KNOWLEDGE ORGANISER

YEAR 7 – TERM 3

THOMAS HALL SCHOOL

Think Like An
Environmentalist

Community, Collaboration and Challenge

ATTENDANCE MATTERS

EVERY DAY COUNTS
Missing just 1 day every 2 weeks is the same as missing 10% of the school year.

LEARNING
Being in school allows you the best opportunity to learn.

WELLBEING
Attending school supports your mental and emotional health.

FUTURE SUCCESS
Regular attendonce at school is vitol for building the key skills needed for future employment

EQUIPMENT

SCHOOL DAY

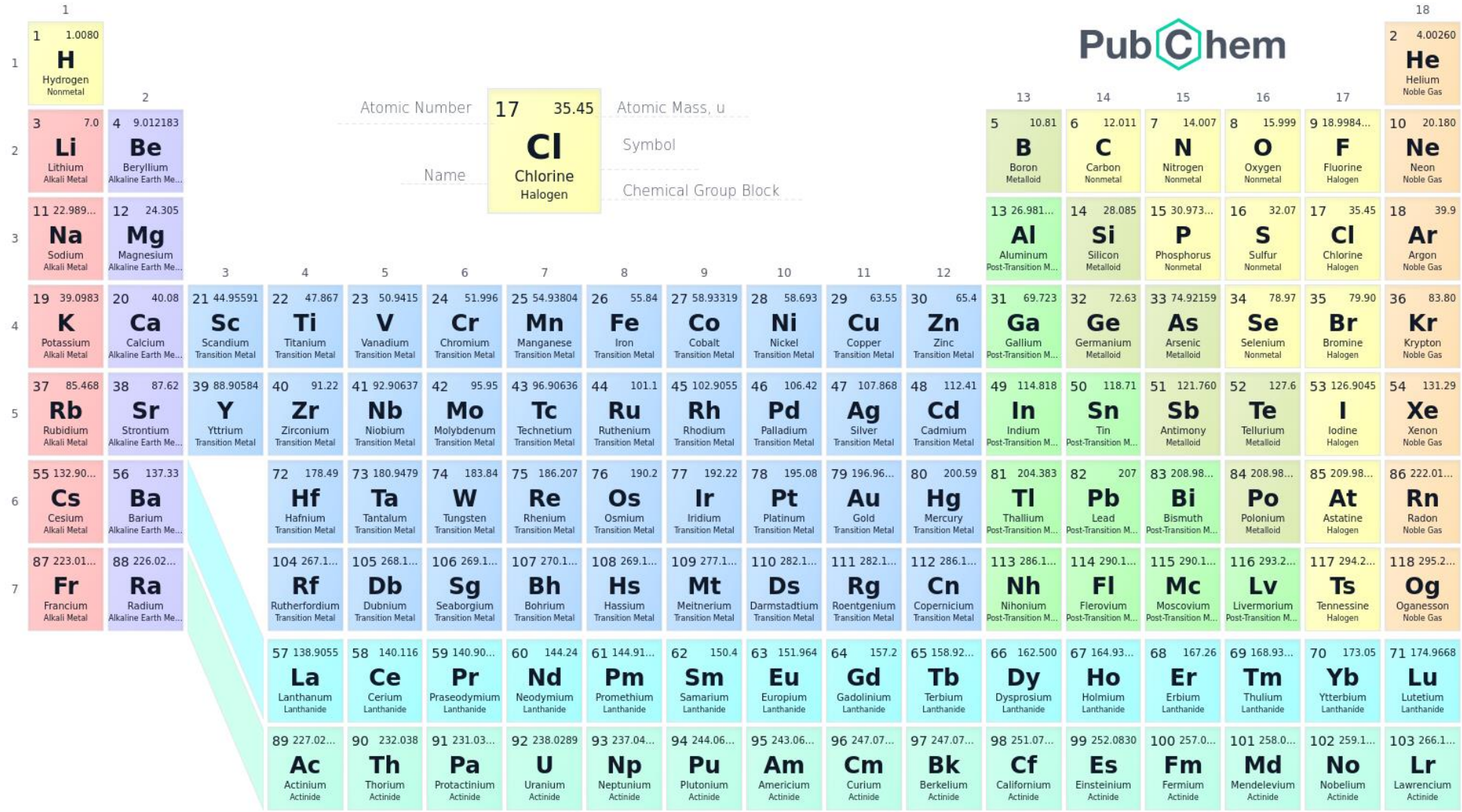
9:00–9:05	AM Reg
9:05–10:20	Lesson 1
10:20–11:35	Lesson 2
11:35–12:05	Break 1
12:05–13:20	Lesson 3
13:20–13:50	Break 2
13:50–15:05	Lesson 4
15:05–15:30	PM Reg – assembly or guided reading

