Buckler's Mead Academy

Knowledge Organiser

Year 7

Term 3—Spring 2022

Learning Cycle 2

"In a time of turbulence and change, it is more true than ever that knowledge is power"

John F Kennedy

Inspiring Education for All

Name:

Tutor:

Ready, Responsible, Respect

Learning Cycle 2

Homework Timetable

	Week A	Week B
Monday		
Tuesday		
Wednesday		
Thursday		

Success

Enjoyment

"Inspiring Education for All"

Opportunity

Community

Learning Cycle 2

Your Knowledge Organiser

Contents

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Learning Cycle 2

How to Use Your Knowledge Organiser

Self –Quizzing

Your Knowledge Organiser contains all of the key information you need to know for each subject area.

Your Knowledge Organiser will allow you to revise this key information and make sure it is stored in your long-term memory

The best way to use this resource is by self-quizzing.

“look, cover, write and check”

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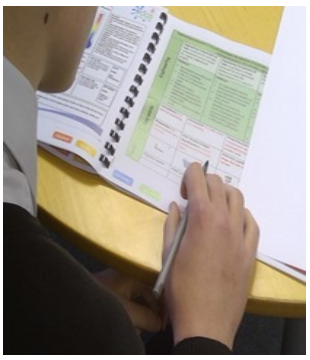
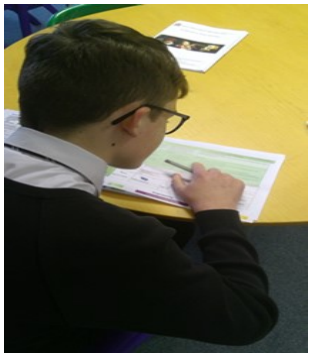
Look, Cover, Write, Check, Correct

First, look through and read the information on a section of your Knowledge Organiser



Then, cover the section so you can no longer see the information

Next, try and **write out** the key definitions or facts that you need to know



Now, uncover the section of your Knowledge Organiser and check how correct you were

Finally, correct anything that you wrote down that was incorrect in **purple**

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Learning Cycle 2

Knowledge Quiz

You teacher will quiz you on your knowledge organiser during the learning cycle .

Record your score from each quiz in the mark box.

Quiz 1					
Quiz 2					
Quiz 3					

Quiz 1					
Quiz 2					
Quiz 3					

Quiz 1					
Quiz 2					
Quiz 3					

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Art

Surrealism 1905-1920

Surrealism	A 20th-century art movement inspired by the subconscious mind, for example by the strange juxtaposition of objects and images. It started in Paris, France and later spread across Europe. Surrealist painters thought that powerful feelings could be expressed through dream-like paintings where ordinary objects were shown in impossible situations.
Juxtaposition	Two things being seen or placed close together with contrasting effect
Conscious	To be aware of reality
Symbolism	The use of symbols / ordinary objects to represent extraordinary ideas or qualities
Subconscious	Unaware of reality, dream like
Dream like	Painting familiar objects, animals and people in scenes that do not make sense
Metamorphosis	A change of the form a thing or person into a completely different one

Artists

Salvador Dali	Considered by many to be the greatest of the Surrealist painters, Salvador Dali was a Spanish artist who embraced the idea and art of Surrealism
Rene Magritte	Magritte was a Belgian artist who liked to challenge people's ideas on what they should see through his Surrealist painting
Meret Oppenheim	German-born Swiss artist whose fur-covered teacup, saucer, and spoon became an emblem of the Surrealist movement

Techniques

Tone	Tone refers to the light and dark values used to create a realistic object
Tint	A tint is where an artist adds a colour to white to create a lighter version of the colour
One point perspective	A drawing has one-point perspective when it contains only one vanishing point on the horizon line
Depth	Refers to the perceived distance between the background and the foreground of a composition

Computational Thinking

1) What is Computational Thinking? – Is a way of solving complex problems that are difficult to understand

- Creation of Algorithms to solve a problem.
- Breaking the problem down into small chunks that can be rebuilt later
- Looking for patterns in these smaller chunks. Have we solved anything before?
- Focus only on the important detail

2) Decomposition

Yeovil News:

Armed Robbery at Town jewellery store

To break down the problem (decompose it) the police would think about:

- what crime was committed
- when the crime was committed
- where the crime was committed
- what evidence there is
- if there were any witnesses
- if there have recently been any similar crimes

KEY WORDS:

Abstraction –Taking away unnecessary parts of a problem

Decomposition – Breaking down a problem into smaller chunks

Pattern Recognition – When two or more things have something in common

Algorithms – a process or set of rules to be followed in calculations or other problem-solving operations

3) Pattern Recognition

Finding patterns makes it easier to solve problems. A pattern occurs when two or more things have something in common.

Think:

Which of the following contains a pattern and why?

- Buckler's Mead is a school
- Buckler's Mead and Preston are schools

4) Abstraction

In computing, abstraction involves taking a complex problem and removing all of the specific detail to try and make the problem a little simpler to understand.

