What is a Knowledge Organiser?

A Knowledge Organiser is a place to keep some key information for the topics we are learning about. This may include an important formula, vocabulary, dates or explanations. It is not a complete list of everything we are studying but it *is* a place where we can find the basic information. It is likely that when you first see the Knowledge Organiser you won't understand most of what it on it. Gradually, as you work on the content in lessons it will become more familiar and, over time, you should find that, not only do you understand everything on it, but that you can *remember* everything that is on it and, even better, know how this information relates to what you are studying.

How do we use our Knowledge Organisers?

We can use our Knowledge Organisers in many ways. The main aim is that we are able to memorise, understand and eventually *apply* all of the information in the Knowledge Organisers. We will do this by:

- using them to refer to in class to support our learning.
- discussing them at home with parents or carers to reinforce our learning and so that others may be involved in what we are learning too.
- using them as learning homeworks that we will have quizzes on in class.
- using them to refer to when completing homework.

Where will I find the Knowledge Organisers?

Knowledge Organisers will be made available to you via the school website https://stjosephsbolton.org.uk (Follow the link under school information to Learning & Teaching) and your teachers will often send you links to them with your homework on epraise or in your class TEAMS. (You will find out more about these teams over your first year at St Joseph's).

Half-term 1 – Contents
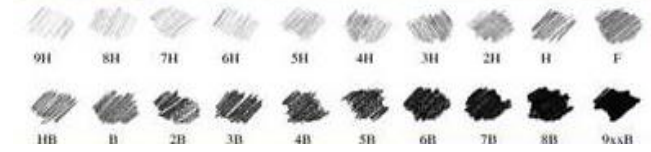
Here are the alphabetical contents for this half-term

• Art	• History
• Business and ICT	• Maths
• Design & Technology	• Music
• Drama	• PE & Fitness
• English	• RE
• French	• Science
• Geography	• Spanish

Art 'The Formal Elements' - Project 1

Formal Element	Definition
Line	The path left by a moving point, e.g. a pencil or a brush dipped in paint, that can take many forms. e.g. horizontal, diagonal or curved.
Tone	The lightness or darkness of something. This could be shade or how dark or light a colour appears
Texture	The surface quality of something, the way something feels or looks like it feels. There are two types: Actual and Visual.
Shape	An area enclosed by a line. It could be just an outline, or it could be shaded in.
Pattern	A design that is created by repeated lines/ shapes/ tones or colours. It can be manmade, like a design on a fabric or natural, such as markings on animal fur.
Colour	There are 2 types including Primary and Secondary. By mixing any two primary together we get a secondary.

Grades of Pencils-
Pencils come in different grades, the softer t
pencil the darker the tone.
You will use HB and 6B in your work.

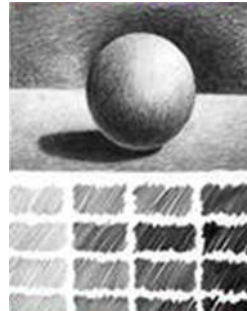9H 8H 7H 6H 5H 4H 3H 2H H F
HB B 2B 3B 4B 5B 6B 7B 8B 9xxB

Blending stumps are used to blend tone in smoothly.

Paper stump
Tortilion

Art Technique Key Words

Media/Medium	The materials and tools used by an artist to create a piece of art
Technique	The way an artist uses tools and materials to create a piece of art
Composition	Where you place objects on the page
Highlight	The bright or reflective area on an object or piece of art
Shadow/shade	The darker areas within a piece of art or object
Proportion	The size relationship between different parts - eg height compared to width

Making objects look 3D
To prevent your drawings from looking flat, you should use a range of tones and marks. Pressing harder and lighter and layering with your pencil creates different tones. Use the direction of your pencil to help enhance the 2D surface, and you can also include shadows which will also help objects appear 3D.

THE COLOUR WHEEL
WARM
COOL

COMPLEMENTARY
OPPOSITE EACH OTHER / CONTRASTING

HARMONIOUS
NEXT TO EACH OTHER / BLEND WELL TOGETHER

PRIMARY COLOURS

SECONDARY COLOURS

Colour Theory
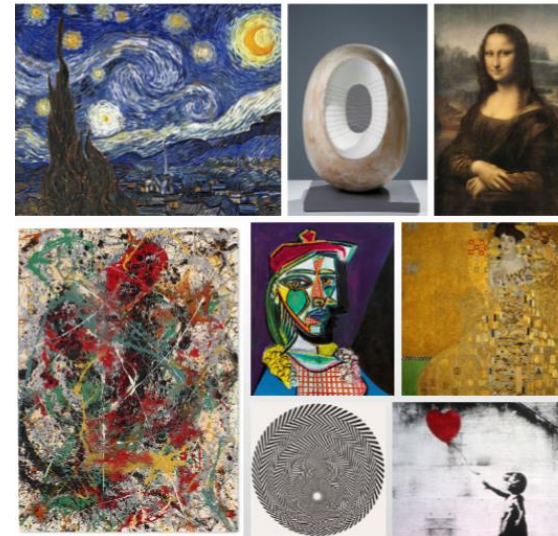**Key Words**
Primary Colours
Secondary colours
Tertiary colours
Complimentary colours
Harmonious colours
Tint

Shade.

Vincent Van Gogh
Leonardo DaVinci
Jackson Pollock
Barbara Hepworth
Banksy
Pablo Picasso
Bridget Riley
Gustav Klimt

B-ICT Knowledge Organiser
Year 7 A1—E-Safety

Stay Safe — Don't give out your personal information to people / places you don't know.

Mon't Meet Up — Meeting someone you have only been in touch with online can be dangerous. Always check with an adult you trust.

Accepting Files — Accepting emails, files, pictures or texts from people you don't know can cause problems.

Reliable? — Check information before you believe it. Is the person or website telling the truth?

Tell Someone — Tell an adult if someone or something makes you feel worried or uncomfortable.

Follow these SMART tips to keep yourself safe online!

© Teaching Ideas

Safety and Security Top tips

Password—should be strong -over 12 characters and making use of uppercase, lowercase, numbers and symbols. Do not share this with anyone.

Locking computers—Crtl + Alt + Delete—every time you leave your computer.

Anti-Virus—regularly scan your PC with anti-virus software to find any new issues

Types of cyberbullying -

Trolling • Excluding • harassing • gossiping • impersonating • cyberstalking • derogatory comments to/about someone • threats • Flaming • Masquerading

Information validity

Web browsers i.e. Chrome, Edge, Safari

Sir Tim Berners-Lee created the first website

How to check the quality of the information and website accuracy -

- Confirmed by other sources
- Unbiased
- Trusted source
- Up-to-date information

Billboard Test—if you wouldn't be happy to see it up there, don't post it online!

Key Terms

Cyberbullying—using any form of technology to bully.

Flaming— posting or sending offensive messages online.

Impersonating—pretend to be another person (to appear to be that person when online).

Masquerading—pretend to be someone you are not (for example posting anonymously or with a fake account).

Browser—software to access the internet i.e. Chrome, Edge

Bias—only giving one side of the story.

2

WISDOM HAS BUILT HERSELF A HOUSE.

