KNOWLEDGE ORGANISER

YEAR 7 – TERM 1

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

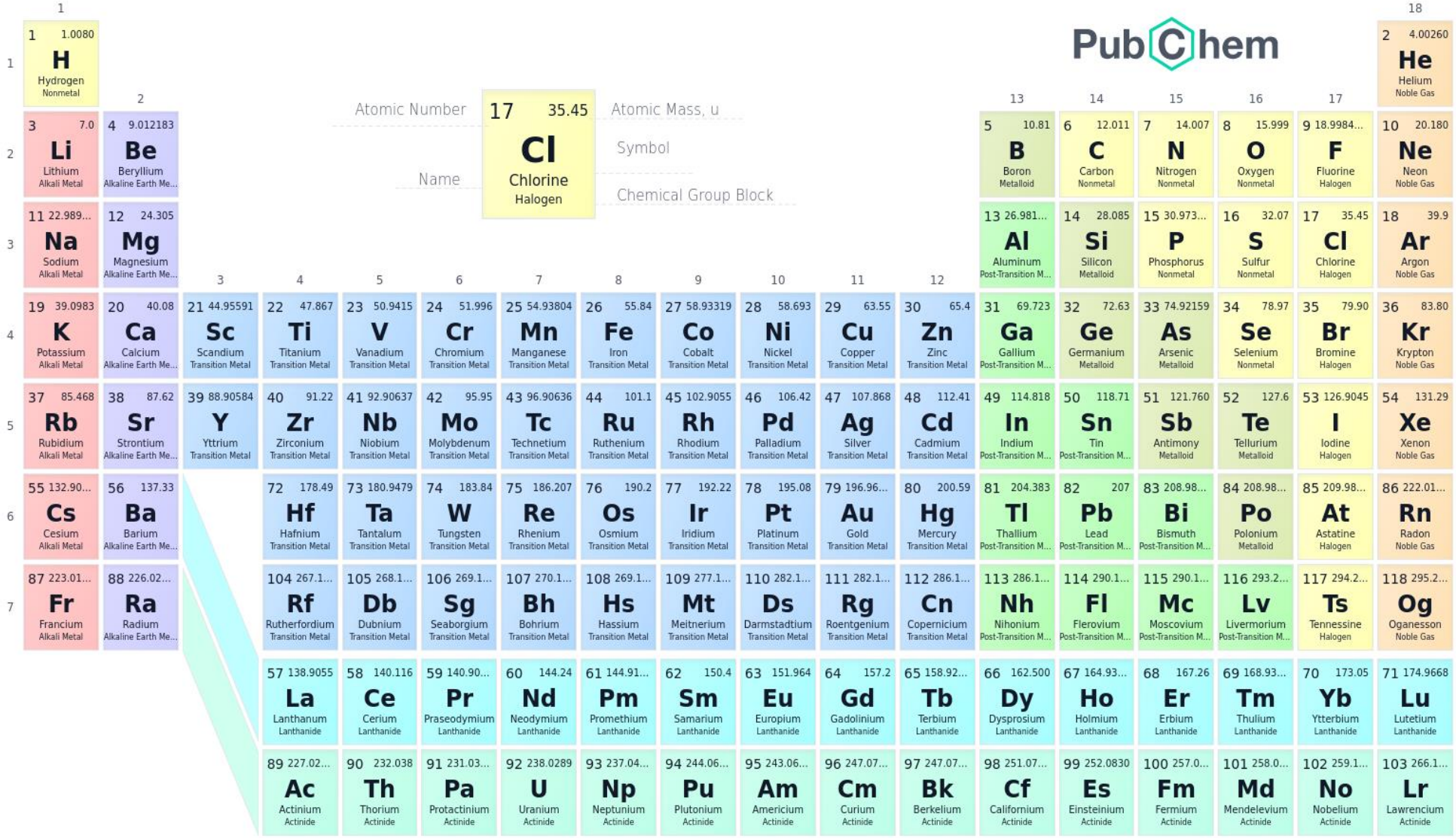
9:00–9:05	AM Reg
9:05–10:20	Lesson 1
10:20–11:35	Lesson 2
11:35–12:05	Break 1
12:05–13:20	Lesson 3
13:20–13:50	Break 2
13:50–15:05	Lesson 4
15:05–15:30	PM Reg – assembly or guided reading

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

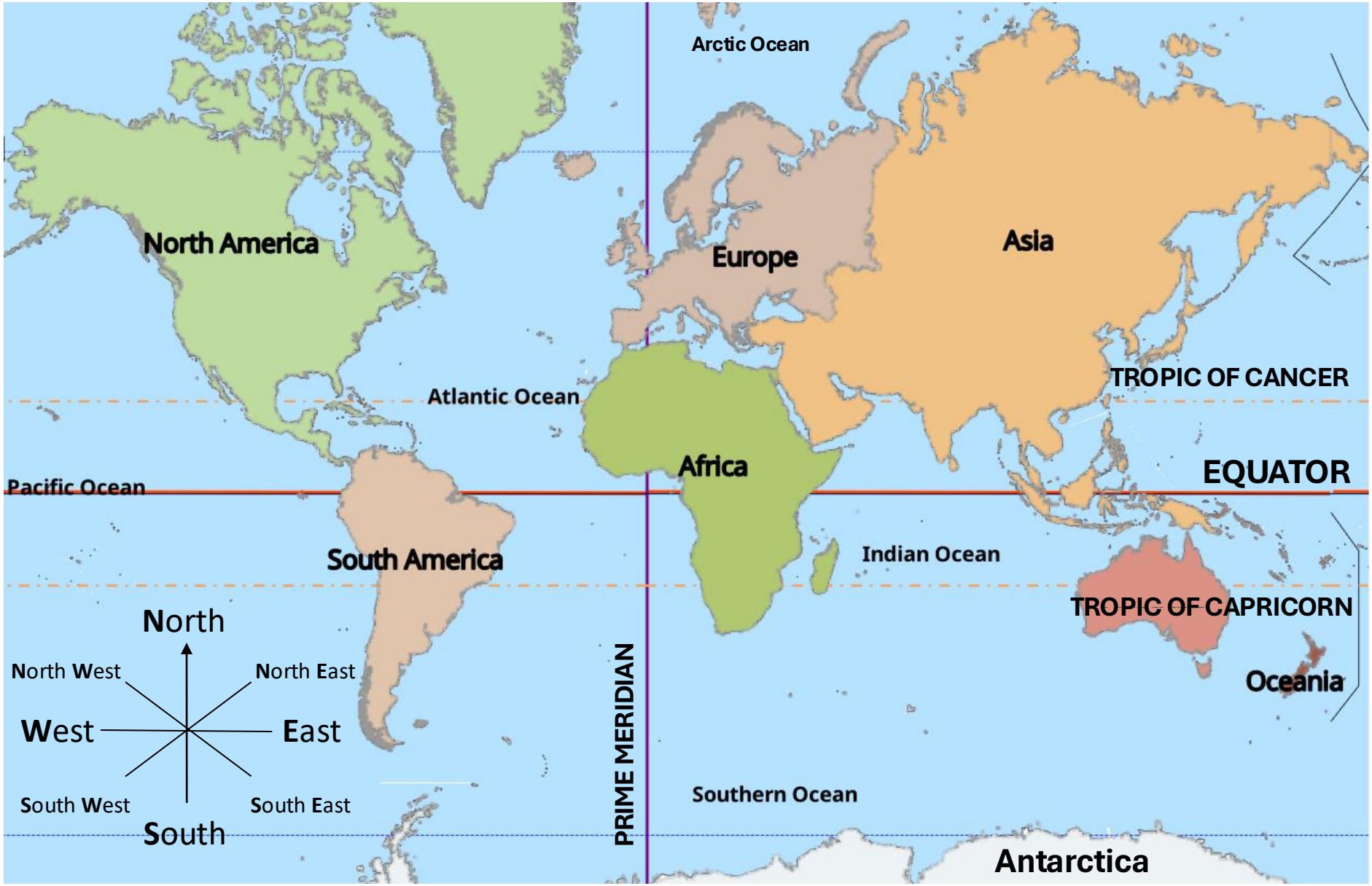
PERIODIC TABLE OF ELEMENTS

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

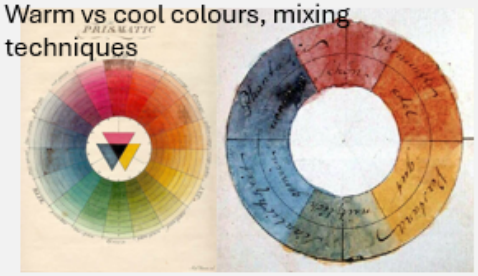
Art

Year 7 Colour Theory

Art

Term 1

1.Colour Theory (Colour wheel)
Focus: Primary, Secondary, Tertiary/Colours; Colour Wheel
Vocabulary: Hue, Primary/Complementary, Monochrome
Key Knowledge:
Warm vs cool colours, mixing techniques

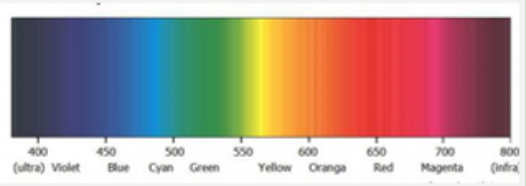


Practical Task: Paint a colourwheeland create a colour mixingchart
Brush control, painting techniques

- **Vocabulary**:
- Primary (Red, Blue, Yellow), Secondary, Tertiary, Brush control,

Knowledge:
- Types of line (e.g. contour, cross-hatching)
- Basic composition principles
- Brush control techniques

Use the acronym **ROYGBIV** for the visible spectrum.
Opposites attract! **Complementary colours** create high contrast.
Think of emotions: **Warm = happy/energetic**, **Cool = calm/sad**.
Try mixing paints at home or use digital tools like Adobe Color Wheel.



