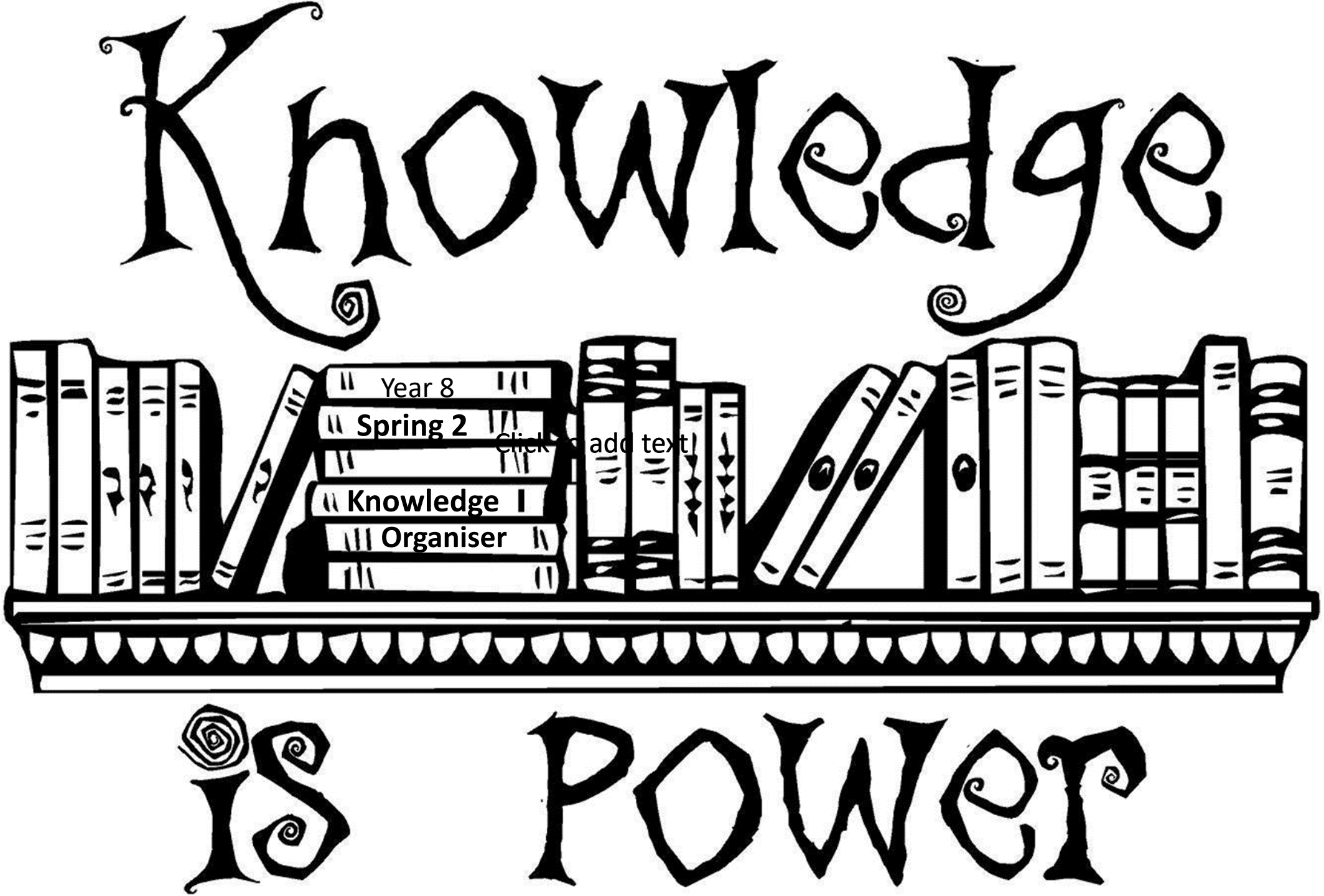
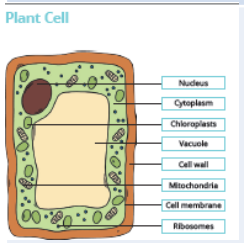
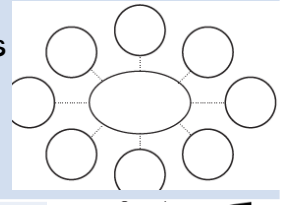
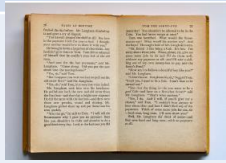

Knowledge
Year 8
Spring 2
Click to add text
Knowledge
Organiser
IS POWER

Just reading through your books or a knowledge organiser is not always an effective way to revise. Instead, you should do something with the information. Choose an example of the revision methods on the pages or see if you can come up with another method.

The knowledge is evolutionary not revolutionary. Approximately half the knowledge is new and half helps you revise. Many of the activities are changing. We hope you enjoy them.

Y8 – in SKL we will build upon work covered in Year 7 on friendships and keeping safe by looking at the concept of tolerance. We will explore different kinds of relationships and try to understand why some people are intolerant and others are not.

Idea	Explanation
Make some flash cards or PowerPoint slides. Make top trumps. 	Write down key words, quotation, questions or equations on one side of a card. On the other side, write the definition or answer. Use them to test yourself.
 Make a poster.	Turn your notes into posters with lots of colour and illustrations. Summarising the key information in a different way is an effective way of learning and your brain will remember the colours more easily. Do the title last!
Draw spider diagrams, or for the adventurous mind maps. 	Write the topic/keyword in the centre of your page. Add everything you know in subtopics. Then explore each subtopic in turn adding more ideas. Colour/pictures help you recall.
Write a song or a rap. 	Are there songs that stick your head. Change the lyrics to the information you want to learn. If you record and listen back it will be a more fun way of revising.
 Plan a lesson	If you teach something to someone else the chance of recalling it is really high. This has been found to be the most effective way of learning something for the long term.
Write a story or comic strip. 	Take the keywords or facts that you need to learn and turn them into a story or a cartoon. The sillier the story the more likely you are to remember it.
Write a quiz. Design a game. 	Playing is how we learn as young children and it is a very powerful way of learning throughout life. If we enjoy the game it helps us remember.

READING:STORY FEATURES

QUESTIONS FOR CRITICAL READERS

SETTING

When and where does the story take place?
How is the setting described?
What sense of time and place do you get from the story?

CHARACTERS

Who are the main characters?
Are you interested in them?
How are they described by the writer?
Do they seem believable and original?

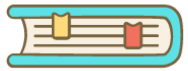
BEGINNING

How does the story start?
How does it grab your attention?
What elements of the story are foreshadowed?

SUSPENCE

How does the writer keep you wanting to read more?
Are there twists and turns in the story?
How does the author build tension?

ENDING



How does the story end?
Is it a satisfying ending?
Is there a twist?
Is the ending left open?

LANGUAGE

What type of language does the writer use?
Do they use certain types of words?
How descriptive is the writing?
How does the writing bring the story to life?

PLOT

What is the storyline?
How is it structured?
What works well in the storyline?

ORIGINALITY

What surprises you about the story?
How is it different from other stories?
Does it meet or surprise your expectations?

TONE

In what tone is the story written (i.e. funny, scary, tense, serious, formal, informal)?
How well does the tone suit the overall story?

GENRE

Does the story fit a particular genre?
Does it have features that are typical of a certain genre?
How does it compare with other stories of its kind?
Does it try to do something original or creative with genre?

ACCELERATED READER

Scan me to take a quiz

HOW TO TAKE A QUIZ

1. Go to the school website: www.open-academy.org.uk
2. Go to Student and then Learning Area
3. Scroll Down and Click on the Accelerated Reader logo
4. To log in:

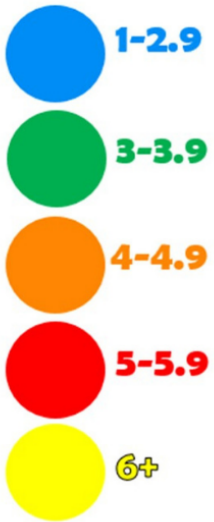
Username: firstname.surname@open-academy.org.uk

Password: Academy

*You can take a quiz on a computer, tablet or phone.

KEY TERMS

BOOK LEVELS



Book Level: A measurement of how difficult the book is.

ZPD: Your personal reading level that reflects a range of book levels. You should read books in your ZPD most of the time.

Points: Each book has a number of points available. A book is given points based on how difficult and how long it is. You earn points by passing quizzes on books you have read.

Star Reader: A reading assessment. We use Star Reader to find out your reading age and ZPD.

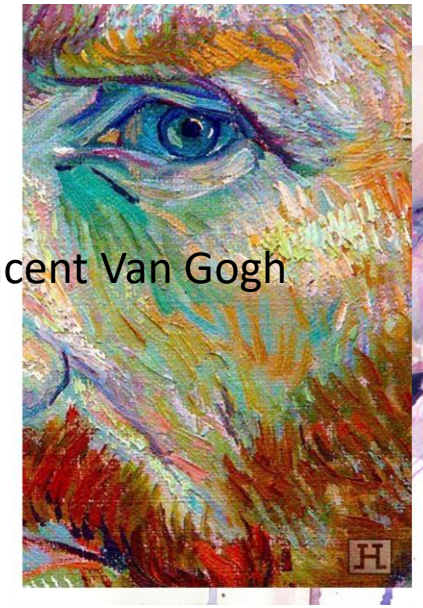
Accelerated Reader: A website that allows you to take quizzes on the books you have read.

Word Millionaire: A reward given to students who read one million words or more.

Year 8- Spring

We have been looking at drawing and painting Eyes this term.

This sheet shows the
Different stages of simple outline to detailed drawing. Try to practise this at home using your own eye or a parent. Remember the secret is “looking really hard!”



Vincent Van Gogh

Agnes Cecile

We have also studied these two artists and how they painted their own eyes.

Rub out your guideline and add tone to make the eye look more realistic

ALL: Draw the basic shape of an eye, looking at the shapes and starting to add tones.

MOST: Carefully draw the shapes in the eye, adding a variety of tones and details.

SOME: Draw the eye with accuracy, adding lots of details and tones. You will fill the space and draw what you can see, not what you imagine!