Multiplication Grid

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

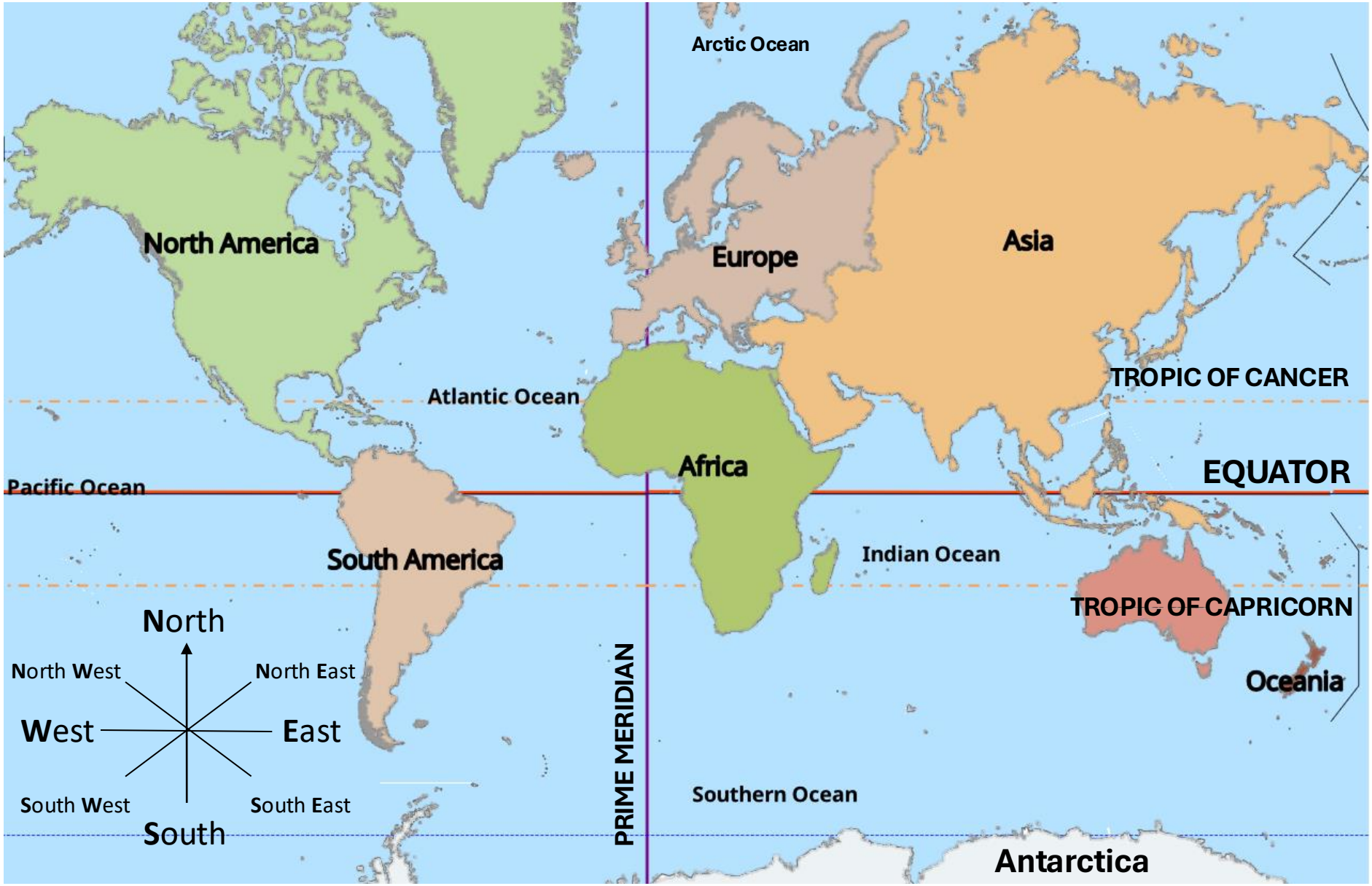
PERIODIC TABLE OF ELEMENTS

Chemical Group Block




01 Adjectives
THAT DESCRIBE:
age: young, old
colour: red, blue
condition: new, used
size: large, medium
speed: fast, slow
etc.
COMPARATIVE:
smaller, better...
SUPERLATIVE:
the smallest,
the worst,
the best...
02 Adverbs
PLACE:
here, there,
outside, everywhere,
upstairs, nowhere,
somewhere....
TIME:
ago, before, since,
yet, for, still,
afterwards...
FREQUENCY:
often, never,
sometimes, always
MANNER:
just, quite,
quickly, hardly,
well, carefully,
barely, almost,
scarcely,
beautifully...
03 Conjunctions
COORDINATING:
and, or, but,
yet, nor, for, so
CORRELATIVE:
both... and...,
either... or...,
just as... so...,
whether... or...,
neither... nor...,
not only... but also...
SUBORDINATING:
after, since, if,
while, although,
before, because,
unless
04 Determiners
TELLS US WHICH:
each, every,
some, none,
all...
TELLS US WHOSE:
my, your, her, his, its,
our, your, their (= possessive
adjectives or determiners)
05 Nouns
COMMON NOUNS: house, dog, laptop...
PROPER NOUNS:
(Capitalised)
London, Paris,
James, William,
Julia, Jennifer...
> VERBAL:
swimming...
> COLLECTIVE:
choir, jury...
> COMPOUND:
mother-in-law...
> COUNTABLE:
book, day...
> UNCOUNTABLE:
traffic, calm...
> ABSTRACT V. CONCRETE:
wit vs. road...
06 Prepositions
PLACE / DIRECTION:
in, at, on,
under, above,
across,
among,
between...
TIME:
in, at, on,
over, until, about,
during, before,
after, while,
through...
OTHER (agent,
phrase...):
by, with, on, over,
to, up, within,
beyond, for...
07 Pronouns
PERSONAL
(subject):
I, you, he, she, it,
we,
you, they
PERSONAL
(reflexive):
myself, yourself,
himself, herself,
itself, ourselves,
yourselves,
themselves
DEMONSTRATIVE:
this, these,
that, those
PERSONAL
(object):
me, you, him, her,
it, us, you, them
POSSESSIVE:
mine, yours, his,
hers, its, ours,
yours, theirs
INTERROGATIVE:
how, where,
when, which...?
INDEFINITE:
somebody,
anyone...
RELATIVE:
that, which,
whose, whom...
08 Verbs
ACTION:
to run, to organise,
to read, to think...
> Transitive
or
> Intransitive
LINKING:
to be,
to look, to appear,
to seem, to smell...
HELPING
(= AUXILIARY):
can, may,
will, must,
should, to be,
to have...
Word Classes

World Map


Arctic Ocean
North America
Europe
Asia
Atlantic Ocean
TROPIC OF CANCER
Africa
EQUATOR
Pacific Ocean
South America
Indian Ocean
TROPIC OF CAPRICORN
Oceania
North
North West
North East
West
East
South West
South East
South
PRIME MERIDIAN
Southern Ocean
Antarctica

Art

Year 7 Starry Night

Art

Term 3

Exploring Expression Through Van Gogh's *Starry Night*
Focus Artist: Vincent van Gogh
Life, work, legacy, time.

Activities:

- Sketch thumbnails of potential night scenes
- Select one to develop into a full composition
- Include sky, landscape elements, and swirling sky forms

Homework: write about Vincent Van Goghs
Resources: Sketchbooks, pencils, composition guides

Van Gogh-Inspired Landscape
Create your own version of *Starry Night* using water colours or acrylics. Focus on swirling skies and expressive colours. Master Impressionistic painting techniques

Focus: Begin creating final piece using learned techniques
Activities:

- Students transfer their sketch to final paper
- Begin coloring /painting using Van Gogh techniques
- Teacher provides feedback and support individually

Homework: Continue at home if needed
Resources: Acrylics or oil pastels, brushes, A3 paper

Key Vocabulary: Hue Saturation Value Primary, Secondary, Tertiary Warm/Cool Complementary/AnalogT int/Tone/Shade Monochromatic Colour Psychology

Completion and Evaluation
Focus: Finish artwork and reflect
Activities:

- Final touches to artwork
- Group critique session: students discuss each other's work
- Written reflection: "What did I learn from Van Gogh?"

Resources: Display board, peer feedback forms

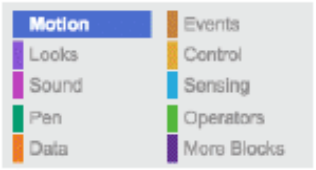
Computing

What is Scratch?

Scratch is a visual **programming language** that allows you to create programs by dragging blocks of scripts.

Block menu

The block menu helps users pick which scripts they need to control various aspects of a program.



Variables

A variable is used to store data for use in your program.

Variables can be used to store lots of different types of data such as names, numbers and scores.

The data stored in a variable can be changed or "varied" depending on certain conditions within a program.

Sprites

A **sprite** is a character or object in your game or animation.

In order to give the impression that a character is moving you can change the sprites' **costume.**

TOPIC 3 SCRATCH

Key Words

Program	Variable	Sprite	Script
Costume	Background	Stage	Data
Loop	Operator	Iteration	Interface

Loops

Loops are used as a way of repeating instructions.
Also known as **iteration.**

Repeats a certain number of times.

Repeats an instruction forever.

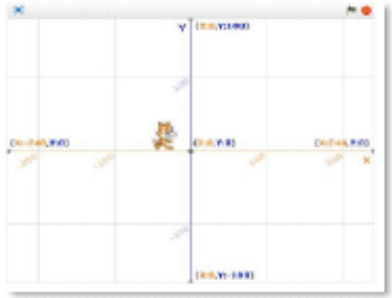
IF Statements

IF statements can be used to select different scripts of a program depending on a condition .

Also known as **selection.**

Stage

The stage is the background of the project. Scratch uses co-ordinates to position different elements around the screen.



Different backgrounds can be imported or you can create your own.

Operators

Operators are used for **changing** or **comparing** data.

They can **add, subtract, multiply** and **divide** data

They can also check if values are **less than, greater than,** or **equal** to other values.

Drama

Year 7 **Drama** **Term 3**

History of Silent Film

- The Silent Era began with the invention of the first motion picture cameras.
- It was a transformative period in film history, spanning from the 1890s into the late 1920s
- Early films were primarily short, featuring simple plots or everyday scenes.
- They relied on visual ingenuity to express emotion and dynamic storytelling.

Stock characters

- **Heroes** - handsome, strong, brave, honest and reliable.
- **Heroines** - beautiful, courageous, innocent and vulnerable.
- **Villains** - cunning, without morals, dishonest, cruel and evil.
- **Villain's accomplice** - usually provides comic relief because he is a bumbling sidekick.
- **Faithful servant** - also provides comic relief, and also does the dirty work. He usually discovers evidence against the villain.
- **Maidservant** – a female character who is lively and who flirts with the faithful servant.

Terminology

Reaction Shot - A reaction shot is a camera cut that shows a character's response to an action or dialogue in a scene.
Exaggeration – overstating or overemphasising a situation, emotion, or character to create a strong impact.
Mime – expressing an idea, emotion, or character through gesture, movement, and facial expression, without words.
Physical skills – body language and facial expressions.
Slapstick - comedy based on deliberately clumsy actions and humorously embarrassing events.
Melodrama - theatre in which music is used to increase the spectator's emotional response or to suggest character types.
Captions - written text that appeared on screen between scenes of a silent film. They were used to convey dialogue and provide additional information about the plot.

Further watching

Charlie Chaplin - a celebrated English filmmaker.
The Three Stooges - an American comedy team.

Silent Film and Slapstick Comedy

WAR HORSE English

Characters

Joey – Loyal, brave horse raised by Albert. Experiences war but never gives up hope.
Quote: "There's no horse like him, anywhere at all."

Albert Narracott – Joey's kind, determined owner. Joins army to find Joey.
Quote: "There's no horse like him, not in all England, not anywhere."