Understand the purpose of colour theory and how artists use colour.
•Primary & Secondary Colours
•Identify and mix primary colours to create secondary colours.
•Tertiary Colours
•Mix primary and secondary colours to create tertiary colours.
•The Colour Wheel
•Construct and label a full colour wheel; understand its function.

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

- **Warm vs Cool Colours**
- Distinguish between warm and cool colour and their emotional impact.
- **Complementary & Analogous Colours**
- Identify these relationships and apply them in a design task.

- **Tints, Shades & Tones**
- Mix and use tints, shades and tones effectively.

- **Colour in Art History**
- Explore how colour is used by artists like Van Gogh, Matisse, Rothko.

- **Practical Task: Colour Composition**
- Create a piece using colour theory knowledge(e.g., abstract or landscape).

- **Assessment & Review**
- Reflect on knowledge gained and evaluate final artwork.

Art

Year 7 Book Illustration Art Term 1

Fantastic and Strange

Theme: Creating a Fantasy creature Through Art

Focus: Childrens book illustration Drawing, composition, colour, texture, and imagination

Artist: Mateo Dinean, Maurice Sendak, Wayne Anderson

Introduction to Fantasy Art

- **Learning Objective:** Understand the characteristics and themes of fantasy art.
- **Activities:**
- Explore famous fantasy artists (e.g., Brian Froud, John Howe, Alan Lee).
- Discuss common elements: mythical creatures, invented landscapes, magical items.

Fantasy Creatures – Design & Sketching

- **Learning Objective:** Develop creature design skills using reference and imagination.
- **Activities:**
- Look at examples of dragons, elves, goblins, hybrids, etc.
- Practice combining animals to create new creatures.
- Sketch 2–3 creature ideas with annotations.
- **Skills:** Shape, line, proportion.

Lesson 4: Bringing it Together – Composition Planning

- **Learning Objective:** Plan a final fantasy artwork using previous ideas.
- **Activities:**
- Thumbnail sketches exploring different layouts.
- Choose one and draw out a final composition in pencil.
- Peer critique and improve.

Lesson 5: Adding Detail –Colour, Texture, and Atmosphere

- **Learning Objective:** Develop detail in final piece using colour and texture.
- **Activities:**
- Explore colour schemes: mystical, eerie, bright, etc.
- Practice techniques in chosen media (coloured pencil, paint, ink).
- Begin adding colour to final piece.
- **Focus:** Use of tone, blending, and surface texture.
- **Skills:** Layout, storytelling through imagery.

Lesson 6: Final Touches & Evaluation

- **Learning Objective:** Complete artwork and evaluate the creative process.
- **Activities:**

  Finish detailing and backgrounds.
  Class gallery walk and peer feedback.

Computing

E-safety

E-safety refers to staying safe online, this includes the use of the internet, social media sites and gaming.

Top tips for staying safe online:

1. Do not talk to strangers
2. Do not give out personal information
3. Make sure all social media accounts are set to private.
4. Do not meet anyone online.

Cyberbullying

Cyberbullying is ***"bullying for the 21st century, using email, text messages and the internet."*** (Richard Aedy, *ABC Radio National*)

Flaming

Flaming is the online act of posting insults, often laced with profanity or other offensive language on social networking sites.

Cyber Stalking

Cyberstalking is the use of the Internet or other electronic means to stalk or harass an individual, group, or organization.

Masquerading

Masquerading is an elaborate form of cyberbullying where the bully pretends to be someone who they are not. They might create fake email addresses or instant messaging names, or they might use someone else's email or mobile phone to bully someone.

Malware

Malware is software that is specifically designed to disrupt, damage, or gain unauthorized access to a computer system. There are several different types of **malware**.

Viruses

A virus can be defined a piece of code which is capable of copying itself and typically has a detrimental effect, such as corrupting the system or destroying data.

Worms

A worm can be defined as a self-replicating program able to propagate itself across a network, typically having a detrimental effect.

Trojan Horses

A Trojan horse, or trojan, can be defined, as any malware which misleads users of its true intent. The term is derived from the Ancient Greek story of the deceptive Trojan Horse that led to the fall of the city of Troy.

Spyware

Spyware can be defined as a piece of software that is installed in a computer without the user's knowledge and transmits information about the user's computer activities over the Internet.

Write down three things you will do to stay safe online

1.

2.

3

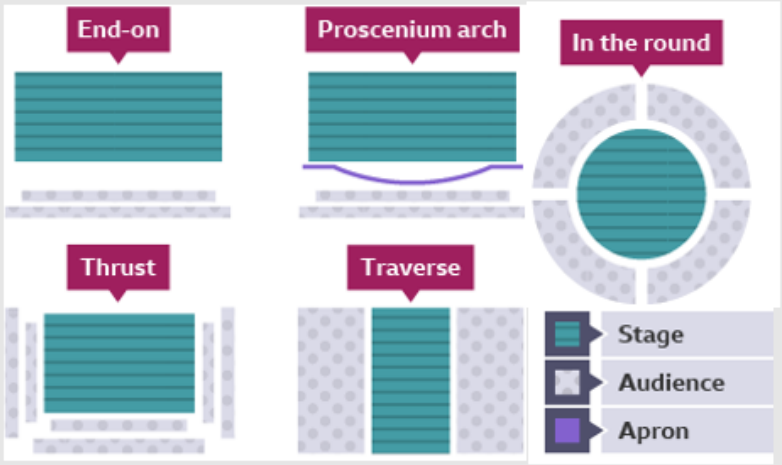
10 Malware Protection Tips

1. Keep your operating system up to date. Always use the latest software version available. Out-dated programs often suffer from severe security vulnerabilities, which hackers take advantage of.
2. Install a firewall to ward off threats.
3. Use a virus scanner program to detect and reject possible security threats.
4. Create passwords that are at least 12 characters long. Longer passwords are harder to crack. In fact, the length of the password is more important than the use of special characters.
5. Choose a unique password for each of your digital accounts.
6. Only open emails from trusted senders. If you open a dubious looking email, do not click any links, and delete it straight away.
7. Never pass on personal data such as account or credit card data using email.
8. Use a trusted email provider and always send sensitive data encrypted.
9. Do not use public WLAN routers (unencrypted wireless networks).
10. Only install programs from trustworthy sources.

Drama

Year 7 | Drama | Term 1

Staging Types



Stage Positions

Upstage Right	**Upstage**	**Upstage Left**
Stage Right	**Centre Stage**	**Stage Left**
Downstage Right	**Downstage**	**Downstage Left**

Drama Techniques

Freeze Frame – the actors are frozen like a photograph
Thought-tracking – Saying what a character is thinking aloud during a still image.
Teacher in role – teacher becomes a character
Hot seating – interview actors in character
Mime – acting without words
Narration – telling the story directly to the audience

Vocabulary

Proxemics – the distance between performers
Body language – communication through physical actions
Suspense – a feeling of uncertainty about what will happen

Lighting Design Terminology

Light positions:
Front Light
Back Light
Side Light
Up Light
Top Light

Gel – changes light colour
Cyclorama – white backdrop
Blackout – no light at all
Crossfade – move from one lighting state to another

Darkwood Manor: An Introduction to Drama Skills

Drama

Year 7 Drama Term 1

Plot

A Christmas Carol was written by Charles Dickens in 1843.

The story follows Ebenezer Scrooge, a greedy old man who changes after being visited by three ghosts: Past, Present, and Yet to Come.

Context

Poverty in Victorian England was widespread and severe. The gap between the wealthy and the poor was vast, with many working families struggling to survive on meagre wages, facing unemployment, illness, and the threat of the workhouse.

Key characters

Scrooge – Miserly, selfish, later regretful and generous.
Bob Cratchit – Kind, hardworking clerk; shows family and moral values.
Tiny Tim – Innocent symbol of hardship and hope.
Jacob Marley – the ghost of Scrooge's business partner.
The Ghosts – Christmas Past, Christmas Present and Christmas Yet to Come

Drama Techniques

Narration – Telling the story directly to the audience.
Freeze Frame – Creating still images to show important moments.
Thought-tracking – Saying what a character is thinking aloud during a still image.

Themes

Redemption – Scrooge becomes a better person.
Poverty and Social Injustice – through the Cratchit family
Kindness and Generosity – The Spirit of Christmas
Isolation vs. Community – Scrooge starts alone but reconnects with others.

Vocal and physical skills

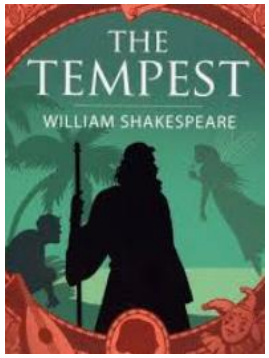
Pitch – Use a higher or lower voice to suit age or emotion.
Pace – Speed up for panic or slow down for seriousness.
Posture – Hunched for old age, upright for confidence.
Facial Expression – Show fear, joy, or surprise as Scrooge reacts to each ghost.