Department of Design and Technology.
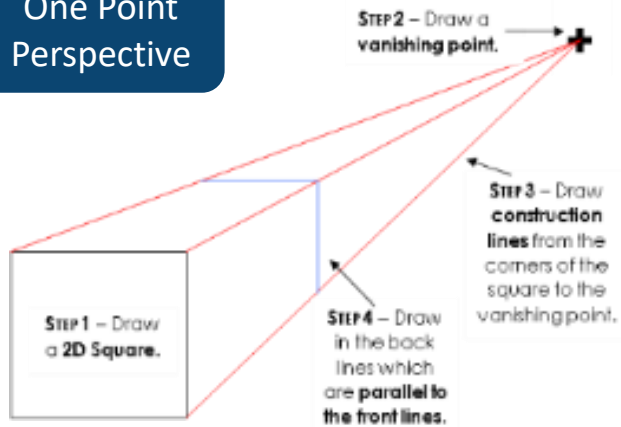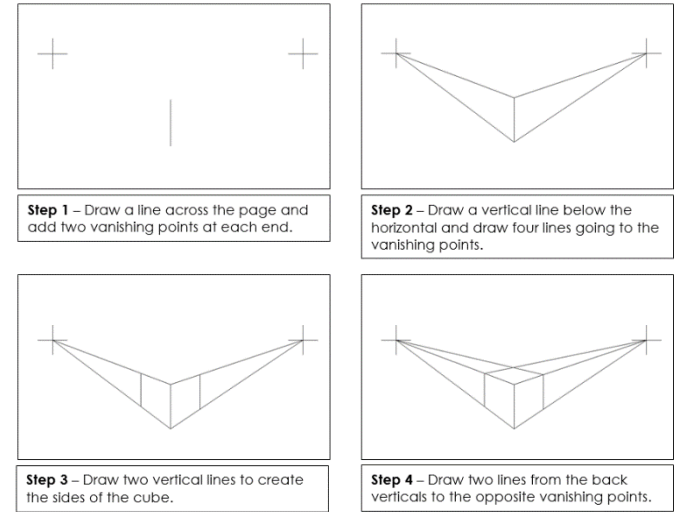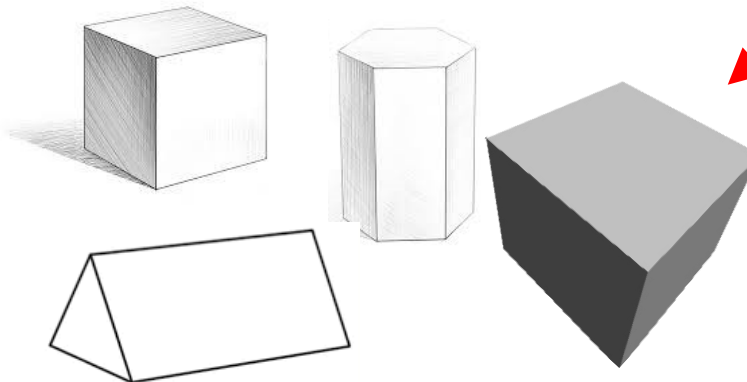
During this module various drawing and presentation skills will be learned. Practice the different techniques skills by drawing different shapes. Try and add tonal shade to improve presentation.

One Point Perspective

STEP 2 – Draw a vanishing point.

STEP 3 – Draw construction lines from the corners of the square to the vanishing point.

STEP 1 – Draw a 2D Square.

STEP 4 – Draw in the back lines which are parallel to the front lines.

Isometric Drawing

Step 1 – Draw a 'Y' shape which gives the top front corner of the box.

Step 2 – Add in the base lines which are parallel to the two top lines.

Step 3 – Add in the side lines which define the back of the box. These are parallel to the central front line.

Step 4 – Complete the box by adding in the two lines to complete the top of the box. These should be parallel to the other lines.

Two Point Perspective

Step 1 – Draw a line across the page and add two vanishing points at each end.

Step 2 – Draw a vertical line below the horizontal and draw four lines going to the vanishing points.

Step 3 – Draw two vertical lines to create the sides of the cube.

Step 4 – Draw two lines from the back verticals to the opposite vanishing points.

Tonal Shading

Adding **tone** to a drawing when shading makes it look more realistic. The three tones used are **light**, **medium** and **dark**. The face that gets most light is lightest, the face that gets the least light is the darkest, and the one left is in the middle.

Year 7 Drama Autumn Term One

Introduction to Drama

Areas for Assessment

Creating	The ability to work within a group to create and develop performance work.
Performing	The ability to present a character using physical and vocal skills.
Evaluating	The ability to discuss the qualities of a performance using dramatic language.

Diction, Emphasis, Enunciation

Pace, Pause

Dramatic Mediums to consider when Performing

Facial Expression	Consider the direction of your eyes and what they say to an audience. What position is your mouth in. Do you need to demonstrate control if this is in slow motion?
Body Language	Open or closed? Are you portraying a strong character who is outwardly focused or a nervous inwardly character?
Gesture	What are they doing with their hands? Can it help the audience understand what is going on?
Use of Voice	Have you considered the words you are going to say? The volume, tone, pitch and use of pause to convey meaning.
Proxemics (space)	Where do the performers stand in the space? Does the distance between characters tell us anything about their relationships?
Audience Awareness	Are the performers positioned in places where the audience can see them fully?

Elements of Drama

Script: the text of the play

Cast of Characters: all of the characters, usually portrayed by actors

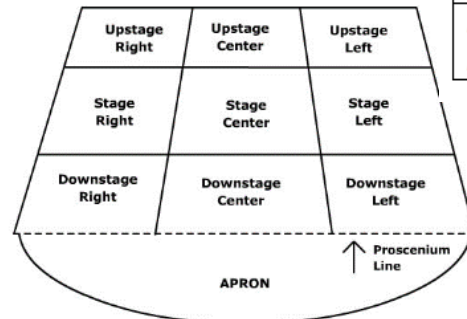Narrator: the person who tells what happens during the play

Setting: the time and place in the play

Act: a chapter in a play that contains more than one scene

Scene: the action that take place in a single setting

Dialogue: the words said by the characters

Stage Directions: written instructions telling the actors what to do

Upstage Right	Upstage Center	Upstage Left
Stage Right	Stage Center	Stage Left
Downstage Right	Downstage Center	Downstage Left

↑ Proscenium Line

APRON

DO'S of mime ✓	DON'Ts of mime ✗
DO Exaggerate characteristics	DON'T Turn your back on the audience
DO Face the audience	DON'T Laugh on stage
DO Be confident!	DON'T Look at the floor
DO Carry on if things go wrong	DON'T Rush through your lines
DO Make eye contact with the character you're talking to	DON'T Be nervous, just try your best!

Developing your key skills to begin your journey to become actors. Looking at how build **working relationships**. Develop our use of **still images**, **thought tracking**, **mime** and **characterisation**.

English - Culture

What will I study?

In this unit, you will begin by exploring what 'Culture' means. We will learn about the culture of St Joseph's as a school community and take time to explore your own individual culture. Our learning journey will take us on a trip around the globe exploring different cultures and traditions, stopping to appreciate texts from different countries by a range of talented writers. For example, in our studies of American culture, students have the opportunity to study the biographies of culturally significant figures such as Michelle Obama as well as texts from more recent figures of interest such as Amanda Gorman's poem 'The Hill We Climb'. Students will develop skills such as learning how to analyse language, both in poetry and prose, as well as using some of the texts we study as a springboard for their own writing.

Key Skill: Travel Writing

DAFOREST persuasive writing techniques	
Direct Address	When the writer addresses the reader directly using pronouns such as 'you'/'we'
Alliteration	Using a series of words in succession that begin with the same consonant sound.
Fact	A statement that is true and can be proven.
Opinion	Someone's point of view of/about something. It is not always based on fact or knowledge.
Repetition	To repeat the same word/phrase/sentence more than once for effect.
Rhetorical Question	A question that does not require an answer, usually posed to emphasise an idea/opinion.
Exaggeration	A statement/information that is untrue
Emotive Language	Words deliberately chosen to create emotion in the reader.
Statistics	Factual data in numerical form used to convince the reader. (Either fractions or percentages)
Triple (Rule of three)	A list of 3 adjectives/phrases in succession for effect, usually to emphasise a strong idea.