Mother – Kind but strong. Challenges her husband and supports Albert.
Quote: "You're a fool of a man, who allows his only son to go off to war."

Father – Hardworking but flawed. Buys and later sells Joey.
Quote: "He's a strong looking animal. You've got yourself a good deal."

Topthorn – Joey's strong, loyal horse friend. Dies during war.
Quote: "Even Topthorn was now happy that we continued."

Captain Nicholls – Kind officer who trains Joey. Killed early in war.
Quote: "You're the finest horse I've ever seen. I shall ride you with pride."

Chapter Summary

Ch. 1–2: Joey bought by Albert's father. Albert trains him.

Ch. 3–4: WW1 begins. Joey sold to army. Albert is heartbroken.

Ch. 5–6: Joey goes to France and meets Topthorn (another horse)

Ch. 7–8: Captured by Germans. Cared for by Friedrich.

Ch. 9–10: Topthorn dies. Joey injured and runs away.

Ch. 11–12: Joey found by British.

Ch. 13–14: Joey is auctioned once more.

Ch. 15–18: Soldiers return home.

Context

In 1914, Joey, a young farm horse, is sold to the army and thrust into the midst of the First World War on the Western Front. With his officer, he charges towards the enemy, witnessing the horror of the frontline. But even in the desolation of the trenches, Joey's courage touches the soldiers around him.

Michael Morpurgo was inspired by a WW1 veteran and a boy who stammered but spoke fluently to horses. Wrote War Horse from the horse's perspective. Trench warfare common; horses used for transport and battle. Set in Devon. Countryside plays key role. Morpurgo lived there and knew farming life.

WAR HORSE English

Themes

💔 Friendship
The bond between Joey and Albert drives the whole story. Friendship gives characters strength during hardship (Joey & Topthorn, Albert & David). Shows how loyalty can cross countries, languages, and even species.

🦁 Bravery
Characters show courage in different ways: Albert enlisting, Joey charging into battle, Topthorn enduring exhaustion. Bravery is shown not as fearlessness, but as continuing despite fear. Highlights the emotional and physical cost of war.

🤝 Loyalty
Joey and Albert never give up on each other, even when separated by countries and armies. Soldiers show loyalty to their regiments and friends. Loyalty is shown through actions, promises, and sacrifice.

⏳ Hope
Hope keeps characters moving forward: Albert hopes to find Joey; Joey hopes to survive; Emily hopes the horses will stay. Hope is fragile but powerful in the darkest moments of war. Morpurgo uses hope to balance the brutality of conflict.

⚔️ The Horrors of War
War destroys lives, families, and innocence. Morpurgo shows suffering on *both* sides — British and German. Horses experience the same fear, exhaustion, and danger as soldiers.

🌎 Humanity Across Enemy Lines
Soldiers from different countries show kindness to Joey and each other. War divides nations, but compassion connects individuals. Highlights shared human values even in conflict.

Writer's Intentions

✅ **Show the horrors and reality of war**
Morpurgo wants readers to understand the brutality of WW1 without glorifying it. He highlights suffering on *both* sides to show that war damages everyone — soldiers, families, and animals.

✅ **Highlight the strength of friendship and loyalty**
The bond between Joey and Albert shows how love and loyalty can survive separation, danger, and fear. Their relationship acts as a hopeful counterpoint to the violence around them.

✅ **Give a voice to the voiceless**
By telling the story through Joey's perspective, Morpurgo shows the often-forgotten experiences of animals in war. He encourages empathy for creatures who had no choice but to serve.

✅ **Explore courage in ordinary people**
Morpurgo shows that bravery isn't just heroic charges — it's persistence, kindness, and small acts of humanity. Characters like Friedrich, Emilie, and Captain Nicholls show courage through compassion.

✅ **Promote understanding across enemy lines**
Soldiers from different countries care for Joey, showing that humanity exists even in conflict. Morpurgo challenges the idea of "sides" by focusing on shared human values.

✅ **Reflect on the impact of war on rural communities**
The story begins in Devon to show how war reaches even peaceful, isolated places. Families, farms, and livelihoods are disrupted, showing the wide-reaching consequences of conflict.

📘 Key Vocabulary

Protagonist – the main character
Loyalty – staying faithful
Compassion – showing kindness
Innocence – being pure, inexperienced, or unaware of harsh realities
Cavalry – soldiers who fight on horses
Infantry – soldiers who fight on foot
Trenches – long ditches used for protection in WW1
Artillery – large guns used in war
Front Line – the area where the fighting is most intense
Casualty – someone injured or killed in war
Humanity – kindness and compassion shown by people
Perspective – the viewpoint a story is told from
Narrator – the voice telling the story
Symbolism – when something represents a deeper idea
Foreshadowing – hints about what will happen later
Imagery – descriptive language that creates pictures in the reader's mind.

French

Module 3 – Mon temps libre

Point de depart: Quel temps fait-il?

Quels temps fait-il?	il fait beau the weather's fine il fait mauvais the weather's bad il fait chaud – it is hot il fait froid – it is cold il y a du soleil – it is sunny il y a du vent – it is windy il pleut – it is raining il neige – it is snowing	
En été – in the summer En automne – in the autumn En hiver – in the winter Au printemps – in the spring		
Quand….. (When..)		je reste à la maison I stay at home

Tu es sportif/sportive?

Je joue – I play Il joue – he plays Elle joue – she plays	au basket / billard – basketball / snooker au football (foot) / rugby – football / rugby au hockey / tennis – hockey – hockey / tennis au handball – handball à la pétanque/aux boules – boules aux cartes – cards aux échecs - chess
Je suis – I am Je ne suis pas - I am not	(assez) (très) sportif/sportive – (quite) (very) sporty
Sur la photo – In the photo	il y a un garcon / une fille – there is a boy/girl il y a un bâtiment – there is a building il y a une maison – there is a house il y a des arbres – there are some trees le ciel est bleu/ gris – the sky is blue/grey

Tu aimes faire ça?

Qu'est-ce que tu aimes faire sur ton portable/tablette? What do you like doing on your phone/tablet?	j'aime I like je n'aime pas I don't like je déteste I hate j'adore I love	bloguer – blogging écouter de la musique – listening to music envoyer des SMS – sending texts prendre des selfie – talking selfies partager des photos/vidéos – sharing photos/videos regarder des films – watching films tchatter avec mes copains/copines télécharger des chansons – downloading songs	parce que c'est because it is	amusant – fun marrant – funny ennuyeux – boring facile – easy intéressant – interesting rapide - fast
Qu'est-ce que tu aimes faire le weekend / avec tes amis / quand il pleut? What do you like doing at the weekend / with your friends / when it rains?				
Est-ce que tu aimes faire du judo / prendre de photos / jouer aux échecs? Do you like doing judo / taking photos / playing chess?		faire du judo - doing judo prendre de photos – taking photos jouer aux échecs – playing chess		

French

Module 3 – Mon temps libre

Qu'est-ce que tu fais?

Qu'est-ce que tu fais? What do you do?	je fais – I do	du	skate – skateboarding patin à glace – ice skating vélo – cycling judo – judo théâtre – drama
		de la	cuisine – cookery danse – dance gymnastique – gymnastics natation – swimming
		de l'	athlétisme – athletics équitation – horseriding
		des	randonnées – I go hiking
	je ne fais pas de sport I don't do sport		
Est-ce que tu fais souvent (du vélo)? Do you do (cycling) often?	Je fais (du/de la/de l'a/des) – I do		parfois – somethimes souvent – often tout le temps – all the time tous les jours – every day tous les weekend – every weekend tous les lundis/mardi (etc) every Monday/Tuesday (etc)

Le sport dans les pays francophones

Qu'est-ce qu'on fait dans les pays francophones? What do people do in French speaking countries?	on fait we/people go	du	ski (alpin) – skiing snowboard - snowboarding rafting - rafting conyoning - canyoning canoe-kayak – canoeing
		de la	voile – sailing planche à voile – wind-surfing luge- tabogganing
		de l'	alpinisme- mountaineering

High Frequency Words

Les questions	Questions
comment?	how?
quand?	when?
quell(le/s)?	which/what?
est-ce que tu ?	do you?
qu'est-ce que tu?	what do you?
avec	with
en	in
sur	on
tout/toute/tous/toutes	all, every

Geography

1. Development Topic Vocabulary

Tier 2

Social: To do with people and communities.

