2** - Create a poster labelling the safety rules when using knives

**Week 3** - Make a list of safety rules for working in the kitchen

**Week 4** - Find a picture of an oven or draw a picture of a cooker and label the parts

**Week 5** - Create a poster identifying the stages of Hattie

**Week 6** - Create a recipe card for Croque Monsieur - list the ingredients, the method and equipment needed

## Sensory Evaluation

**Crunchy** **Watery** **Sour** **Salty**  
**Golden** **Creamy** **Tasteless**  
**Appetising** **Risen** **Chewy** **Greasy** **Lumpy** **Herby** **Fragrant**  
**Sticky** **Smooth** **Crumbly** **Tender** **Syrupy** **Meaty** **Buttery** **Dry**  
**Crispy** **Slimy** **Bitter** **Fruity** **Powdery** **Acidic** **Stringy**  
**Undercooked** **Spongy** **Doughy** **Sharp** **Thick**  
**Hard** **Shiny** **Goosey**

When you eat food, you are judging the following characteristics  
**Appearance**

**Taste** - what a food product tastes like

**Smell** - Aroma

**Texture** - mouthfeel ( how a food product feels in the mouth)  
 Judging food based on these characteristics is called sensory evaluation.



# Computing Department Knowledge Organiser: Year 7 Online Safety

## Stay safe online:

1. Don't post personal information online.
2. Think carefully about posting any images or videos of yourself.
3. Keep privacy settings as high as possible.
4. Keep your password safe.
5. Don't befriend people you don't know.
6. Don't meet up with people you have met online.
7. Think before you say.
8. Treat others with respect, don't be rude!
9. If you see something which makes you feel unsafe, scared or uncomfortable. Report it.

Who can you report inappropriate content to online?



A strong password should have:

- Letters,
- Capital letters,
- Numbers,
- Symbols,
- 8 or more characters.
- No dictionary words

Key vocab	
<b>File</b>	An object on a computer that stores data, information, settings, or commands used with a computer program.
<b>Folder</b>	A way to organize computer files. A folder is a storage space that many files can be placed into to group them together and organize the computer.
<b>Website links:</b>	
▶ Think you know -	<a href="https://www.thinkuknow.co.uk/">https://www.thinkuknow.co.uk/</a>
▶ CEOP -	<a href="https://ceop.police.uk/">https://ceop.police.uk/</a>
▶ Childline -	<a href="https://www.childline.org.uk/">https://www.childline.org.uk/</a>
<b>E-safety</b>	Maximizing personal safety and security risks to private information and property associated with using the internet
<b>Username</b>	Identification used by a person with access to a computer, network, or online service. (eg. 17B1...)
<b>Password</b>	A secret word, phrase, or string of characters that allows access to a computer, interface, or system.
<b>Private information</b>	Information that can be used to identify, contact or locate a person.
<b>Public information</b>	Information that has been made available for anyone to access.
<b>Inappropriate content</b>	Content that is not suitable for its setting – this could include offensive, illegal or irrelevant images or text.





# Computing Department Knowledge Organiser: Year 7 Online Safety

## What is Online Safety?

This can also be called 'internet safety', 'online safety', 'online safety' or 'e-safety safety'. Online safety is often defined as the safe and responsible use of technology. This includes the use of the internet and also other means of communication using electronic media (e.g. text messages, gaming devices, email etc.)

Issues online	
<b>1. Online activity</b>	Remember that people online may not be who they say they are.
<b>2. How much personal information do you share online?</b>	Don't share personal information online including your full name, photos, addresses, school information, telephone numbers and places you like to spend time.
<b>3. How old is your password?</b>	Change your password regularly, just in case somebody guesses it and begins to access your account.
<b>4. Is your password strong enough</b>	A strong password should contain letters, numbers, symbols and a mixture of uppercase and lowercase letters
<b>5. Sending images and videos online</b>	Be very careful sending Selfies, photos or videos online. Once you have sent a picture or video on the internet, it will always be there for people to see or share.
<b>6. Online friends</b>	If a friend you have made online asks to meet you in the offline world, talk to your parents or a trusted adult about it. You should never meet up with someone you have met online without an adult going with you because it is dangerous.
<b>7. Age restrictions</b>	Did you know it is illegal to have a Social Media account if you are not 13 yet?



# Computing Department Knowledge Organiser: Year 7 Online Safety

## What is Cyberbullying?

Cyberbullying is bullying that takes place using electronic technology. Electronic technology includes devices and equipment such as mobile phones, computers, and tablets as well as communication tools including social networking sites, text messages, chat, and websites. Examples of cyberbullying include mean text messages or emails, rumours sent by email or posted on social networking sites, and embarrassing pictures, videos, websites, or fake profiles.

### 5 steps to take if you're being bullied online

1. **Tell an adult you trust-** Bullying can be hard to talk about but you shouldn't feel that you have to handle it alone. Talk to an adult you trust. This could be your mum or dad, your aunt, a teacher, your Form Tutor, Head of Year or Assistant Head of Year. We will support you and help you to make it stop.
2. **Talk to someone your age.**-Talk to a friend or if you don't want to talk to someone you know, you can post messages and get advice on Childline's website. <https://www.childline.org.uk/>
3. **Block the bullies-** Most websites will let you block people to stop them communicating with you. Find out how on most popular sites
4. **Keep the evidence-**Keep any nasty emails, texts or web pages so you can show someone what's been going on.
5. **Report** mean videos, pictures, comments or pages to the website you've found them on. <https://www.thinkuknow.co.uk/>

## THE 4 P'S

PACE

PITCH

PAUSE

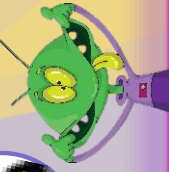
PROJECTION

The next two schemes are:

DraGONS / ALIENS

How to train your dragon

2010



### Our ethos:

#### WE EXPECT THAT YOU:

- Treat other members of your class with respect and care.
- Behave and work in a safe and sensible manner at all times, especially during practical work.
- Complete all work that you are given and hand in homework on time.

#### YOU CAN EXPECT:

- Interesting lessons with opportunities to work in small groups and to perform and *evaluate* the work of yourself and others.
- Opportunities to develop your practical skills, your confidence, your understanding of drama *techniques* and your understanding of the world in which we live.
- To be invited to *participate* in a broad range of extra curricular activities.