Core Knowledge: Poetic Features

Forms/Types of Poems	Structural Features	Language Features
Acrostic	Stanza	Alliteration
Cinquain	Rhyme Scheme	Imagery
Free verse	Pattern	Metaphor
Haiku	Rhythm	Onomatopoeia
Limerick	Alternate	Personification
Narrative	Couplet	Simile
Nonsense	Flashback	Adjectives
Shape	Chronological	Verbs
Sonnet		Adverbs

Key Word:	Definition:
Discrimination	The unfair treatment of others, usually on the grounds of religion, race, gender, age or disability.
Metaphor	Where a writer describes/compares something to something else but it is not literal. E.g. She was a shining star.
Prejudice	A judgement made about another person that is unfair, usually on the grounds of class, race, religion, gender, age or disability.
Tolerance	Understanding and acceptance of feelings, habits, or beliefs that are different from your own.
Empathy	Being aware of and understanding another person's feelings, experiences, and emotions.
Identity	The fact of being who or what a person or thing is.
Culture	A pattern of behaviour, ideas and traditions shared by a society or group of people.
Traditions	The handing down of information, beliefs, or customs from one generation to another.
Civilisation	A large group of people who share certain ways of living and working.
Society	A community or group of people having common traditions, institutions, and interests.

Core Skill: Language analysis

PEAZL writing frame. Use this for support when writing an analytical paragraph.	
Point	Begin your paragraph with a clear opening sentence focusing on the question. It should state your opinion.
Evidence	Identify a relevant quotation from the text to support your idea/opinion. Push yourself to embed this quotation into a sentence.
Analyse	Explain literal and deeper meanings of the quotation. E.g. 'This suggests…'
Zoom	Zoom in to words more closely to analyse the effect. The words you zoom in to must be from your quotation. Try to zoom in to as many significant words/techniques as possible. Push yourself to use subject terminology when zooming in e.g. name the device.
Link	Make a statement about how your analysis links to the writer's purpose, big ideas or wider messages in the text. Try to link back to the question to ensure your explanations are well focused.

A INTRODUCTIONS

1	Bonjour	Hello
2	Salut	Hi
3	Au revoir	Goodbye
4	Comment t'appelles-tu?	What are you called?
5	Je m'appelle	I am called
6	Ça va?	How are you?
7	Ça va bien merci, et toi?	I'm well thank you, & you?
8	comme ci-comme ça	so-so
9	mal	badly

B AGE

1	Un, deux, trois	1,2, 3
2	Quatre, cinq, six	4,5, 6
3	Sept, huit, neuf	7,8,9
4	Dix, onze, douze	10,11,12
5	Treize, quatorze	13, 14
6	Quinze, seize	15,16
7	Dix-sept, dix-huit	17,18
8	Dix-neuf, vingt	19,20
9	Quel âge as-tu?	How old are you?
10	J'ai onze ans	I am 11 years old
11	J'ai douze ans	I am 12 years old

C BIRTHDAY

1	janvier, février	January, February
2	mars, avril	March, April
3	mai, juin	May, June
4	juillet, août	July, August
5	septembre	September
6	octobre	October
7	novembre	November
8	décembre	December
9	Quelle est la date de ton anniversaire?	What is the date of your birthday?
10	C'est quand ton anniversaire?	When is your birthday?
11	Mon anniversaire, c'est le douze juin	My birthday is on 12th June
12	Mon anniversaire, c'est le premier mai	My birthday is on the 1st of May

D EYES

1	Comment sont tes yeux?	What are your eyes like?
2	J'ai les yeux…	I have … eyes
3	verts	green
4	gris	grey
5	bleus	blue
6	noisette	hazel
7	marron	brown

E HAIR

1	Comment sont tes cheveux?	What is your hair like?
2	J'ai les cheveux...	I have … hair
3	je n'ai pas de cheveux	I don't have any hair
4	blonds	blond
5	noirs	black
6	gris	grey
7	bruns	brown
8	roux	red / ginger
9	longs/ mi-longs	long/ mid-length
10	courts	short
11	bouclés	curly
12	nattés	braided
13	raides	straight

F HEIGHT AND SIZE

1	je suis	I am
2	je ne suis pas	I am not
3	grand(e)	tall
4	petit(e)	small
5	gros(se)	overweight
6	mince	slim
7	de taille moyenne	average height
8	très	very
9	assez	quite

G PERSONALITY

1	Comment es-tu?	What are you like?
2	Je suis	I am
3	Je ne suis pas	I am not
4	Il / elle est	He / she is
5	Il / elle n'est pas	He / she is not
6	bavard(e)	chatty
7	timide	shy
8	gourmand(e)	greedy
9	sympa	nice
10	actif (active)	active
11	sportif (sportive)	sporty
12	paresseux (paresseuse)	lazy
13	marrant(e)	fun/ funny

H COUNTRIES

|		
1	Où habites-tu?	Where do you live?
2	J'habite	I live..
3	en Allemagne	in Germany
4	en Angleterre	in England
5	en Belgique	in Belgium
6	en Écosse	in Scotland
7	en Espagne	in Spain
8	en France	in France
9	en Italie	in Italy
10	en Irlande	in Ireland
11	en Suisse	in Switzerland
12	au pays de Galles	in Wales
13	au Portugal	in Portugal

Map Skills

TYPES OF GEOGRAPHY

HUMAN GEOGRAPHY The impact of people on the earth

PHYSICAL GEOGRAPHY The natural world without people

ENVIRONMENTAL GEOGRAPHY Human interaction with nature

WHAT IS GEOGRAPHY

"Geography is the study of the Earth's landscapes, peoples, places and environments. It is, quite simply, the study of the world we live in."

Geography is part of your everyday life; you use it every day without even realizing!

COMPASS POINTS
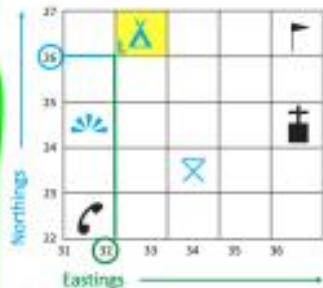
North
NW
NE
West
East
SW
SE
South
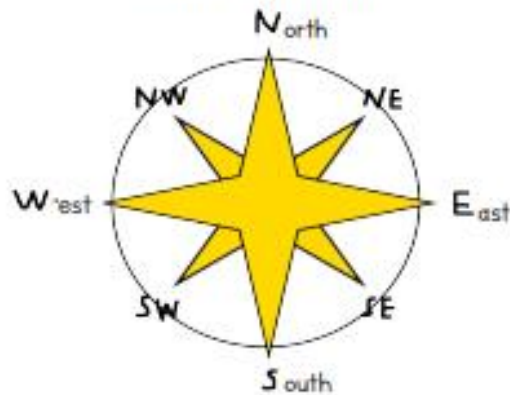
WHERE IS THE UK?

The United Kingdom (UK) is an Island country located in the continent of Europe, it is made up of four countries England, Scotland, Northern Ireland and Wales

THE UK

4 FIGURE GRID REFERENCES

Along the edges of each map there are numbers. These numbers help you work out where a location is on a map. Northings are numbers that go from bottom to top, Eastings go from left to right.

The first two numbers give the eastings

32 26

The second two numbers give the northings

Remember... eastings then northings!

Along the corridor and up the stairs!

MAP SYMBOLS

Symbols are useful for lots of reasons including, space saving on a map, multi-lingual (all languages can understand them), saves time, clear.

M1 or A66M
MOTORWAY

FOREST

PARKING

GOLF COURSE

TRAIN STATION

BUS/COACH STATION

CYCLE TRAIL

NATURE RESERVE

FOOTPATH

RIVER

VIEWPOINT

MARSHLAND

ATLAS SKILLS

There are generally three main types of maps shown in an atlas:

PHYSICAL MAPS these show topography/relief (the shape of the land) and other physical features such as rivers and lakes.

POLITICAL MAPS these show country borders, cities, transport links etc.