For example, when trying to describe a cat in general terms, you don't need to know exactly how big it is or what colour its fur is.

5) Flowcharts

Flowcharts help us to create an Algorithm in a pictorial way that should be easy to follow.

For Example

Symbols:

	Stop / Start
	Process
	Decision
	Flow of Information

DT - Food & Nutrition

Year7 Cooking **Safety** There are many hidden, obvious and potential hazards in a kitchen. Identify a kitchen hazard and suggest	• Sharp knives: never walk around with a knife. Use the bridge hold and claw grip to cut safely. • Grater: hold grater firmly on a chopping board. Grate food in one direction and leave a small amount at the end to prevent injury to knuckles. • Hot liquid: drain hot liquid carefully over the sink using a colander. • Saucepans: turn panhandles in from the edge, so they are not knocked. • Hot equipment: always use oven gloves when placing food in and out of the oven. • Spills: wipe up immediately. **Electrical equipment: always follow instructions**
Key Terms 1.Conduction 2. Convection 3.Heat transfer 4.Radiation	1. The exchange of heat by direct contact with foods on a surface: e.g., stir-frying or plate freezing. 2.The exchange of heat by the application of a gas or liquid current e.g., boiling potatoes or blast chilling 3. Transference of heat energy between objects. 4. Radiation is energy in the form of rays e.g., grilling.

Design & Technology

Keyword	Definition
Client	The person/people/audience being designed for and whose needs are being met.
Functionality	How well a product carries out its purpose.
Iterative design	Design methodology based on a cyclical process of analysing, prototyping and testing to refine a product. Each iteration and result starts the process again.
Nesting	The tessellation of shapes or nets on a material to minimise the amount of waste during manufacture.
Primary source	Research collected first-hand by a designer to develop a product or idea.
Prototype	An early model or sample of a product used to test a concept.
Tolerance	The minimum and maximum measurements that can be accepted when manufacturing.
Balanced diet	A diet which provides all the necessary nutrients in the correct amount/proportions to meet the body's needs.
Eat well guide	Informs individuals of the variety of food groups required for a healthy balanced diet.
Nutrients	The properties found in food and drinks that give nourishment – vital for growth and the maintenance of life. The main nutrients needed by the human body are carbohydrates, proteins, fats, vitamins and minerals.

Drama

KEY WORDS OR PHRASES:	
Mime:	Action without words
Physical Theatre:	Theatre which emphasizes the use of physical movement for expression.
Suspension of disbelief:	Logically you understand that the drama is not real but you override this reaction and believe in it anyway.
Empathy:	The ability to understand and share the feelings of another.
Character:	Playing someone different from yourself. A person in a novel, play or film.
Character Motivation:	The reason behind a character's behaviours and actions.
Stereotype:	A widely held but fixed and oversimplified image or idea of a particular type of person or thing.
Cliché:	Overused and unoriginal.
Spontaneous Improvisation:	completely unplanned
Polished Improvisation:	Refinement through rehearsal, of characters, scenarios, and dialogue without a script.
Genre:	A style or category of drama.
Proscenium Stage:	Where curtains are used to separate the stage and the audience.
Blocking:	Where an actor stands in front of another actor and blocks the audiences view. It also means when the Director organises the precise movement of actors on a stage.

Rapport: .	A close and harmonious relationship in which the people or groups concerned understand each other's feelings or ideas and communicate well with each other. It is when the performers 'connect and communicate' with an audience and the audience are interested in and engaged with the performance
Script:	The written text of a play, film, or broadcast
Stage Direction:	An INSTRUCTION in italics and often found in brackets.
Monologue:	A long speech by one actor in a play or film
Duologue:	speaking roles for only two actors
Narration.	Explaining the action in a play
Teacher in role:	Teacher playing a character.
Writing in role:	Writing as a character.
Hot seating:	A character or characters, played by the teacher or a student, interviewed by the rest of the group.
Role on the wall:	The outline of a body is drawn. Words or phrases describing the **CHARACTER** are then written directly onto the drawing or stuck on with post-its.

Vocal Skills: TTVPAS	
Tone:	Overall quality, strength and pitch of a voice e.g. angry or frightened tone of voice
Tempo:	The rhythm of your speech e.g. slow with pauses
Volume:	How loudly or quietly we say something for effect
Pitch:	Higher and lower notes
Accent:	The sound of voice according to region e.g. Cockney accent
Stress:	The particular weight and emphasis we give to individual words or phrases

Movement Skills: PAWSBF	
Posture:	How a character may stand or sit e.g. crouched; straight backed
Angle:	The position of characters' on stage in relation to the audience E.g. Side on
Walk:	This movement includes tip-toe; shuffling; or being Flat-footed
Speed:	How slow or fast a character moves
Body gestures:	A single movement made by part of the body E.g. a Wave
Facial gestures:	A single movement made by part of the face E.g. a Smile

ASSESSMENT STRANDS:

GROUP WORK: Your ability to respond, collaborate, develop, and refine work.

KNOWLEDGE AND UNDERSTANDING: Use of drama techniques and theatre vocabulary.