Scan this to access K3 BBC Bitsize Drama Portal



Please sketch a 'Theatre in the round' stage

### WATCH LIST FOR THIS TERM (IF YOU CAN):

#### Theatre Etiquette:



What is Theatre? Crash Course Theatre #1

Home 2015 (DreamWorks)

## Health and Safety:

To help keep you safe, there are a number of health and safety rules you must follow when in the drama space:

- Line up quietly and sensibly before entering the room.
- Food, drink and chewing gum is not allowed in the space.
- Sit in the seating plan decided by your teacher. Squares will be used to guide you.
- Electrical/technical equipment must not be touched without permission and supervision.
- You must never be inside the theatre unsupervised.
- Report any accidents to your teacher immediately.
- Keep bags at the side of the room.
- Follow all instructions given to you by your teacher regarding the cleaning of your chair/table/equipment at the start and end of the lesson.
- Avoid shouting.
- Sanitise your hands before the lesson.
- Keep your shoes on.





Just some of the skills you will learn this term!

**New Skill/Technique** **Retrieval**

Knowledge/ skill

Definition

<b>Stimuli</b>	The starting point, idea or inspiration for your devised drama. It is what you base your drama around.
<b>Gesture</b>	In <b>acting gesture</b> is <b>defined</b> as a sign that communicates a character's action, state of mind and relationship with other characters to an audience.
<b>Still Image or Freeze frame</b>	This is where the action freezes as if someone has taken a picture midway through a performance. Conveys meaning and highlights the current scene.
<b>Body as Prop</b>	A genre (type) of drama that tells a story using over exaggerated movement and physicality. Body as Prop Using your body to create props and objects on stage.
<b>Improvisation</b>	A very spontaneous performance without specific or scripted preparation.
<b>Hot seating</b>	A character is questioned by the group about his or her background, behaviour and motivation.
<b>Movement</b>	Where we move to on and around the stage avoiding the blocking another actor.
<b>Physical Theatre</b>	<b>Physical theatre</b> is a well-known genre of theatrical performance that encompasses storytelling primarily through <b>physical</b> movement.
<b>Role Play</b>	Role play is the act of imitating the character and behaviour of someone who is different from yourself.
<b>Monologue</b>	A long speech by one actor in a play
<b>Narration</b>	A commentary delivered to accompany a performance.
<b>Slow Motion</b>	Performing in manner whereby the action appears much slower than in real life.
<b>Teacher in role</b>	The teacher plays a role. They may ask questions of the students, perhaps putting them into role as well.
<b>Role on the wall</b>	A role on the wall diagram is an outline of a person with emotions/context of the character you are exploring written on it.
<b>Status</b>	Refers to the power difference in the relationship between two characters. A character in a high status behaves dominantly towards a character in a lower status.

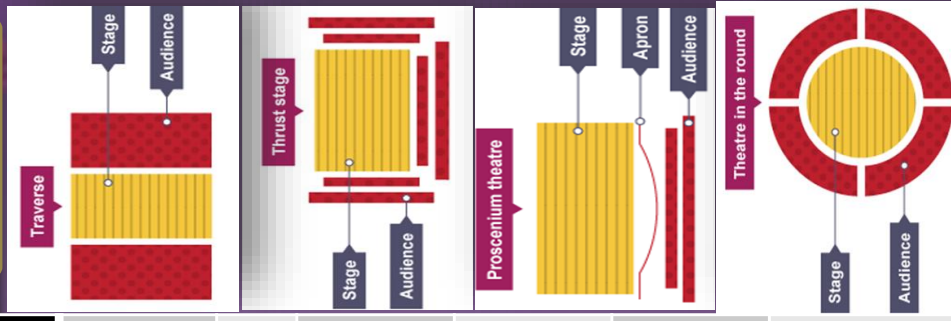
**DO NOT** put your feet up on the chair in front of you



**DO NOT** get out of your seat unless you have asked a member of staff

**Stage Types**

Week	Tasks
<b>Week 1</b>	Create a colourful mind map using the information in the key skills table
<b>Week 2</b>	Sketch out the stage types
<b>Week 3</b>	Draw your own Dragon or Alien – think of costume and colour for your design
<b>Week 4</b>	Write a diary entry about being in the safe zone OR your experience with Aliens
<b>Week 5</b>	Create a mind map of the key skills you have learnt in lesson this week
<b>Week 6</b>	Create a key drama skills quiz for your family and have a quiz night!



**Turn OFF** your phone



**DO NOT** talk/shout whilst watching a performance/show



# THEATRE ETIQUETTE

**DO NOT** leave any rubbish behind





# Spanish - Key verbs and

# vocab

## Key phrases for this half term - All about me

1. **Me llamo Diego** - My name is Diego
2. **Tengo doce años** - I am 12 years old
3. **Mi cumpleaños es el tres de junio** - my birthday is the 3<sup>rd</sup> June
4. **Vivo en Madrid** - I live in Madrid
5. **Soy muy generoso** - I am very generous
6. **Mi madre es simpática** - my mum is nice
7. **Tengo dos hermanos** - I have 2 brothers
8. **Soy hijo único** - I am an only child
9. **Mi familia es bastante grande** - my family is quite big
10. **Me encanta mi familia** - I love my family

Hola, me llamo **Rosa** y tengo **once** años. Mi cumpleaños es el **diez** de **septiembre** y vivo en **Buenos Aires, Argentina**. Soy muy inteligente y simpática pero no soy perezosa. Tengo **un hermano** y **una hermana**. Mi hermana es **generosa** pero mi hermano es **aburrido**. Mi familia **no es grande** pero **me encanta** mi familia.

Para ir más lejos: (To go further...)



Scan this QR code with your phone or tablet. It will take you to BBC Bitesize where you can practice the basic information we've been learning and do a quiz at the end.



Your teacher should have given you your username and password for **Language Nut**. Log in and complete some of the revision games on there. It's great for practising speaking and listening skills!

**Week 1:** Practice key phrases 1-5 - look, cover, write, check, correct x 3. Read the sentences out loud to practice your pronunciation.

**Week 2:** Practice key phrases 6 -10 - look, cover, write, check, correct x3. Read the sentences out loud to practice your pronunciation.

**Week 3:** Translate the paragraph into English.

**Week 4:** Re-write the paragraph replacing the underlined parts with your own information.

**Week 5:** Create a mind map of any key phrases you can remember and then fill it in with red pen using this knowledge organiser.

**Week 6:** Teach it! Create a resource that will help teach others these key phrases. It could be a poster, a PowerPoint

presentation, a leaflet or anything else. If you can, stick it in your home learning book.

**Week 7:** Write a paragraph about yourself **FROM MEMORY!** Then check it over with your red pen. Read it out loud to a member of your family to practice your pronunciation.