THEMATIC MAPS these show information such as climate data, agriculture types etc.

6 FIGURE GRID REFERENCES

We can use six-figure grid references to find an exact location within a grid square, so they are much more accurate.
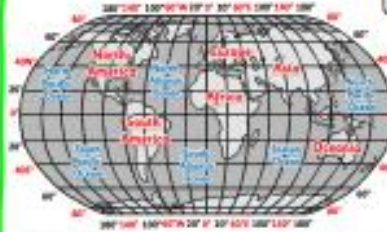The grid square is divided into tenths.

Example

015 795

The first three numbers give the easting which includes the number of tenths.

The last three numbers give the northing which includes the number of tenths.

KEYWORDS

				NORTH
SPACE				
PLACE	EAST	DISTANCE	RELIEF	CONTOUR
SCALE	SOUTH	SCALE	WEST	TOPOGRAPHY
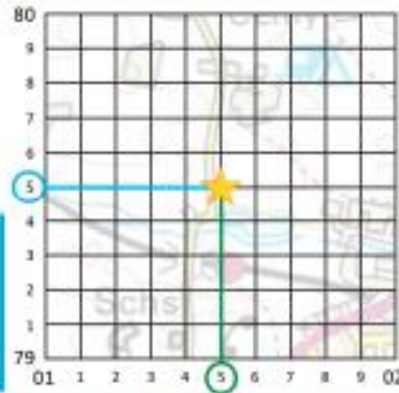
LONGITUDE AND LATITUDE

Unlike grid lines where we go along the corridor and the stairs, here we go **UP** and **ACROSS**

LATITUDE
Flat lines. Flat-itude!

LONGITUDE
Long lines – up and down

HEIGHT AND RELIEF

RELIEF the difference between the highest and lowest heights of an area.

TOPOGRAPHY the surface features of the earth like hills, mountains, valleys etc.

LAYER SHADING

Areas of different heights are shown using different colours. A key is used to show how high the land is

SPOT HEIGHTS

The exact height of a place above the ground is measured and written onto a map.

CONTOUR LINES

Contour lines are lines on a map which join up places of the same height. Everywhere along a contour line is the same height.

SCALE AND DISTANCE

OS maps have a scale. On some smaller maps, 1cm on the map equals 250m in real life. On some larger maps, 1cm on the map equals 500m. Different maps might have different scales, so check on your map to find its scale.

LINE SCALE

Using a line scale on a map is as easy as using a ruler. The important thing to remember is that a line scale shows measurements in km and the measurements on a ruler are in cm.

WORD SCALE

One centimeter on the map represents 3 kilometers on the ground. (1cm = 3 km)

Using the scale above, if we measure the distance on a map between two places with our ruler. The measurement is 4cm. We then have to multiply that measurement by 3 to calculate that the real distance between the two places is 12km

9

History 1a: The Neolithic Revolution

Introduction

The first humans were hunter gatherers, who did not settle in one place. They followed herds of animals which they hunted and they gathered fruits, vegetables and berries.

At the end of the last ice age, the temperature began to rise and the ice began to melt. As the sea levels rose, the humans began to move to higher ground.

The humans took their favourite plants and animals with them as they moved and this led to farming.

This period is called the Neolithic Revolution, when humans made the change to a settled lifestyle and farming.

Summary of your learning

• Understand that pre-history occurred before historical records were kept.
• Understand that prehistorical periods (Palaeolithic and Neolithic) occurred over many thousands of years.
• Analyse changes in human's existence from hunter/gatherer, to settlement and the beginnings of agriculture.
• Examine the Stone Age settlement at Skara Brae and focus on how archaeologists and historians draw inferences from artefacts.

Chronology: what happened on these dates?

2.5 million BC
In the Palaeolithic period (roughly 2.5 million years ago to 10,000 B.C.), early humans lived in caves or simple huts or tepees and were hunters and gatherers.

10,000 BC
The Neolithic Revolution started around 10,000 B.C. in the Fertile Crescent, a boomerang-shaped region of the Middle East where humans first took up farming. Shortly after, Stone Age humans in other parts of the world also began to practice agriculture.

3180 BC
The site at Skara Brae was occupied from roughly 3180 BC to about 2500 BC and is Europe's most complete Neolithic village.

2600 BC
A large settlement dating back to 2600 BC was discovered near the ancient stone monument of Stonehenge in Wiltshire.

Key Vocabulary

Palaeolithic – Oldest known prehistorical period when humans were nomadic hunter gatherers.

Nomads – people who move from place to place to hunt animals and gather fruits and berries

Archaeologist - Person who learns about the past through digging up artefacts and studying them.

Artefact - Object made by a human.

Revolution – A fundamental change in the way people live.

Neolithic - Most recent era whereby humans discovered farming and began to live a settled life.

Settlement - A place where people establish a community.

Temperature – Measurement of heat.

Skara Brae - A stone-built Neolithic settlement, located in the Orkneys in Scotland.

Stonehenge - A prehistoric monument in Wiltshire

History 1b: The Romans

Key Knowledge

- ✓ What was the Roman Empire
- ✓ The Roman Army
- ✓ Roman Britain
- ✓ The Revolt of Boudica

Who were the Romans?
Rome is a city in Italy. 2000 years ago it was the most powerful and important city in the world. The people from Rome owned and controlled a massive **EMPIRE**

Summary of your learning:
- ❖ We will investigate the Roman Empire and the chronology of Rome
- ❖ We will investigate why the Roman Army was so successful
- ❖ We will look at why the Romans invaded Britain
- ❖ We will examine the revolt of Boudica

Key Vocabulary

Empire - A group of countries ruled by a more powerful state or country

Emperor – The ruler of an Empire

Chronology - The arrangement of dates or events in the order in which they occurred

BC - Before Christ. A way of dating years before the birth of Jesus. The bigger the number BC, the longer ago in history is was, because BC numbers decrease in size.

AD - Anno Domini - "in the year of our Lord". AD is used to show dates after the birth of Jesus. This year is 2019 AD

Invade / Invasion – to take control of another country often by violence

Revolt - When a group of people refuse to be ruled & take action against their rulers

Legion – A group of 5,000 men under the command of a Legate.

Cohort – each legion was divided into ten cohorts

Centuries – each century had 80-100 men

Barbarians – the name the Romans gave to the people who lived outside the Roman Empire.

Trade – making money by buying and selling goods

Legionary – A Roman soldier

Centurion – in charge of a century

Testudo or tortoise – a defensive tactic

Chronology

54 BC   Julius Caesar attempts to invade Britain.

43 AD   Romans invade and conquer Britain under Emperor Claudius.

49 AD   Roman London founded.

60 AD   Boudica's revolt against the Romans fails.

84 AD   Romans conquer Wales and Scotland.

133 AD Construction of Hadrian's Wall to keep the Picts of Scotland out of England.

306 AD Constantine the Great proclaimed Emperor in York.

409 AD The last Roman troops withdraw from Britain.

What should I be able to do?