Economic: To do with money or jobs.

Environmental: To do with the landscape or ecosystems/habitats.

Tier 3

Development: any improvement in the standard of living of people in a specific country. A higher level of development tends to mean richer.

Development Indicators: a method used to measure how developed a country or region is, usually economically and/or socially. Examples include GNI (Gross National Interest), GDP, HDI (Human Development Index), Literacy rate. Life expectancy, Birth rate, Persons per doctor.

Appropriate Technology: technology that is suited to the needs, skills, resources, wealth & knowledge of the people who live in a local area, for the environment in which they live.

Aid: international transfer of money, goods, or services from a country or international organisation for the benefit of the recipient country or members of its population.

GDP: Gross Domestic Product - the total value of all goods and services produced and sold in a country in a year, measured in US dollars.

GNI per capita: Gross National Income - calculated by taking a country's total earned income and dividing it by the total number of people in the country (GNI/population), giving an average income in US$ per person per year.

HIC: High Income Country - on average people earn more than $13,845 per year.
NEE: Newly Emerging Economy - on average people earn between $1,025 and $13,844 per year.
LIC: Low Income Country - on average people earn less than $1,024 per year.

2. Factors Influencing Development

Historical: Colonialism limited the development of many countries in Africa, where profit from resources & selling slaves went to countries like the UK & Spain. Political factors like poor governance where money is wrongly used to fund military or given to elite individuals.

Economic: Trade where LICs sell primary produce for small profits where as HICs manufacture goods and sell them for high prices. Debt limits the development until a country pays it back, however interest (cost to borrow money) can make these repayments very difficult.

Physical: The climate (too hot or too cold), natural hazards (like earthquakes), landlocked countries (without a port), and availability of natural resources can limit development or help progress.

3. Strategies to reduce the development gap

Debt relief	Appropriate technology
Cancelling the money owed to other countries or companies. For example the G8 (top 8 richest countries) cancelled Ghana's debt in 2005 to allow the country to spend money of social development.	Technology that is suited to the needs, skills, resources, wealth and knowledge of the people who live in a local area, for the environment in which they live. For example Hippo Roller water containers, Solar cookers.

4. Development Indicators:

GNI per capita – average wealth per person in a country

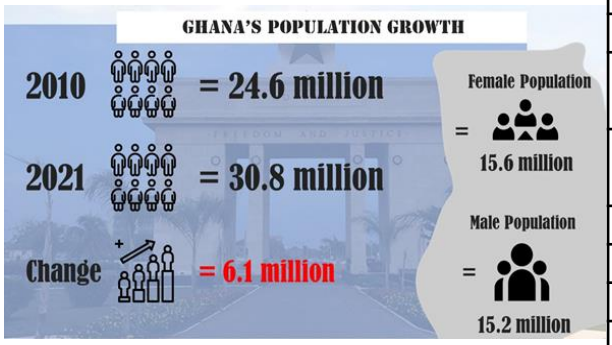
Birthrate – number of births per year per 1000 of the population
Death rate – number of deaths per year per 1000 of the population
Life Expectancy – how long a person is expected on average from birth
Literacy rates – percentage of adults who can read and write
Education – mean years of schooling and expected years of schooling
Infant mortality – number of babies who die before their 1st birthday
People per Doctor - how many people a single doctor serves

HDI – Human Development Index combining life expectancy, education & GNI per capita

Geography

Development in Ghana

5. Background Information:
Ghana is a large Country in West Africa that is home to over 30 million people with a population that is growing. See the comparison of the UK and Ghana and compare their development.



	Ghana	UK
Population size	30.8 million	68.1 million
Birth rate per 1000	29	10.65
% of people living in towns and cities	50%	90%
Infant Mortality per 1000 live births	51	4.85
Life expectancy	60.1	79
Adult literacy rate	57.9%	99%
School life expectancy	9 Years	16 years
GDP	$1,500	$34,800

6. Historical Context:
There is a long history of problems in Ghana, despite large resources of cocoa, gold and diamonds. Historically, the **Portuguese were the first people to arrive in Ghana in 1471**, they found gold and the name "the Gold Coast" was given to the area. By **1650**, the next major industry developed – **slavery**. Over **100,000 people a year** were bought from the Gold coast and transported across the Atlantic to work on plantations in the Caribbean. The **British** occupied Ghana as a **colony in 1901**, and used it a s a base to ship gold, metal ores, ivory and cocoa. This long history of exploitation by foreigners left Ghana very poor, so when **independence was declared in 1957** the country faced huge problems. These have had a long lasting legacy, coupled with current problems of debt repayments and desertification.

7. Desertification & Economic problems:
In northern Ghana many areas are at risk of becoming desert, due to the savanna being too heavily used, deforestation and overgrazing by cattle. Combined with natural causes such as increased drought and wind erosion. This causes soil erosion and desertification.
Ghana is also over reliant on Cocoa – when the price fell it left Ghana with a shortage of income. Ghana has also borrowed a lot of money, and rising debt repayments are difficult for the country to deal with.

History

Overview and Map

What was the Black Death?

The Black Death, also known as the Great Plague, or the Black Plague, was one of the most deadly pandemics in history.

It is predicted that around 75 to 200 million people died in Eurasia, which was somewhere between 30-60% of the population at the time. Those from all walks of life (peasants to royalty) were affected.

The plague had a monumental impact upon the course of European history, creating a wave of social, political, and economic upheavals. It took around 200 years for the population of Europe to recover to the levels reached prior to the pandemic.

How did the Black Death spread?

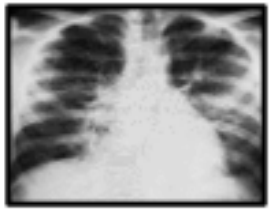
Throughout most of history, the plague has been believed to have been spread by fleas living on rats, who were driven from grassland towards more populated areas in Asia due to climate change.

However, more recent studies have suggested that the Black Death was actually spread by humans - their fleas and their lice!

In any case, the plague began in central and western Asia in 1346. There appear to have been several introductions to Europe in early 1347, most notably in Turkey, Italy, and Crimea.

History

Signs and Symptoms

Bubonic Plague Days 1-2		The first sign of bubonic plague was often the growth of painful swellings in the armpits and groins, called buboes. These were normally the size of an egg, but could occasionally be as large as an apple. Next, the victim would develop a fever and begin vomiting.	**From the first signs of infection, bubonic plague ordinarily killed its victims within about 5 days.**	In untreated victims, bubonic plague kills about 50%-80% of victims (and there was no effective treatment at the time).
Bubonic Plague Days 3, 4, and 5		Bleeding underneath the skin caused the victim to come out in dark blotches all over their body. As the disease began to effect the nervous system, the victim would be in agonising pain, and would often spasm involuntarily. Occasionally, the buboes would burst and release a foul-smelling liquid. Often, the victim died a painful death.		
Pneumonic Plague		Pneumonic plague was far more deadly than its bubonic partner. This form of the plague attacked the lungs, causing the victim to be in continual chest pain and cough uncontrollably. Each time they coughed up blood, bacteria would be spread across the air.	**Pneumonic plague often killed its victims in only 2 days.**	In untreated victims, pneumonic plague kills 90% of victims.
Septicemic Plague		This third form of the plague was far rarer than the other two forms, but was universally deadly. It often followed on from one of the other two forms. It involved extreme pain, nausea, and diarrhea. This type of plague poisoned the blood, causing the body to turn black.	**Septicemic plague almost always kills within 24 hours!**	In untreated victims, septicemic plague kills 100% of victims.