## Y7 Autobiography (Life Writing) Knowledge Organiser

### Descriptive devices to use in narrative writing:

- Adjectives:** words that describe nouns
- Imagery:** language that creates pictures in the mind
- Simile:** direct comparison using as or like
- Metaphor:** indirect comparison (object/person represented as something different)
- Personification:** an object is given human qualities
- Verb choices:** actions
- Adverbs:** words that describe verbs
- Show don't tell:** allow the reader to infer information
- Sensory imagery** (use all five senses)



### Sentence structures:

- 2AD** - 2 adjectives before the first noun & two adjectives before the second noun. This creates a clear picture for the reader e.g. *Mr Twit was a dirty, horrible man with long, soggy spaghetti in his beard.*
- 3\_ed** - 3 adjectives that end in -ed and describe emotions. e.g. *Confused, shocked, scared, the children ran from the burning building.*
- Description : Detail** - a compound sentence in which two independent clauses are separated by a colon. The first is descriptive. The second adds further detail e.g. *I was exhausted: I hadn't slept for two days.*

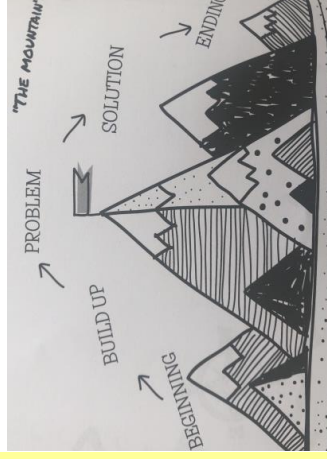
# Autobiography

self → life

printed or written



## Narrative structure: Schema for writing a narrative



A story has five basic, but important, elements:

- 1. Exposition (Beginning):** introduces character and setting
- 2. Rising action (build up):** the plotline is introduced
- 3. Climax (problem):** there is some sort of difficulty or conflict
- 4. Falling action (solution):** how the problem is resolved
- 5. Denouement (ending):** the aftermath

These essential elements keep the story running smoothly and allow the action to develop in a logical way that the reader can follow.

### Vocabulary to learn:

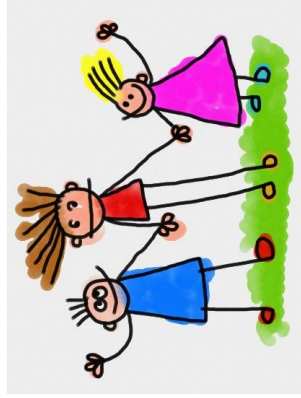
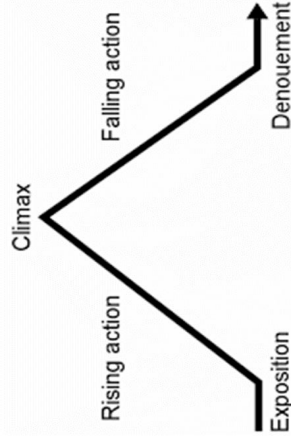
- Anecdote** - short amusing/interesting personal story
- Autobiography** - an account of a person's life written by that person
- Chronology** - arrangement of events in order of occurrence
- Empathy** - the ability to understand and share the feelings of another
- Engage** - interest someone in your writing
- Evocative** - bring strong images, memories, or feelings to mind
- Memoir** - a collection of memories
- Pun** - a humorous play on words
- Recount** - give an account of an event or experience
- Suspense** - feeling of excited or anxious uncertainty
- Sympathy** - feelings of pity and sorrow for someone else's misfortune

Learn the information on the sheet - self quiz to help you retain the knowledge.  
Tick the boxes when you think your knowledge is secure.

Y7

Autobiography  
Home Learning

[Fiction writing - KS3 English - BBC Bitesize](#)

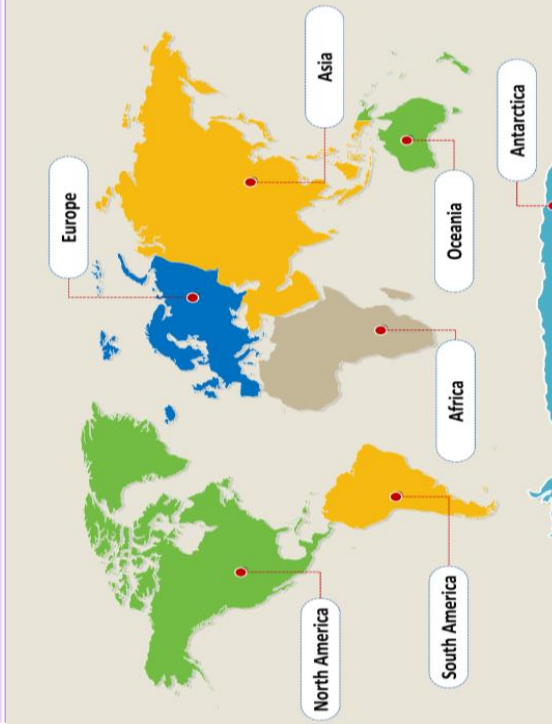


Easy	Hard	Challenging
Create a family mind map	Design a family tree	Write a letter to your family telling them about your week at school.
Try to write three similes to describe family members.	Write a paragraph about your family and include three similes.	Write a poem about family and try to include similes.
Think about an important memory and make a list of the feelings it creates	Describe a time that was important to you.	Write about a time that was important to you and try to have a variety of adjectives.
Create a story plan for your autobiography.	Write the opening to your autobiography.	Write the first page of your autobiography and include a 2ad and 3ad sentence.
Design a front cover for your autobiography.	Design a book cover for your autobiography.	Design a book cover and blurb for your autobiography.



## Continents and oceans

A continent is a large land mass containing different countries. An ocean is a large mass of water unobstructed by continents

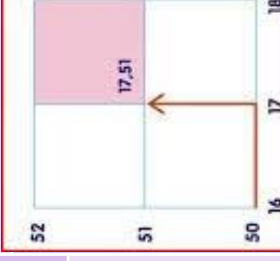


## Types of Geography

Physical: natural things	Human: made by mankind	Environmental: How humans interact
<ul style="list-style-type: none"> <li>Mountains</li> <li>Oceans</li> <li>Rivers</li> <li>Seas</li> <li>Deserts</li> </ul>	<ul style="list-style-type: none"> <li>Cities</li> <li>Population</li> <li>Cultures</li> <li>Where we live</li> </ul>	<ul style="list-style-type: none"> <li>Pollution</li> <li>Climate change</li> <li>Global Warming</li> </ul>

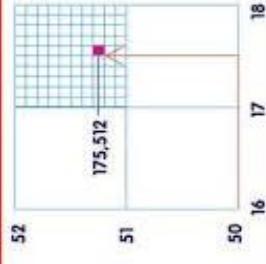
## Grid references

We use 4 figure grid references to help us to locate features on a map. You use them as follows:



**Four-figure grid references**  
Each square has a grid reference which you get by putting together the numbers of the easting and northing that cross in its bottom left hand corner.

**Six-figure grid references**  
In your head, you should be able to divide all sides of the square into ten equal sections. By doing this, you can pinpoint locations within the square – these are called six-figure grid references.