- Use inverse operations
- Substitute into single function machines
- Write expressions from single function machines
- Find functions from expressions
- Substitute values into simple expressions
- Understand like and unlike terms and the meaning of equivalence
- Simplify algebraic expressions

Function, Input, Output, Operation, Inverse, Commutative, Substitute, Expression, Equality, Variable
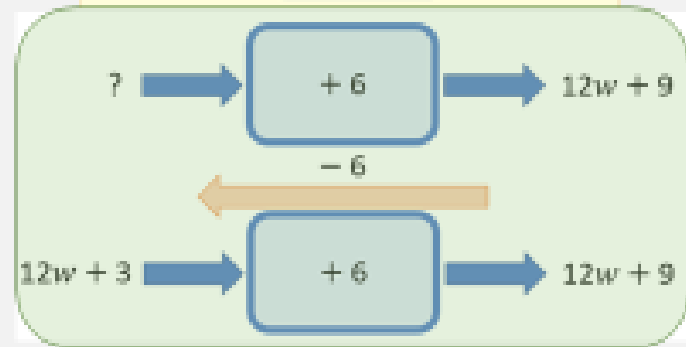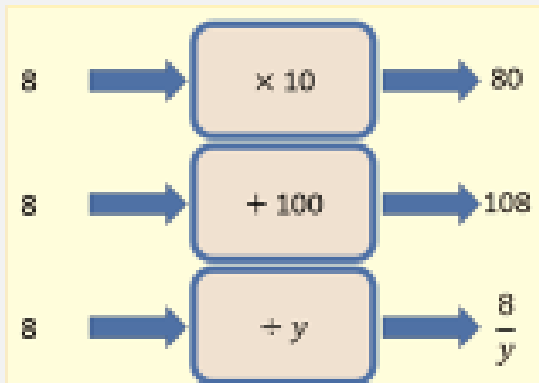
Function Machines:

$8 \rightarrow \times 10 \rightarrow 80$

$8 \rightarrow +100 \rightarrow 108$

$8 \rightarrow \div y \rightarrow \dfrac{8}{y}$

$? \rightarrow +6 \rightarrow 12w+9$

-6

$12w+3 \rightarrow +6 \rightarrow 12w+9$

Algebraic Notation:

$f+f+f+f+f+f \quad 6f \qquad 7 \times g \quad 7g$

$t \div 5 \quad \dfrac{t}{5} \qquad\qquad 5 \div t \quad \dfrac{5}{t}$

$m \times m \quad m^2 \qquad\qquad d \times c \quad cd$

Substitution: Replace the variable with the appropriate values

If $a = 7$ and $c = 10$

$11a = 11 \times 7 = 77$

$\dfrac{80}{c} = \dfrac{80}{10} = 8$

Like and Unlike Terms:

Like terms	Unlike terms
$5a, 6a$	$5a, 5b$
$10t, -3t$	$-10t, -3$
$2xy, 4xy$	$2xy, 4xz$
$10, -7$	$10, 7a$
$3a^2, 7a^2$	$3a^2, 7b^2$

The same variables   Different variables

Collecting like terms :

The symbol $\equiv$ means equivalent to

$3a + 4 + 5a \equiv 8a + 4$

$6b + 2c - 2b + 6c \equiv 4b + 8c$

$5d + 3e + 2d - 3e \equiv 7d$

What should I be able to do?

- Find inputs and outputs for two step function machines
- Substitute values into two step expressions
- Describe and continue a sequence diagrammatically
- Predict the next terms in a sequence
- Describe and continue linear and non-linear sequences
- Represent sequences in tabular and graphical forms
- Explain the term to term rule
- Generate sequences given an algebraic rule

Function, Input, Output, Operation, Inverse, Substitute, Expression, Variable, Term, Sequence, Linear, Position, Rule, Difference, Arithmetic, Geometric

Two step functions:

$$3.7 \longrightarrow \boxed{\times 5} \longrightarrow \boxed{+1} \longrightarrow 19.5$$

$$? \Rightarrow \boxed{\div 3} \Rightarrow \boxed{-5} \Rightarrow 19$$

$\times 3$ $+5$

$$72 \Rightarrow \boxed{\div 3} \Rightarrow \boxed{-5} \Rightarrow 19$$

24

$$a \longrightarrow \boxed{\times 3} \xrightarrow{3a} \boxed{+2} \longrightarrow 3a+2$$

$$b \longrightarrow \boxed{+2} \xrightarrow{b+2} \boxed{\times 3} \longrightarrow 3(b+2)$$

Linear sequences: These can be displayed via pictures, in a table or graphically

Position	1	2	3	4
Term	3	5	7	9

These sequences are linear because each term increases by 2 each time, starting from 3

Non-linear Sequences:

The following are all **non-linear** sequences.

This is because they increase by a different amount each time.

To get the next term in this one, **double** the previous term

- 1, 2, 4, 8, ____, ____
- 64 000, 32 000, 16 000, ____, ____
- 1, 3, 6, 10, , ____, ____
- 100, 150, 225, ____, ____, ____
- 1, 1, 2, 3, 5, 8, ____, ____

To get the next term in this one, **add** the previous 2 terms together. This is part of the **Fibonacci sequence**

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What should I be able to do?

- Understand the meaning of equality
- Explore links between how simple equations can be written
- Solve one step linear equations in all four operations

Equation, Equals, Solution, Inverse, Operation, Solve, Term, Coefficient, Like

Understand Equality:

- $6 + 3 = 9$
- $8 = 5 + 3$
- $5 + 6 = 8 + 3$
- $312 + 99 = 312 + 100 - 1$
- $12 + 9 = 3 \times 7$
- $8 \div 0.2 = 80 \div 2$
- $6700 - 67 = 99 \times 67$

Know other relationships that might help when trying to solve an equation:

18	
7	y

$7 + y = 18$
$y + 7 = 18$
$18 - y = 7$
$18 - 7 = y$

18				
a	a	a	a	a

$a \times 5 = 18$
$5 \times a = 18$ $\qquad 5a = 18$
$18 \div 5 = a \qquad \dfrac{18}{5} = a$
$18 \div a = 5 \qquad \dfrac{18}{a} = 5$

Solve one step equations:

Solve the equation

$$\frac{y}{3} = 4.7$$

y		
4.7	4.7	4.7

$y \div 3 = 4.7$
$y \div 4.7 = 3$
$y = 4.7 \times 3$
$y = 3 \times 4.7$

$y = 14.1$

Solve the equation

$$8g = 42$$

42							
g	g	g	g	g	g	g	g

$42 = 8 \times g$
$42 = g \times 8$
$g = 42 \div 8$
$8 = 42 \div g$

$5.25 \rightarrow \boxed{\times 8} \rightarrow 42$
$\div 8$

Solve the equation

$$7.8 = 29.3 - b$$

29.3	
b	7.8

$29.3 = b + 7.8$
$29.3 = 7.8 + b$
$7.8 = 29.3 - b$
$b = 29.3 - 7.8$

$b = 21.5$

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Music – Autumn Term 1 – Keyboard skills

Pitch	High	The **highness** or **lowness** of a sound.
	Low	
	Stepwise	Moving one note at a time
	Leap	Jumping to the next note.
Articulation	Smooth	Playing notes in a long, smooth way
	Legato	
	Detached	Playing notes in a short, detached, spiky way.
	Staccato	
Dynamics	Loud	The volume of the music. Italian music terms are used to describe this.
	Soft	
	pp pianissimo	Very quiet
	p piano	Quiet
	mp mezzo piano	Moderately quiet
	mf mezzo forte	Moderately loud
	f forte	Loud
	ff fortissimo	Very loud
	Crescendo	Gradually getting louder

Tempo	Fast	The speed of the music. Italian musical terms are used to describe this.
	Slow	
	Lento	Slow
	Andante	At a medium (walking) pace
	Moderato	At a moderate speed
	Allegro	Fast
	Accelerando (accel)	Getting faster
	Rallentando (rall)	Getting slower
Duration	Long	The length of a sound or note
	Short	
Texture	Thin texture	A solo or small number of instruments
	Thick texture	Lots of instruments.
Timbre	Sonority	Instrumentation – the unique sound or tone quality of different instruments, voices or sounds.
	Instrumental sound	

Note names and durations

Quaver Crotchet   Minim   Semibreve

½ beat   1 beat   2 beats   4 beats

Treble clef

Flat Sign

Sharp Sign

Bass clef

C D E F G A B

C MAJOR

F MAJOR

A MINOR

G MAJOR

PE Department - Fitness

Key Skills:

Three elements of a Warm up

Pulse raiser – This allows us to increase our heart rate and the amount of blood pumped around our body which carries more oxygen to the muscles we are using.