The iris should have a variety of tones and tends to get darker towards the outer ring.

Even the white part of the eye has tone towards the edges, giving the eye form.

Year 8 – Spring 2 - Hamlet

Plot Summary

Act 1 - Up on the battlements, Horatio sees a ghost that looks like 'Old Hamlet' the previous king who is dead. King Claudius addresses the court and talks about the death of his brother, Old Hamlet. He then toasts his marriage to his brother's wife, Gertrude. Claudius gives Laertes permission to return to his studies in France. Gertrude and Claudius speak to Hamlet and urge him to stop grieving over his father. Hamlet is appalled by his mother's marriage to his uncle. His friend Horatio interrupts him to report that he's seen the ghost of his father. Laertes and Polonius encouraged Ophelia to stay away from Hamlet. Hamlet meets Horatio at night to sees the ghost for himself. The ghost tells Hamlet how he was murdered by Claudius. He instructs Hamlet to avenge his murder.

Act 2 - Polonius learns that Hamlet has been behaving oddly towards Ophelia and has been physically rough with her. Polonius believes Hamlet is sick with love for his daughter and intends to report this to the king. Polonius tells Claudius and Gertrude that Hamlet has been driven to madness because of his love for Ophelia. Polonius suggests the king and queen spy on Hamlet as he talks to him. Hamlet speaks in riddles, suggesting that he is mad, though his speech also contains hidden meanings which Polonius picks up on. Some travelling actors arrive and Hamlet asks them to perform 'The Murder of Gonzago' for the king. Before they leave he gets their permission for him to write a 12 line speech that he wants to be included in the play.

Act 3 – Claudius' spies, tell him they don't know why Hamlet is behaving strangely. Claudius then arranges a meeting between Hamlet and Ophelia so that he and Polonius can hide and watch them. When Ophelia enters, Hamlet confuses her with mixed messages. Ophelia doesn't understand the way he treats her. Having seen all of this, Claudius decides that Hamlet is not in love with Ophelia. Claudius has grown tired of Hamlet; he wants to send him away. Whilst praying, Claudius confesses to the murder of his brother. Hamlet hears him but decides not to kill his uncle while he is talking to God. Hamlet visits his mother and threatens her. Polonius is hidden behind a screen spying on them. Gertrude screams, so Polonius makes a noise which makes Hamlet stab through the screen with a knife. Hamlet pulls back the screen to see the dead body of Polonius. The ghost of his father appears and tells him not to be so harsh on Gertrude. Hamlet demands that his mother changes her ways he tells her he knows about the plan to send him to England and tells her he has to go. Gertrude tells Claudius that Hamlet is mad and has killed Polonius.

Act 4 - Claudius worries that he cannot punish Hamlet too much because the people of Denmark love him. When Claudius questions Hamlet over Polonius, he answers in riddles again. Claudius tells Hamlet he must travel to England. Claudius has arranged for Hamlet to be killed there. Ophelia visits the queen. Claudius and Gertrude agree that Ophelia is sick. Messengers then report that Laertes has returned and he believes Hamlet is responsible for his father's death and sister's madness. Claudius hears that Hamlet is back in Denmark and he plots with Laertes to set up a duel between Hamlet and Laertes. Claudius doesn't want to take any risks so he says he will also prepare a 'chalice' of poison for Hamlet. Gertrude then enters with the news that Ophelia has drowned herself.

Act 5 - Two gravediggers are discussing whether Ophelia should have a Christian burial when she is believed to have killed herself. Hamlet passes this grave with Horatio. The scene is interrupted by the royal family and Laertes entering the graveyard to bury Ophelia. Laertes and Hamlet argue and they fight. Hamlet leaves and Horatio goes after him. Hamlet is invited to make amends with Laertes by fighting him in a duel. The men then choose their weapons and Laertes takes the sword with a poisoned tip. Claudius drops a poisoned pearl into the cup and offers it to Hamlet. Hamlet doesn't drink it but during the fight Gertrude drinks the wine from the poisoned cup and dies. The fight continues and both men end up swapping swords. They are both wounded with the deadly poison. Laertes falls first and warns Hamlet that the king is to blame. In a fit of rage, Hamlet forces Claudius to drink the poisoned wine. Before Laertes dies, he and Hamlet forgive each other.

Year 8 – Spring 2 - Hamlet

Context

Religion - Over the reign of Queen Elizabeth I and King James I, the country transitioned between two religions; Catholoicism and Puritanism. Puritans were very strict Christians who were against the theatre because it distracted people from praying.

Patriarchy - During this time women were treated as property and could not own anything unless they were widowed. They were seen as weaker and less clever then men.

The King – The mourning period for a king was 6 months to a year. Speaking against a king was considered "treason" and was punishable by death. The King may hire a traveling acting group to entertain at a party. Kings are often sent away to school (from about age 13). Children were excepted to avenge a parent's murder. Suicide was considered a mortal sin. There was a strong belief in Astrology and the supernatural. Duals were common. Honour was of the utmost importance.

Key Terminology

Soliloquy - An act of speaking one's thoughts aloud when by oneself or regardless of any hearers, especially by a character in a play

Dialogue - A conversation that takes place between two characters

Monologue - A long, speech by one character in a play during a conversation

Dramatic Monologue - a dramatic monologue is a poem in which an imaginary character speaks to a silent listener. This poem is in the form of a speech or narrative in which the speaker unconsciously reveals certain aspects of his or her character

Sub Plot – a secondary strand (side story) of the plot which supports the main plot line in either time, place or theme.

Key Themes

Revenge – this is a double revenge story. Hamlet & Laertes are both trying to avenge their father's deaths.

Corruption – Shakespeare is exploring the idea that if a society's leaders are corrupt then the whole society will not thrive.

Religion – ideas are explored around sacrifice to achieve peace and ideas of heaven and hell.

Politics - Hamlet is a political drama which explores what people will do to get and hold on to power.

Appearance & Reality - the gap that exists between how things seem to be and how they really are

Characters

Hamlet – Prince of Denmark who wants to discover who murdered his father.

Claudius - King of Denmark Murdered his brother and marries his wife

Old Hamlet - Former King of Denmark. A ghost that commands Hamlet to avenge his death.

Gertrude - Queen of Denmark Marries her husband's murderer.

Polonius - Claudius's counsellor, Father of Laertes and Ophelia

Ophelia - Hamlet's love who goes mad after her Father dies.

Laertes – Fights with Hamlet to avenge the deaths of his family.

Horatio - Hamlet's loyal friend

Year 8 – Spring 2 – Hamlet

Music & Art Links

Shakespeare's works have inspired many artists and composers. One such composer was Tchaikovsky overture-fantasia *Hamlet* written in 1888. Listen to the overture using the QR code.

Although the plays of Shakespeare are perhaps the best known example of Elizabethan artistic production, painting – principally in the form of portraiture – also flourished during this period. One such artist was Nicholas Hilliard who was thought to have completed this portrait of Queen Elizabeth I.

The Open Values in Hamlet:

Courage Hard Work Perseverance

Despite his obvious faults, Hamlet does have positive character qualities as well. His has a strong sense of honour and loyalty and he demonstrates these through the Open Values above,

Careers https://www.prospects.ac.uk/careers-advice/what-can-i-do-with-my-degree/english

Shakespearean Vocabulary

Anon – Soon

Hither – Here

Counsel – Advice

Dispatch – Kill

Doth – Does

Hark – Listen

Hie – Go

Nay – No

Oft – Often

Perchance – Maybe

Pray - Beg

Thee/Thou – You

Thou art – You are

Woe - Misery

Ambitious Vocabulary

Corruption – dishonest or fraudulent conduct by those in power, typically involving bribery.

Duplicitous - marked by deliberate deceptiveness especially by pretending one set of feelings and acting under the influence of another

Hamartia - a fatal flaw leading to the downfall of a tragic hero or heroine

Patriarchy - a system of society or government in which men hold the power

Procrastination - the action of delaying or postponing something

Redemption - the action of saving or being saved from sin, error, or evil

Year 8 – Spring 2 – Hamlet – Task Sheet

Context Questions:

1. Create a class quiz on the context of the play. This could include questions about the monarch at the time, why certain themes are important and/or Shakespeare himself.
2. Why was the theme of religion so important and relevant at the time Hamlet was written?
3. Give an example of where the power of the patriarch is demonstrated in Hamlet.

Key Themes

1. Explain a situation where there may be a gap between appearance and reality e.g. a student appears to be reading, but they are actually daydreaming!
2. Two of the themes are revenge and corruption – which do you think causes the most trouble in the play. Give reasons for your choice.

Key Terminology

1. Explain the difference between a monologue and a dramatic monologue.
2. What is a soliloquy and why are they effective in plays?
3. Define the term sub plot.

Character Questions:

1. Draw a simple family tree for Hamlet's family?
2. Who is Hamlet's friend?
3. List three reasons why Hamlet found it difficult to carry out the ghost's wishes?
4. Using your answer to question 3 to help you, write down a word that best describes Hamlet?
5. Gertrude cannot see the ghost. Why do you think this might be?
6. Why does Laertes hate Hamlet so much?
7. What are the names of the two characters Claudius gets to spy on Hamlet?

Plot Summary Questions:

1. Where in the world is the play set?
2. Where does the ghost appear during the play?
3. What does Horatio expect to happen when Hamlet 'comes of age'?
4. How did Claudius murder King Hamlet?
5. Whose skull does Hamlet discover in the graveyard?
6. Who returns Hamlet to Denmark following his exile?
7. Why does Hamlet decide not to kill Claudius when he hears him confess to his father's murder?
8. Who is the last character to die in the play?

YEAR 8 - DEVELOPING NUMBER... Fractions & Percentages

What do I need to be able to do?

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

- Convert between FDP less than and more than 100.
- Increase or decrease using multipliers.
- Express an amount as a percentage.
- Find percentage change.

Keywords

Percent: parts per 100 – written using the ⁄ symbol
Decimal: a number in our base 10 number system. Numbers to the right of the decimal place are called decimals.
Fraction: a fraction represents how many parts of a whole value you have.
Equivalent: of equal value.
Reduce: to make smaller in value.
Growth: to increase/ to grow.
Integer: whole number, can be positive, negative or zero.
Invest: use money with the goal of it increasing in value over time (usually in a bank).