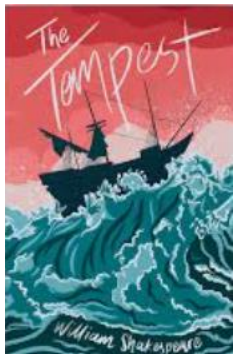
A Christmas Carol

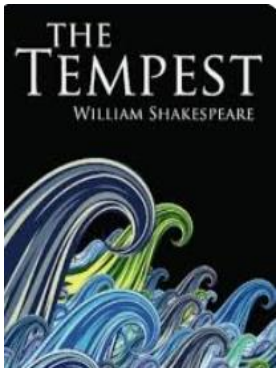
MAGIC & FANTASY

English

Shakespeare's *The Tempest*

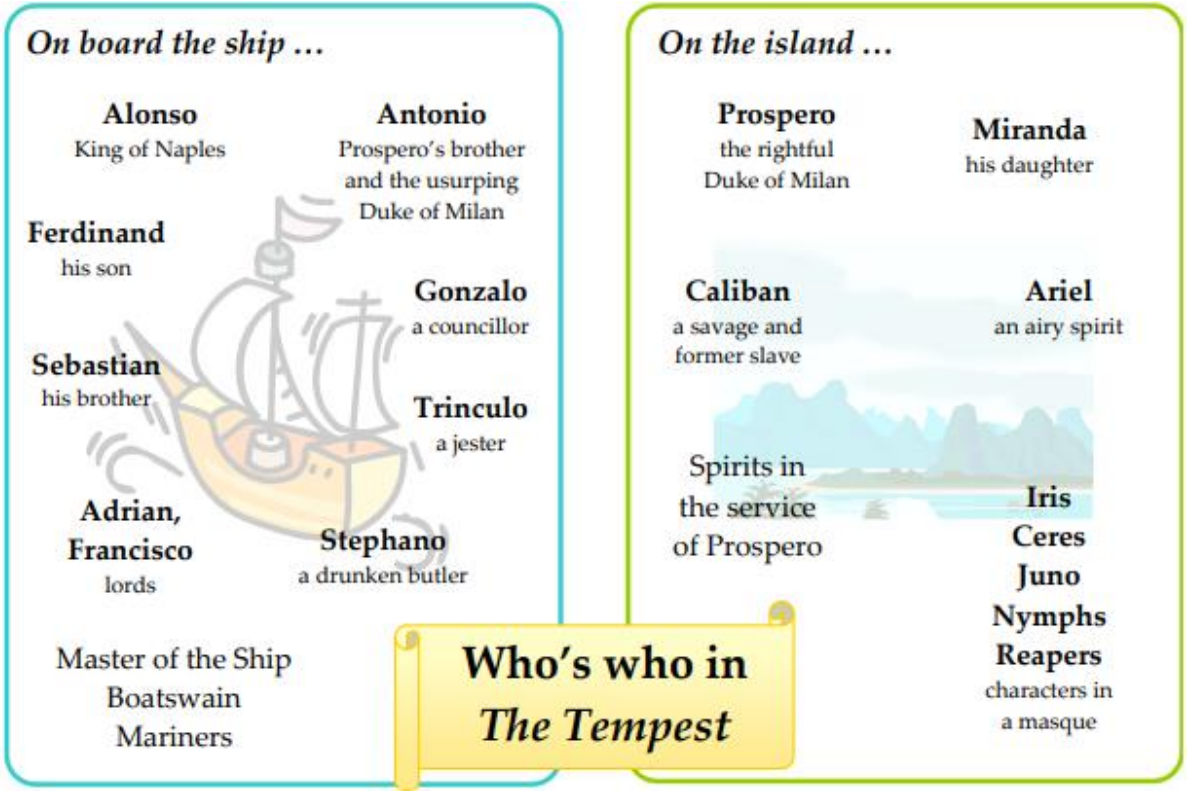






- IMAGERY OF SEA AND SKY
- IMAGERY OF POWER
- IMAGERY OF GODS AND MONSTERS

Shakespeare's *The Tempest*



Characters
Alonso – King of Naples
Sebastian – Alonso's brother
Ferdinand – Alonso's son
Antonio – Prospero's brother. Antonio stole Prospero's title as Duke of Milan.
Gonzalo – the old counsellor to the King of Naples
Trinculo – a jester
Stephano – a drunken butler
Prospero – the rightful Duke of Milan
Miranda – Prospero's daughter
Ariel – an airy spirit; a slave of Prospero's who earns his freedom
Caliban – a savage and deformed slave of Prospero's; a native of the island

Shakespeare's The Tempest

Plot summary

Key Concepts:

The Supernatural:
magic is at the heart of the Tempest and is the tool Prospero uses to cause the shipwreck. Magic is used for both good (Prospero) and evil (Prospero and Sycorax) and is shown to be a craft, much like writing a play.

Freedom and confinement:
Prospero is exiled and confined to the island. Here he enslaves Caliban and Ariel. Shakespeare raises important questions about slavery, power and freedom.

The Quest for Knowledge:
Shakespeare was writing at the height of the Renaissance movement, and Prospero's ceaseless quest for knowledge in The Tempest personifies the ideals of the quintessential 'Renaissance Man'

Men and Monsters:
Caliban is referred to both as a monster and as a man. Interestingly, the men in the play often behave in a more monstrous way than Caliban.

Justice, Forgiveness, and Repentance:
Prospero is usurped and attempts to seek justice by regaining power. However, his view of justice is somewhat subjective, as he sees no issue with enslaving Ariel in Caliban in order to achieve his goals. Regardless, he speaks of the need for and power of forgiveness.

MAGIC & FANTASY English

Shakespeare's *The Tempest*

Links to explore so much more:

[The Tempest - KS3 English - BBC Bitesize]

[The Tempest | Royal Shakespeare Company]

[www.sparknotes.com/nofear/shakespeare/tempest]

Context

The play	The Tempest was written between 1610-1611.
The Renaissance	The Renaissance (French word for rebirth) is a cultural period in history that represented the search for knowledge and power. Prospero can be seen to be a 'Renaissance man' because he devotes himself to his books and explores a new land.
Colonisation	Shakespeare's audiences would have been very interested in England's effort to colonise distant lands. England was fast becoming a world power and Shakespeare explores the problematic relationship between coloniser and native people through Prospero and Caliban.

Word	Definition
Aggrieved	Feeling resentment at having been unfairly treated.
Avenge	To harm or punish someone who has harmed you.
Civilised	Bring (a place or people) to a stage of social development considered to be more advanced.
Colonise	Taking full or partial political control by settling in another country.
Bigotry	unreasonable attachment to a belief or opinion in particular prejudice
Distorted	Giving a misleading or false account or impression; misrepresented
Hierarchy	a ranking system according to importance/status
Imperious	Arrogant and domineering
Manipulate	Control or influence (a person or situation) cleverly
Tempestuous	Characterized by strong and turbulent or conflicting emotion.
Usurp	To take a position of power or importance illegally or by force.
Wretched	In a very unhappy state.
Reconciliation	The restoration of friendly relations

French

Module 1 - La rentrée

Point de départ

Bonjour Hello Salut! Hi!	(Comment) ça va? How are you?	Ça va (très) bien I'm (very) well Pas mal, merci Not bad, thank you Ça ne va pas! Not good!	Au revoir! Goodbye À plus! See you later

As-tu des frères ou des soeurs?

As-tu des frères ou des soeurs?

Do you have brothers or sisters?

Oui, j'ai.. Yes I have..	un (demi) -frère a (half) brother une (demi) - soeur a (half) sister
Non je n'ai pas de frères ou de soeurs I don't have any brothers or sisters	
Je suis fils/fille unique I'm an only child	

Tu es comment?

Je suis – I am Je ne suis pas – I'm not Il est – he is Elle est – she is	amusant (e) – funny arrogant (e) – arrogant bavard (e) – chatty fort (e) – strong grand (e) – big/tall intelligent (e) – intelligent méchant (e) – nasty patient (e) - patient petit (e) – small/short timide - shy

Voici ma salle de classe

Qu'est-ce qu'il y a sur la photo? What is on the photo?	Sur la photo In the photo Au fond- at the front Au centre- in the centre À gauche- on the left À droite- on the right	il y a there is/are	un tableau (noir/blanc) a (black/white) board un poster – poster un/une prof(esseur) – a teacher un écran – screen un ordinateur – a computer une porte – a door une fenêtre – a window une tablette – a tablet des tables – some tables des chaises – some chairs des élèves - some pupils	c'est it is	sympa - nice génial - great moderne - modern triste - sad nul – rubbish démodé – old fashioned

French

Module 1 - La rentrée

Qu'est-ce que tu fais?

Ma vie, c'est… My life is… Pour moi, la rentrée c'est… For me, going back to school is….	chanter – to sing danser – to danse retrouver mes amis – to meet up with friends bloguer – to blog surfer – to surf tchatter – the chat rigoler – to have a laugh étudier – to study nager – to sim jouer – to play gagner – to win

Mon interview par vidéo

C'est quand, ton anniversaire ? When is your birthday?	mon anniversaire c'est le… my birthday is the	premier – 1st 2,3,4,5 etc	janvier février mars avril mai juin	juillet août septembre octobre novembre décembre

Tu aimes ça?