History

Major Events and Key Information				
Asian origins		Reports of plague-like epidemics are in evidence even from as early as the 1320s. By 1330s, the black death had reached central Asia, killing millions. It took until 1346 until the plague surfaced in the Black Sea area.	**Approximately 1320s-1346**	No one knows if the Chinese plague was separate, or the start of the Black Plague.
Spread across Europe		The plague rapidly spread across Europe, creating fear and destruction in its wake. For example, in Florence, 60% of the population died in just a few months. The plague spread most quickly along trade routes.	**1346-1353**	Ports and large cities became cesspits of plague.
Plague Arrives in Britain		Bristol was a busy continental port, and thus was the first major town to be affected. Bristol had been the second largest city in the country, with 10,000 people packed in, so the disease spread quickly across the south-west.	**Summer 1348**	Unsanitary conditions in Bristol caused the disease to spread quicker.
Rapid Spread in Britain		Squalid conditions enabled the plague to thrive. For example, people emptied their chamberpots into the streets, gained water from rivers, and animals such as pigs roamed the streets in search of food.	**1348-1349**	It is thought that the plague affected the young and virile the most!
Plague Reaches London		London, the most populated and most crowded city, provided an unparalleled hotbed for death. The new burial ground at Spitalfields housed 200 bodies every day. A vicious cycle ensued – unsanitary streets spread the disease, which in turn was killing the street cleaners!	**Spring 1348**	The King himself got involved with trying to stop the spread.
Plague Spreads to Scotland, Wales and Ireland		The Scots were quick to capitalise on the distress – attacking England in 1849. However, they caught the disease and spread it across Scotland upon their return. The plague also reached Wales and Ireland at this time.	**William III and Mary II were joint monarchs**	Within days of the attack, 5,000 Scots struck by the disease.
Plague begins to wane		A number of different theories were provided for why the Black Death began to die out, but none is definitive. There was certainly no treatment in place by this point. However, by 1954, few new cases were recorded.	**1953-1954**	The plague returned several times over the next centuries.

History

First-Hand Accounts

Giovanni Boccaccio – Boccaccio was an Italian writer, poet and Renaissance humanist. Below, he details the effects of plague on the human body:

In men and women alike it first betrayed itself by the emergence of certain tumours in the groin or armpits, some of which grew as large as a common apple, others as an egg ... From the two said parts of the body this deadly gavocciolo soon began to propagate and spread itself in all directions indifferently; after which the form of the malady began to change, black spots making their appearance in many cases on the arm or the thigh or elsewhere, now few and large, now minute and numerous. (1353)

Geoffrey Le Baker – An English chronicler, also known as Walter of Swinbroke. He was probably a secular clerk in Swinbroke. In the passage below, he describes the spread of the plague in England:

The seventh year after it began, it came to England and first began in the towns and ports joining on the seacoasts, in Dorsetshire, where, as in other counties, it made the country quite void of inhabitants so that there were almost none left alive....
But at length it came to Gloucester, yea even to Oxford and to London, and finally it spread over all England and so wasted the people that scarce the tenth person of any sort was left alive. (1353)

Jean De Venette – De Venette was a French friar who was Provincial Superior of France from 1341 to 1366. He was a prolific chronicler, who in this passage reveals the speed and extent of the spread of plague in France:

At Paris and in the kingdom of France... so great a mortality of people of both sexes, of the young rather than of the old, that it was scarcely possible to bury them. They were only ill for two or three days and died suddenly, their bodies almost sound; and he, who one day was in good health, was dead and buried on the morrow. They had swellings under the arm-pits and in the groin, and the appearance of these swellings was an infallible sign of death...During these two years there was such a number of victims as had never been heard of, or seen, or read of in past times. And in many towns, great and small, the priests were terrified and fled; but some others, considerably braver, administered the sacraments. Soon in many places out of every twenty inhabitants there were only two alive. The mortality was so great at the Hôtel-Dieu in Paris that for a long time more than five hundred dead were carried daily on wagons to be buried at the cemetery of St. Innocent of Paris. (1348)

Cathedral Priory of Rochester – A history of the church was kept between 1315 and 1350, most likely by a notary named William de Gene. This passage shows the impact of the plague on societal structure:

A great mortality ... destroyed more than a third of the men, women and children. As a result, there was such a shortage of servants, craftsmen, and workmen, and of agricultural workers and labourers, that a great many lords and people, although well-endowed with goods and possessions, were yet without service and attendance...
...Such a shortage of workers ensued that the humble turned up their noses at employment, and could scarcely be persuaded to serve unless for triple wages. Instead, because of the doles handed out at funerals, those who once had to work now began to have time for idleness, thieving and other outrages, and thus the poor and servile have been enriched and the rich impoverished. As a result, churchmen, knights and other worthies have been forced to thresh their corn, plough the land and perform every other unskilled task if they are to make their own bread. (c.1349)

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Solving problems with addition and subtraction

What do I need to be able to do?

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

- Understand properties of addition/ subtraction
- Use mental strategies for addition/subtraction
- Use formal methods of addition/Subtraction for integers
- Use formal methods of addition/Subtraction for decimals
- Solve problems in context of perimeter
- Solve problems with finance, tables and timetables
- Solve problems with frequency trees
- Solve problems with bar charts and line charts

Keywords

Commutative: changing the order of the operations does not change the result
Associative: when you add or multiply you can do so regardless of how the numbers are grouped
Inverse: the operation that undoes what was done by the previous operation (The opposite operation)
Placeholder: a number that occupies a position to give value
Perimeter: the distance/ length around a 2D object
Polygon: a 2D shape made with straight lines
Balance: in financial questions – the amount of money in a bank account
Credit: money that goes into a bank account
Debit: money that leaves a bank account

Addition/ Subtraction with integers

Modelling methods for addition/ subtraction

- Bar models
- Number lines
- Part/ Whole diagrams

Addition is commutative

6 + 3 = 3 + 6

The order of addition does not change the result

Subtraction the order has to stay the same

$360 - 147 = 360 - 100 - 40 - 7$

- Number lines help for addition and subtraction
- Working in 10's first aids mental addition/ subtraction
- Show your relationships by writing fact families

Formal written methods

	H	T	O
	1	8	7
+	5	4	2

	H	T	O
	4	2	7
−	2	4	9

Remember the place value of each column
You may need to move 10 ones to the ones column to be able to subtract

Addition/ Subtraction with decimals

4	.	3	8	
7	.	9	0	+

0 can be used to fill empty places with value

The decimal place acts as the placeholder and aligns the other values

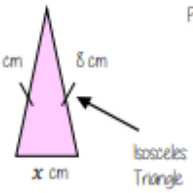
If this represents 1 instead of 100

$5.43 + \frac{8}{10}$

Revisit Fraction – Decimal equivalence
5.43 + 0.8

Solve problems with perimeter

Perimeter is the length around the outside of a polygon



Isosceles Triangle notation

The triangle has a perimeter of 25cm
Find the length of x

8cm + 8cm + xcm = 25cm
16cm + xcm = 25cm
xcm = 9cm

Solve problems with finance

Profit = Income - Costs

Credit – Money coming into an account

Debit – Money leaving an account

Money uses a two decimal place system
14.2 on a calculator represents £14.20

Check the units of currency – work in the same unit

Tables and timetables

Distance tables

London	211	Cardiff	
556	493	Glasgow	
518	392	177	Belfast

This shows the distance between Glasgow and London
It is where their row and column intersects

Bus/ Train timetables

Harton	1005	1045	1130
Bridge	1024	1106	1147
Aville	1051	1133	1205
Ware	1117	1202	1233

Each column represents a journey, each row represents the time the 'bus' arrives at that location

TIME CALCULATIONS – use a number line

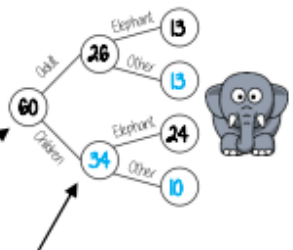
Two-way tables

	H	T
H	HH	HT
T	TH	TT

Where rows and columns intersect is the outcome of that action

Frequency trees

60 people visited the zoo one Saturday morning
26 of them were adults. 13 of the adult's favourite animal was an elephant. 24 of the children's favourite animal was an elephant.

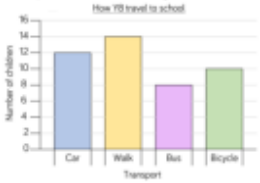


The overall total "60 people"

A frequency tree is made up from part-whole models
One piece of information leads to another

Probabilities or statements can be taken from the completed trees
e.g. 34 children visited the zoo

Bar and line charts



Use addition/ subtraction methods to extract information from bar charts

e.g. Difference between the number of students who walked and took the bus
Walk frequency – bus frequency

When describing changes or making predictions

- Extract information from your data source
- Make comparisons of difference or sum of values
- Put into the context of the scenario

Maths

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Solving problems with multiplication and division

What do I need to be able to do?