FDP

Fraction of Amount

Percentage of Amount

Percentage Multipliers

Convert FDP (R)

$\frac{70}{100}$ → This also means 70 ÷ 100 → 70 out of 100 squares → 70 "hundredths" = 7 "tenths" = 0.7 → 70 hundredths = 70%

Using a calculator

$\frac{\square}{\square}$ → S⇔D → Convert to a decimal

This will give you the answer in the simplest form

× 100 converts to a percentage

Be careful of recurring decimals
e.g. $\frac{1}{3}$ = 0.3333333 = $0.\dot{3}$
The dot above the 3

Fraction/ Percentage of amount (R)

Find $\frac{3}{5}$ of £60

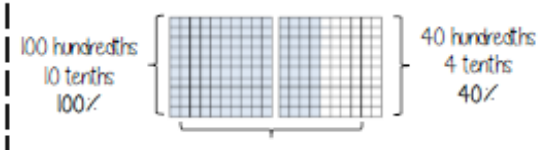
Remember $\frac{3}{5}$ = 60%

10% of £60 = £6
50% of £60 = £30
60% of £60 = £36

Remember $\frac{3}{5}$ = 60% = 0.6

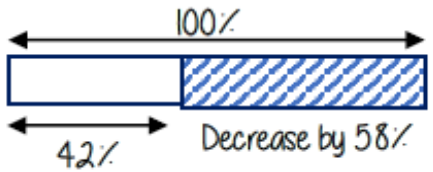
60% of £60
= 0.6 × 60
= £36

Convert FDP < and > 100%



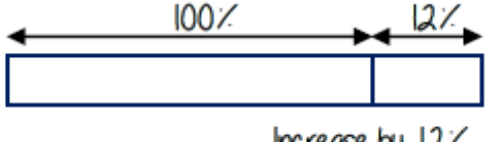
100% + 40%
1 + 0.40
= 1.40

Percentage decrease: Multipliers



100% − 58% = 42%
100 − 0.58 = 0.42 ← Multiplier Less than 1

Percentage increase: Multipliers

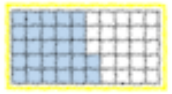


100% + 12% = 112%
100 + 0.12 = 1.12 ← Multiplier More than 1

Express as a % - Non-calculator

Percent – per hundred

7 per every 10 are orange → $\frac{7}{10}$ → This means that 70 per every 100 are orange → $\frac{70}{100}$ → 70%



27 per every 50 shaded → $\frac{27}{50}$ → 54 per every 100 shaded → $\frac{54}{100}$ → 54%

Denominator 100 | Equivalent fractions

Express as a % - Calculator

Rosie

$\frac{13}{30}$ → $\frac{\square}{\square}$ → $\frac{13}{30}$ → × 100 → 43.3333...%, 43%

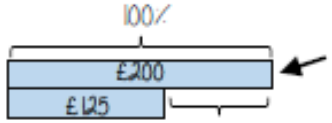
Can't use equivalence easily to find 'per hundred'

This the same as 13 ÷ 30

Decimal percentages are still a percentage.

Percentage change

I bought a phone for £200. A year later sold it for £125.



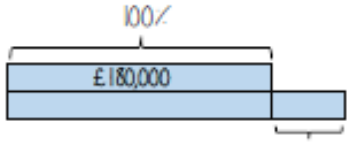
All values of change compare to the ORIGINAL value

Percentage loss

$\frac{75}{200} \times 100 = 37.5\%$

$\frac{\text{Difference in value}}{\text{Original value}} \times 100$

I bought a house for £180,000. I later sold it for £216,000.



Percentage profit

Money made (profit value) → $\frac{36000}{180000} \times 100 = 20\%$

Choose appropriate method

The language and wording of the question is the key

Have you represented the question in a bar model?
Can you use a calculator?

Expressing Percentages

Percentage Change

Percentage Increase and Decrease

Fractions to Percentages

A job based on Number Skills:

Chef

A chef's maths begins with the basics of addition, subtraction, multiplication, and division along with ratios, yields, and percentages. Ingredients must be measured and scaled accurately, food production quantities are calculated, and recipes are increased or decreased to scale based on demand.

YEAR 8 - DEVELOPING NUMBER...

Standard Form

What do I need to be able to do?

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

- Write numbers in standard form and as ordinary numbers
- Order numbers in standard form
- Add/ Subtract with standard from
- Multiply/ Divide with standard form
- Use a calculator with standard form

Keywords

Standard (index) Form: A system of writing very big or very small numbers
Commutative: an operation is commutative if changing the order does not change the result.
Base: The number that gets multiplied by a power
Power: The exponent – or the number that tells you how many times to use the number in multiplication
Exponent: The power – or the number that tells you how many times to use the number in multiplication
Indices: The power or the exponent
Negative: A value below zero

Positive powers of 10

1 billion – 1 000 000 000
$10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 = 10^9$

Addition rule for indices $10^a \times 10^b = 10^{a+b}$

Subtraction rule for indices $10^a \div 10^b = 10^{a-b}$

Standard form with numbers > 1

Any number between 1 and less than 10 → $A \times 10^n$ ← Any integer

Example

3.2×10^4
$= 3.2 \times 10 \times 10 \times 10 \times 10$
$= 32000$

Non-example

0.8×10^4

$5.3 \times 10^{0.7}$

Negative powers of 10

	10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
0.001					
$1 \times \frac{1}{1000}$	10^1	10^0	10^{-1}	10^{-2}	10^{-3}
1×10^{-3}	0	0	0	0	1

Any value to the power 0 always = 1

Negative powers do not indicate negative solutions

Numbers between 0 and 1

0.054
$= 5.4 \times 10^{-2}$

1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
10^0	10^{-1}	10^{-2}	10^{-3}
0	0	5	4

A negative power does not mean a negative answer – it means a number closer to 0

Order numbers in standard form

10^2	10^1	10^0	10^{-1}	10^{-2}	10^{-3}	10^{-4}

6.4×10^{-2}	2.4×10^2	3.3×10^0	1.3×10^{-1}
0.064	240	1	0.13

Look at the power first
will the number be = > or < than 1

Use a place value grid to compare the numbers for ordering

Multiplication by Powers of 10

Division by Powers of 10

Standard Form

Indices

Mental calculations

$6.4 \times 10^2 \times 1000$ Not in Standard Form

$= 6.4 \times 10^2 \times 10^3$ Use addition for indices rule

$= 6.4 \times 10^5$

$(8 \times 10^5) \times 3$

$= 24 \times 10^5$ Not in Standard Form

$= 2.4 \times 10^1 \times 10^5$ Use addition for indices rule

$= 2.4 \times 10^6$

$(2 \times 10^3) \div 4$ Divide the values

$= (2 \div 4) \times 10^3$

$= 0.5 \times 10^3$

Remember the layout for standard form

$A \times 10^n$

Any number between 1 and less than 10 — A

Any integer — n

Addition and Subtraction

Tip: Convert into ordinary numbers first and back to standard form at the end

$6 \times 10^5 + 8 \times 10^5$

Method 1

$= 600000 + 800000$

$= 1400000$

$= 1.4 \times 10^6$

More robust method
Less room for misconceptions
Easier to do calculations with negative indices
Can use for different powers

Method 2

$= (6 + 8) \times 10^5$

$= 14 \times 10^5$

This is not the final answer

$= 1.4 \times 10^1 \times 10^5$

$= 1.4 \times 10^6$

Only works if the powers are the same

Multiplication and division

$\frac{1.5 \times 10^5}{0.3 \times 10^3}$ Division questions can look like this

$(1.5 \times 10^5) \div (0.3 \times 10^3)$

$1.5 \div 0.3 \times 10^5 \div 10^3$

$= 5 \times 10^2$

For multiplication and division you can look at the values for A and the powers of 10 as two separate calculations

Revisit addition and subtraction laws for indices – they are needed for the calculations

Addition law for indices: $a^m \times a^n = a^{m+n}$

Subtraction law for indices: $a^m \div a^n = a^{m-n}$

Using a calculator

$1.4 \times 10^5 \times 3.9 \times 10^3$

Use a calculator to work out this question to a suitable degree of accuracy

Input 1.4 and press [×10^x] Then press 5 (for the power)

Press [×]

Input 3.9 and press [×10^x] Then press 3 (for the power)

Press [=]

This gives you the solution

Click calculator for video tutorial

To put into standard form and a suitable degree of accuracy

Press [SHIFT] [SETUP] and then press 7 for sci mode

Choose a degree of accuracy so in most cases press 2

Answer: 5.5×10^8

Use of a Calculator

Laws of Indices

Standard Form Calculations

A job based on standard form:

Astronomer

Astronomers are scientists who study the origin of the universe and its objects and how it works. As an astronomer, you can work in observational astronomy, using telescopes and cameras to look at the stars, galaxies and other astronomical objects, or in theoretical astronomy, where you'll use maths and computer models to explain observations and predictions.
You could choose to specialise in studying: planets, stars, galaxies or cosmology (the origin of the universe)

YEAR 8 – DEVELOPING NUMBER... Number Sense

What do I need to be able to do?