Tu aimes…? Do you like?	J'aime – I like	le sport - sport le foot - football le vélo - cycling le collège - school le poisson - fish
	Je n'aime pas – I don't like	la danse – dance la musique – music
	Je préfère – I prefer	les serpents – snakes les pizzas – pizza les glaces – ice-creams les jeux vidéo – video games les vacances – holidays les BD – comics les mangas – manga les araignées - spiders

High Frequency Words

je	I
tu	you
il	he
elle	she
un/une	a
des	some
et	and
mais	but
aussi	also
assez	quite
très	very
trop	too much
un peu	a bit

Les numéros

1 un/une
2 deux
3 trois
4 quatre
5 cinq
6 six
7sept
8 huit
9 neuf
10 dix
11 onze
12 douze
13 treize
14 quatorze
15 quinze
16 seize
17 dix-sept (10+7)
18 dix-huit (10+8)
19 dix- neuf

20 vingt
30 trente
40 quarante
50 cinquante
60 soixante
70 soixante-dix (60+10)
71 soixante et onze (60+11)
80 quatre vingts (4 x 20)
90 quatre-vingts-dix (4x20)+10
100 cent

French

GRAMMAIRE
Regular present tense verbs

ER VERBS e.g. Passer = to spend (time)	
Je pass**e**	*I spend*
Tu pass**es**	*You spend*
Il/Elle/On pass**e**	*He/She/One spends*
Nous pass**ons**	*We spend*
Vous pass**ez**	*You spend (form/pl)*
Ils/Elles pass**ent**	*They spend*

IR VERBS e.g. Finir = finish	
Je fini**s**	*I finish*
Tu fini**s**	*You finish*
Il/Elle/On fini**t**	*He/She/One finishes*
Nous fin**issons**	*We finish*
Vous fin**issez**	*You finish (form/pl)*
Ils/Elles fin**issent**	*They finish*

RE VERBS e.g. vendre = to sell	
Je vend**s**	*I sell*
Tu vend**s**	*You sell*
Il/Elle/On vend	*He/She/One sells*
Nous vend**ons**	*We sell*
Vous vend**ez**	*You sell (form/pl)*
Ils/Elles vend**ent**	*They sell*

GRAMMAIRE Irregular present tense verbs

Faire = to do / to make		Aller = to go	
Je fais	*I do*	Je vais	*I go*
Tu fais	*You do*	Tu vas	*You go*
Il/Elle/On fait	*He/She/One does*	Il/Elle/On va	*He/She/One goes*
Nous faisons	*We do*	Nous allons	*We go*
Vous faites	*You do (form/pl)*	Vous allez	*You go (form/pl)*
Ils/Elles font	*They do*	Ils/Elles vont	*They go*

GRAMMAIRE Modal verbs

Vouloir = to want	
Je veux	*I want*
Tu veux	*You want*
Il/Elle/On veut	*He/She/One wants*
Nous voulons	*We want*
Vous voulez	*You want (form/pl)*
Ils/Elles veulent	*They want*

Pouvoir = to be able to	
Je peux	*I can*
Tu peux	*You can*
Il/Elle/On peut	*He/She/One can*
Nous pouvons	*We can*
Vous pouvez	*You can (for/pl)*
Ils/Elles peuvent	*They can*

Grammar

Aujourd'hui	*Today*
Demain (soir)	*Tomorrow (night)*
Ce matin / ce soir	*This morning/evening*
Cet après-midi	*This afternoon*
La semaine prochaine	*Next week*

⭐ **S'il fait beau**
If the weather's nice

⭐ **S'il fait mauvais**
If the weather's bad

⭐ **Si j'ai assez d'argent** *If I have enough money*

Ça va être...
It's going to be

cool / génial / sympa
cool / great / nice

Qu'est-ce qu'on va faire? *What are we going to do?*

Near Future Tense = Aller + infintive (going to do)

Je vais
I am going

On va / Nous allons
We are going

Use the present tense of the verb ALLER from above ↗

aller au parc	*to go to the park*
visiter le musée	*to visit the museum*
manger au resto	*to eat at a restaurant*
acheter un jeu vidéo	*to buy a videogame*
voir un spectacle	*to see a show*
faire les magasins	*to go shopping*
prendre le bus	*to take the bus*

French

Qu'est-ce que tu as fait le week-end dernier? ***What did you do last weekend?***	**J'ai / Nous avons…** ***I / We…***	…passé (le week-end) *…spent (the weekend)*	…participé à une competition *…took part in a competition*	fait du vélo *…went cycling*
	…joué au tennis *…played tennis*	…fêté (mon anniv) *…celebrated my birthday*	*…regardé un match / film* *…watched a match / a film*	fait de la natation *…went swimming*

Hier *Yesterday*
Avant-hier *The day before yesterday*
Le week-end dernier *Last weekend*
La semaine dernière *Last week*
Il y a deux semaines *Two weeks ago*
D'abord / Enfin *Firstly / Finally*
Ensuite / puis *Next / then*
Après *After*
Plus tard *Later*
⭐ Après avoir (mangé) *After having (eaten)*
⭐ Avant de (partir) *Before (leaving)*

The Past: The Perfect Tense with Avoir

We use the perfect tense to say what we did or have done in the past. To form it you need 2 parts:
PART 1: Avoir (the verb to have) **+ PART 2:** Past participle (e.g. visited/done/eaten)

PART 1: Avoir = *To have*			**PART 2: The Past participle**							
			ER verbs +é		**IR verbs +i**		**RE verbs +u**		**Irregulars**	
J'**ai**	*I have*		visité	*visited*	fini	*finished*	perdu	*lost*	fait	*did*
Tu **as**	*You have*		regardé	*watched*	vomi	*vomited*	attendu	*waited*	pris	*took*
Il / Elle/ On **a**	*He / She has*	+	écouté	*listened*	dormi	*slept*	vendu	*sold*	bu	*drank*
Nous **avons**	*We have*		mangé	*ate /eaten*					vu	*saw*
Vous **avez**	*You all have*		acheté	*bought*					lu	*read*
Ils / Elles **ont**	*They have*									

Je suis allé(e) … ***I went…***
Nous sommes allé(e) … ***I went…***
au parc / **au** stade *…to the parc / stadium*
à la piscine *…to the pool*
aux magasins *…to the shops*

The Past: The Perfect Tense with Être

Some specific 'special' verbs take **Être (To be)** instead of Avoir…
Être verbs agree with the subject! If it's feminine, add an '**e**'. If it's plural, add an '**s**'

PART 1: Être = *To be*	
Je **suis**	*I am*
Tu **es**	*You are*
Il / Elle **est**	*He/She is*
Nous **sommes**	*We are*
Vous **êtes**	*You lot are*
Ils / Elles **sont**	*They are*

	PART 2: The Past participle (+e) (+s)			
+	allé(e)(s)	*went*	sorti(e)(s)	*went out*
	resté(e)(s)	*stayed*	parti(e)(s)	*left*
	arrivé(e)(s)	*arrived*	venu(e)(s)	*came*
	retourné(e)(s)	*returned*	revenu(e)(s)	*came back*
	rentré(e)(s)	*went back (home)*	devenu(e)(s)	*became*

Grammar

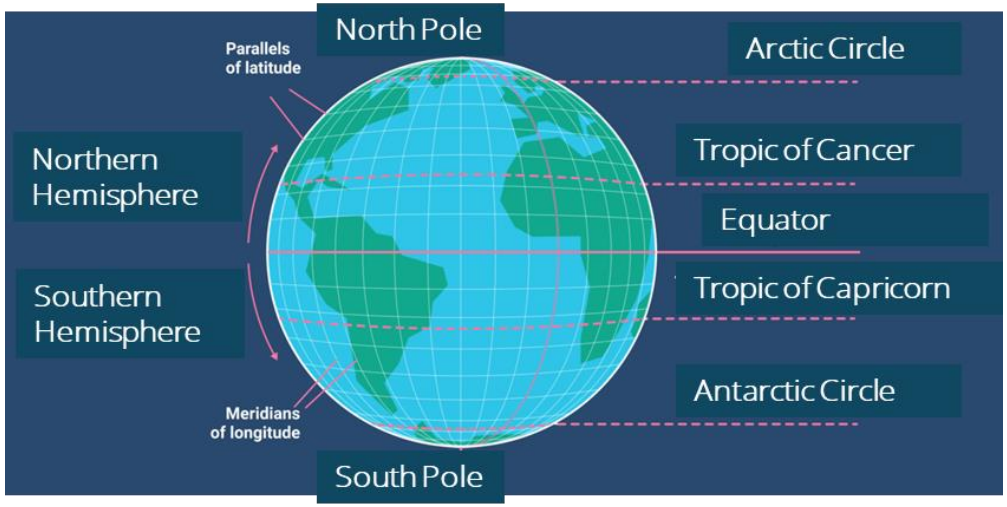
Geography

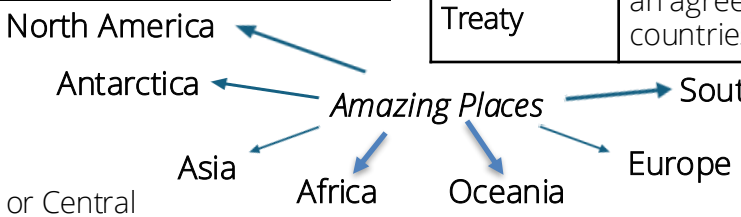
1. Tier 3 words that describe key concepts related to geography

Tier 3	Definition
Physical Geography	about what our planet is like.
Human Geography	about how and where people live.
Continent	a land mass area that divides the world into 7 sections: Asia, Africa, North America, South America, Europe, Oceania, Antarctica.
Country	an area within a continent that has a defined political boundary e.g. France.
Settlement	a place where people live e.g. village, town, city.

2. Describing places geographically

Continent – state the continent it is in
Line of Latitude – which one is nearby
Ocean/Sea – which is nearby
Countries nearby – 2 to 3 which border
Compass direction – North, East, South, West or Central





3. Tier 3 words to describe Amazing Places

Tier 3	Definition
Superpower	a nation or group of nations with significant influence and power on a global scale in terms of politics, economics and military capability.
Colonisation	the process by which a country or group of people establish control over a foreign territory often leading to economic, political and cultural influence on foreign countries.
Sovereignty	the legal right to govern a physical territory.
Treaty	an agreement under international law between different countries or organisations e.g. Antarctic Treaty.

4. Place specific facts:

South America: Amazon Rainforest has the highest biodiversity in the world. The climate is hot (average temperatures of 26-30*C) and wet (between 1500mm-3000mm)

Europe: The EU (European Union) informs the government of most of the countries in Europe. It has a strong economy (GDP of nearly $20trillion), has political power globally, and a strong military (300 warheads).

Africa: Has mostly developing countries. They sometimes have poor areas called squatter settlements. In Lagos, there is a large squatter settlement called Makoko.

Asia: The Himalayas, a range of fold mountains, are located on a tectonic plate boundary. Due to the Indian and Eurasian Plates moving towards each other, rocks are pushed upwards forming the mountain range. Earthquakes are frequent in the Himalayas.