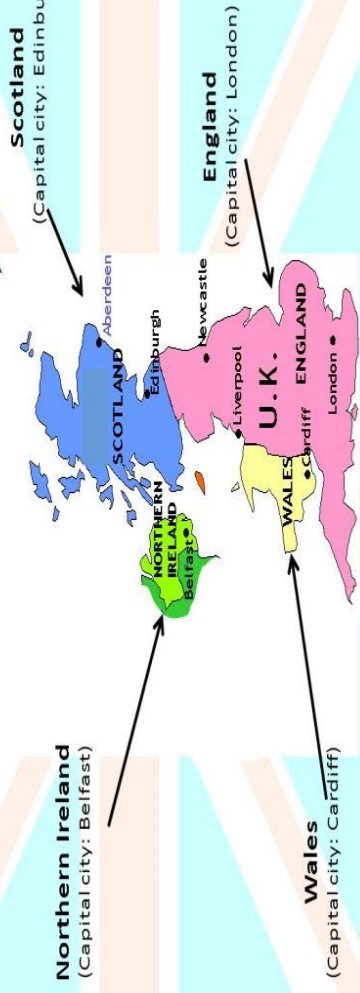


## Geography Exploring My World Year 7

### Tasks- if you complete all 7, revisit some or all from memory

- Task 1: Learn the names of 7 continents and their location.
- Task 2: Learn the definitions for a continent and an ocean.
- Task 3: Know the differences between the United Kingdom, the British Isles and Great Britain by using the map and table.
- Task 4: Using the United Kingdom map revise the location of the countries that are part of it.
- Task 5: Look over the different type of Geography, cover and from memory try to classify under the 3 headings.
- Task 6: Add some more types of Geography to your list from task 5 e.g. earthquakes- physical.-
- Task 7: Look over the information on grid references and then write down the information on grid references and then write down the difference between 4 and 6 figure grid references. Then go to mapzone.com and take part in some of the activities and games to improve your map skills.

## The United Kingdom (Capital city: London)



**British Isles**

England, Wales, Scotland, Northern Ireland, Republic of Ireland.

**United Kingdom**

England, Wales, Scotland, Northern Ireland.

**Great Britain**

England, Wales, Scotland.

# ISLAM

## BACKGROUND

- Islam began in 7<sup>th</sup> century CE when Muhammad met the angel Jibril who gave him a message from Allah.
- Muhammad shared his message and converted the city of Makkah and other parts of Arabia
- The message of Muhammad has spread and worldwide there are currently 1.8 billion followers of Allah.
- Many Muslims face persecution for their faith. They are labelled as terrorists and treated unfairly because they are different



## THE PILLARS OF ISLAM:

**SHAHADAH:**  
The belief that there is one god, Allah, and Muhammad is his prophet

**SALAH:**  
The act of prayer - worshipping Allah

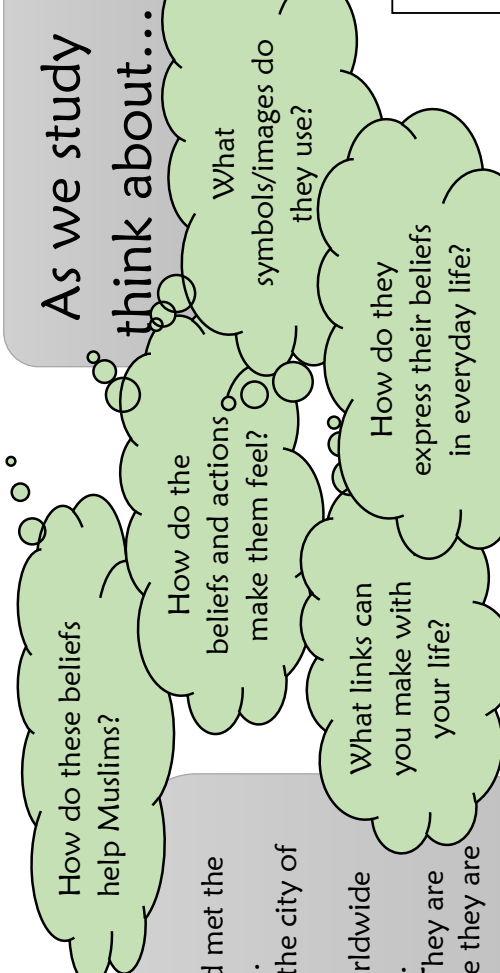
**ZAKAH:**  
The act of giving to charity (e.g. 2.5% of income)

**SAWUM:**  
Fasting during the month of Ramadan

**HAJJ:**  
Making a pilgrimage to Makkah, the holy city

## KEY WORDS:

ISLAM	The name of the religion. It means peace and submission to God	MOSQUE	The Muslim place of worship and community
MUSLIM	The word for a follower of Islam	PILGRIMAGE/HAJJ	A holy journey to an important place
ALLAH	Means 'the God'	FASTING/SAWUM	Giving up food and drink
MUHAMMAD	The most important figure in Islam. He brought the message from Allah	RAMADAN	A month where Muslims fast and pray to show discipline and understanding
PROPHET	A person with a message from God. Muslims believe Muhammad was the most important prophet	MAKKAH/MECCA	The holy city that Muhammad captured for Allah
IDOL	A false god. Muhammad tried to remove these from Makkah	MADINAH/MEDINA	The city where the first mosque was built



SOME TASKS FOR YOU TO COMPLETE

Create key word flash cards or a quiz

Create a symbol for each pillar and key word

Write your answers to 3 reflection questions

Create a flowchart of the life of Muhammad

Draw a mindmap summary of Muslim worship

Investigate Muslim art using the names of Allah

# THE LIFE OF MUHAMMAD

- Muhammad lived in Makkah, a city of drunkenness and idol worship but he was true to Allah.
- He became a prophet of Allah after seeing angel Jibril in a cave
- He was told by the angel to learn and recite Allah's words. He did this and told people to follow Allah's teachings.
- Many believed him and he gathered a group of followers who became Muslims and began a new way of life
- They faced danger and persecution from enemies who didn't like being told what to do and many didn't believe he was a prophet
- In the end he escaped with his followers to set up a mosque in Madinah to be a place of worship, community and safety
- He fought battles to get rid of false idols and to make Makkah a better, more holy city

We should be able to choose who we worship!

Who is he to tell us what to do?

He could be crazy or lying!