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

- Round numbers to powers of 10 and 1 sf
- Round numbers to any dp
- Estimate solutions
- Calculate using order of operations
- Calculate with money, units of measurement and time

Keywords

Significant: Place value of importance
Round: Making a number simpler but keeping its value close to what it was
Decimal: Place holders after the decimal point
Overestimate: Rounding up – gives a solution higher than the actual value
Underestimate: Rounding down – gives a solution lower than the actual value.
Metric: A system of measurement
Balance: The amount of money in a bank account
Deposit: Putting money into a bank account

Significant Figures

Decimal Places

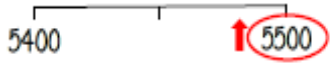
Estimation

Round to powers of 10 and 1 sig figure

R If the number is halfway between we "round up"

5495 to the nearest 1000

5475 to the nearest 100



5475 to the nearest 10

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
0.00037 to 1 significant figure is 0.0004

Round to the first non-zero number

Round to decimal places

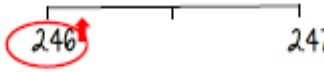
2.46192 ← Focus on the numbers after the decimal point

"To 1dp" – to one number after the decimal
"To 2dp" – to two numbers after the decimal

2.46192 (to 1dp) - Is this closer to 2.4 or 2.5

2.4 | 6192 ← This shows the number is closer to 2.5

2.46192 (to 2dp) - Is this closer to 2.46 or 2.47



2.46 | 192 ← This shows the number is closer to 2.46

Estimate the calculation

Round to 1 significant figure to estimate

4.2 + 6.7 ≈ 4 + 7 ≈ 11 This is an overestimate because the 6.7 was rounded up more

The equal sign changes to show it is an estimation

21.4 x 3.1 ≈ 20 x 3 ≈ 60 This is an underestimate because both values were rounded down

It is good to check all calculations with an estimate in all aspects of maths – it helps you identify calculation errors

Order of operations

R

Brackets Operations in brackets are calculated first

Other operations e.g. powers, roots,

Multiplication/ Division

They are carried out in the order from left to right in the question

Addition/ Subtraction

They are carried out in the order from left to right in the question

Calculations with money

Debit - You have £0 or more in an account

Credit - You have less than £0 in an account

Money calculations are to 2dp

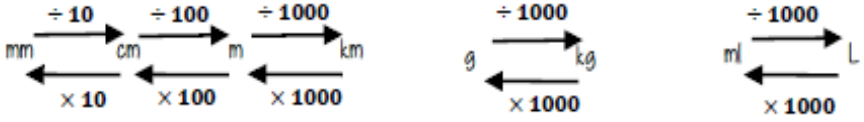
Using a calculator – ensure you are working in the correct units

£1.30 + 50p = 1.30 + 50 (in pence)

= 1.30 + 0.50 (in pounds)

£1 = 100p

Units are important: Useful Conversions



Metric measures of length

Kilo = 1000 x meter

Centi = $\frac{1}{100}$ x meter

Milli = $\frac{1}{1000}$ x meter

Units of weight/ capacity

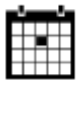
Weight = g, kg, t

Capacity (volume of liquid) = ml, L

Time and the calendar

1 Year – the amount of time it takes Earth to go around the sun 365 (and a quarter) days

Leap Year – 366 days (every 4 years)



12 Months = one year = 52 weeks

31 days – Jan, March, May, July, Aug, Oct, Dec

30 days – April, June, Sept, Nov

28 days – Feb (29 leap year)

1 week – 7 days

Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday

1 day – 24 hours

1 hour – 60 minutes

1 minute – 60 seconds

Use a number line for time calculations!

Analogue Clock

12-hour clock

- Use am (morning) and pm (afternoon)
- Only use hour times up to 12

Digital Clock (24-hour times)

24-hour clock

- 0-11 (morning hours)
- 12-23 (afternoon hours)

Order of Operations

Metric Conversions

Time

A job based on number sense:

Events Planner

Event planners **develop, plan, and execute a variety of both internal and external events.** They oversee all aspects of event planning and management, including identifying and working with a variety of external venues/facilities, negotiating contracts with vendors, and maintaining and managing event budgets.

Year 8 History: The Industrial Revolution

Key words	
Industrial revolution	A time of great change in Britain between 1750 to 1900
Population	The number of people living in a particular place
Invention	Something new which is created, can be an object or an idea
Economy	The system of how money is used within a particular country
Agriculture	The process of producing food, and fibres by farming of certain plants or raising animals
Urbanisation	The increase in the proportion of people living in towns and cities
Sanitation	The system that disposes of human waste
Mass production	The production of many products in one go e.g. textiles
Industry	The process of making products by using machines and factories

From 1750 Britain went through a process of change:

- Agriculture – New tools, fertilizers and harvesting techniques were introduced, resulting in increased productivity and agricultural prosperity.
- Industry – Factories sprung up all over the country creating more efficient ways to produce goods such as wool, cotton and coal. The increase in factories brought thousands of new jobs.
- Transport and communications – Thomas Telford built roads and canals in the 1700s and George Stephenson and Isambard Kingdom Brunel oversaw the 'Railway Mania' of the 1800s. There had previously been no very fast way of transporting goods and people around the country.
- Technology – There were many scientific discoveries and technological inventions that changed society and industry. Changes to sanitation and medical treatment such as the work of John Snow and Edward Jenner improved people's quality of life.

KEY INVENTIONS: The Steam Engine, Water Frame, Spinning Jenny and Locomotive

Factory working conditions

Long working hours: normal shifts were usually 12–14 hours a day, with extra time required during busy periods

Low wages: a typical wage for male workers was about 15 shillings (75p) a week, but women and children were paid much less, with children three shillings (15p). For this reason, employers preferred to employ women and children

Cruel discipline: Frequent "strapping" (hitting with a leather strap). Other punishments included nailing children's ears to the table, and dowsing them in water butts to keep them awake

Accidents: forcing children to crawl into dangerous, unguarded machinery led to many accidents and deaths

Health: The air was full of dust, which led to chest and lung diseases and loud noise made by machines damaged hearing.

Living conditions

Overcrowding: There were not enough houses in the cities

Disease: Typhus, typhoid, tuberculosis and cholera. low standard housing and poor-quality water supplies all helped spread disease.

Waste disposal: gutters were filled with litter. Human waste was discharged directly into sewers, into rivers

Poor quality housing: Built very close together so there was little light or fresh air inside. Houses did not have running water and people found it difficult to keep clean

Lack of fresh water: People could get water from streams, wells and stand pipes, but this water was often polluted

Factory owners such as Robert Owen argued improving conditions for workers would bring better profits. This influenced parliament to pass Factory Acts but many workers still lacked protection and a political voice

Year 8 History: Slavery

Key words	
Slavery	A relationship where one person has absolute power over another. They control their life, freedom and wealth
Trade Triangle	The name of the system for trading slaves across the world
Middle Passageway	The names used to describe the journey from Africa to America for slaves, it took up to 2 months
Plantation	A large farm that slaves worked on to produce cotton, tobacco and sugar
Abolition	Is the act of putting an end to something by law e.g. slavery
The Slavery Abolition Act 1833	The Act passed in Britain that abolished slavery.

During the 19th century Britain saw its **empire** grow significantly. It was regarded as a great source of wealth and status for Britain, however this came at a terrible human cost in the **Transatlantic Slave Trade.**
Slaves were traded across the world. Ships were loaded in England with goods such as guns, cloth and salt. This was taken to Africa and traded for slaves. The ships then went on a 2-month journey known as the **Middle Passageway** to the Caribbean. Here the slaves were sold to work in the **cotton plantations** and farms. The ship was then loaded with sugar and cotton, to be taken back to England to be sold for huge profits.

Slaves suffered through terrible conditions and many died during the journey. They were packed into the ship tightly and laid down for most of the journey. They were severely punished should they disobey orders. Slaves were chained up for the entire journey; diseases spread quickly. Many threw themselves overboard.

Who benefitted from the slave trade?

Plantation Owners – Grew 'cash' crops of sugar, tobacco, coffee, spices and cotton for sale back in Europe

African Tribal Leaders – Captured slaves through war between rivals over land. They would then trade their captures for weaponry and gunpowder to increase their power in their native land

British Business Men – Areas such as Liverpool and Bristol where the ships were built and goods imported got extremely rich

African Slaves – Some slaves worked in the plantation owner's house as butlers, cooks or housemaids. They were able to learn new skills, such as cooking and cleaning. They were often dressed in finer clothing and given a better diet than those that worked in the fields

Why was Slavery abolished?	**Abraham Lincoln** was against slavery. It was abolished on the 31st January 1865 but this did lead to a civil war in the USA	**Economics**: Sugar plantations closed as cheap sugar could be bought from Brazil and Cuba
Slave rebellions such as Nat Turner's Revolt	**Key Individuals**: Granville Sharp and Thomas Clarkson fought freedom cases in court. Olaudah Equiano sold his story. Press and publicity influenced attitudes against slavery	**Religion** – Christian groups, such as the Quakers, thought that slavery was a sin. William Wilberforce used his position as MP to campaign for change

PROVISIONS OF SPORT

The **provision of sports** facilities and opportunities in the **UK** is the result of the interaction between the **public, private and voluntary sectors.**

THE PUBLIC SECTOR:

The **public sector** facilities are usually owned by the local council or local authority.

They include **swimming pools, leisure centres, tennis courts and school sport.**

Occasionally the local authority selects a private company to run a facility. They must meet targets in participation and provide value for money.

THE PRIVATE SECTOR:

The **private sector** facilities are usually for private members only. They aim to provide an excellent service to people who pay a joining fee and then a monthly membership fee. *i.e. fitness gym such as David Lloyd and Virgin Active.*

They aim to make a **profit** for owners and the management team will be on performance related pay.

VOLUNTARY SECTOR:

The **voluntary sector** has the largest number of people involved. Volunteers who enjoy sport, develop clubs and teams. People pay as they go or pay a subscription fee for the year. This fee covers the cost of hiring the venue and equipment.

Most voluntary provisions meet in the evenings and/or weekends outside of work hours.

German Year 8

Module 3: Bleib gesund! (Keeping healthy!)

Here is the vocabulary you will need for Stimmt 2, Module 3.

Das Frühstück • Breakfast

der/das Joghurt	*yoghurt*
der Käse	*cheese*
der Schinken	*ham*
der Speck	*bacon*
der Toast	*toast*
der Kaffee	*coffee*
der Tee	*tea*
der Orangensaft	*orange juice*
die Butter	*butter*
die Marmelade	*jam*
die Orangenmarmelade	*marmalade*
die Milch	*milk*
die heiße Schokolade	*hot chocolate*
das Brötchen	*roll*
das Obst	*fruit*
das Ei	*egg*
die Eier (pl)	*eggs*
die Frühstücksflocken (pl)	*cereal*

In this Module you will learn how to:

- talk about typical breakfasts
- discuss typical German food
- understand and use recipes
- talk about healthy lifestyles
- understand and respond to longer texts
- describe and compare dinner parties

www.textivate.com
Username: openacademy
Password: On Teams in Class Materials
Go to 'my resources' to find your work.

German

Was isst du zum Frühstück? • What do you eat for breakfast?