History

1. Historical Terms needed throughout the subject

Tier 3	Definition
source	Evidence created at the time of the event being studied
interpretation	An opinion based on evidence written after the event being studied
inference	To make a guess from a source (of evidence)
provenance	Information of who wrote a source and when

2. Key people in topic


Edward the Confessor - Anglo-Saxon King of England, died Jan 1066


Edith Godwinson - Wife of King Edward and sister of Harold Godwinson


Harold Godwinson - Claimant to the throne, King of England in 1066, died at the Battle of Hastings


Edgar Aethling - Claimant to the throne, nephew of King Edward


Tostig Godwinson - Brother of Harold Godwinson, fought with Harold Hardrada, died at Stamford Bridge


William - Duke of Normandy, claimant to the throne, King of England from Dec 1066


Odo of Bayeux - Brother of William, bishop and tenant-in-chief


Harold Hardrada - Claimant to the throne, King of Norway, invaded England, died at the Battle of Stamford Bridge


The Pope - Head of the Church, supported William

3. Key dates

Jan 1066	King Edward died & Harold becomes king
25th Sept. 1066	The Battle of Stamford Bridge: Anglo-Saxons V. Danes/Vikings. Anglo-Saxons win
14th Oct 1066	The Battle of Hastings: Anglo-Saxons V. Normans. Normans win
25th Dec 1066	William became king of England

4. Tier vocabulary that describe key historical concepts

Tier 2	Definition
oath	A special promise made before God
coronation	The ceremony when someone becomes a king/queen
conquer	Taking over an area or country, often by force. To win.
illegitimate	Born outside of marriage.
Tier 3	**Definition**
fyrd	Anglo-Saxon word for army
archers	Soldiers with bows and arrows
cavalry	Soldiers on horseback
feigned Retreat	A group of soldiers pretending to run away
shield Wall	Battle tactics, where soldiers form a line of shields
burh	Anglo-Saxon word for a town
cunning woman	Woman who is a priest and doctor
Earl / lord	Important person who holds a lot of land
Knight	Someone who fights on horseback / holds land from tenant-in-chief/lord
peasant	A poor person who works on the land
pagan	A person that believes in lots of Gods or spirits.
claimant	Someone who wants to be king
heir / aethling	Next in line to the throne
witan	Council that advised Anglo-Saxon kings

Maths

YEAR 7 – ALGEBRAIC THINKING...

Sequences

@whisto_maths

What do I need to be able to do?

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

- Describe and continue both linear and non-linear sequences
- Explain term to term rules for linear sequence
- Find missing terms in a linear sequence

Keywords

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

Continue Linear Sequences

7, 11, 15, 19...

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

How many terms do I need to make this conclusion?
At least 4 terms – two terms only shows one difference not if this difference is constant. (a common difference)

How do I continue the sequence?
You continue to repeat the same difference through the next positions in the sequence.

Continue non-linear Sequences

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

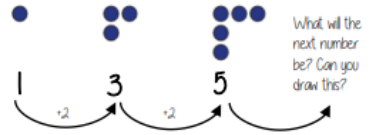
How do I know this is a non-linear sequence?
It increases by multiplying the previous term by 2 – this is a geometric sequence because the constant is multiply by 2

How many terms do I need to make this conclusion?
At least 4 terms – two terms only shows one difference not if this difference is constant. (a common difference)

How do I continue the sequence?
You continue to repeat the same difference through the next positions in the sequence.

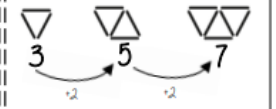
Describe and continue a sequence diagrammatically

Count the number of circles or lines in each image



What will the next number be? Can you draw this?

Predict and check terms



CHECK – draw the next terms

Predictions:
Look at your pattern and consider how it will increase.

e.g. How many lines in pattern 6?

Prediction - 13
If it is increasing by 2 each time - in 3 more patterns there will be 6 more lines

Explain term-to-term rule

How you get from term to term

Try to explain this in full sentences not just with mathematical notation
Use key maths language – doubles, halves, multiply by two, add four to the previous term etc.

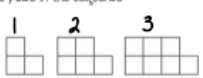
To explain a whole sequence you need to include a term to begin at...

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

4, 12, 36, 108...
x3 x3 x3
First term

Sequence in a table and graphically

Position: the place in the sequence



3 5 7

"The **term** in **position** 3 has 7 squares"

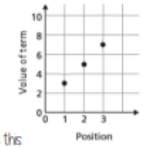
Term: the number or variable
(the number of squares in each image)

In a table

Position	1	2	3
Term	3	5	7

+2 +2

Graphically



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

Linear and Non Linear Sequences

Linear Sequences – increase by addition or subtraction and the same amount each time
Non-linear Sequences – do not increase by a constant amount – quadratic, geometric and Fibonacci

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

Fibonacci Sequence – look out for this type of sequence

0 1 1 2 3 5 8 ...

Each term is the sum of the previous two terms

Maths

YEAR 7 – ALGEBRAIC THINKING...

Algebraic notation

@whisto_maths

What do I need to be able to do?

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

- Be able to use inverse operations and "operation families"
- Be able to substitute into single and two step function machines
- Find functions from expressions
- Form sequences from expressions
- Represent functions graphically

Keywords

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

Single function machines

INPUT → OUTPUT
The number that goes IN → The number that comes out

This box gives the calculation instruction

To find the input from the output
Use the **INVERSE** operation

Using letters to represent numbers

$5+5+5$ | 3×5 | 5×3

$y+y+y+y$ | $y \times 4$ | $4 \times y$ | $4y$ ← 4 lots of 'y'

$20 \div h$ | $\frac{20}{h}$ ← 20 shared into 'h' number of groups

Addition and multiplication can be done in any order
Commutative calculations

Single function machines (algebra)

INPUT → OUTPUT

$a \rightarrow 10a$
$3c \rightarrow 30c$

x 10 / ÷ 10

To find the input from the output
Use the **INVERSE** operation

Find functions from expressions

INPUT → ? → OUTPUT
7x → ? → 14x

Find the relationship between the input and the output

Sometimes there can be a number of possible functions, e.g. **+7x** or **x 2** could both be solutions to the above function machine

Substitution into expressions

$4y$ ← 4 lots of 'y'

If y = 7 this means the expression is asking for 4 "lots of" 7

4×7 **OR** $7+7+7+7$ **OR** 7×4 = **28**

eg: $y-2$
$7-2=5$

Two step function machines

INPUT → ? → ? → OUTPUT

Calculate the value at the end of each operation

For the input use the **INVERSE** operations

Two step function machines (algebra)

b → x5 → +4 → 5b + 4
(-5, -4)

c → +4 → x5 → 5(c + 4) = 5c + 20
(-4, -5)

IMPORTANT
Calculate the value at the end of each operation

NOTE:
The whole first output is multiplied by 5

Find functions from expressions

f → +5 → ÷3 → $\frac{f+5}{3}$
f add 5 then divide by 3

f → ÷3 → +5 → $\frac{f}{3}+5$
f divided by then add 5

NOTE: the difference in the two expressions

Sometimes it helps to try to explain the expression in word – and consider what has happened to the input.

Substitution into an expression

$2(x+3)$
Add 3 to the input then times 2

Put the expression into a function machine

INPUT → +3 → x2 → OUTPUT

If x = 10
$10+3=13$... $13 \times 2 = 26$

Forming a sequence

$2(x+3)$

INPUT	1	2	3
OUTPUT	8	10	12

The substitution is the 'input' value
The OUTPUT becomes the sequence

Representing functions graphically

Take the function and generate a sequence **2(x + 3)**

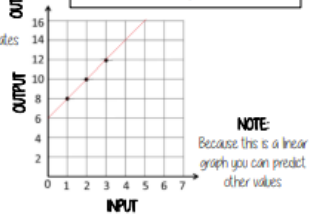
INPUT → +3 → x2 → OUTPUT

To represent graphically the input becomes x co-ordinates and the output becomes y co-ordinates

y=2(x + 3)

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

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



Not all graphs will be linear only those with an integer value for x
Powers and fractions generate differently shaped graphs

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

Maths

YEAR 7 – ALGEBRAIC THINKING...

Equality and Equivalence

@whisto_maths

What do I need to be able to do?

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

- Form and solve linear equations
- Understand like and unlike terms
- Simplify algebraic expressions

Keywords

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

Equality

$2 + 14 = 5 + 5 + 6$

16 = 16

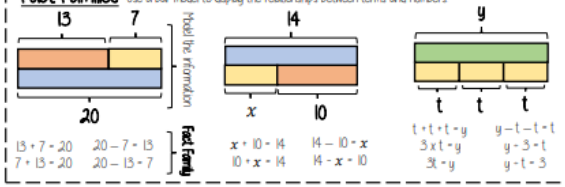
"is equal to"

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

Saying it out loud sometimes helps you to understand equality

Fact Families

Use a bar model to display the relationships between terms and numbers



$13 + 7 = 20$ $20 - 7 = 13$
$7 + 13 = 20$ $20 - 13 = 7$

$x + 10 = 14$ $14 - 10 = x$
$10 + x = 14$ $14 - x = 10$

$t + t + t = y$ $y - t - t = t$
$3 \times t = y$ $y - 3 = t$
$3t = y$ $y - t = 3$

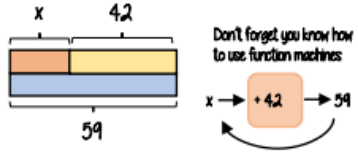
Solve one step equations (+/-)

There is more to this than just spotting the answer

$x + 4.2 = 59$

$x + 4.2 = 59$
$4.2 + x = 59$

$59 - x = 4.2$
$59 - 4.2 = x$



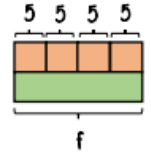
Don't forget you know how to use function machines