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

- Understand and use factors
- Understand and use multiples
- Multiply/ Divide integers and decimals by powers of 10
- Use formal methods to multiply
- Use formal methods to divide
- Understand and use order of operations
- Solve area problems
- Solve problems using the mean

Keywords

Array: an arrangement of items to represent concepts in rows or columns
Multiples: found by multiplying any number by positive integers
Factor: integers that multiply together to get another number
Milli: prefix meaning one thousandth
Centi: prefix meaning one hundredth
Kilo: prefix meaning multiply by 1000
Quotient: the result of a division
Dividend: the number being divided
Divisor: the number we divide by

Factors

Arrays can help represent factors

5 x 2 or 2 x 5

Factors of 10
1, 2, 5, 10

10 x 1 or 1 x 10

The number itself is always a factor

Square numbers have an **ODD number** of factors

Factors of 4
1, 2, 4

Factors of 36
1, 2, 3, 4, 6, 9, 12, 18, 36

Be strategic
- Lay factors out in pairs can help you not to miss any

Multiples

Bar models can represent by something is a multiple. E.g. 20 is a multiple of 4

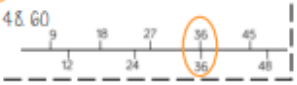
Lowest Common Multiples — **LCM of 9 and 12**

The first time their multiples match

9 9, 18, 27, 36, 45, 54

12 12, 24, 36, 48, 60

LCM = 36



Multiply/ Divide by powers of 10

3 x 100 = 300

0.03 x 100 = 3

Repeated multiplication and division by powers of 10 is commutative

÷ 10 then ÷ 10 ⟶ ÷ 100

Metric conversions

Useful Conversions

mm ⟷ cm ⟷ m ⟷ km
÷ 10 / × 10; ÷ 100 / × 100; ÷ 1000 / × 1000

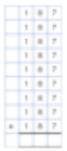
g ⟷ kg
÷ 1000 / × 1000

ml ⟷ L
÷ 1000 / × 1000

Multiplication methods

Long multiplication (column)

Grid method



Repeated addition

Less effective method especially for bigger multiplication

Multiplication with decimals

Perform multiplications as integers
e.g. 0.2 x 0.3 ⟶ 2 x 3

Make **adjustments** to your answer to match the question 0.2 x 10 = 2
0.3 x 10 = 3
Therefore 6 ÷ 100 = **0.06**

Estimations: Using estimations allows a 'check' if your answer is reasonable

Division methods

3584 ÷ 7 = **512**

Short division

$$7\overline{)\,3\,{}^{3}5\;8\;{}^{4}}\qquad 5\;1\;2$$

Complex division

÷ 24 = ÷ 6 ÷ 4
Break up the divisor using factors

Division with decimals

The placeholder in division methods is essential – the decimal lines up on the dividend and the quotient

24 ÷ 0.02 ⟶ 24 ÷ 0.2 ⟶ 240 ÷ 2

All give the same solution as represent the same proportion
Multiply the values in proportion until the divisor becomes an integer

Order of operations

Brackets
Indices or roots
Multiplication or division
Addition or subtraction

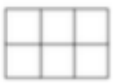
If you have multiple operations from the same tier work from left to right

e.g. 10 − 3 + 5 ⟶ 10 − 3 ⟶ 7 + 5

6 x 4 + 8 x 2
24 + 16 = 40

Area problems

Rectangle
Base x Perpendicular height



Parallelogram/ Rhombus
Base x Perpendicular height

Triangle
½ x Base x Perpendicular height

A triangle is half the size of the rectangle it would fit in

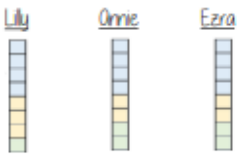
Mean problems

Mean – a measure of average
It gives an idea of the central value

Lilly, Annie and Ezra have the following cubes

24 in total

Finding the mean amount is the average amount, each person would have if shared out equally



The mean number of blocks would be 8 each

Maths

Fractions and percentages of amounts

@whisto_maths

What do I need to be able to do?

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

- Find a fraction of a given amount
- Use a given fraction to find the whole or other fractions
- Find the percentage of an amount using mental methods
- Find the percentage of a given amount using a calculator

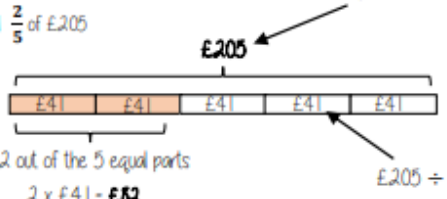
Keywords

Fraction: how many parts of a whole we have
Equivalent: of equal value
Whole: a number with no fractional or decimal part
Percentage: parts per 100 (uses the / symbol)
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
Convert: change into an equivalent representation, often fraction to decimal to a percentage cycle

Fraction of a given amount

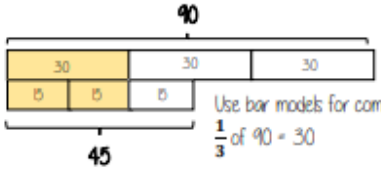
Find $\frac{2}{5}$ of £205

The bar represents the whole amount



2 out of the 5 equal parts
2 x £41 = **£82**

£205 ÷ 5 = £41
Each part of the bar model represents £41



Use bar models for comparisons

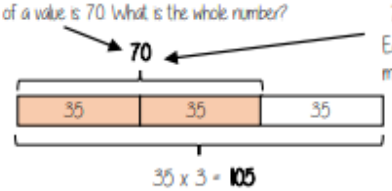
$\frac{1}{3}$ of 90 = 30

$\frac{2}{3}$ of 45 = 30

$\therefore \frac{1}{3}$ of 90 = $\frac{2}{3}$ of 45

Use a fraction of amount

$\frac{2}{3}$ of a value is 70. What is the whole number?

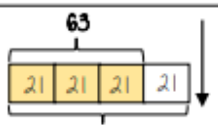


70 ÷ 2 = 35
Each part of the bar model represents 35

35 x 3 = **105**
The whole number is 105

The wording of the question is important to setting up the bar model

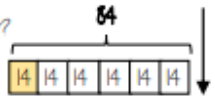
$\frac{3}{4}$ of a number is 63



Find the whole

What is $\frac{1}{6}$ of the number?

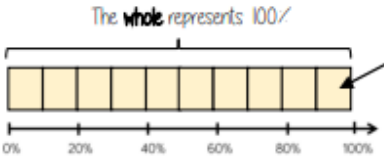
14



Use the whole to find a given part

Find the percentage of an amount (Mental methods)

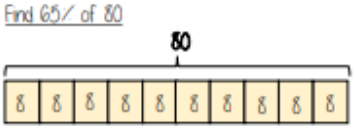
The **whole** represents 100/



10/ = $\frac{1}{10}$ of the whole

10/ = $\frac{1}{10}$ of the whole
20/ = $\frac{2}{10} = \frac{1}{5}$ of the whole
50/ = $\frac{5}{10} = \frac{1}{2}$ of the whole
5/ = $\frac{1}{20}$ of the whole

Find 65/ of 80



For bigger percentages it is sometimes easier to take away from 100/

Method 1
65/ = 10/ x 6 + 5/
= (8 x 6) + 4
= 52

Method 2
65/ = 50/ + 10/ + 5/
= 40 + 8 + 4
= 52

Find the percentage of an amount (Calculator methods)

Using a multiplier

Find 65/ of 80

Fraction, decimal, percentage conversion

65/ = $\frac{65}{100}$ = 0.65 ← The multiplier

0.65 x 80 = **52**

Using the percent button

Find 65/ of 80

This brings up the / button on screen
You will see 65/

Type **65**
Press SHIFT ((%)
Press × **80** and then press =

You can also use the calculator to support non calculator methods and find 1/ or 10/ then add percentages together

"of" can represent "x" in calculator methods

Maths

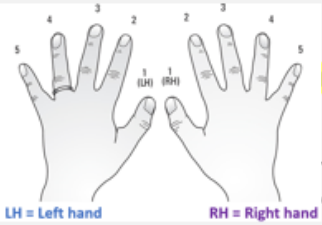
Music

Year 7 Music Term 3

Year 7:Music: Keyboard skills

In this unit you will learn and apply important playing skills.