Ich esse einen Joghurt.	*I eat a yoghurt.*
ein Brötchen mit Butter und Marmelade	*a roll with butter and jam*
Ich esse kein Frühstück.	*I don't eat any breakfast.*
Max isst Toast mit Butter.	*Max eats toast with butter.*
Ellie und Sarah essen Eier.	*Ellie and Sarah eat eggs.*
Ich trinke einen Kaffee.	*I drink a coffee.*
eine Tasse Tee	*a cup of tea*
Das ist (un)gesund.	*That's (un)healthy.*
Das ist lecker/furchtbar.	*That's delicious/awful.*

Die Speisekarte • Menu

(der) Fisch mit Reis und Erbsen	*fish with rice and peas*
(der) Flammkuchen mit Sauerkraut	*Flammkuchen with pickled cabbage*
(die) Bratwurst mit Eiern	*fried sausage with eggs*
(die) Gemüsesuppe mit Brötchen	*vegetable soup with a roll*
(das) Hähnchen mit Pommes frites und Karotten	*chicken with chips and carrots*
(das) Schnitzel mit Kartoffeln	*pork fillet in breadcrumbs with potatoes*
(das) Steak mit Rösti	*steak with rösti potatoes/ hash browns*
(die) Käsespätzle mit Salat	*speciality cheesy pasta with salad*

Wie ist das? • What is it like?

süß	*sweet*
sauer	*sour*
salzig	*salty*
scharf	*spicy*
vegetarisch	*vegetarian*
lecker	*delicious*
ekelhaft	*disgusting*

Im Restaurant • In the restaurant

Was nimmst du?	*What are you having?*
Ich nehme ...	*I'll take/I'm having ...*
den Fisch	*the fish*
die Gemüsesuppe	*the vegetable soup*
das Hähnchen	*the chicken*
die Nudeln	*the pasta*

Ein Rezept • A recipe

Nimm ...	*Take ...*
150 Milliliter Milch	*150 millilitres of milk*
50 Gramm Butter	*50 grams of butter*
eine Zwiebel	*an onion*
Schneide ...	*Cut ...*
Misch ...	*Mix ...*
Stell ...	*Put ...*
Erhitze ...	*Heat ...*
Rühre ...	*Stir ...*
Serviere ...	*Serve ...*

German

Mein Lieblingssandwich • My favourite sandwich

das Ketchup	*ketchup*
der Senf	*mustard*
der Thunfisch	*tuna fish*
die Erdnussbutter	*peanut butter*
die Gurke	*gherkin*
die Mayo	*mayonnaise*
die Olive	*olive*
die Sardelle	*sardine, anchovy*

Strategie 3

Kognaten und falsche Freunde

Cognates and near-cognates are words that are spelled exactly the same or nearly the same as English words and have the same meaning in German. It is helpful to identify these as you can learn them quickly and easily. Look at the word lists on these pages and find all the cognates and near-cognates. You will find more than 20.

Watch out for ***falsche Freunde*** ('false friends'). These are tricky words that look like cognates but have a different meaning. What does ***Marmelade*** actually mean?

Read the Strategy Box for ideas about 'false friends'.

Gesund bleiben • Staying healthy

Man muss ...	*One/You/People must ...*
acht Stunden schlafen	*sleep for eight hours*
wenig Fett und Zucker essen	*eat little fat and sugar*
viel Obst und Gemüse essen	*eat lots of fruit and vegetables*
mehr Wasser trinken	*drink more water*
früh ins Bett gehen	*go to bed early*
drei Stunden trainieren	*exercise for three hours*
zweimal pro Woche joggen	*jog twice a week*

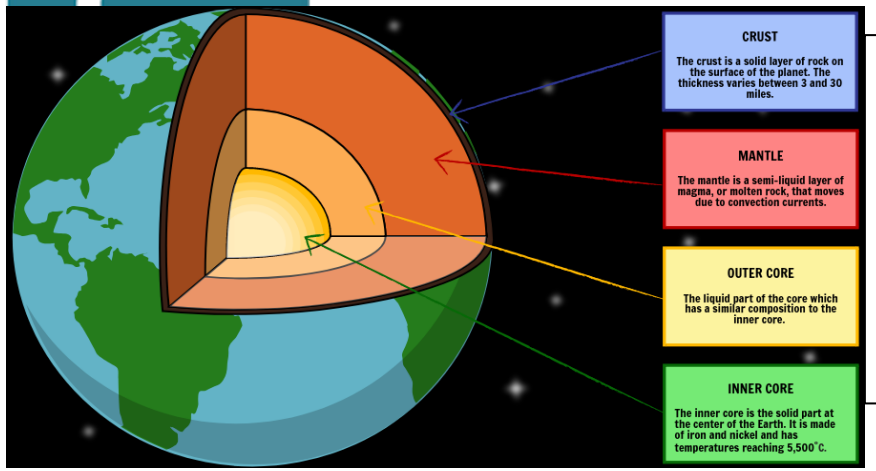
Oft benutzte Wörter • High-frequency words

normalerweise	*usually*
gestern	*yesterday*
bis	*until*
früh	*early*
spät	*late*
mehr	*more*
wenig	*little*
weniger	*less, fewer*
oft	*often*
besser	*better*
mein	*my*
dein	*your*
sein	*his*
ihr	*her*
mit	*with*
ohne	*without*
in	*in, into*
auf	*on, onto*

Die Mahlzeiten • Mealtimes

die Vorspeise	*the starter*
die Hauptspeise	*the main course*
die Nachspeise	*the dessert*

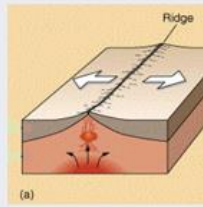
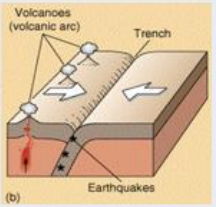
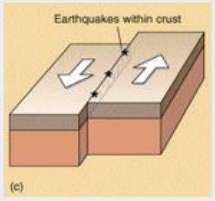
Beneath Our Feet

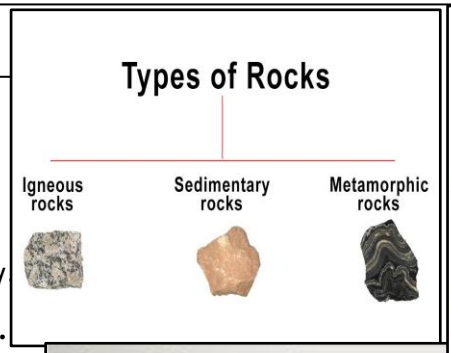


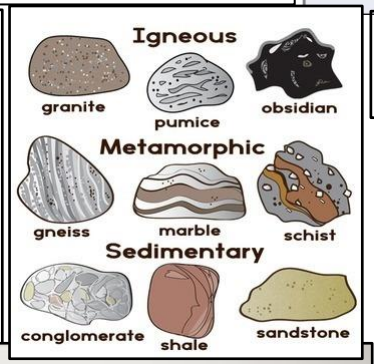
Earthquakes

- Following an earthquake seismic waves travel through the earth.
- The waves are affected by different layers in the earths structure.
- Scientists have observed how these waves travel to build up a picture of our earths structure

Tectonic plates are large pieces of the Earth's crust that move a few centimetres every year

Type of Margin	Divergent	Convergent	Lateral sliding
Diagram:			
Motion	Spreading	Subduction	Lateral slide
Effect	Ridge	Trench	None
Structure created	Constructive	Destructive	Conservative
Volcanic activity?	Nes	Nes	No





Physical weathering is caused by physical processes such as changes in temperature, freezing and thawing, and the effects of wind, rain and waves.

Temperature changes

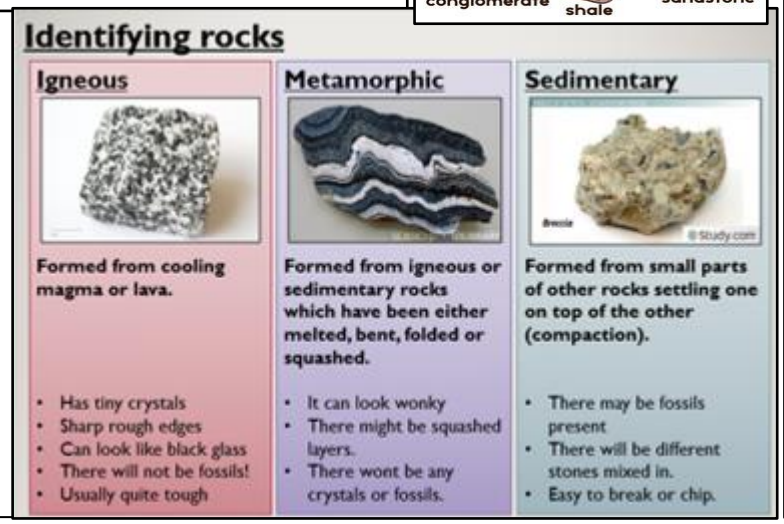
When a rock gets hot it expands a little, and when it gets cold the rock contracts a little. If a rock is heated and cooled many times, cracks form and pieces of rock fall away This type of physical weathering happens a lot in deserts, because it is very hot during the day but very cold at night.