Solve one step equations (x/÷)

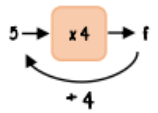
$\frac{f}{4} = 5$

$f \div 4 = 5$
$f = 5 \times 4$

$5 \times 4 = f$
$4 \times 5 = f$



Don't forget you know how to use function machines



Like and unlike terms

Like terms are those whose variables are he same

♡ and 3♡ are **like** terms

the variable is the same

★ 3♡ are **unlike** terms

the variables are NOT the same

Examples and non-examples

Like terms	Un-like terms
y, $7y$	y, $7x$
$2x^2$, x^2	$2x^2$, $2c^2$
ab, $10ba$	ab, $10a$
5, -2	5, $-2t$

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

Equivalence

Check equivalence by substitution

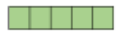
e.g. m = 10

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

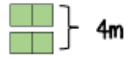
Equivalent expressions

Repeat this with various values for m to check

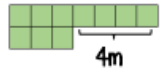
$5m$



$2 \times 2m$



$7m - 3m$



Collecting like terms ≡ symbol

The ≡ symbol means equivalent to

It is used to identify equivalent expressions

Collecting like terms

Only **like terms** can be combined

$4x + 5b - 2x + 10b$

$2x + 15b$

Common misconceptions

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

Although they both have the x variable, x2 and x terms are un-like terms so can not be collected

Maths

YEAR 7 – PLACE VALUE AND PROPORTION

Ordering integers and decimals

@whisto_maths

What do I need to be able to do?

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

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

Keywords

Approximate: To estimate a number, amount or total often using rounding of numbers to make them easier to calculate with

Integer: a whole number that is positive or negative

Interval: between two points or values

Median: A measure of central tendency (middle, average) found by putting all the data values in order and finding the middle value of the list

Negative: Any number less than zero, written with a minus sign

Place holder: We use 0 as a place holder to show that there are none of a particular place in a number

Place value: The value of a digit depending on its place in a number. In our decimal number system, each place is 10 times bigger than the place to its right

Range: The difference between the largest and smallest numbers in a set

Significant figure: A digit that gives meaning to a number. The most significant digit (figure) in an integer is the number on the left. The most significant digit in a decimal fraction is the first non-zero number after the decimal point.

Compare integers using <, >, =, ≠

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

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

Range *Spread of the values*

Difference between the biggest and smallest

3 9 8 12

Range: Biggest value – Smallest value

12 – 3 = 9

Range = 9

Median *The middle value*

Example 1

4 3 9 8 12

Median: put the in order 3 4 8 9 12

find the middle number 3 4 **8** 9 12

Example 2

150 154 148
137 160 158

Median: put the in order

137 148 150 154 158 160

There are 2 middle numbers

Find the midpoint

152

Integer Place Value

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

Placeholder

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

1 billion 1 000, 000, 000

1 million 1 000, 000

Intervals on a number line

0 20 40 60 80 100

Divide the difference by the number of intervals (gaps).

E.g. 100 ÷ 5 = 20

Rounding to the nearest power of ten

If the number is halfway between we "round up"

5495 to the nearest 1000: 5000 ↑ 6000

5475 to the nearest 100: 5400 ↑ 5500

5475 to the nearest 10: 5470 ↑ 5480

Decimals

We say "nought point five two"

Five tenths and two hundredths

ones	tenths	hundredths
	●	● ●

0 ones, 5 tenth and 2 hundredths

0 + 0.1 + 0.1 + 0.1 + 0.1 + 0.1 + 0.01 + 0.01

= 0 + 0.5 + 0.02

= 0.52

Comparing decimals

Which the largest of **0.3** and **0.23**?

Ones	Tenths	hundredths
	0.1 0.1 0.1	

Ones	Tenths	hundredths
	0.1 0.1	0.01 0.01 0.01

0.3 > 0.23

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

0.30
0.23

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

Decimal intervals on a number line

One whole split into 10 parts makes tenths = 0.1

One tenth split into 10 parts makes hundredths = 0.01

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1

0 0.02 0.04 0.06 0.08 0.1

0 0.2 0.4 0.6 0.8 1 1.2 1.4 1.6 1.8 2

Round to 1 significant figure

370 to 1 significant figure is 400

37 to 1 significant figure is 40

3.7 to 1 significant figure is 4

0.37 to 1 significant figure is 0.4

0.00000037 to 1 significant figure is 0.0000004

Round to the first non zero number

Maths

YEAR 7 – PLACE VALUE AND PROPORTION...

FDP equivalence

@whisto_maths

What do I need to be able to do?

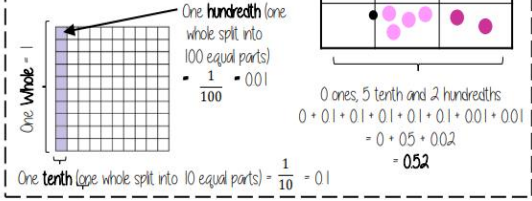
By the end of this unit you should be able to:

- Convert fluently between fractions, decimals & percentages

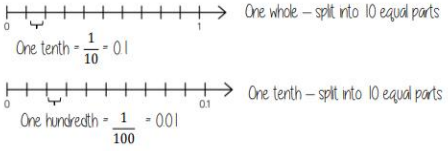
Keywords

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

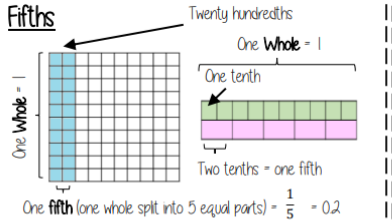
Tenths and hundredths



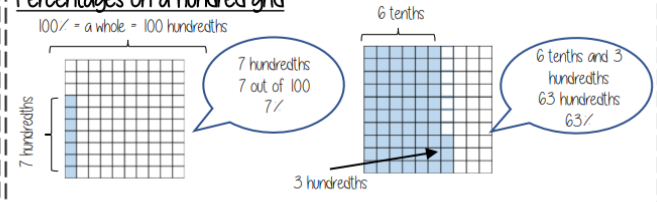
On a number line



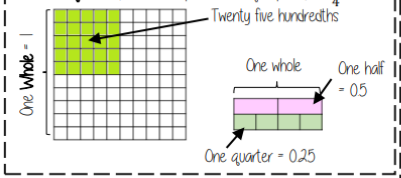
Fifths



Percentages on a hundred grid



Quarters



Simple pie charts

Split into 10 parts = 10% = 36°

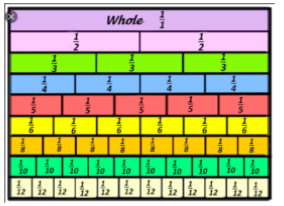
Split into 2 parts = 50% = 180°

Split into 5 parts = 20% = 72°

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

Equivalent fractions

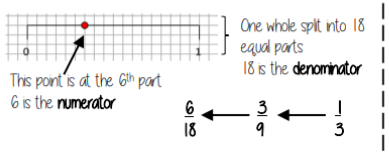
Represent equivalence with fraction walls



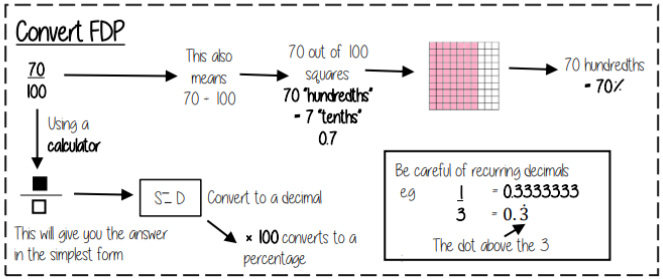
Fractions – on a diagram

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

Fractions – on a number line



Convert FDP



Music

Why create computer and video game music?

It **enhances gameplay**, sets **mood**, and gives **live feedback** about **game events that** makes it feel **real**.

Students learn **purposeful composition** for **characters**, **story arcs** and **scene setting.**

7 Key Words to Know

Motif – a short, memorable theme for a character – e.g. Mario.
8-bit / Chiptune – retro, beepy sound from early consoles.
Arpeggio – notes of a chord played one after another.
Layering – adding / removing parts to build the dramatic intensity.
Tempo (BPM) – speed of the beat; must sync to gameplay
Dynamics – changes in volume for drama and mood
SFX (Sound-effects) – non-musical sounds that enhance game action

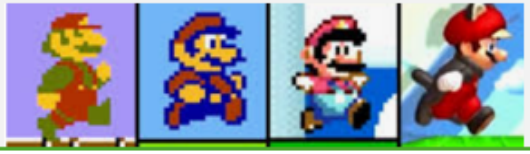
Origins of computer game music

Computer game sounds started back in **1958** – but video game music **themes** dates to the early **8-bit music** in the **70s.**

Early computers could only play **a few sounds** at once, so composers used simple **waveforms** and **catchy tunes.**

This helped create famous themes like

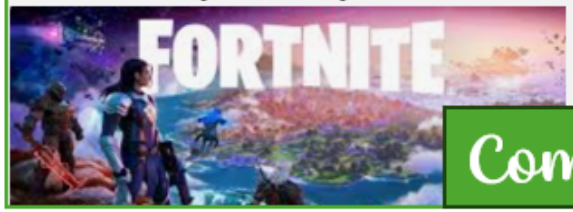
Mario



Motifs and Loops

Motifs announce the arrival of a **game character** – students explore how to **compose melodies** suiting the **character**.

Computer games use **endlessly repeating loops** to set game **scenes** and **mood** which **overlap** so that players never notice the **join** as they move around.



Harmony & Arpeggios

The **limitations** of early computers meant rather than play **chords** (lots of notes at once), they would be broken up into **arpeggios** (one note at a time) to create the same effect without using all the channels.