Stretching – Increased blood flow to the muscles. Increased range of motion at the joints. Reduced risk of injury.

Increased intensive activity – This allows the participant to take part in activities relevant to the sport/ activity to be undertaken.

Increase mental preparation.

Purpose of a cool down – Return heart rate to resting levels gradually. Remove LACTIC ACID from the body (reduce muscle soreness).

Effects of exercise on the body – Breathing and Heart Rate increase with intensity of exercise.

Pulse rate – Pulse rate (the number of times your heart beats in a minute) can be taken at either your wrist or neck. The normal rate =70-100BPM

How to take your pulse rate: -

Gently place 2 fingers of your other hand on this artery.

1.   Do not use your thumb, because it has its own pulse that you may feel.

2.   Count the beats for 30 seconds, and then double the result to get the number of beats per minute.

3.

 Stretch and Challenge Task:

Note where the Radial and Carotid sites are for taking the pulse.

Describe activities that may raise the pulse rate.

Main Muscles

Key Content and Terms to learn:

Warm up; Cool Down; Heart Rate; Body Temperature

Key Skills:

- Controlling the ball – using different parts of the body – this could be the feet or thigh. Remember to cushion the ball.
- Passing – there are 3 types of passes. Side foot pass, driven pass with the laces and a lofted pass. Using the side of the foot allows you to pass accurately over a short distance, a driven pass allows you to pass the ball on the floor, but a greater distance. Finally, a lofted pass allows you to lift the ball in the air over players and change direction. Remember to keep your standing foot next to the ball when you make the pass.
- Dribbling – dribbling allows you to move the ball quickly around the pitch using the inside and outside of your feet and keeping the ball close to your feet and your head up.
- Turning with the ball and outwitting a defender – turning with the ball allows you to change direction using different techniques, such as dragging the ball back with the sole of your boot. Outwitting and opponent allows you to beat a defender using different techniques such as a step over.
- Shooting – there are different types of shots that allows you to score goals. You instep can be used to control and place the ball into the goal. If you use your laces then this allows more power to be produced.
- Heading – you can use an attacker header, a defensive header or a controlled header, which might be passing the ball back to someone with your head.
- Attacking – keeping possession – making a number of passes allows your team to keep possession and advance up the field.

Tackling techniques – tackling, jockeying and forcing the player onto their weaker foot.

Basic Rules

1. Game is started by kicking the ball from the centre spot.
2. The U12 game has 9 players – goalkeepers, defender, midfielders and attackers.
3. Referee and two assistants with officiate the game.
4. If a ball goes over a touch line a throw in is taken (kick in on the astroturf). If an attacker kicks over the goal line it is goal kick and if a defender kicks it over the goal line it is a corner.
5. To score the ball must cross the opposition's goal line.
6. The offside rule also applies where an attacker is in front of all opposing defenders when the ball is kicked.

Key Skills:

Passing and receiving –including chest pass, bounce pass, shoulder pass and overhead pass.

Attacking – getting free from an opponent in order to receive the ball. Includes sprinting, dodging and changing direction.

Shooting – With one hand under the ball and the other steadying it at the side, keep your eyes on the hoop, bend your knees and push the ball with the fingers.

Defending – Marking your opposite player both with and without the ball.

Footwork – You must land with a 1-2 landing or with 2 feet. You must then not move the landing foot.

POSITIONS

Goal Shooter (GS) – Can only play in their attacking goal third. Marks the GK.

Goal Attack (GA) – Plays in the goal third and centre third. Marks the GD.

Wing Attack (WA) – Plays in the centre third and their teams attacking third. Marks the WD.

Centre (C) – Only player to be able to play in all 3 thirds. Marks C.

Wing Defence (WD) – Plays in centre third and their defending third. Marks the WA.

Goal Defence (GD) Plays in the centre third and their defending third. Marks the GA

Goal Keeper (GK) Can only play in their defending goal third. Marks the GS

Key content and Terms to learn

Passing and receiving

Shooting

Attacking

Defending

Footwork

Contact

Dodging

Rules: The game starts with a centre pass and the ball must be caught in the centre third. You must comply with the footwork rule e.g. a 1-2 landing.

You only have 3 seconds to release the ball.

When defending you must be 1 metre away from the player.

There must be no contact with an opposing player.

Only GS and GA may score a goal.

You must stay in the correct area of the court for your position Teams take it in turns to take a centre pass.

The ball must be touched in each third of the court.
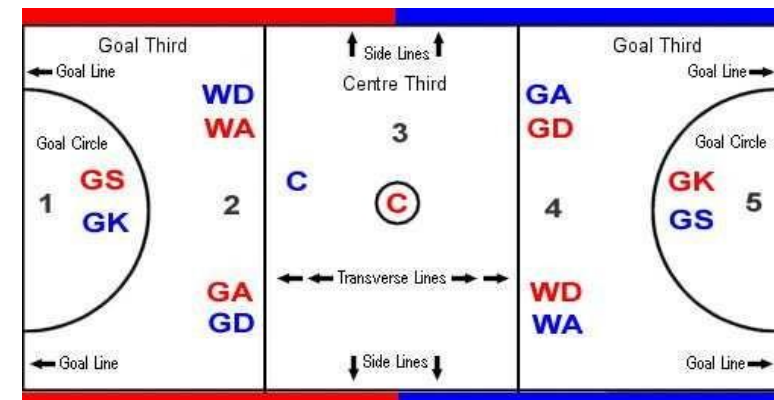
Take your learning further
- Watch an international or super league game of netball online. You could use England Netball | Home
- Draw a court and mark on the positions for 2 teams in different colours.

Year 7 RE
Branch 1 Creation and Covenant

Glossary of Key Vocabulary

God: The eternal, supreme being who created all things.

Revelation: Ways God has revealed himself to humanity.

Natural revelation: Humans understanding God through their own reason and experiences.

Special revelation: How God is revealed in scripture and tradition.

Literal sense: The meaning of a passage of text as the author intended it.

Literary form: The genre, historical context and intended audience of a text.

Creation: When God made the world.

Creationism: The belief that the word really was created by God in 6 days, as told in Genesis, rejecting theories of the Big Bang and evolution.

Scientism: The belief that science answers all of life's questions about the meaning and purpose of existence.

Prayer: Communicating with God, usually through words.

Stewardship: The responsibility to care for the world on behalf of God.

Overview
This half term you are learning about Creation – how God made the world and everything in it, and the special responsibility he gave us, as humans, for looking after it. You will learn about the Creation stories from the Bible and what the Catholic Church teaches about how we should understand them in light of modern science.

Checklist of topics this half term:
- ☐ Who God is
- ☐ The Genesis narrative of Creation
- ☐ Interpretations of Genesis
- ☐ Creation and Art
- ☐ Laudato Si
- ☐ Pollution
- ☐ Animal Rights
- ☐ Sr Dorothy Stang

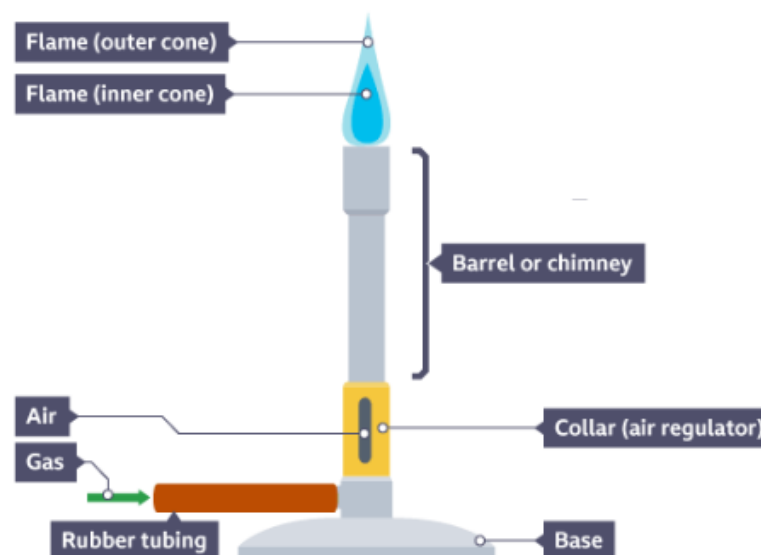**Key Source of Wisdom and Authority (Religious Teachings):**