PERFORMANCE SKILL: your ability to apply a range of theatrical skills when performing both script and devised drama.

A Monster Calls Knowledge Organiser

Key Vocabulary and Definitions Etymology (OE- Old English, F-French, L- Latin, G- Germanic, AG – Ancient Greek, N - Norse		
Pagan	a person holding religious beliefs other than those of the main world religions. Neo-Pagans often honour the Earth.	L: Paganus, *rustic villager*
Deity	a god or goddess	L: Deus, *god* (from AG Zeus)
Injustice	absence of justice; violation of right or of	L: in, not/ Justus, *right*
Vengeance	punishment inflicted in retaliation for an injury or offense; retribution	L: vindicare, vindicate
Encompass	to enclose, go completely around; envelop	OE: to *form a circle*
Apothecary	one who prepares and sells drugs or compounds for medical purposes	AG: Apotheke, *storehouse*
Remedy	a medicine, application, or treatment that relieves or cures a disease	L: mederi, *heal*
Symbol	Something that can represent another concept or idea	AG: sumbolon, *mark*
Keening	intense emotion or feeling	Irish: caoinim, *wail*
Yew	A coniferous tree with poisonous berries, often linked to folklore	Hebrew: A tree of lamentation in the Bible, shortened over time to 'yew'
Superstition	A belief or practice resulting from ignorance, fear of unknown, trust in magic or chance, or a false conception of causation	L: super, over/ stition, to stare
Succumb	To yield to superior strength or force or overpowering appeal or desire	L: sucumbere, bring low

SPaG Focus	
Comma	a punctuation mark (,) indicating a pause between parts of a sentence or separating items in a list
Synonym	a word or phrase that means exactly or nearly the same as another word or phrase in the same language, for example shut is a synonym of close
Antonym	a word opposite in meaning to another (e.g. *bad* and *good*)
Colon	A punctuation mark that connects two clauses and indicates when someone is speaking in a play script.

Context

Historical:
In the book, the monster says that it has been called many names in the past: **Herne the Hunter, Cernunnos**, and the **Green Man**. All of these are variations of **pagan deities** associated with nature. Herne the Hunter is a ghost in English folklore associated with Windsor forest. He is said to have antlers upon his head and ride a horse. Cernunnos is a Celtic horned god. Little is known about this deity other than the fact that it is depicted with the antlers of a stag and is also identified as a god of nature and life. "Herne" may be a **cognate** of "Cernunnos" and these two deities may have the same origins. The Green Man is a representation of a sculpture or other representation of a face surrounded by or made from leaves, which makes it an apt name for the monster, who takes the form of a yew tree. The Green Man is usually interpreted as a symbol of rebirth or the life cycle, and is often used as a representation of various horned gods (such as Cernunnos or the Greek god Pan). The Green Man is often viewed as a pagan symbol, and yet images of the Green Man frequently appear carved into churches. This fact is also fitting for the story, as the monster takes the form of a yew tree that is found next to a church.

Personal: Siobhan Dowd planned the novel before she died of cancer herself. Patrick Ness then took on the novel and finished it.

English

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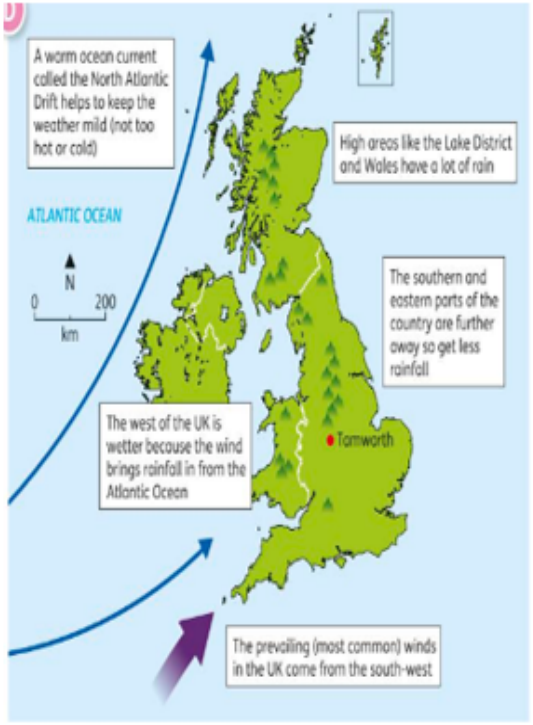
Geography