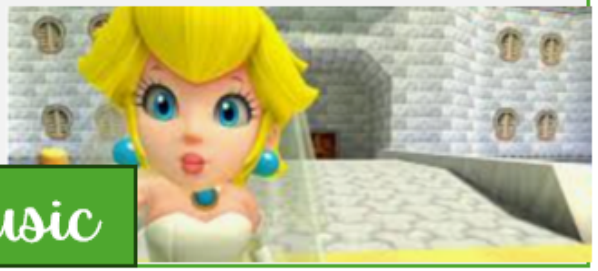
Texture – layers and sound effects

Students add **layers** for **drama** and strip them back for **calm moments**, to keep the game player's **emotion in sync**.
Sound effects **punctuate** the game play.

Timing & Transitions

Music must hit gameplay **cues –** which are events at a particular time.

Students **compose** live to a video of **gameplay**, so that their music can react to changes at it happens in the game.



Computer and video game music

Music

The **impact** and **value** of **music**

-and its 10 **core** building blocks, known as the **'Elements of music'**.

Key words,

Tempo, Rhythm, Structure, Melody, Harmony, Dynamics, Timbre, Tonality and Texture.

What will you do?

Train your ear to hear, **recognise** and **describe** each element.

Experiment and **practise** different aspects of the Elements of Music.

Appreciate the **historical**, **cultural** significance of music - - and its **positive effects** on the **brain** and **body**.

The sonic elements of music

These elements affect the way music **sounds**,

Key words and definitions:

- **Instrumentation** – The instruments that create the music.
- **Texture** – How many layers of musical parts.
- **Timbre** – the individual distinctive sound of each instrument.
- **Production** – Changes made to the sound during and after recording.

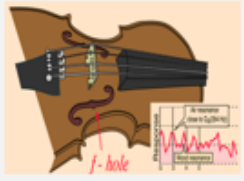
The compositional elements

These elements are used to 'write' the story and flow of music.

Key words and definitions:

Melody: The main tune or theme – a memorable sequence of notes.
Harmony: The combination of different notes played together.
Rhythm: A mixture of notes and rests
Structure: Sections of music like verses, choruses, intros etc.
Tempo: The speed or pulse of the music.
Tonality: Its mood and style – sad, happy, heroic, folky, bluesy etc.

Timbre :
The distinctive sound of each of instrument.



Texture : Many or few instruments?

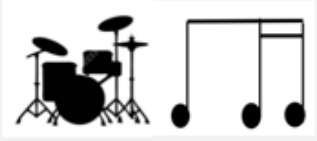
Thick (lots)

Thin (a few)

Instrumentation: What is playing?

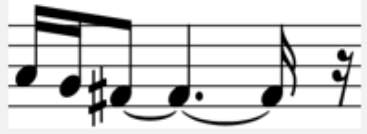
Rhythm:

A pattern of notes and rests.



Melody:

A memorable sequence of notes.



Harmony:

Several notes played or sung at the same time to support the melody.

Elements of Music

PE

Year 7 Physical Education Term 1

1 **Physical Health**:
This means keeping your body fit and free from illness. It includes doing **regular exercise** to keep your heart and muscles strong, eating a **balanced diet**, and practicing good **personal hygiene** like washing your hands.

For example, taking part in PE lessons helps keep your body healthy and strong.

2 **Mental Health**:
This is about how you feel and think. Good mental health means being able to manage emotions like stress, sadness, or anger.

Sport and Exercise releases chemicals like **endorphins**, which can help improve your mood and reduce feelings of anxiety. For example, going for a walk or playing sports can help you feel more positive.

3 **Social Health**:
This means being able to build **positive relationships** with family, friends, and classmates.

Team sports and group activities in PE help you develop **teamwork, communication, and respect** for others. For example, playing netball encourages cooperation and trust between teammates.

4 **Benefits of Exercise**:
Regular physical activity strengthens your **heart, muscles, and bones**, helps control your weight, and reduces the risk of diseases like **type 2 diabetes** and heart disease.

Exercise also improves your **confidence and self-esteem**. For example, participating in a PE class or after-school sports club keeps you fit and healthy.

5 **Healthy Eating**:
A **balanced diet** includes carbohydrates for energy, proteins for growth and repair, fats for energy storage and vitamins for good health.

Eating a variety of fruits and vegetables gives you important vitamins and minerals. For example, choosing water instead of sugary drinks helps keep you healthy.

6 **Hygiene**:
Good hygiene helps prevent **illness and infection**. This includes washing your hands regularly, showering after PE, brushing your teeth twice a day, and wearing clean sports kit.

For example, washing your hands before and after eating prevents the spread of germs.

Health and Wellbeing

PE

Year 7 Physical Education Term 1

7 **Sleep**:
Getting **8-10 hours of sleep each night** helps your body and brain recover and grow.

Poor sleep can lead to tiredness, poor concentration in lessons, and lower performance in PE. For example, a good night's sleep helps you focus better and have more energy for sports.

8 **Hydration**:
Drinking enough water is important to stay healthy, especially during exercise.

Dehydration can cause **headaches, dizziness, tiredness, and poor performance**. For example, drinking water before, during, and after PE lessons helps you stay alert and perform well.

9 **Injury Prevention**:
To avoid injuries, it's important to warm up before exercise, use the correct equipment (e.g., shin pads), and follow the rules of the game. Stretching also helps prevent muscle injuries. For example, warming up before football helps prevent muscle strains.

10 **Personal Safety**:
Being aware of your surroundings and using equipment safely reduces accidents.

This includes checking the playing area for hazards, wearing appropriate footwear, and following PE teacher instructions. For example, always tie your shoelaces to prevent tripping.

11 **Positive Mindset**:
Trying your best, staying determined, and encouraging yourself and others helps you **learn new skills** and enjoy physical activity.

For example, if you miss a goal, keep trying and support your teammates instead of giving up.

12 **Healthy Lifestyle Choices**:
Making healthy decisions every day helps you feel your best.

This includes **not smoking, limiting screen time**, choosing healthy foods, and being active for at least 60 minutes every day.

For example, choosing to walk to school instead of getting a lift keeps you active and healthy.

Health and Wellbeing

Science

Keywords

Hazard	Anything that has the potential to cause harm or damage
Risk	The harm or damage that could be caused by a hazard
Accuracy	The closeness of a measurement to its true value
Precision	How close measurements are to each other
Reliable	Similar data can be reproduced under same conditions

Scientific Method

Hypothesis: What you predict will happen, based on prior knowledge e.g. As X increases, Y will increase because…….

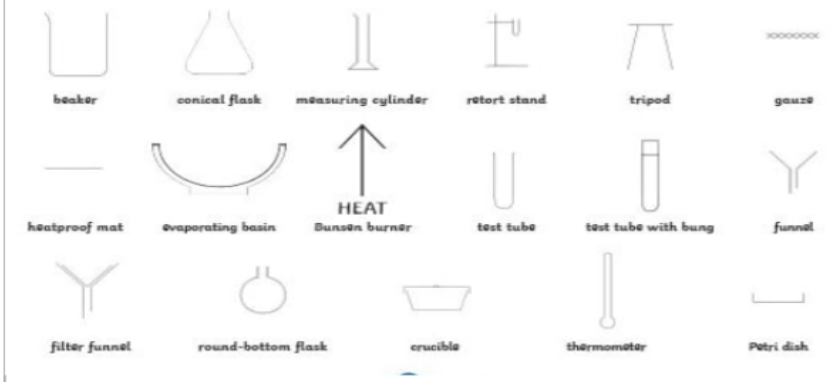
Independent Variable: The thing that is being changed
Dependent Variable: The thing that is being observed/measured
Control Variables: All the things that are being kept the same e.g. volume, concentration, mass, time

Method: Step by step instructions of how to change the independent variable, measure the dependent variable, control all other variables, repeat measurements, perform calculations on collected data

Conclusion: What have you found out? Was your hypothesis correct? Does your data support your hypothesis? Explain the results using scientific knowledge

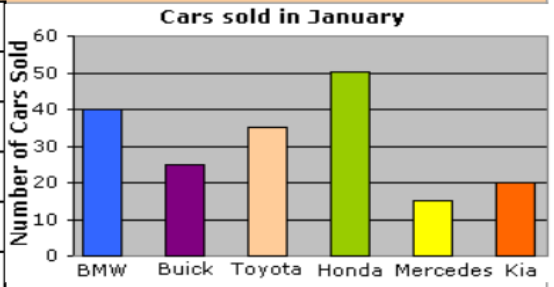
Evaluation: How reliable is your data (could someone follow your method and collect a similar set of results)? Are their anomalies? How could you make it more reliable?

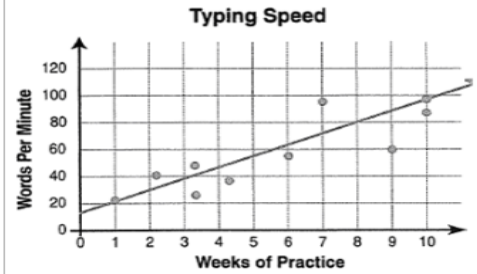
Drawing Scientific Diagrams



Presenting Data in a Graph

S	Scale
P	Pencil & ruler
A	Axis
T	Title
U	Units
L	Line of best fit if appropriate
A	Accuracy





Bar Graph:
Categoric/Discrete data

Line Graph:
Continuous data

Science Skills

Science

Speed – How much distance is covered in a certain time

Average speed
The overall distance travelled divided by overall time for a journey.

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

Worked example:
A boy takes 2 hours to travel from his home to grandparents, a distance of 10 km. Calculate his average speed in km/h.

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}} = \frac{10\text{ km}}{2\text{ h}} = 5\text{ km/h}$$

The unit for speed depends on the units for distance and time given in the question.