Fingers on each hand are numbered **1-5**



Practise tapping just on the desk

Right hand (repeat each 5 times)

1,2,3,4,5,4,3,2,

Then same again On the left hand:

Reverse the order – play on the right hand:

5,4,3,2, 1,2,3,4, – **then play on the left hand:**

Now – tap left and right at the same time:

1,2,3,4,5,4,3,2, **then** 5,4,3,2, 1,2,3,4,

Playing a melody: (5 note 0 – 6)

At home: **Download keyboard app on phone/tablet - e.g. Mini Piano Lite**

Using 5-note fingering, play :-

```
"Happy Birthday"
•First line:  C, C, D, C, F, E
RH Finger     1, 1, 2, 1, 4, 3

•Second line: C, C, D, C, G, F
RH Finger     1, 1, 2, 1, 5, 4
```

Then on left hand:

```
"Happy Birthday"
•First line:  C, C, D, C, F, E
LH Finger     5, 5, 4, 5, 2, 3

•Second line: C, C, D, C, G, F
LH Finger     5, 5, 4, 5, 1, 2
```

Tip: to reduce delays on phone – uses other hand to always hold a note down

Stretch fingering: (7 note 0 – 6)

Five note fingering gives a note to each finger, which improves speed and accuracy

However, to reach more distant notes, more positions are added – namely, '0' and '6'

'0' is the thumb stretched inward one note
'6' is the little finger stretched outward
Hand position stays in the same place.

Either on the desk, phone app, or keyboard With '0' on B for right & '6' on B for left – play

0,1,2,3,4,5,6,5,4,3,2,1 (Right, left and both)
6,5,4,3,2,1,0,1,2,3,4,5 (Right left and both)

Hand Shifts:(moving to a new hand position)

7 note fingering reduces how often hands needs to be **moved** – however, sometimes **hand shifts** are essential to play the notes.

On phone app / Keyboard

Imperial March:

```
Right Hand – Hand shift 1 (unshaded)
Notes:   E  E  E  C  G  E  C  G  E
Finger:  3  3  3  1  5  3  1  5  3
Right Hand – Hand shift 2 (shaded)
Notes:   B  B  B  C  G  D# C  G  E
Fingers  4  4  4  5  2 -1  1  5  3
Left Hand – Hand shift 1 (unshaded)
Notes:   E  E  E  C  G  E  C  G  E
Finger:  3  3  3  5  1  3  5  1  3
Left Hand – Hand shift 2 (shaded)
Notes:   B  B  B  C  G  D# C  G  E
Fingers  2  2  2  1  4  7  5  1  3
```

Chunking phrases: (Hedwig's theme)

Trying to practise too much at once actually makes progress slower and more frustrating.

To master playing and performance it helps to chunk music up into playable phrases.

On phone app / Keyboard

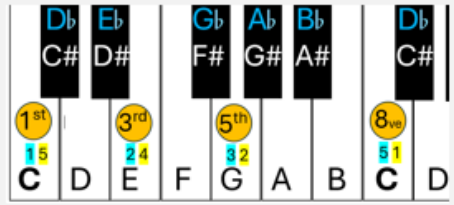
```
Notes:  B  E  G  F# E  B  A  F#
Finger:-1  2  4  3  2  5  4  2
Notes:  E  G  F# D# F  B
Fingers 2  4  3  2  3 -1
Notes:  B  E  G  F# E  B  D  C# C  G#
Finger:-1  2  4  3  2  3  5  4  4  2
Notes:  C  B  A#  B  G  E
Finger: 4  3  2  -1 4  2

Notes:  B  E  G  F# E  B  A  F#
Finger: 6  3  1  2  3  1  2  3
Notes:  E  G  F# D# F  B
Fingers 3  1  2  3  2  6
Notes:  B  E  G  F# E  B  D  C# C  G#
Finger: 6  3  1  2  3  3  1  2  2  4
Notes:  C  B  A#  B  G  E
Finger: 1  2  3   6  1  3
Tall notes (B) are the octave higher
```

Arpeggios: (Chords, one note at a time)

A triad (a type of chord) has the 1st, 3rd & 5th notes in same scale as the chord.
Melodies often include chords – played one note at a time with 1,3,5 / 5,3,1 finger positions.

Sometimes though, they are a big stretch and need 1,2,3,5 or 5,4,2,1 fingering.
e.g. C Major is C, E, G, C(octave higher)



Blue right-hand finger, Yellow Left-hand

PE

Year 7 Physical Education Term 3

1 Court Positions

There are **7 players** on a team, each with specific positions: GS, GA, WA, C, WD, GD, GK. Each position is only allowed in certain areas of the court. For example, the **Goal Shooter (GS)** can only enter the attacking third and shooting circle.

Netball

2 Passing and Footwork

Three main types of passes: **chest pass**, **bounce pass**, and **overhead pass**. The **footwork rule** states you cannot re-ground your landing foot once it's placed. Pivoting is allowed.

Netball

3 Marking & Defending

Defenders must stay **1 metre (3 feet)** away from the player with the ball. Marking involves blocking passes or shots while maintaining distance. Timing and positioning are key to intercepting.

Netball

4 Game Play & Basic Rules

The ball must be passed within **3 seconds**. Players cannot run with the ball. The game starts with a **centre pass**. Scoring is done by GA or GS shooting within the goal circle.

Netball

5 Rules & Equipment

A **match is best of 5 games**, first to 11 points. Players **serve two points each**, alternating until 10-10 (then serve alternates each point). A serve must bounce once on each side.

Table Tennis

6 Basic Shots

Core shots include **forehand drive**, **backhand drive**, and **push**. Drives are attacking shots with topspin; pushes are defensive with backspin. Technique and control are key.

Table Tennis

Science

Year 7 - Particle Model

Keyword	Definition
Particle	A very tiny object such as an atom or molecule, too small to be seen with a microscope.
Particle model	A way to think about how substances behave in terms of small, moving particles.
Gas pressure	Caused by collisions of particles with the walls of a container.
Density	How much matter there is in a particular volume, or how close the particles are.
Evaporate	Change from liquid to gas at the surface of a liquid, at any temperature.
Boil	Change from liquid to a gas of all the liquid when the temperature reaches boiling point.
Condense	Change of state from gas to liquid when the temperature drops to the boiling point.
Melt	Change from solid to liquid when the temperature rises to the melting point.
Freeze	Change from liquid to a solid when the temperature drops to the melting point.
Sublime	Change from a solid directly into a gas.
Melting point	The temperature when a solid becomes a liquid.
Boiling point	The temperature when a liquid becomes a gas.

Moving particles

Particles move faster as the temperature goes up.

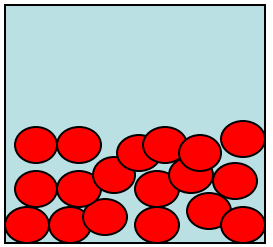
Interactions between particles break as they move faster.

Substances expand as they get hotter.

Melting

Freezing

Liquid



Particles move freely past each other

Cannot be compressed

Takes the shape of the container

Can be poured

Density

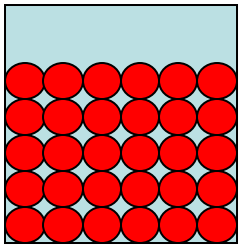
Density (g/cm^3) = $\frac{\text{mass (g)}}{\text{Volume } (cm^3)}$

An object less dense than water will float.

Condensing

Boiling/Evaporating

Solid



Particles are close together

Particles vibrate at fixed points

Cannot be compressed

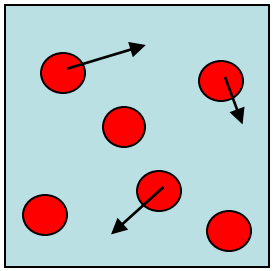
Hold their shape

Cannot be poured

Subliming

Deposition

Gas



Particles are fast moving and spread out

Can be compressed

Fills the container

Can be poured

Sound

Keywords

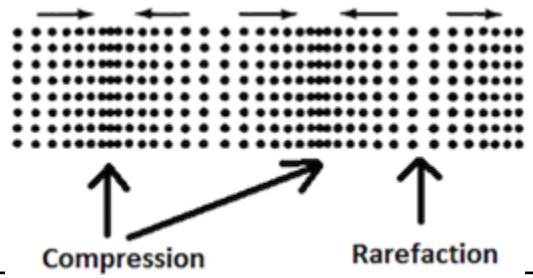
Vibration	A back and forth repeating motion.
Vacuum	A space with no particles of matter in it.
Oscilloscope	Device for viewing patterns of sound waves that have been turned into electrical current.
Absorption	When energy is transferred from sound to a material.
Echo	Reflection of sound waves from a surface back to the listener.