Wind, rain and waves

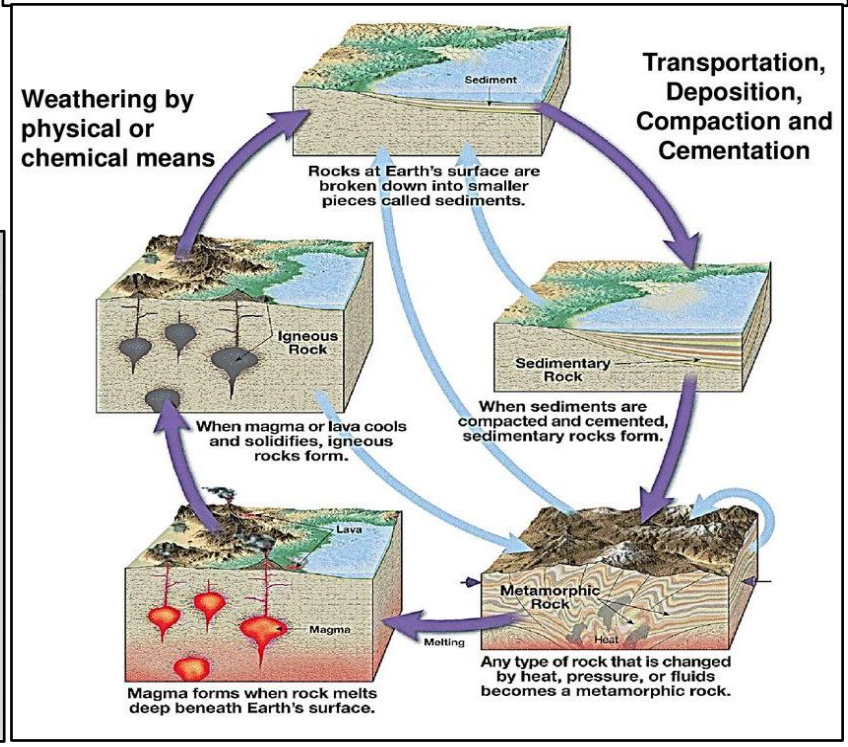
Wind, rain and waves can all cause weathering. The wind can blow tiny grains of sand against a rock. These wear the rock away and weather it. Rain and waves lashing against a rock can also wear it away over long periods of time.

Freeze-thaw

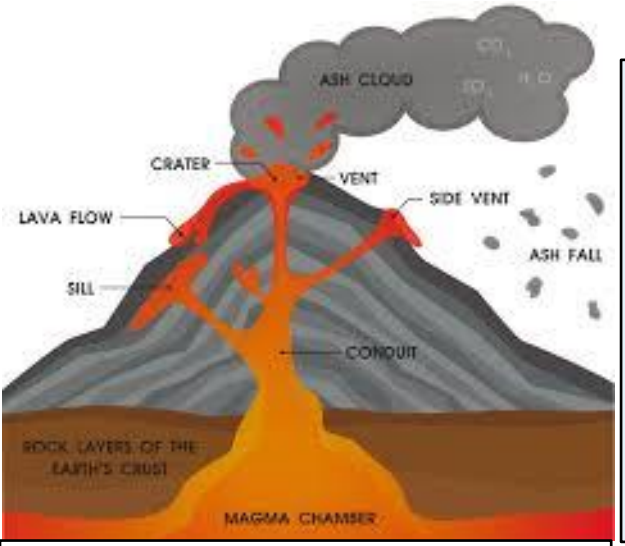
Water expands slightly when it freezes to form ice. This is why water pipes sometimes burst in the winter. You might have seen a demonstration of this sort of thing – a jar filled to the brim with water eventually shatters after it is put into a freezer. The formation of ice can also break rocks. If water gets into a crack in a rock and then **freezes**, it **expands** and pushes the crack further apart. When the ice melts later, water can get further into the crack. When the water freezes, it expands and makes the crack even bigger. This process of freezing and thawing can continue until the crack becomes so big that a piece of rock falls off.



Weathering is the wearing away of rocks
Erosion is the movement of the broken pieces away from the site of weathering



Beneath Our Feet



Igneous rocks form when molten lava/magma cools to form solid rock
Igneous rocks are hard with interlocking crystals
The faster the lava/magma cools the smaller the crystals in the rock

Porous rocks
Rocks with rounded grains are more likely to absorb water than rocks with interlocking grains. This is because the water can get into the gaps between the grains. Rocks that absorb water are described as being **porous.**
Rocks with rounded grains are usually softer and more crumbly than rocks with interlocking grains. So porous rocks tend to be softer than non-porous rocks.

Practical – Investigating Size of Crystals

Practical details
Each pupil or small group will need:
3 x Pyrex watch glasses or microscope slides
3 x Petri dishes 1 containing crushed ice
1 containing water at room temp
1 containing hot water
1 x Hand lens or microscope
10g Salol
1 x Spatula

Bunsen, heatproof matt, safety glasses, tongs, stop clock.

Instructions
Wear appropriate protective clothing throughout.

1. Draw up a results table for the three samples leaving a column for the crystal size
2. Set out the three Petri dishes containing the three different temperatures of water.
3. Place one spatula of salol on each watch glass
4. Light the Bunsen and very carefully, holding the glass in the tongs, gently warm the salol until it melts
5. Place the watch glass on the selected Petri dish and watch them carefully.
6. Record the time when each has completely solidified.
7. Observe the crystals on the cooled watch glasses using the hand lens

Earths Atmosphere

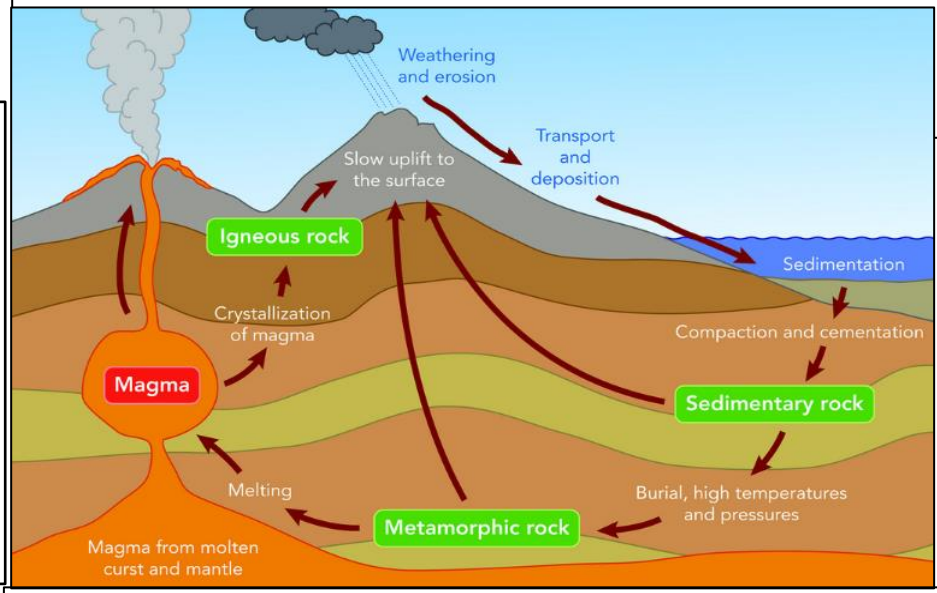
For 200 million years, the proportions of different gases in the atmosphere have been much the same as they are today.

Gas	Percentage in the Atmosphere (%)
Nitrogen	78
Oxygen	21
Carbon Dioxide	0.03
Argon	0.96
Others (water vapour, hydrogen, helium etc.)	0.01

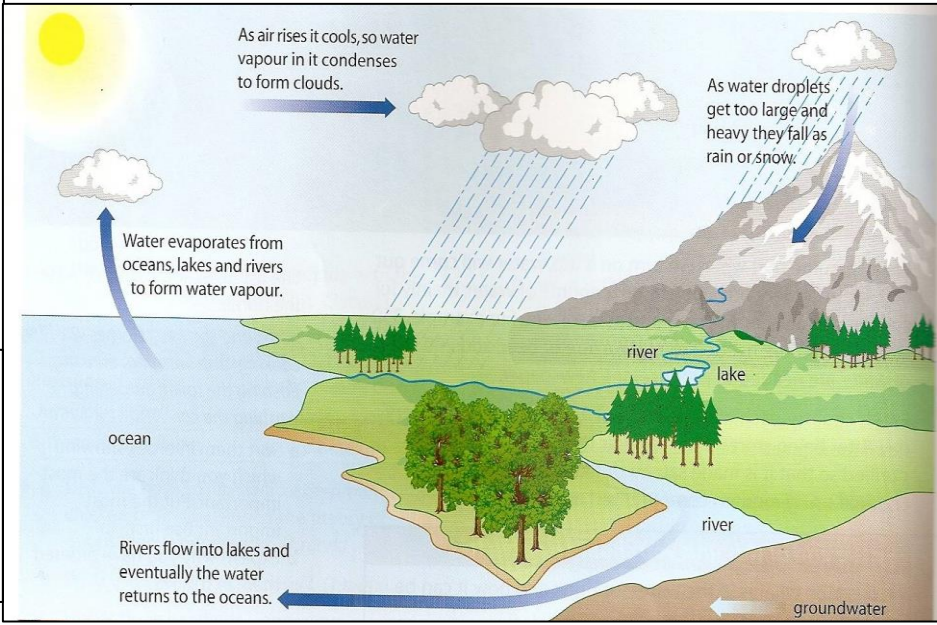
The current composition of the air has been roughly the same for nearly 200 million years but the amounts of different gases have changed over time.

About 3,500 million years ago, the atmosphere on Earth would have been similar to the atmosphere on Mars today.
It would have contained large quantities of carbon dioxide, but not much oxygen or nitrogen

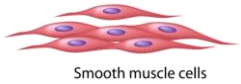
Rock Cycle



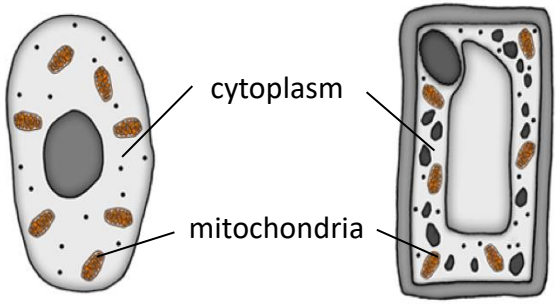
Water Cycle



ENERGY FOR LIFE (RESPIRATION)

An organism will receive all the energy it needs for living processes as a result of the energy transferred from respiration	*For movement*	 Smooth muscle cells	To enable muscles to contract in animals.
	For keeping warm		To keep a steady body temperature in a cold environment.
	For chemical reactions		To build larger molecules from smaller one.