## OPINIONS ABOUT THE MESSAGE

His message makes sense and is helping our city

The idols disrespect Allah and lead us to wrong behaviour

Muhammad has given us safety and a community



## Where do they worship? IN THE MOSQUE:

- Muslims are called to prayer 5 times a day. They pray wherever they are either at home, at work or in the mosque. The call to prayer is sung by a *muezzin* from the *minaret*
- When they enter the mosque Muslims perform *wudu*. This is a ritual of washing so they are clean to worship. They also remove their shoes.
- The mosque has separate spaces for men and women to pray but they will all face Makkah
- The direction of Makkah is shown by the *mihrab*
- The leader of the mosque is called an *Imam*.
- Most mosques also have a *madrasah* for teaching the children of the community about Islam

## WHO IS ALLAH?

Muslims have 99 names for Allah including:

The	The	The All-	The	Creator
Provider	Merciful	Seeing		
of Peace				

Muslims will not draw Allah or Muhammad or have images of people in their mosques. They believe this is idolatry (making false gods)







# ART KNOWLEDGE ORGANISER

YEAR 7  
Term 1-Pop Art  
project

Topic: Pop Art (responding to the theme of Coca Cola bottles/cans)

### History/Context:

Pop art, or popular art, was an art movement of the 1950s and 60s in America and Europe. It made use of popular imagery, such as comics, films, advertising and household objects.

Pop Art is characterized by bright colours such as red, blue and yellow, as well as images of celebrities or fictional characters from TV or comics, particularly in Roy Lichtenstein's body of work.

Some of the most famous pop artists included Richard Hamilton, David Hockney and Jasper Johns. Another well known pop artist was Peter Blake who designed one of the Beatles' album covers.

Andy Warhol was the most famous pop artist. His work consisted of prints using repeated images of familiar images from everyday life, including banknotes, soup tins and Marilyn Monroe.

Another well known pop artist was Roy Lichtenstein. His paintings and prints looked just like comic strips, including his most well known work entitled *Whaam!*

Some pop art works are among the most expensive paintings ever sold. In 2010 a painting of the American flag by Jasper Johns sold for about £70 million.

London's Tate Gallery is one of the best places to see pop art, along with New York's Museum of Modern Art.

Pop art is one of the most instantly recognisable forms of art. The Pop art movement aimed to show the idea that art can draw from any source.

### Home Learning tasks:

**Week 1:** Practice key literacy vocab 1-5 – look, cover, write, check, correct x 3. Read the sentences again and check for understanding.

**Week 2:** Practice key phrases 6 -10 - look, cover, write, check, correct x3. Read the sentences again and check for understanding.

**Week 3:** Create an artistic mind map and add as many words as you can about the Pop-Art movement. Add your key literacy words and maybe some small drawings. Look for about 30 words on the page!

**Week 4:** Research the work of Roy Lichtenstein, try to find out a little bit about how he created his work, what inspired him and pick out one of your favourite drawings of his and write about what you like about the piece and why.

**Week 5:** Create a page of pop-art patterns inspired by the work of different pop-artists. The images below may help you.

**Week 6:** Research the work of Andy Warhol, try to find out a bit about how he created his work and what inspired him. Pick a selection of his work and produce a drawing of your favourite one.

**Week 7:** Create your own Andy Warhol inspired piece of work at home using an everyday object. This could be a food can, a drinks bottle or even a favourite item of clothing!

### Key Literacy Vocabulary:

**Post war** – After the war.

**Consumerism** – Practice of buying products – culture that values buying products.

**Mass Production** – Manufacturing of the same product / identical products being produced quickly.

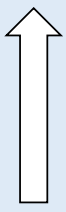
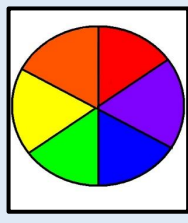
**Marketing** – More need to advertise – industry ads took off.

**Mass media** – Influence, 1950 more common for TV to be in every home in America.

**Popular Culture** - Popular culture can be understood as a set of cultural products, practices, beliefs, and objects which dominates society and influences them.

**Celebrity** – TV creating icons – eg: Marilyn Monroe.

**Colour Wheel** - Shows the relationships between primary colours and secondary colours.



**Comic Strips** – A sequence of drawings in boxes that tell an amusing story, typically printed in a newspaper or comic book.

**Irony and satire** - Humor was one of the main components of Pop art.

Week 3 (Mind Map Piece)



Use these examples as inspiration

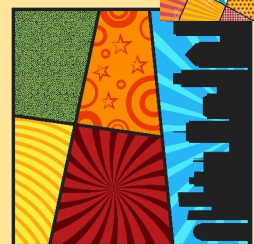


Week 4 (Artist Research)



You can find out some more about Roy Lichtenstein on this website.

Week 5 (Pop-Art Patterns)



To help you with your designs



Week 6 (Artist Research)



You can find out some more about Andy Warhol on this website.

Week 7 (Andy Warhol)



Use this link to help you get started.



# DESIGN TECHNOLOGY KNOWLEDGE ORGANISER

YEAR 7 DT

## Topic: Keeping your desk tidy

### My Tool Box



**Tenon Saw** – Used to cut straight lines in wood.



**Coping Saw** – Used to cut curves and internal shapes in wood.



**Try Square** – Used to mark out right angles.



**Hand Vice** – Allows secure clamping of material for drilling.



**Laser-cutter**- Used to laser-cut and engrave material.



**Line Bender** - Used to bend thermo-plastics like acrylic.



**Pillar/Bench Drill** – Used to drill holes into different materials.



**Machine vice** – Used to hold workpiece securely during drilling.



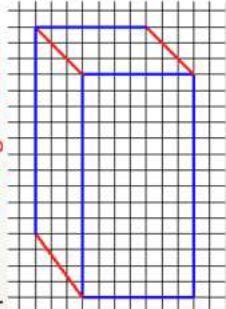
**Belt Sander** – Used to sand/smooth down different materials

### Focused Topics



### Oblique drawing

In oblique projection the drawing is made up of a series of parallel horizontal and vertical lines and parallel 45 degree lines.



### Polymers

#### THERMOPLASTICS



(Can be melted repeatedly)

#### THERMOSETS



(Once shaped, cannot be melted)

### Key Terms

**Aesthetics** - how humans perceive and judge objects according to their attractiveness

**Computer aided design (CAD)**-The process of creating a 2D or 3D design using computer software.

**Computer aided manufacture (CAM)**-The manufacture of a part or product from a computer aided design (CAD) using computer-controlled machinery, such as a 3D printer or laser cutter.

**Drilling**- the action of making a hole in something by boring with a drill.

**Laser cutting**- a technology that uses a laser to cut materials

**Line-bending**- a process used to bend thermoplastics in a straight line.

### Tasks

**Task 1:** Learn the tool names and their use.

**Task 2:** Learn the key words and the definition.

**Task 3:** Create 6 questions that can be answered from the information in the focused topic column.

**Task 4:** Draw two tools and write what they are for.

**Task 5:** Create a quiz based on task 1, 2 or 3. Get someone to test you.

**Task 6:** Create a mind map for the information you remember and red pen anything you've forgotten.

**Task 7:** Teach it. Create a task that can be used to teach some of the information from here.

To go further:  
Introduction to oblique sketches:



More information about polymers:



### Week One

Read your knowledge organiser focusing on **Developing the Gateacre Scientist** for 5 minutes. Then turn the organiser over and write a short summary of the topic.