"Then God said, "Let us make mankind in our image, in our likeness, so that they may rule over the fish in the sea and the birds in the sky, over the livestock and all the wild animals, and over all the creatures that move along the ground." So God created mankind in his own image, in the image of God he created them; male and female he created them." (Genesis 1:26-27)

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Science –Working Scientifically

Health Hazard

Oxidiser

Flammables

Compressed Gas

Corrosives

Toxic

Irritant

Environmentally Hazardous

Name of apparatus	Drawing	2D cross section diagram
Beaker		
Test tube		
Conical flask		
Measuring cylinder		
Tripod		
Gauze		

Bunsen burner

Flame (outer cone)
Flame (inner cone)
Barrel or chimney
Air
Gas
Collar (air regulator)
Rubber tubing
Base

Name of apparatus	Drawing	2D cross section diagram
Bunsen burner		
Evaporating basin		
Filter funnel		
Condenser		
Round-bottom flask		

Independent variable: The variable that you change
Dependent variable: The variable that is measured
Control variable: A variable that should be kept the same

Prediction: What you think your results will show and why.

Risk assessment: Identify hazards, the harms they can do and how you will minimize any risks in a practical investigation.

Method: Step-by-step instructions for how to carry out a practical investigation.

Results table: As the practical is carried out, write the results in a table.

Anomalies: result that is much higher or lower than the general pattern

Calculating a mean

1. Check for anomalies – circle them and ignore
2. Add up the remaining results for that value
3. Divide the total by the number of results

The most common ways of presenting data in science are:
- A **line graph** should be used when the independent and dependent variables are continuous.

The temperature of water in a kettle as it boils
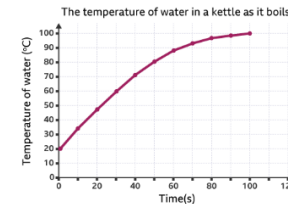
- A **bar chart** should be used if the independent variable is discontinuous .

Favourite Colour
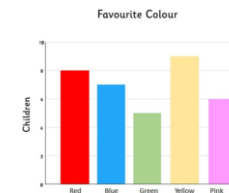
Once points have been plotted for a line graph, draw a **line of best fit**:
✓ Does NOT have to go through 0,0
✓ The line should be drawn through as many points as possible,
✓ Equal numbers of points above and below the line.
✓ Anomalies should be ignored.
✓ It may be straight   or curved
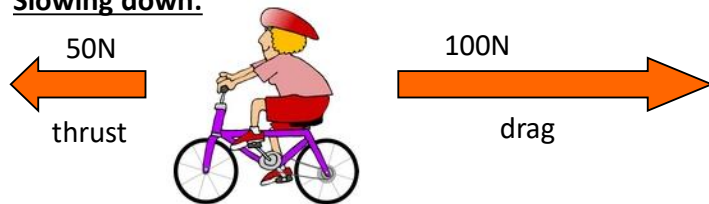
Science - Forces
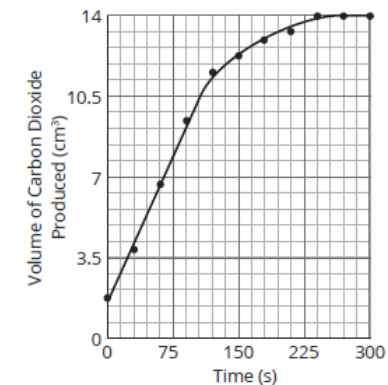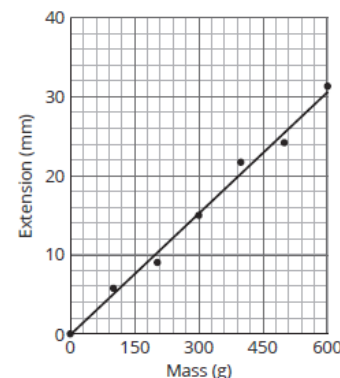
Forces on an object are either balanced or unbalanced, and this affects the **motion** of the object.
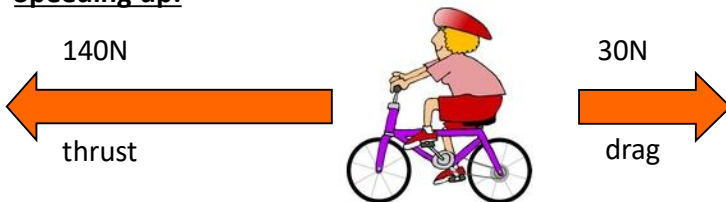
Forces	Motion
Balanced	Stationary or moving at a constant speed
Unbalanced	Changing speed – accelerating or decelerating

Resultant force = overall force on an object

Slowing down:

50N thrust

100N drag

Speeding up:

140N thrust

30N drag

Constant speed:

140N thrust

140N drag

Speed = distance ÷ time

The unit we use for speed is usually m/s metres per second – but you should always check the units given for distance and time

Distance time graphs
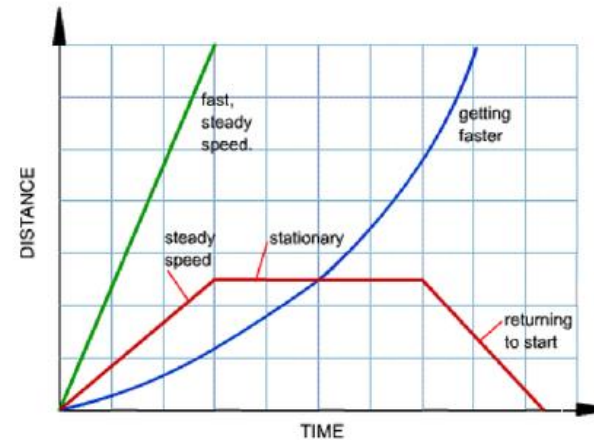
Horizontal line = stationary (not moving)

Diagonal line = moving at a constant speed

Steeper line = a faster constant speed

Downwards diagonal line = going backwards

Curved line = changing speed:

accelerating   decelerating

The gradient of a line tells you the speed of the object

22

Science –particle model

Particle theory
All matter is made up of particles. Particles are found in three main states of matter. Particles behave differently in the three states.

Types of substance
Pure – made up of only one type of substance
Impure – a mixture of different substances
Mixture - the different types of particle in a **mixture** are not chemically combined, and can be separated

States of matter – how particles can be arranged in matter - solid, liquid, gas
Changes of state – moving from one state of matter to another - evaporation, condensation, freezing, melting

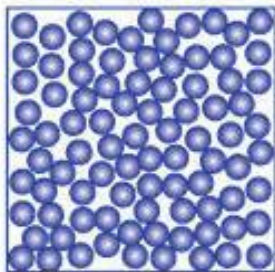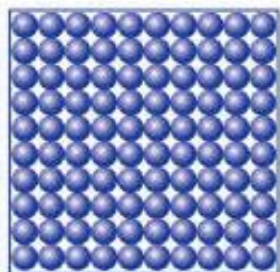Changes of state that take in energy:
Melting – from solid to liquid
Evaporation – from liquid to gas