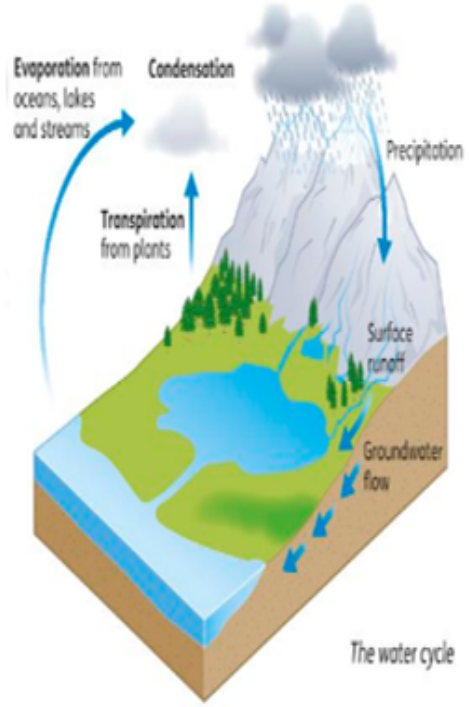
Key Terms	
Atmosphere	the layer of air around Earth
Weather	the day-to day condition of the atmosphere (e.g. temperature, wind, rainfall)
Climate	the average weather conditions over a long period of time usually 30 years
Precipitation	water falling from the atmosphere to Earth's surface (e.g. rain, snow)
Air mass	a large body of air that travels from one area to another
Prevailing wind	the most common wind direction
Ocean current	a flow of warm or cold water in the ocean
Reservoir	a large lake where water is stored
Water cycle	the cycle of water between the oceans, atmosphere and land
Surface runoff	water flowing over the ground (e.g. rivers)
Evaporation	water changing from a liquid to a gas (water vapour)
Groundwater	water held underground in soil or in rock
Transpiration	water released from plant leaves into the atmosphere
Condensation	water changing from a gas to a liquid (water droplets)
Relief rainfall	warm moist air forced to rise over mountains, cools and condenses to form cloud and rain
Microclimate	weather and climate conditions in a small area such as a city or forest
Smog	a combination of smoke (pollution) and fog
Urban heat island	concentration of high temperatures recorded in a city
Isotherm	a line on a map joining points with the same temperature
Isoline	a line on a map joining points of equal value
Dredge	to clear the bottom of an area of water by scooping out mud, rocks and rubbish

Year 7 Topic 2 Weather and Climate in the UK

- ✓ Weather conditions can be recorded by measuring temperature, precipitation, wind direction, wind speed and cloud cover.
- ✓ The weather is important to many groups of people for different reasons, for example farmers, sportspeople, shop and cafe owners or tourists.
- ✓ Weather in the UK is very changeable, due mainly to the effect of several air masses that come from different directions (e.g. Tropical/ Continental/ Polar/ Maritime) see diagram below)
- ✓ Urban microclimates are caused by the heat from buildings, roads, vehicles and industry, which can then have an impact on people and the environment.
- ✓ Recent examples of extreme record-breaking weather in the UK include the hot, dry summer of 2018 / Beast from the East 2018.
- ✓ Extreme Weather can cause a range of social (people), economic (jobs/ businesses) and environmental impacts.



The prevailing wind and North Atlantic Drift ocean current



History

How did William conquer England?

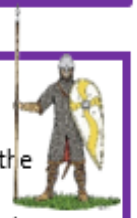
Key Figures

Edward the Confessor – King of England, died in 1066, left no clear heir to the Throne of England.
William the Conqueror - Duke of Normandy, promised throne in 1051. Became King of England after the Battle of Hastings in 1066. Started Norman control of England.
Harald Hardrada – Viking warrior and King of Norway. Believed he had right to the Throne, led and invasion in 1066 when he lost the Battle of Stamford Bridge
Harold Godwinson- Powerful Saxon lord, had links to Edward. Chosen by the Witan to be King in 1066. Lost Battle of Hastings.
Edgar the Aethling – Closest male relative to Edward the Confessor, very young, supported by some Northern English lords.

Key Points

Battle of Stamford Bridge (Sept 1066) – Fought between Hardrada and Godwinson near York.
Battle of Hastings (Oct 1066) – Fought between William of Normandy and Godwinson. Resulted in Norman control of England.
Harrying of the North – Brutal method of controlling Northern England, involving murder and destroying land.
Feudal System – Hierarchy to organise society meaning the King had total control.
Domesday Book – A survey to find out who lived in England and how much they owned.
Motte and Bailey Castles – Type of castle built by Normans. Two main parts – a hill section (Motte) and a walled section (Bailey).

Key Words



Heir – Who is next in line to the throne.
Succession – When someone new takes the throne.
Witan – A group of powerful lords and Bishops in England, advised the King and chose the next King.
Cavalry – Soldiers who ride horses in battle
Infantry – Soldiers who fight on foot, normally with sword and shield.
Survey – A way to gather information about people.
Conquest – Taking control of a country by force.
Peasant – Person who works on the land for others, paid very little.
Baron – Rich lord who owned land
Bishop – High ranking member of the church.

Key Questions

Where is Normandy? Normandy is an area of Northern France, it was a very powerful area in the 11th Century
Who were the Anglo-Saxons? The Anglo Saxons is a term for the English population in 1066. They are named after two German tribes.
Why did William win the Battle of Hastings? There are many reasons, these include having well trained soldiers with better equipment and tactics. William used a trick called the false retreat. Also, the Saxons were tired following the Battle of Stamford Bridge.