The summary should include:

1. No more than 40 words
2. And should be written in full sentences.

### Week Two

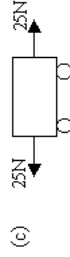
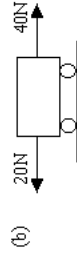
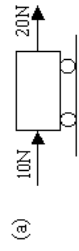
Have someone read out the 7 types of force from the knowledge organiser that you have to spell.

1. Define the term 'contact force'
2. Give 4 examples of contact forces
3. Define the term 'non-contact force'
4. Give 3 examples of non-contact forces
5. What is the unit of measurement of forces?

### Week Three

1. Describe what a free body diagram shows
- 2.. Draw a free body diagram to show the forces acting on a bottle on a table

3. Calculate the resultant force in these situations and describe the motion of the object.



### Week Four

Pick 4 key words from the knowledge organiser page title **Forces**. Using those 4 key words make as many links between the words as you can.

Remember to include:

1. The 4 key words you have chosen
2. The links you have made between the words, these should be written along the arrow that connects them.

### Week Five

Read your knowledge organiser focusing on **The Particle Model** for 5 minutes. Then turn the organiser over and write a short summary of the topic.

The summary should include:

1. No more than 40 words
2. And should be written in full sentences.

### Week Six

Using your Home Learning book, make a quiz containing at least 10 questions from the topics **forces** and **the Particle Model**

Remember to include:

1. Answers to each question written in full sentences,
2. A variation in the type of question, Draw/state/explain etc.



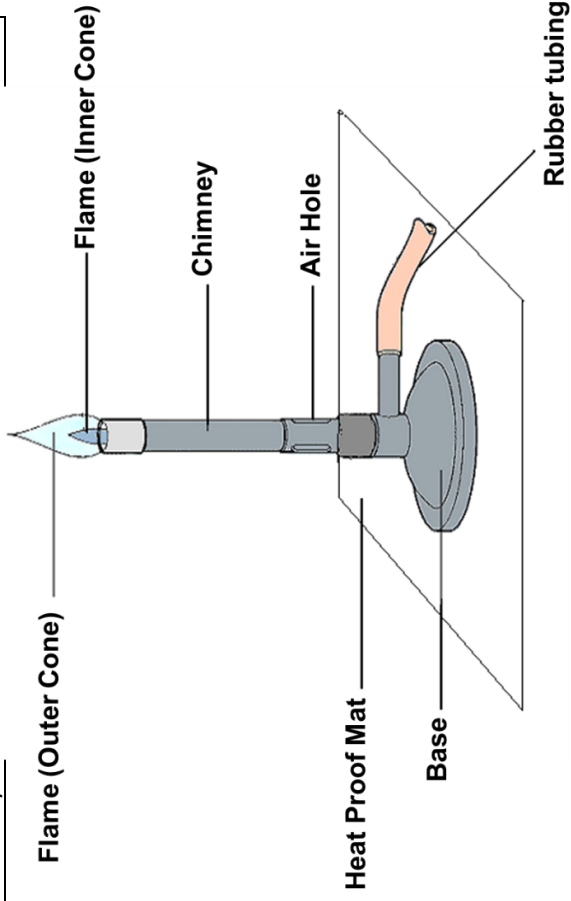
# Have you completed your 4 daily goals?

Home learning tips:

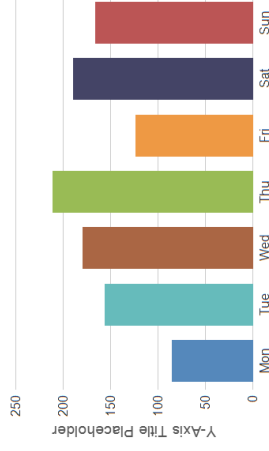
1. Answer any questions in full sentences.
2. Take your time reading through your knowledge organiser.
3. Read the task twice.
4. Ask your teacher in your next lesson if you are unsure about anything.
5. Not sure which week to do? Ask your teacher!

# Y7 Developing the Gateacre Scientist Knowledge Organiser

Key Term	Definition
Bunsen	A tool used to provide a heat source
Variable	Things that can change
Independent Variable	The variable that you change
Dependent Variable	The variable that you measure
Control Variable	The variables that you keep constant
Categoric Variable	A variable with no in-between options
Continuous Variable	A variable that can have decimal results
Range	The smallest to the largest value
Precision	The smallest change that can be measured
Anomaly	A result that doesn't fit the pattern
Reliability	A measure of the accuracy of your experiment
Proportionality	One factor in an experiment affects another
Directly Proportional	Both factors will increase by the same proportion
Inversely Proportional	One factor will increase as the other decreases

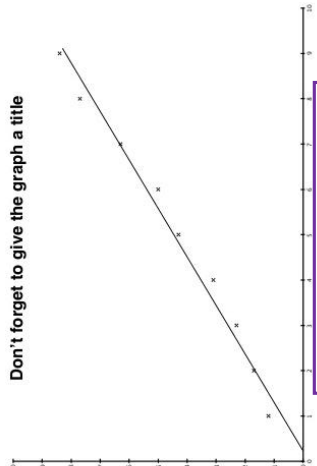


Multi-Color Bar Chart



**Bar chart - categoric data (colours, names, qualitative)**

**Dependent variable**



Don't forget to give the graph a title

**Line graph - continuous data (height, weight, numbers, quantitative)**

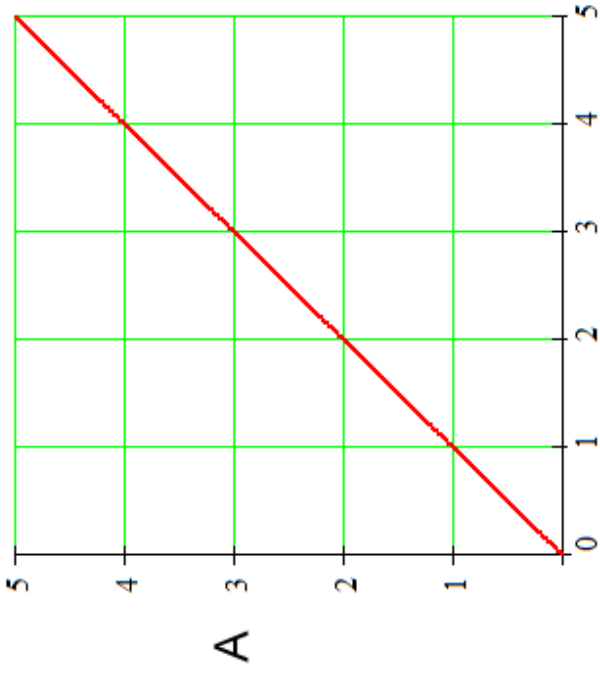
**Independent variable**

Bunsen burners are a useful tool in Science, however they can be very dangerous. It's important that you wear safety glasses, keep hair tied back and always use a heat proof mat.