Cellular respiration is an exothermic reaction which is continuously occurring in all living cells



animal cell plant cell

Respiration and Pulse Rate

- **Aerobic respiration**:
  - Releasing energy from glucose using oxygen.
  - Occurs in every cell in the body
  - $C_6H_{12}O_6 + 6O_2 \rightarrow 6H_2O + 6CO_2$
- **Anaerobic respiration**:
  - Releasing energy from glucose without oxygen
  - Produces less energy → less efficient
  - Produces lactic acid → causes cramp and muscle fatigue → removed with oxygen (debt)
  - Glucose → Lactic acid

Aerobic respiration releases a large amount of energy from each glucose molecule

Anaerobic respiration releases a much smaller amount of energy than aerobic respiration.

During exercise the human body reacts to increased demand for energy	*Heart rate increases*	To pump oxygenated blood faster to the muscle tissues and cells.
	Breathing rate and breath volume increase	This increases the amount of oxygen entering the blood stream.

Anaerobic respiration in plant and yeast cells	
The end products are ethanol and carbon dioxide. Anaerobic respiration in yeast cells is called fermentation	
glucose →	ethanol + carbon dioxide

NORTHERN LIGHTS MAGNETS AND ELECTROMAGNETS

Bar Magnets
Bar magnets have two poles, a North pole (N) and a South pole (S), **opposite poles attract and like poles repel.**
Magnets create magnetic fields. These cannot be seen. They fill the space around a magnet where the magnetic forces work, where they can attract or repel magnetic materials.
Although we cannot see magnetic fields, we can detect them using iron filings. The tiny pieces of iron line up in a magnetic field. We can draw simple magnetic field line diagrams to represent this. In the diagram, note that:

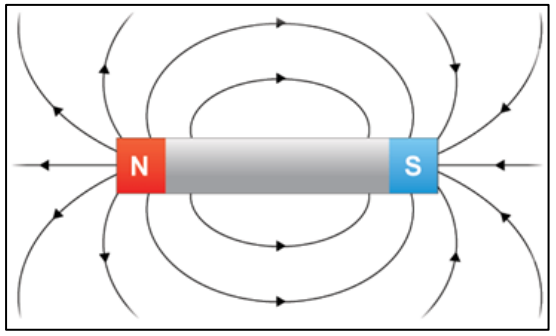
- **field lines have arrows on them**
- **field lines come out of N and go into S**
- **field lines are more concentrated at the poles.**

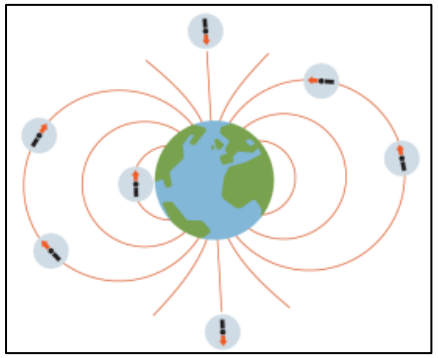
The **magnetic field is strongest at the poles**, where the field lines are most concentrated.
The Earth has a magnetic field because the core rotates, it acts like a giant bar magnet.

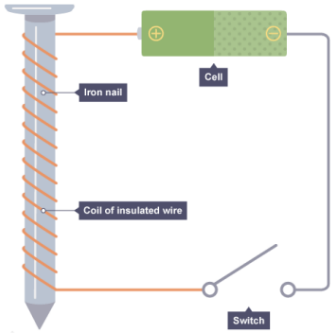
Key Terms	Definitions
Electromagnet	A magnet created by the flow of electricity in a wire
Magnetic Field	The area around a magnet, where the magnetic field acts

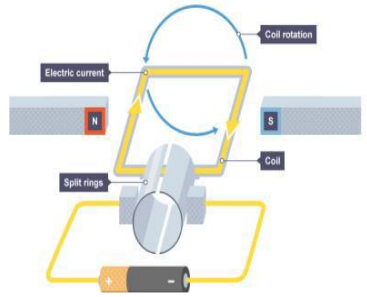
Electromagnets

When an electric current flows through a wire, it creates a magnetic field, this can be used to make **an electromagnet**, by making the wire into a coil.
You can increase the strength of an electromagnet by doing three things:
1. Increase the number of coils
2. Increase the current
3. Add a soft iron core









The motor effect: A simple electric motor can be built using a coil of wire that is free to **rotate between two opposite** magnetic poles. When an electric current flows through the coil, the coil experiences a force and moves. This is called the motor effect.

Year 8 Design and Technology

Fretsaw

Metal File

Belt Sander

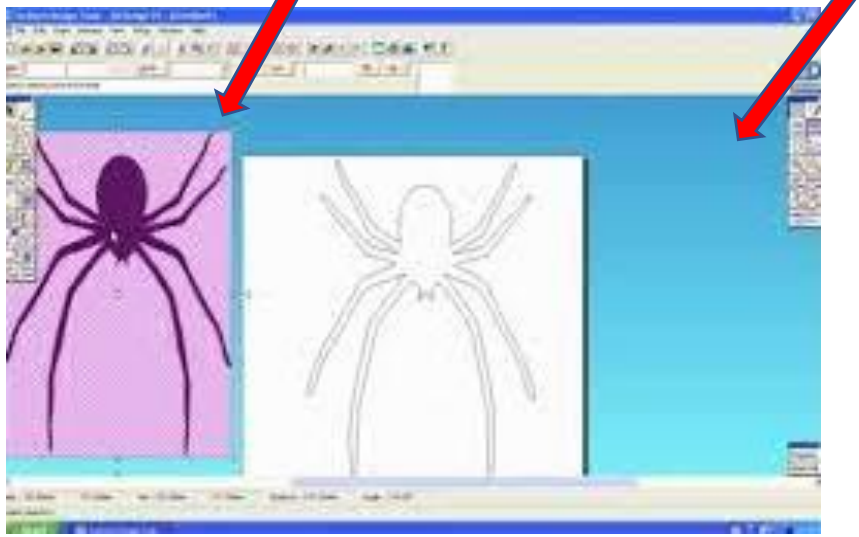
These are the key principles of design we will be looking at this term when working in the Workshop. The project is to design and make a sweet dispenser.

Key Questions?

- What is the function of a sweet dispenser? Will it have any extra practical design features?
- What key aesthetics do you need to consider when designing?
- How will accurate measuring affect the quality and function of your product?

Using 2D Design, you will transfer your hand drawn designs onto CAD.

Using CAD helps to present work professionally, and adds to your portfolio of skills working towards GCSE level.



Word Bank

Material properties Aesthetics Measurements
Template Product
Analysis Fretsaw Sander Relief

Seasonal Produce and Air Miles

Seasonal produce

Seasonality of **food** refers to the times of year when the harvest or the flavour of a given type **food** is at its peak. This is usually the time when the item is the cheapest and the freshest on the market.
The **food's** peak harvest time usually coincides with when its flavour is at its best.

Advantages of local, seasonal foods foods

- Often cheaper as it is not imported and there is a larger quantity of the food available
- Fresher as it has taken less time to travel and less storage time.
- High in nutrients – fruit and vegetables lose nutrients over time after being picked. With less travel and storage time, they lose less nutrients.
- Tastes better as it is fresher and higher in nutrients.

Disadvantages of local, seasonal foods

- There is a smaller range of foods available
- Not importing foods means not supporting farmers in developing countries.

Examples of UK grown produce

Autumn	Winter	Spring	Summer
Apples Mushrooms Beetroot Pears Potatoes Pumpkin Garlic	Cauliflower Sprouts Suedes Sweet potato Broccoli Oranges Cabbage	Strawberry Carrot Lettuce Leeks Asparagus Peas Spring onion	Cucumber Aubergine Tomato Raspberry Courgette Onion Corn on the cob

Food miles

- If we're not eating fresh, seasonal food grown in the UK, the food has travelled from abroad to reach us.
- Food miles are clocked up by the fresh fruit and vegetables arriving by plane from across the globe.
- Then the fruit gets loaded in to lorries and driven across various parts of the country to supermarkets
- Then once on a shelf the products are then bought by people who then drive it back home.

Food miles are the measure of the distance a food travels from field to plate. This travel adds substantially to the Carbon Dioxide emissions that are contributing to climate change. The amount of food being flown into the UK doubled in the 1990s and is predicted to rise further each year. Consumers are also directly responsible for increased food miles. We now travel further for our shopping and use the car more often to do it.

Advantages of importing foods

- A wide range of foods are available in our shops all year round e.g. strawberries at Christmas.
- Less energy is used growing certain crops in poorer countries as there is no need for heating glasshouses etc. (less damage to the environment)

Disadvantages of importing foods

- Its harder to monitor food production standard and conditions for workers in countries far away.
- Taxes on imported foods means farmers in developing countries don't always receive a fair price for their foods.
- Food that has travelled a long distance is less fresh by the time it reaches the shelves
- People do not buy local produce as much so local UK farmers don't make as much money
- Increased road traffic as more food is being transported around the holiday
- There is increased used of fuel for the road transport plus the carbon dioxide emissions related
- The amount of food flown into the UK increases each year which means the UK is not self-sufficient
- Pressure to expand food production has led to the destruction of environments in some poorer countries
- Over 60% of household waste is a result of food packaging
- Fresh spinach looses over 90% of its vitamin C in the first 24 hours of harvest

Examples of imported foods

Pineapple, mango, tomatoes, celery, potatoes, bananas, nuts, sugar, chicken, lamb, beef, fish, oil, cocoa beans, grapes, tea, coffee, rice, soya bean, herbs, spices, olives, capers, avocado, cauliflower, broccoli

Chocolate Banana Pancakes

Ingredients (makes 5)
1 banana mashed with a fork
1 egg
70g self-raising flour
1tbsp light brown sugar
OR chocolate chips
60ml milk
25g melted butter

Equipment
Frying pan
Jug
Bowl
Spoon
Spatula
Fork

Skills
Weighing
Mixing
Whisking
Melting
frying

Method

1. Combine all ingredients together

2. Cook until brown on both sides in some melted butter.

Creamy chicken pasta bake

Ingredients
300g macaroni pasta
1x chicken breast OR
4 slices of bacon/ 1 pack of lardons
400g can cream of chicken soup
60g cheese
30g of panko breadcrumbs OR
a bag of tortilla chips
Vegetarian option
300g mushrooms
400g can cream of mushroom soup

Equipment
Red chopping board
grater
Knife
Frying pan
Saucepan
Wooden spoon
Wooden spatula
colander

Skills
Chopping
Boiling
Frying
baking

Method

1. Preheat oven to 200c

2. Fill up a saucepan over half way with hot water, put a lid on and put the water on to boil. When the water is boiling, add the pasta and cook for 10 minutes, stirring occasionally. Once cooked, drain in a colander.