Waves

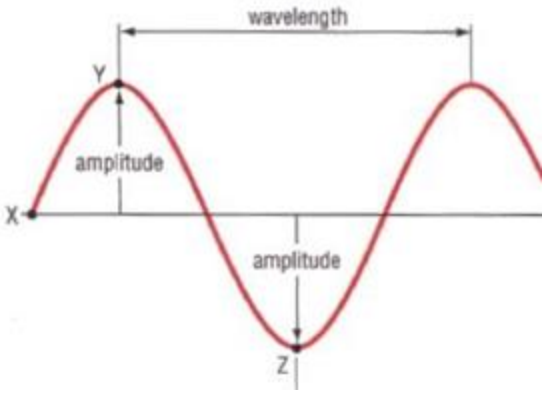
Waves can travel in two ways:

1. Longitudinal waves travel in straight lines - where the direction of vibration is the same as that of the wave.
2. Transverse waves move at right angles to the direction of the wave.

Sound waves are longitudinal waves. They involve particles and have areas of compression and rarefaction.



Wave Characteristics

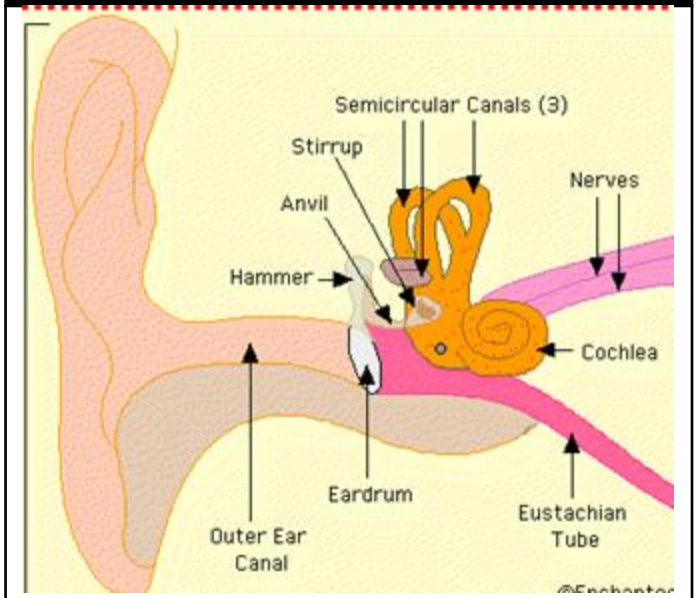


Wavelength
The distance from a point on one wave to the same point on the next wave.
Measured in metres and has the symbol λ (Greek letter lambda).
A shorter wavelength = higher frequency.

Frequency
The number of waves passing a point every second and is measured in hertz (Hz).
A higher frequency means a high pitch.

Amplitude
The height of the wave from the centre line to a peak or trough.
Measured in metres.
The more energy a wave has the bigger the amplitude and the louder the sound.

The Ear & Hearing



1. Your outer ear channels sound waves into your ear.
2. The sound waves travel along the auditory canal.
3. The ear-drum vibrates when a sound hits it.
4. The vibrating ear-drum makes the little bones in your ear vibrate.
5. The vibrations pass along the auditory nerve your brain.
6. Your brain sorts the messages and you hear the sound.

Hearing loss could be caused by:
Wax blocking the ear
Loud noises tearing eardrum
Ear infection
Small bones in the ear can get stuck together
Loud noises can damage the cochlea

Light

Keywords	
Normal line	A line drawn at right angles to the surface where the ray hits. Angles are measured from this line.
Absorption	Light is transferred to a material and is not reflected or transmitted.
Transmitted	Light that passes through an object is transmitted.
Scattering	When light bounces off an object in all directions.
Transparent	An object that allows light through without scattering.
Translucent	An object that allows light through with scattering.
Opaque	An object that allows no light through.

Calculating wave speed

Speed = wavelength x frequency
(m/s) (m) (Hz)

Symbol equation: $v = f \times \lambda$

Equation rearranged:

Wavelength = Speed / frequency

Frequency = Speed / wavelength

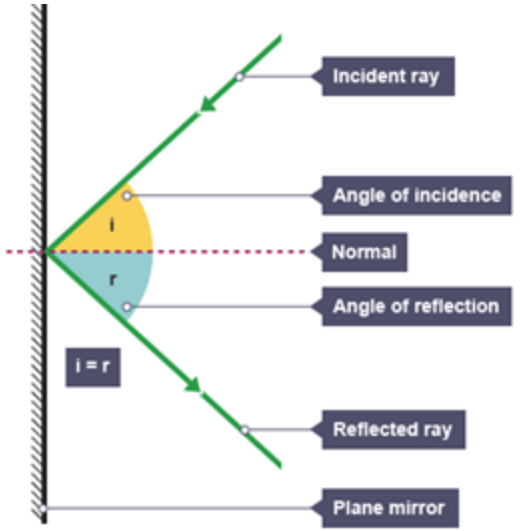
Reflection

When light is reflected it bounces off of something.

We use ray diagrams to draw reflections.

To help us with our ray diagram, we can draw a line 90° to the reflective material.

This line is called the normal.



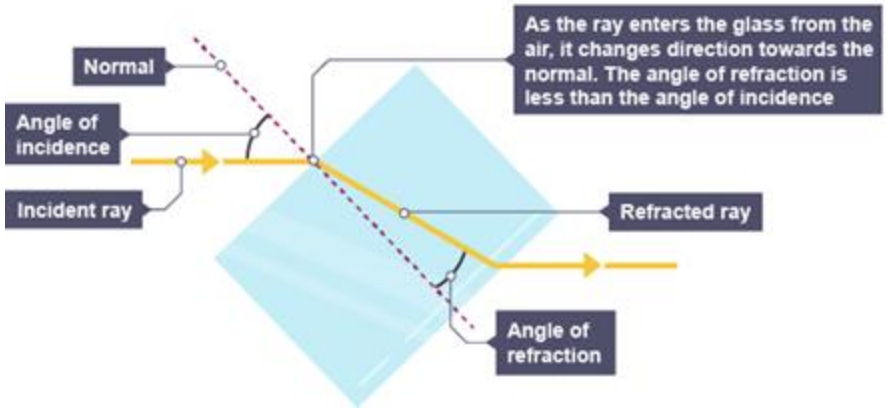
Angle of incidence = angle of reflection.

Refraction

Waves are refracted when they change speed.

When waves slow down they bend towards the normal line. This happens when light travels from air to glass.

When waves speeds up they bend away from the normal line. This happens when light travels from glass to air.



The angle of refraction is less than the angle of incidence.

Ecology

Keywords:

Food Web – Shows how food chains in an ecosystem are linked.

Food Chain – Part of a food web, starting with a producer, ending with a top predator.

Producer – Green plant or algae that makes its own food using sunlight.

Consumer – Organism that eats other organisms.

Population – Group of the same species living in an area.

Bioaccumulation – the build-up of toxic chemicals at higher stages in a food chain.

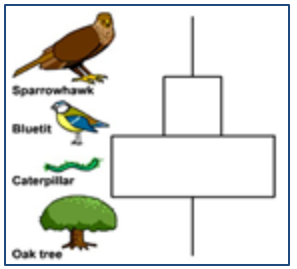
Parasitism – An organism which lives in or on another organism (its host) and benefits by taking nutrients at the other's expense.

Mutualism – Two organisms living in close physical association which is beneficial to both organisms involved.

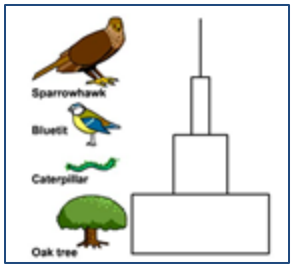
Biomass – The mass of dry material in living organisms.

Trophic level – Feeding levels in an ecosystem.

Pyramids of Number = the width represents the number of species at each trophic level.



Pyramids of Biomass = the width represents the biomass of each trophic level.



Adaptations:
Special features that make an organism particularly well suited to the environment where it lives. This is caused by variation (differences in animals and plants).

Cold conditions
Small ears
Blubber
Thick fur

Hot conditions
Concentrated urine
Nocturnal behaviours
Big ears
Long legs

Food Chains show the feeding relationships between organisms, as well as the flow of energy and matter. Arrows represent the direction in which energy flows through a food chain.

Producer (Plant) → **Primary Consumer (Herbivore)** → **Secondary Consumer (Carnivore)**