Edward the Confessor dies (5th Jan 1066)
Viking invasion (Sept 1066)
Battle of Hastings (14th Oct 1066)
Harrying of the North (1068-1071)
Domesday survey (1085)
William II dies (1100)

Jan 1066 — Dec 1066 — 1067 — 1100

Harold Godwinson become king (6th Jan 1066)
Battle of Stamford Bridge (25th Sept 1066)
Norman invasion (Oct 1066)
William becomes King (25th Dec 1066)
William has established total control of England (1071)
William the conqueror dies (1086)

Maths

Mathematics - Year 7

In Maths you will receive a separate knowledge organiser.
Your knowledge organiser will help you to:
Know which MET* skills you should be learning
Track when you have learnt, revisited and revised a skill
Identify any gaps where you have missed lessons
Guide your revision when it comes to assessments

*The MET (Mathematics Expertise Tower) shows you all the skills you will master during your lessons and how each skill builds upon the last.

It is arranged into 4 topic areas:

Number & Ratio	Algebra & Graphs	Geometry & Measure	Probability & Statistics

You can see the full MET in the Maths Corridor!

Maths Equipment you must have every lesson:
Pen, pencil, rubber, ruler, protractor, compasses, scientific calculator

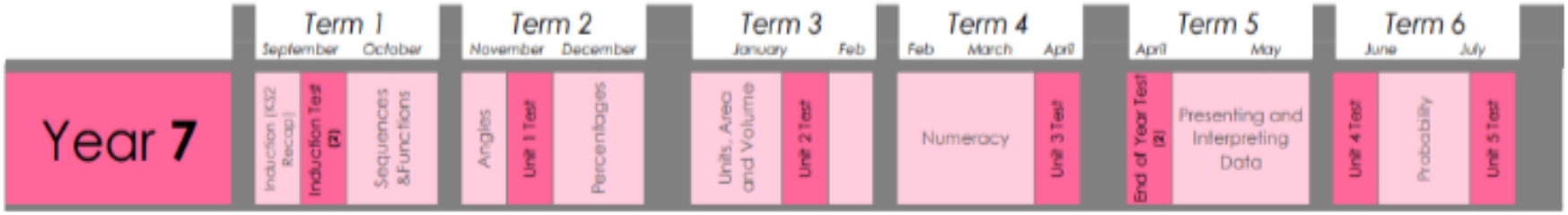
USEFUL WEBSITES:

My Login:
Password:
MyMaths.co.uk

My Login:
Password:
MathsWatch

My Login:
Password:
dfm drfrostmaths.com

www.bbc.co.uk/bitesize www.khanacademy.org
https://corbettmaths.com



Programme of study and assessment calendar

MFL - French

Les questions:	
1. Décris-toi	Describe yourself
2. Quelle est ta personnalité ?	What is your personality ?
3. Qui est dans ta famille ?	Who is in your family?
4. Comment est (ta mère)?	What is (your mother) like?
5. C'est quoi, un bon ami pour toi ?	What is a good friend for you?
6. Qu'est-ce que tu fais avec tes amis	What do you do with your friends?
7. Tu t'entends bien avec ta famille ?	Do you get on well with your family?
8. Qu'est-ce qu'il y a dans ta ville ?	What is there in your town?
9. Tu veux sortir ?	Do you want to go out?
10. Qu'est-ce que tu as fait hier ?	What did you do yesterday?
11. Qu'est-ce que tu vas faire demain?	What are you going to do tomorrow?
12. Qui est ton modèle?	Who is your role model?

Les personnalités - personalities	
Sympa - kind	Impoli(e) - Impolite
Bavard(e) - chatty	Sportif/ sportive - sporty
Créatif/ créative - creative	Timide - shy
Marrant(e) - funny	Intelligent - intelligent
Agaçant(e) - annoying	Mignon(ne) - sweet

Les activités - activities	
Manger - to eat	Visiter - to visit
Aller - to go	Sortir - to go out
Rencontrer - to meet	Jouer - to play
Discuter - to chat	Traîner - to hang out
Écouter - to listen	Passer - to spend time
Rigoler - to have a laugh	Regarder - to watch

La famille - family	
Une mère - a mother	Un père - a father
Une sœur - a sister	Un frère - a brother
Une grand-mère - a grandmother	Un grand-père - a grandfather
Une tante - an aunt	Un oncle - an uncle
Une belle-mère - a stepmother	Un beau-père - a stepfather
Une demie-sœur - a half-sister	Un demi-frère - a half-brother

En ville - in town	
Le cinéma - the cinema	Les magasins - shops
La patinoire - the ice rink	Le parc - the park
Le centre commercial - the shopping centre	
La piscine - the pool	Le café - the café
Le musée - the museum	La poste - the post office
Le restaurant - the restaurant	Le stade - stadium

Les appairances - appearances	
J'ai- I have	Je suis - I am
Les cheveux - hair	Les yeux - eyes
Blonds - blond	Marron - brown/ hazel
Noirs - black	Roux - ginger
Bleus - blue	Verts - green
Longs - long	Courts - short (hair)
Grand(e) - tall	Petit(e) - short (height)
Gros(se) - fat	Mince - slim
De taille moyenne - medium build	