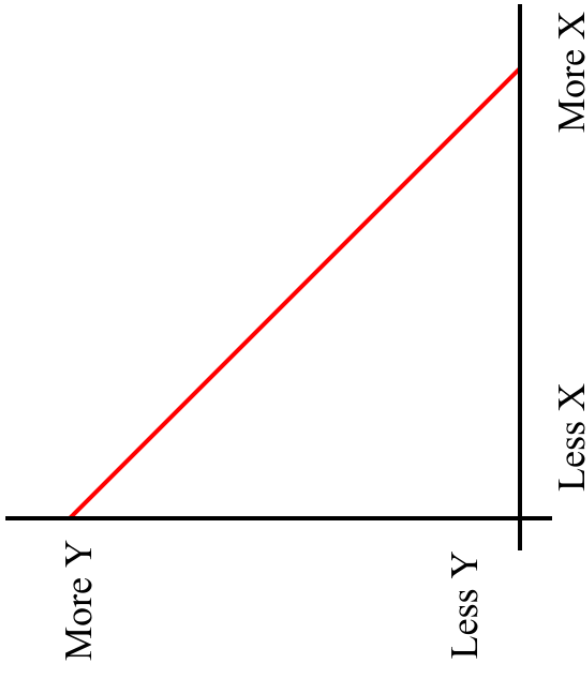
Type of Flame	Air hole open	Air hole half-open	Air hole closed
Roaring Flame	Blue Flame	Safety Flame	
When do we need to use this flame?	To heat things fast	To heat things slowly	When we are not using the Bunsen but want to keep it on.



Directly Proportional



Inversely Proportional



**Science practical checklist:**

- ✓ Hypothesis (What do you think will happen)
- ✓ Clear method (Step by step, bullet pointed)
- ✓ Results table (With units and labels for the headers)
- ✓ Results recorded to the correct precision
- ✓ Graph constructed (Labelled axis, with units)
- ✓ Conclusion written (**HYPE** – Hypothesis proven? Pattern stated with supporting Evidence?)

Ball	Bounce /cm	Bounce 2 /cm	Bounce 3/cm	Average/cm
A	2	2	2	2
B	3	4	5	4
C	6	6	6	6
D	7	7	1	7
E	10	10	10	10

When calculating the mean, add your results up and divide by the number you've got. **REMEMBER** - if you have an anomalous result, don't include it!

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

- Understand that forces are pushes and pulls, arising from the interaction between two objects
- Identify forces associated with deforming objects; squashing & stretching, friction between surfaces, pushing things out of the way and air/water resistance
- Describe and apply Hooke's Law; the force-extension linear relationship
- Understand and describe non-contact forces; gravity forces acting at a distance, forces between magnets and static charges
- Understand and describe opposing forces and equilibrium; weight held by a stretched spring or supported on a compressed surface
- Calculate resultant force needed to make an object change speed and/or direction
- Use force arrows in one dimensional diagrams to show balanced and unbalanced forces
- Measure forces in newtons, and measure extension or compression of an object in m

### 4. Weight

**Weight** is the force that acts on an object's mass due to gravity. It is measured in **Newtons (N)**

**Mass** is a measure of how difficult it is to change the motion of an object. It is measured in **kilograms (kg)**

Weight can be calculated using the equation:

$$W = m \times g$$

**W** – Weight (N)

**m** – mass (kg)

**g** – gravitational field strength (N/kg)

The gravitational field strength of the Earth is 9.81 N/kg

### 1. Forces Intro

Forces are **pushes or pulls**, arising from the **interaction** between two objects.

Forces are measured with a **newton meter** in the unit, **Newtons (N)**

**Forces can either be:**

- Contact forces** – the two objects need to be touching for the force to be exhibited
- Non-contact forces** – the force is exhibited between two objects when they are not touching

Normal contact force	Contact
Tension force	Contact
Friction	Contact
Air Resistance	Contact
Weight	Non-contact
Magnetism	Non-contact
Electrostatics	Non-contact

### 5. Drag & Friction

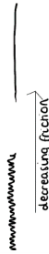
**Drag** forces occur as an object moves through **fluids** (liquids and gases), pushing **particles** out of the way. **Air and water resistance** are examples of drag forces.

Making the object more **streamlined** (less surface area in contact with the force) **decreases** the effect of drag forces



**Friction** is the force acting between two surfaces in contact with each other.

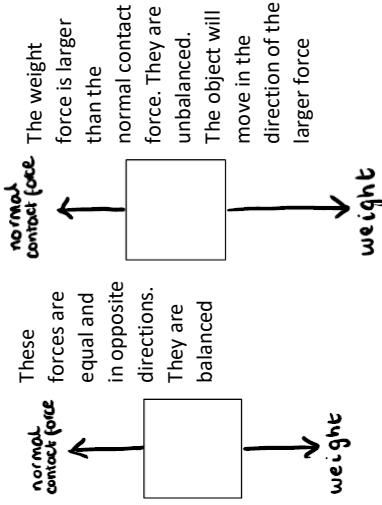
Friction **increases** with the **roughness** of the surface



### 2. Free Body Diagrams

**Free body diagrams** model the forces acting on an object

The **arrows** show the **direction** that the force is acting in and the relative **size** of the force in comparison to the other forces on the object



### 6. Hooke's Law

Hooke's law states that the force applied to a spring is **directly proportional** to the extension, up to a point

The graph can be used to predict the extension of a force applied, by reading from the line of best fit

The relationship can be represented by the equation:

$$F = k \times e$$

**F** – Force (N)

**k** – spring constant (N/m) – measure of the stiffness of the spring

**e** – extension (m)

To see **worked examples of the equation being used**



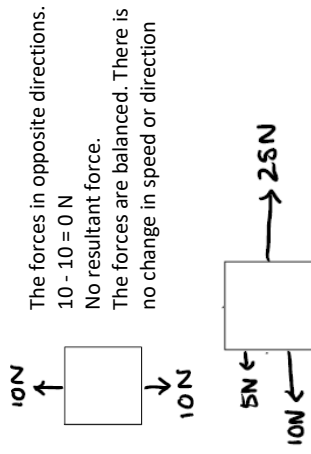
SCAN ME

### 3. Resultant Force

All the forces acting on an object can be replaced with one **resultant force**

Forces acting in the **same direction** must be **added** together

Forces acting in **opposite directions** are **subtracted**

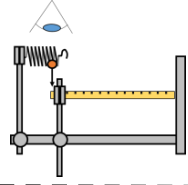


The forces on the left are acting in the same direction.  $5 + 10 = 15 \text{ N}$