Relative motion

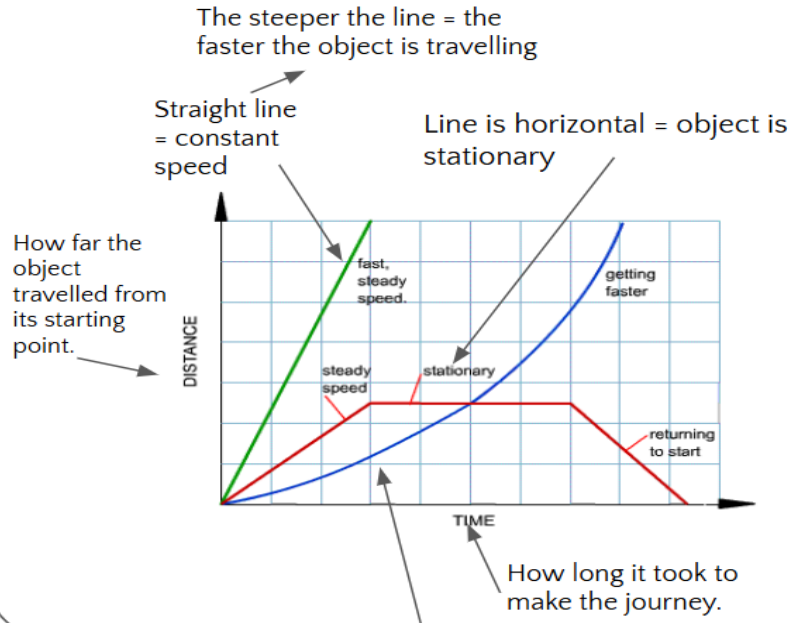
Different observers judge speeds differently if they are in motion too, so an object's speed is relative to the observer's speed.

For objects moving in the SAME direction:
Calculate the difference between the fastest and slowest speeds.
(i.e. Fastest speed – slowest speed)

For objects moving in the OPPOSITE direction:
Add the two speeds together

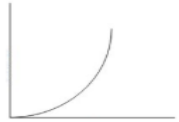
Distance time graphs

A distance-time graph shows how an object moves in a given period of time.



Acceleration

How quickly speed increases or decreases.



If the graph CURVES the object is accelerating.

Speed – *How much distance is covered in a certain time*

Science

Keywords

Weight	The force of gravity on an object (N).
Non-contact force	One that acts without direct contact.
Mass	The amount of matter (stuff) in an object (kg).
Gravitational field strength, g	The force from gravity on 1 kg (N/kg).
Gravitational field	The area where other objects feel a gravitational force.

Mass vs Weight

Mass and weight are not the same.

Mass is measured in kg and does not take into account the gravitational field strength.
Weight is measured in N and does take into account the gravitational field strength.

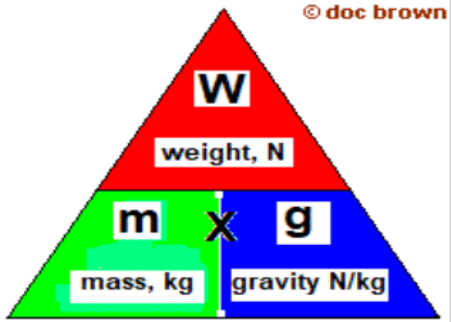
Therefore, on the moon an object will have the same mass as it did on Earth. However it will have a different weight as the gravitational field strength is different.

Weight = mass x gravitational field strength
N kg N/kg

On Earth, the gravitational field strength is 10N/kg.

Example: An object has a mass of 15kg.
Calculate its weight.

Weight = 15 x 10 = 150N

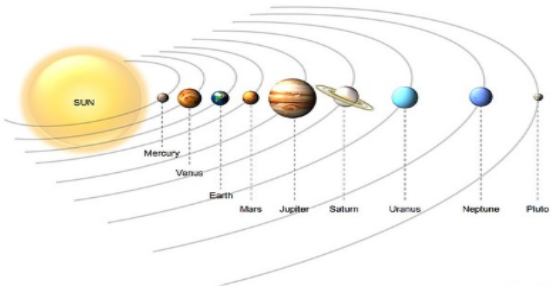


Gravity - the force of attraction between objects of mass

Planets

The order of planets in our solar system:

Mercury - closest
Venus
Earth
Mars
Jupiter
Saturn
Uranus
Neptune - furthest



Mnemonic to help you remember: My Very Educated Mother Just Served Us Nachos.

Gravity

Gravity is a force that attracts objects to each other.

All objects that have mass have some gravitational pull.

The amount of gravitational force experienced by an object depends on:

1. The mass of the object - heavier objects experience more gravity
2. The distance between objects - the further apart objects are, the less the attractive force between them

Science

Joints
Where bones meet

Bone marrow
Tissue found in some bones
Where new blood cells are made

Ligaments
Connects bones to bones across joints

Tendons
Connects muscle to bones

Cartilage
Smooth tissue at the ends of bones.
Reduces friction

Antagonistic muscle pairs

Muscles working in unison to create movement.

Muscles can only pull, they cannot push.

Muscles around a joint work in pairs. One muscle pulls the joint one way, the other pulls the joint the other way. As one muscle contracts, the other relaxes.

When a muscle pulls, it gets shorter and fatter (it contracts)

A muscle that is not pulling is long and thin (it relaxes).

The Skeleton

Made of bone. The skeleton has 4 functions:

Support -ensures the body keeps its shape

Movement - Two bones next to each other can form a flexible joint for movement

Protection - Protects organs such as your brain and lungs.

Making blood cells - Bone marrow inside of bones makes blood cells.

Joints

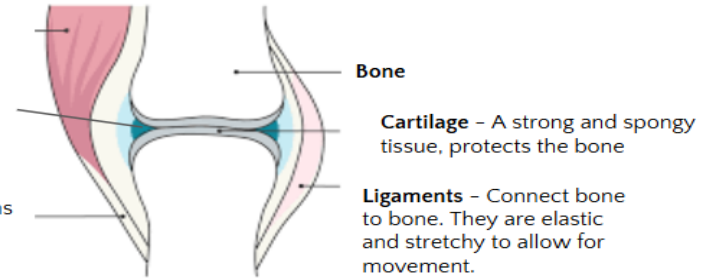
The bones are held together by joints. There are 4 different types

Ball and socket joint - Allow the joint to rotate in 360°.

Hinge joint - Allow movement of 180° in one direction.

Fixed joint - These do not move.

Pivot joint - Allow bones to rotate around each other by 360°



Movement

Science

Organisation levels:

Cell
↓
Tissue
↓
Organ
↓
Organ system
↓
Organism

Types of organism:

Unicellular – made up of one cell.

Multicellular – made up of many types of cell.

Microscopes – used to view objects in great detail	Light	Electron
Resolution	low	high
Cost	low	high
Magnification	X 2000	X 2 000,000

Specialised cells:

Specialised cells have **structural adaptations** that allow them to carry out a particular ***function*** (job).

Examples:

Sperm cells:

- tail for swimming

Red blood cells:
- carry oxygen

- no nucleus
- large surface area

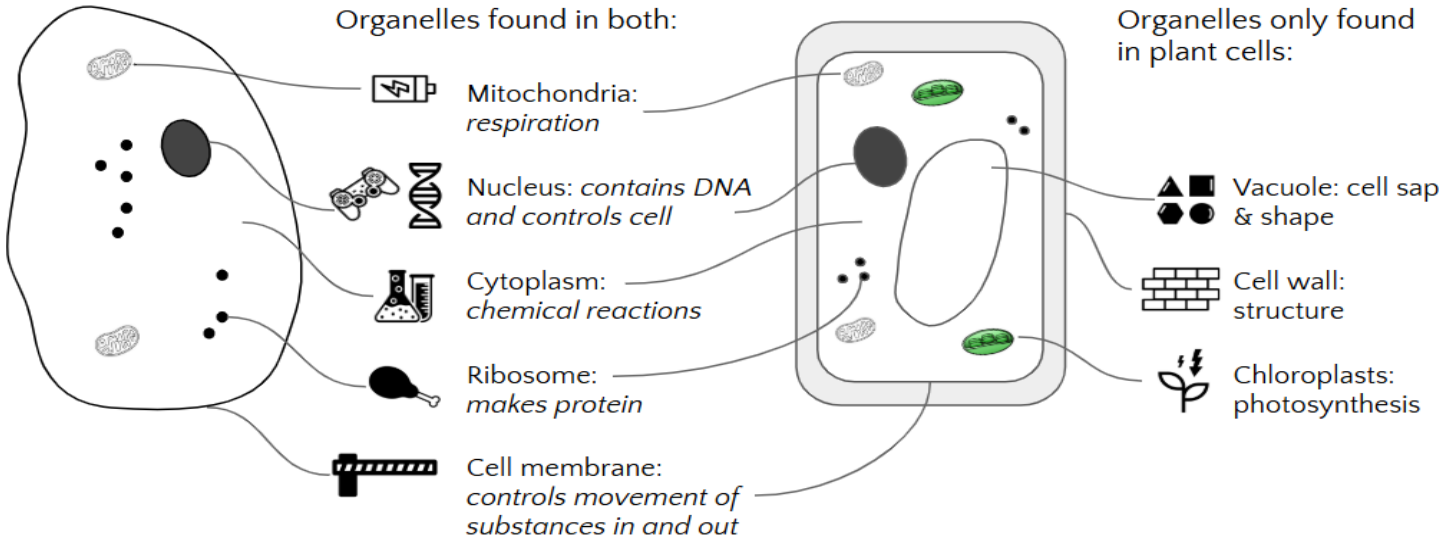
Root hair cell:
- absorb water and minerals

- large surface area

Cell types and organelles

Animal cell

Plant cell



Cells –

The units of a living organism, contains parts to carry out life processes.