Les animaux - animals	
Un chien - a dog	Un chat - a cat
Un poisson rouge - a goldfish	Un lapin - a rabbit
Un oiseau - a bird	Un hamster - a hamster
Un cochon d'Inde - a guinea pig	
Un cheval - a horse	Une tortue - a tortoise
Un serpent - a snake	Une souris - a mouse

Les activités dans le passé - activities in the past	
J'ai mangé - I ate	J'ai joué - I played
Je suis allé(e) - I went	Je suis sorti(e) - I went out
J'ai discuté - I chatted	J'ai traîné - I hung out
J'ai écouté - I listened	J'ai passé - I spent (time)
J'ai rigolé - I had a laugh	J'ai regardé - I watched

MFL—German

Wie heißt du?	What's your name?
Hallo!	Hello !
Ich heiße …	My name is…
Guten Tag!	Good day! Hello!
Wie geht's?	How are you?
Und dir?	And you ?

Wie alt bist du?		How old are you?	
Ich bin … Jahre alt.		I am… years old.	
eins	1	zwölf	12
zwei	2	dreizehn	13
drei	3	vierzehn	14
vier	4	fünfzehn	15
fünf	5	sechzehn	16
sechs	6	siebzehn	17
sieben	7	achtzehn	18
acht	8	neunzehn	19
neun	9	zwanzig	20
zehn	10	einundzwanzig	21
elf	11	zweiundzwanzig	22

Wie bist du?	What are you like?
Ich bin	I am
Du bist	you are
Er ist	he is
Sie ist	she is
Wir sind	we are
Sie sind	they are
faul	lazy
launisch	moody

Wer ist in deiner Familie?	Who is in your family?
In meiner Familie gibt es	in my family there is/are
meine Halbschwester	my half-sister
Mein Stiefbruder	my step-brother
Ich bin Einzelkind	I am an only child
eine Zwillingsschwester	a twin sister
Ein Zwillingsbruder	a twin brother
Meine Eltern sind	my parents are
Meine Oma ist	my nan is
Mein Opa kann ____ sein	my granddad can be ___
Ich verstehe mich gut mit	I get on well with
Ich streite mich mit	I argue with

Was kann dein Haustier machen?	What can your pet do?
Mein Hund kann sehr gut springen	my dog can jump very well
Meine Katze kann Deutsch sprechen	my cat can speak German
Mein Pferd kann schnell laufen	my horse can run quickly
Meine Schlange kann kreativ sein	my snake can be creative
Mein Meerschweinchen kann singen	my guinea pig can sing

Wo wohnst du?	Where do you live?
Ich wohne in Frankreich	I live in France
du wohnst in Italien	you live in Italy
er wohnt in Spanien	he lives in Spain
sie wohnt in Polen	she lives in Poland
wir wohnen in der Schweiz	we live in Switzerland

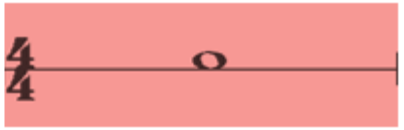
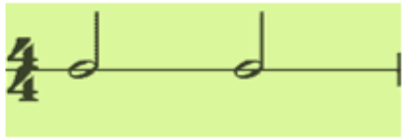
Do not forget:
β = ss
ei = eye
ie = ee
au = ow
eu = oi

Wie siehst du aus?	What do you look like?
Ich habe kurze Haare	I have short hair
Du hast glatte Haare	you have straight hair
Er hat keine Haare	he has no hair
Sie hat graue Augen	she has grey eyes
Wir haben lockage Haare	we have curly hair
Ich trage eine Brille	I wear glasses

Wie siehst du aus?	What do you look like?
Ich bin groß	I am tall
Ich bin ziemlich klein	I am quite short / small
Er ist nicht dick	He is not chunky
Sie ist ziemlich schlank	She is quite slim
Wir sind mittelgroß	We are medium-sized

Wann hast du Geburtstag?	When is your birthday?
Ich habe am elf**ten** Mai Geburtstag	my birthday is the 11**th** May
Ich habe am zwanzig**sten** März Geburtstag	my birthday is the 20**th** March
am fünfundzwanzig**sten** Februar	on the 25**th** February
heute	today

Music

Keyword	Definition	Notation / Example
Dynamics	The volume of the music	Term / Symbol: / Effect: pianissimo — *pp* — very soft piano — *p* — soft mezzo piano — *mp* — moderately soft mezzo forte — *mf* — slightly loud forte — *f* — loud fortissimo — *ff* — very loud fortepiano — *fp* — loud then soft sforzando — *sfz* — sudden accent crescendo — < — gradually louder diminuendo — > — gradually softer
Semibreve	4 beats	
Minim	2 beats	
Crotchet	1 beat	
Quaver	½ a beat	
Semi quaver	¼ a beat	

P.E.