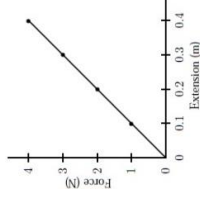
They are acting in opposite directions to the force on the right.  $25 - 15 = 10 \text{ N}$  resultant force

### 7. Squashing and Stretching

1. Clamp the ruler so 0 cm is level with the fiducial marker
2. Add 100 g mass
3. Record the extension of the spring by reading where the fiducial marker points to on the ruler
4. Repeat adding another 100 g mass each time



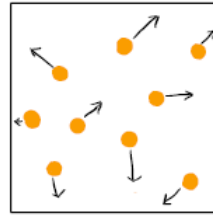
Plot a graph of **force** added (N) – 100g is roughly equal to 1N – on the **y axis** and **extension** of the spring (m) on the **x axis**



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

- Draw particle diagrams for the 3 states of matter
- Describe the changes of state between the 3 states of matter
- Describe changes of state as reversible reactions
- Compare the arrangement and movement of particles in the 3 states of matter
- Describe the properties of substances in the 3 states of matter
- Define diffusion and explain factors that increase the rate
- Describe the cause of gas pressure and explain factors that increase it
- Plot and interpret heating/cooling curves
- Use melting and boiling point data to identify the state of a substance at a certain temperature
- Describe the Brownian motion of gases

### 4. Gas Pressure



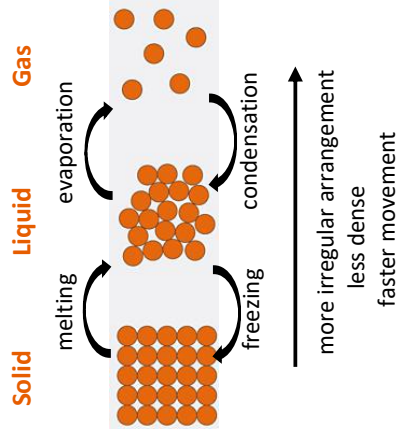
Gas **pressure** is caused by the force of fast-moving gas particles colliding with the walls of their container

#### Factors increasing gas pressure:

- Increase temperature
- Decrease volume
- Increase concentration

## 7.2 – Particles & Their Behaviour

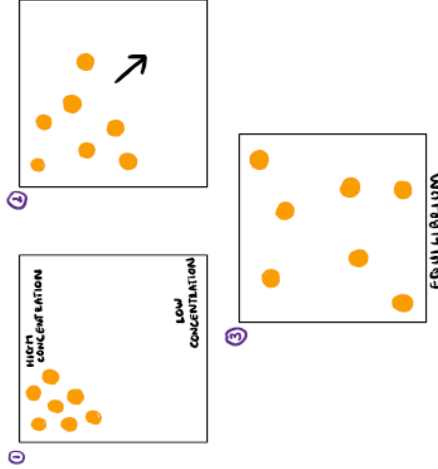
### 1. The Particle Model



Property	Solid	Liquid	Gas
Fixed shape	✓		
Compressible			✓
Take shape of container		✓	✓
Fill container			✓

### 5. Diffusion

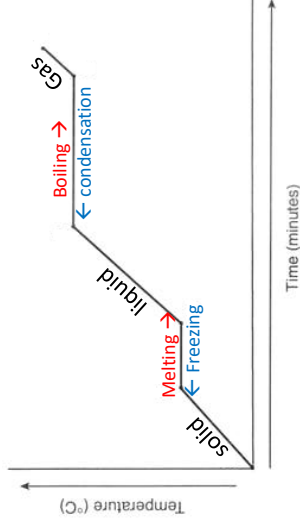
Occurs in fluids (liquids and gases)



#### Factors increasing the rate of diffusion:

- Increase temperature
- Increase the concentration gradient

### 2. Heating Curves



Key	Horizontal line	Diagonal line
• Denotes the melting and boiling points		
• Temperature does not increase as the time heating does, as the additional energy is used to overcome forces between particles and change state		
• As the time spent heating increases, so does the temperature		

### 6. Brownian Motion

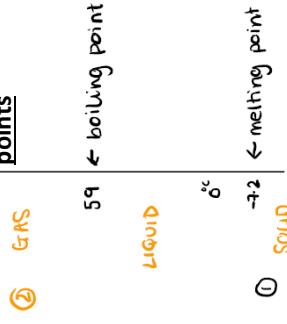
Gas particles move very quickly and in random directions. They collide with each other and other particles often, and when they do - this causes them to change direction

**Brownian motion** is the random movement of particles suspended in a **fluid**. It can be visualised using a large visible particle e.g. soot



SCAN ME

### 3. Interpreting Melting and Boiling points



**Example:** What state is bromine at 25°C?

Mpt = -7.2°C      Bpt = 59°C

1. Draw a number line and plot the melting and boiling points.
2. Mark on the states of matter:  
**Solid** – below melting point  
**Gas** – above boiling point  
**Liquid** – between melting and boiling point
3. Where does the temperature in the question fit onto the number line?  
**Bromine is a liquid at 25°C**

### 7. Density

The density of a substance is its mass per unit of volume

**It is calculated using the equation:**

$$\text{Density (kg/m}^3\text{)} = \frac{\text{mass (kg)}}{\text{Volume (m}^3\text{)}}$$

The **mass** of the substance/object is measured using a scientific balance

The **volume** of a cuboid is calculated using the equation:

$$\text{Volume} = \text{width} \times \text{length} \times \text{height}$$

These components of fitness will be tested within your next lessons

## Fitness Testing

Feel free to YouTube the tests and practice them in your own time

Component of fitness	Test to perform
<b><u>Speed</u></b>	30m speed test
<b><u>Strength</u></b>	Handgrip Dynamometer
<b><u>Agility</u></b>	Illinois agility test
<b><u>Muscular endurance</u></b>	30 second sit up test

Component of fitness	Test to perform
<b><u>Cardiovascular endurance</u></b>	Bleep test/Cooper run
<b><u>Balance</u></b>	Standing stalk test
<b><u>Power</u></b>	Standing long jump
<b><u>Reaction time</u></b>	Ruler drop

### Task 1

Give a sporting example for each component of fitness.

For example. Speed is needed for a defender in football when chasing down an attacker who is through on goal.

Another example. Balance is needed for a diver on the edge of the diving platform.

### Task 4

Why is it important for athletes to have components of fitness when performing in sport?



Scan to view the 100m world record race.

### Task 2

Answer the following questions:

- 1) When would a basketballer need agility in a match?
- 2) Why would a 100m sprinter need good reaction time?
- 3) True or False. Cardiovascular endurance is essential for long distance cyclists.

### Task 3

Write out all the fitness tests in your book and without looking match up each component of fitness to the tests

PERFECT  
PRACTICE  
MAKES  
PERFECT



Learning to Learn



The 'Listen' Project #1