Changes of state that release energy:
Freezing – from liquid to solid
Condensation – from gas to liquid
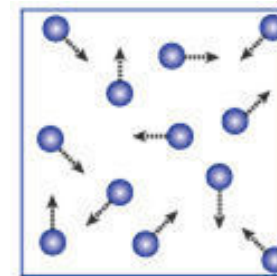
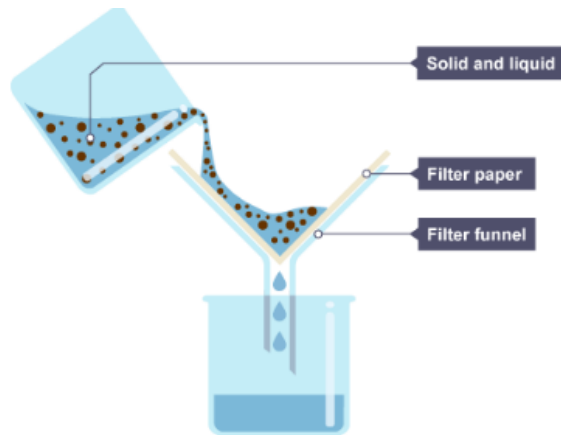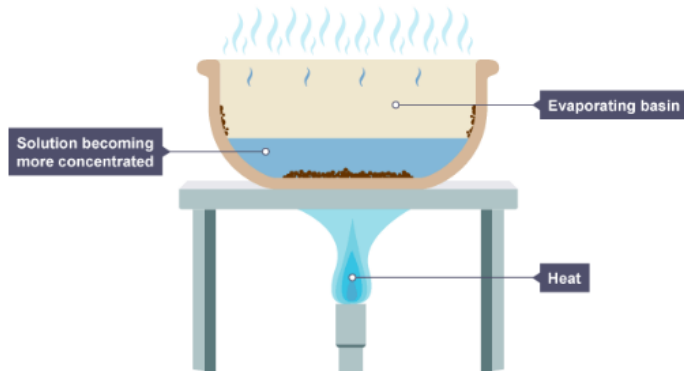| Solid	Liquid	Gas
Particles are in a regular, fixed arrangement Particles vibrate in a fixed position (but do not move)	Particles are arranged randomly and can move – they slide past and over each other,	Particles can move in all directions, and show random movement. Particles are far apart.
Least amount of energy	More energy	Highest amount of energy
Fixed volume and shape	Fixed volume, shape can change	No fixed volume or shape – can be compressed

Science - separating mixtures

Filtration
Used for separating an insoluble solid from a liquid
e.g. sand from water

Solid and liquid
Filter paper
Filter funnel

Distillation
Used for separating a liquid from a solution. It involves evaporating and condensation. It works because water and salt have different boiling points.
e.g. water from salt water

100°C
Cooling water out
Vapour condenses in the condenser
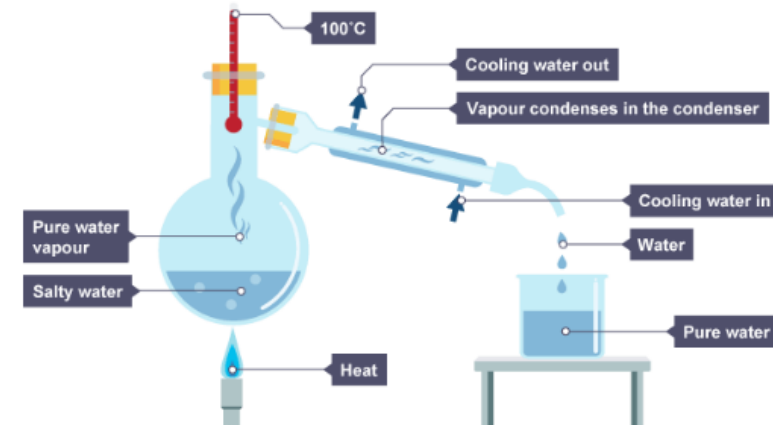Pure water vapour
Cooling water in
Water
Salty water
Pure water
Heat

Evaporation or crystallisation
Used to get a soluble solid from a solution
e.g. salt from salt water

Evaporating basin
Solution becoming more concentrated
Heat

Chromatography
This is used to separate out the substances in a liquid.
Simple chromatography is done on paper
e.g. the individual dyes in ink or paint

Pencil line
Solvent front
Solvent
Ink or plant dye
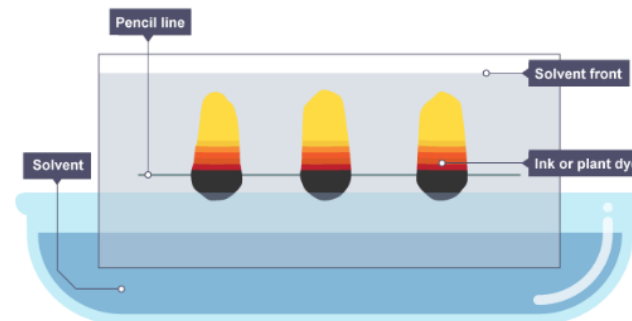
Numbers:
1. uno
2. dos
3. tres
4. cuatro
5. cinco
6. seis
7. siete
8. ocho
9. nueve
10. diez
11. once
12. doce
13. trece
14. catorce
15. quince
16. dieciséis
17. diecisiete
18. dieciocho
19. diecinueve
20. veinte
21. veintiuno
22. veintidós
23. veintitrés
24. veinticuatro
25. veinticinco
26. veintiséis
27. veintisiete
28. veintiocho
29. veintinueve
30. treinta
31. treinta y uno

¡Hola! - Hello
¡Buenos días! - Good morning
¡Buenas tardes! - Good afternoon
¡Buenas noches! - Goodnight
¡Adiós! - Bye
¡Hasta luego! - See you later
Por favor - please
Gracias – thanks

enero - January
febrero - Feburary
marzo - March
abril - April
mayo - May
junio - June
julio - July
agosto - August
septiembre - September
octubre - October
noviembre - November
diciembre - December

Días de la semana
Lunes
Martes
Miércoles
Jueves
Viernes
Sábado
Domingo

¿Cómo te llamas?	Me llamo Juan
What is your name?	*My name is John*
¿Qué tal / Cómo estás?	Estoy fenomenal / regular / fatal
How are you?	*I am great/alright/awful*
¿Cuántos años tienes?	Tengo doce años
How old are you?	*I am twelve years old*
¿Cuándo es tu cumpleaños?	Mi cumpleaños es el dos de mayo
When is your birthday?	*My birthday is the 2nd of May*
¿Qué tipo de persona eres?	Soy sincero / tímido.
What time of person are you?	*I am sincere/ shy.*
¿Cómo se dice "book" en español?	Se dice "libro" en español.
How do you say "book" in Spanish?	*You say it "libro in Spanish.*
¿Puedo tener …. por favour?	Please can I have …?
Perdón. He olvidado mis deberes.	Sorry. I've forgotten my homework.

Los Sonidos -

a - animal
e - elefante
i - iguana
o - oso
u - urraca
c – cebra
ch - cucaracha
h - hola
j - jirafa
ll - me llamo
n - pequeño
qu - quieto
rr - arriba
v - vaca
z - zorro

Accents matter:
Fútbol
carácter

Ser (to be) is an important irregular verb.

soy	I am
eres	you are
es	he/she is

To make a sentence negative, put **no** before the verb.

No soy tímido.   I am **not** shy.
No es verdad.   It is **not** true.

Tener (to have) is an irregular verb.

tengo	I have
tienes	you have
tiene	he/she has

When you give your age in English, you say: 'I am twelve.' In Spanish, you say: **Tengo doce años**. What does this mean, literally?

	Masculine	Feminine
Indefinite article -a	**Un**	**Una**
Definite article - the	**El**	**La**

Intensifiers
muy - very
un poco – a bit
bastante – quite
demasiado - too

masculine	feminine
sincero	sincera
tímido	tímida
generoso	generosa
serio	seria
listo	lista
tonto	tonta
simpático	simpática
tranquilo	tranquila
divertido	divertida