KS3 PHYSICAL EDUCATION – KNOWLEDGE ORGANISER

AUTUMN TERM

All students will participate in at least 4 of the following activities this term.
They are Rugby, Hockey, Basketball, Netball and Trampolining

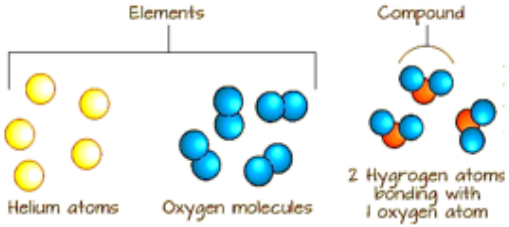
INVASION GAMES: Rugby, Hockey, Netball and Basketball	GYMNASTICS: Trampolining
Invasion games: Team games in which the purpose is to 'invade' the opposition's territory to score points whilst trying to make sure the other team does not score.	Spotters: stand around the trampoline and ensure that the person on the trampoline is safe at all times. A spotter will prevent the trampolinist from falling off the trampoline if they get too close to the sides or the ends.
Receiving the ball: when you catch a ball or receive the ball with a stick	Basic Jumps: tuck, pike and straddle
Passing the ball: throwing a ball to your teammate or passing it with your stick to a teammate.	Basic landing positions: Seat landing, Front landing and Back landing
Spatial awareness: when you recognise your position in relation to your opponent and the ball/object you are playing with.	Combinations: Seat to front, front to seat, seat ½ twist to feet, ½ twist to seat, front ½ twist to feet, ½ twist to front
Defending strategies: defending a space or area to stop your opponents from scoring. Defending the goal or try line.	Twists: Swivel hips, Back ½ twist to feet, ½ twist into back
Attacking strategies: Creating space for yourself and your teammates. Moving into space to receive a pass.	Advanced twists: Roller, Cradle, Cat twist, Half turntable, Full turntable
Tackling: forcing your opponent to lose possession of the ball in order for you or your teammates to gain possession.	Basic Somersaults: Hands and knees turnover to feet, back pullover to feet, Back pullover to front, Back to front landing, ¾ front to back landing, Front somersault, Back somersault

Science

Elements

ATOMS, ELEMENTS, COMPOUNDS AND MOLECULES

- Every element is made up of one type of atom.
- The atoms of one element are different to the atoms of all other elements.
- One atom does not have the properties of an element (e.g. gold atoms are NOT shiny or yellow). The properties of an element are the properties of many atoms joined together (together the atoms make gold yellow and shiny).
- A compound has different properties to the elements in it.
- All compounds are molecules, but not all molecules are compounds. Hydrogen gas (H_2) is a molecule, but not a compound because it is made of only one element. Water (H_2O) can be called a molecule or a compound because it is made of hydrogen (H) and oxygen (O) atoms.



CHEMICAL SYMBOLS

Every chemical symbol starts with a capital letter, with the second letter written in lower case.

Mg	mg	mG	MG
✓	✗	✗	✗

CHEMICAL FORMULA

- Shows the elements present in a compound.
- Shows the number of atoms of each element.
- Numbers are written to the right of their chemical symbol
- Numbers are smaller than the chemical symbol.

Example: sodium sulphate

Na_2SO_4

- ***Number of elements: 3***
- ***Elements: Na (sodium), S (sulfur), O (oxygen)***
- ***Number of atoms: 7***

NAMING COMPOUNDS

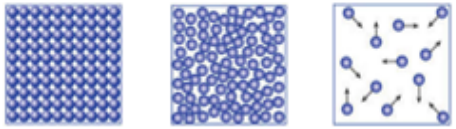
- Compounds made up of oxygen and another element have two-word names. The second word is oxide. (E.g. aluminium + oxygen → aluminium oxide)
- In any compound of a metal with a non-metal, the end of the name of the non-metal becomes –ide. (e.g. sodium + chlorine → sodium chloride)

Number of Atoms	Prefix
1	mono-
2	di-
3	tri-

KEYWORD	DEFINITION
Atom	The smallest part of an element that can exist.
Carbonate	A compound that includes carbon and oxygen atoms, as well as a metal element. There are three atoms of oxygen for every one atom of carbon.
Chemical formula	A formula that shows the elements present in a compound and their relative proportions.
Chemical symbol	A one- or two-letter code for an element that is used by scientists in all countries.
Compound	Pure substances made up of atoms of two or more elements, strongly (chemically) joined together.
Elements	Substances that all other materials are made up of, and which contain only one type of atom. An element cannot be broken down into other substances.
Hydroxide	A compound that includes hydrogen and oxygen atoms, as well as a metal element. There is one atom of oxygen for every one atom of hydrogen.
Molecules	A group of two or more (up to 1000s) atoms strongly joined together. Most non-metal elements exist either as small or giant molecules.
Natural polymers	A polymer made by plants or animals. E.g. starch, wool, cotton and rubber.
Nitrate	A compound that includes nitrogen and oxygen atoms, as well as a metal element. There are three atoms of oxygen for every one atom of nitrogen.
Sulphate	A compound that includes sulfur and oxygen atoms. There are four atoms of oxygen for every one atom of sulfur.

Science

Particle Model



Solid	Liquid	Gas
Fixed shape	No fixed shape	No fixed shape
Fixed volume	Fixed volume	No fixed volume
Do not flow easily	Flow quite easily	Flow very easily
Very dense	Less dense	Not dense at all
Cannot be squashed	Very difficult to squash	Easy to squash
Particles very close together	Particles fairly close together	Particles are very far apart

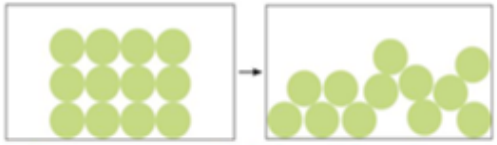
- Materials are made of particles. Many materials are mixtures. Some are made up of only one substance.
- Every substance has its own properties. The properties of a mixture are different to the properties of the individual substances that make it up.
- The particle model helps us explain these properties.
- Properties of a substance depends on three things: what the particles are like, how they are arranged and how they move.

DIFFUSION

Three factors affect the speed of diffusion:

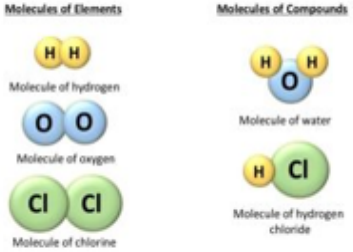
1. **Temperature** → Occurs more quickly at higher temperatures as the particles are moving faster.
2. **Particle size** → Big, heavy particles diffuse more slowly than small, light ones.
3. **State of the diffusing substance** → Occurs quicker in gases than liquids (as the particles in a gas are very far apart). Diffusion does not occur in solids (as particles cannot move).

MELTING: As a substance melts, its particles vibrate faster. The particles start moving around (away from their places in the pattern). The substance is now in the liquid state.



What is the evidence for particles?

Brownian motion → the random movement of particles in a fluid (gas or liquid) due to collisions with other particles surrounding them.



GAS PRESSURE

- Gas particle collide with the walls of their container.
- Colliding gas particles exert pressure on the inside of their container.

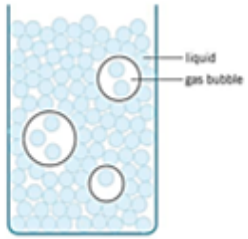
Factors that affect pressure:

- **Number of particles** → The more particles in a container, the higher the pressure (this is because there are more frequent collisions)
- **Temperature** → The higher the temperature, the higher the pressure (this is because the particles have more energy, they move faster and collide with the container more frequently).

If you know the melting point and boiling point … you can predict the state at any temperature!

Above boiling point >> gas
Middle of melting and boiling >> liquid
Below melting point >> solid

- Elements consists of **atoms** (the smallest particle that can exist).
- A molecule is a group of two or more atoms, strongly joined together (e.g. hydrogen / water)
- A compound is a substance made up of atoms of two or more elements, chemically bonded (e.g. water).



What is the difference between boiling and evaporation?

Boiling → Occurs when bubbles of steam form all through the liquid (see diagram). The particles in the bubble are spread out. As it boils, the steam bubbles rise to the surface of the liquid and escape into the air. It happens only at the boiling point. Different substances will boil at different temperatures.

Evaporation → Occurs when particles (with the most energy) leave the surface of the liquid. They move away from the liquid, spread out and form a gas. It can happen at any temperature.

When is evaporation useful?

- Sweating cools, you down by evaporation.
- Drying hair with hairdryer – speeds up evaporation.

KEYWORD	DEFINITION
Boiling	The change of state from liquid to gas.
Boiling point	The temperature at which a substance boils.
Change of state	The process by which a substance changes from one state to another.
Condensation	The change of state from gas to liquid. It can happen at any temperature below boiling point.
Density	The mass of a material in a certain volume.
Diffusion	The process by which particles in liquids or gases spread out through random movement from a region where there are many particles or one where there are fewer.
Element	A substance that cannot be broken down into other substances and contains only one type of atom.
Evaporation	The change of state from liquid to gas.
Freeze	The change of state from liquid to solid at the melting point of a substance.
Gas	A substance that can flow and can also be compressed.
Gas pressure	The force exerted per unit area on the walls of a container. It is caused by collisions of particles with the walls.
Liquid	A substance that can flow but cannot be compressed.
Material	The different types of stuff that things are made from.
Melt/ melting	The change of state from a solid to liquid at the melting point of a substance.
Melting point	The temperature at which a substance melts.
Mixture	Made up of two or more pure substances that are mixed (not chemically joined) together.
Particle	A very tiny object (atom or molecule) that materials are made from. They are too small to be seen with a microscope.
Particle model	A way to think about how substances behave in terms of small, moving particles.
Properties	A quality of a substance or material that describes its appearance or how it behaves.
Solid	A substance that cannot be compressed and cannot flow.
States of matter	The three forms in which a substance can exist – solid, liquid and gas.
Sublimation	The change of state from solid directly to gas.
Substance	A material that is not a mixture. It has the same properties all the way through.