3. Meanwhile, chop chicken/bacon into even bite sized pieces on a red chopping board.

4. Fry chicken/bacon in a small amount of oil. Once cooked through add the can of soup then the drained pasta. Mix together.

5. Transfer into an ovenproof dish.

6. In a mixing bowl combine cheese and breadcrumbs/crushed tortilla chips. Sprinkle mix over pasta and bake in the oven for 20 minutes.

Apple Crumble

Ingredients

100g Flour
50g sugar
50g margarine
1 cooking apple or two small apples

Optional

Pear or peach instead of apple
Handful of blackberries
2 tbsp of oats to add to the crumble mix

Equipment

Chopping board
Knife
peeler
Bowl
wooden spoon
Scales
tinfoil container

Skills

Chopping
Peeling
Weighing
Rubbing in method

1. Peel and slice the apple and place in a oven proof dish

2. Put the margarine and flour into a mixing bowl.

3. Rub the margarine into the flour until it looks like breadcrumbs.

4. Add the sugar and stir well.

5. Pour the crumble mixture over the apple.

5. Bake for 20-25mins on Gas 5 / 180°C until the crumble is golden brown.

Year 8 Knowledge Organiser: Africa

Topics covered

- ✓ Where is Africa?
- ✓ Who are Africa's people?
- ✓ How was the rift valley/Atlas formed?
- ✓ What are the main biomes?
- ✓ Why is the Sahara so challenging?
- ✓ How has colonialism affected Africa?
- ✓ Where do people visit in Africa?
- ✓ How is Africa changing?

Key Ideas:

1. I can describe features of the continent of Africa
2. I can explain how some parts of the landscape were formed
3. I can explain how human exploitation and discovery affected Africa
4. I can describe poverty and suggest ways to reduce poverty
5. I can explain how Africa is changing into the future

Skills

- ❑ To research amazing facts using ICT
- ❑ To listen to stories of the slave trade
- ❑ To locate places on a map/atlas
- ❑ To calculate levels of development using Atlas data
- ❑ To create graphs of different types (line, bar, pie)
- ❑ To write a detailed piece of extended writing

Places and Environments

- ❖ Morroco
- ❖ Kenya
- ❖ Tanzania
- ❖ South Africa
- ❖ Nigeria
- ❖ Sahara desert
- ❖ Namib desert
- ❖ Congo basin

Key Terms Used in this Unit

- ❑ Trade
- ❑ Resources
- ❑ Democracy
- ❑ Rift valley
- ❑ Fold mountains
- ❑ Arid climate
- ❑ Tropical climate
- ❑ Slave trade
- ❑ Coral reefs
- ❑ Safari
- ❑ Shanty towns
- ❑ Economic growth
- ❑ Poverty
- ❑ Water stress
- ❑ Food scarcity
- ❑ Civil War
- ❑ International Aid
- ❑ Voluntary Aid
- ❑ Townships

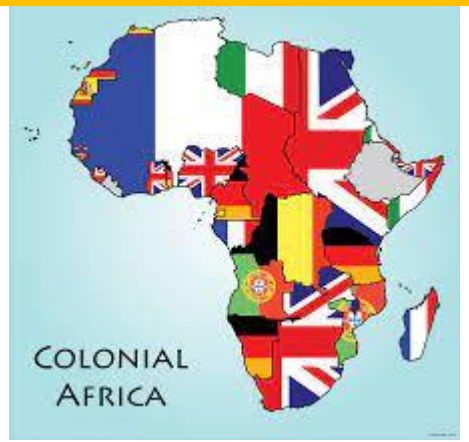
Year 8 Knowledge Organiser: Africa

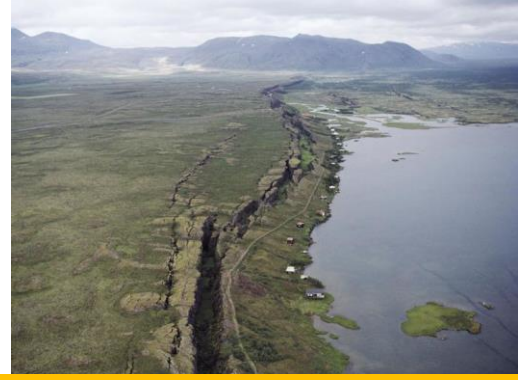
This is a map of Africa's countries aka a 'political map'
- How many are there?

Africa plays a huge role in global trade – what are the main exports?

Shanty towns feature across Africa – why do people live in shanty towns?

Africa's recent history was affected by European nations under 'colonialism' - here more than anywhere peoples lives were negatively affected – why did this occur?

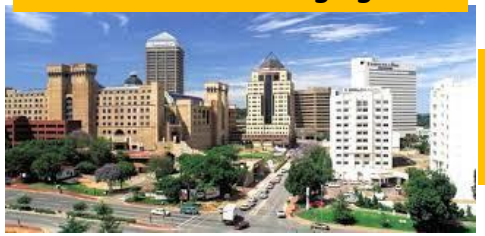




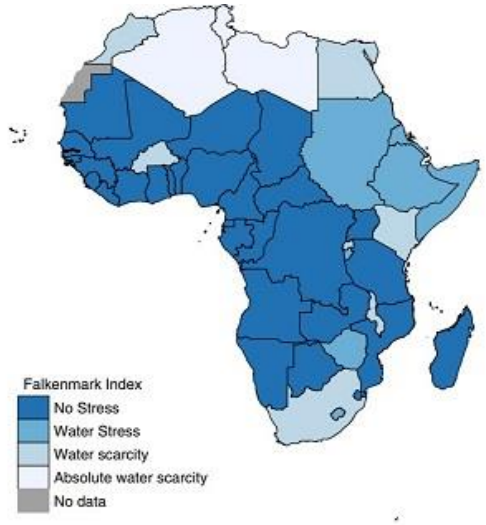
The spectacular rift valley is tearing Africa apart due to plate tectonics – how is this possible?

Africa has many nations that depend upon tourism – which countries could you go on 'safari' and what does this word mean?

How is Africa changing?



African countries sometimes struggle to have adequate water or food supplies – What do you think it means by 'adequate'?



African countries have long success in sport, South Africa has dominated rugby and Kenyan athletes often win the longer distance races
- What challenges do these athletes face?

Knowledge Organiser: Year 8 Spring Term 1 Part 2 Textual Programming—Micorosoft Small Basic

Summary

Sometimes we need computers to remember the information we give it and that it calculates during programs. A **variable** can be thought of as a box that the computer can use to store a value. The value held in that box can change or 'vary'.

A program can use as many variables as it needs it to. **Variables are a key element of programming.** They are used for calculations, for storing values for later use, in decisions and in iteration. It is important to use meaningful names for variables.

Programs require data to be **input**. This data is used (**processed**) by the program, and data (or information) is **output** as a result. Once data has been processed, programs often need to output the data they have

Key Vocabulary

Algorithm	A sequence of logical instructions for carrying out a task. In computing, algorithms are needed to design computer programs.
Flowchart	A diagram that shows a process, made up of boxes representing steps, decision, inputs and outputs.
Instruction	A single action that can be performed by a computer processor.
Programming	The process of writing computer software.
Programming language	A language used by a programmer to write a piece of software. There are many programming languages.
Pseudocode	A method of writing up a set of instructions for a computer program using plain English. This is a good way of planning a program before coding.
Variable	In a computer program, this is a memory location where values are stored.

Microsoft Small Basic

Variable

Computer programs use variables to

Variables could be used to store the score in a game, the number of cars in a car park or the cost of items on a till. They work in a similar way to algebra, where a letter in your code can stand for a number.

```
TextWindow.Write("Enter your Name: ")
name = TextWindow.Read()
TextWindow.Write("Hello " + name + ".  ")
TextWindow.WriteLine("How are you doing " + name + "?")
```

Sequencing

Sequencing is the specific order in which instructions are performed in an algorithm.

Algorithms consist of instructions that are carried out

```
GraphicsWindow.Width = 200
GraphicsWindow.Height = 200
GraphicsWindow.PenColor = "Green"
GraphicsWindow.DrawLine(10, 10, 100, 100)
GraphicsWindow.PenColor = "Gold"
GraphicsWindow.DrawLine(10, 100, 100, 10)
```

Selection

Selection is a decision or question.

At some point, a program may need to ask a question because it has reached a step where one or more options are available. Depending on the answer given, the program will follow a certain step and ignore the others.

```
If (Clock.Hour < 12) Then
  TextWindow.WriteLine("Good Morning World")
EndIf
If (Clock.Hour >= 12) Then
  TextWindow.WriteLine("Good Evening World")
EndIf
```

Iteration

Iteration is the process of repeating steps.

Iteration allows us to simplify our algorithm by stating that we will repeat certain steps until told otherwise. This makes designing algorithms quicker and simpler because they don't have to include lots of unnecessary steps.

```
For i = 1 To 24
  TextWindow.WriteLine(i)
EndFor
```

Algorithms

Algorithms can be represented as **pseudocode** or a **flowchart**, and programming is the translation of these into a computer program.

Pseudocode

```
IF GameWon THEN
  .. Instructions here ..
  IF Score > HighScore THEN
    .. Instructions here ..
  ENDIF
  .. Instructions here ..
ENDIF
```

Flowchart

http://bit.ly/33WS6NC

BBC Bitesize

Year 8 RS: Why is Islam the way it is?

Key words	
Muhammad	The Last Prophet in Islam.
Abu Bakr	A close companion of Muhammad
Mecca and Medina	Holy cities in Saudi Arabia
Ali	Muhammad's cousin
Quraysh	An influential tribe in Mecca
Quran	The holy book in Islam.
Muslim	A follower of Islam
Mosque	A place of worship in Islam.
Allah	The Arabic word for God

In 622CE Muhammad left Makkah. He and his followers were invited to live in Madinah (about 400 km away).

His departure, (Hijrah), was important because it was at Madinah that Muhammad set up the first Islamic community. Muslims begin their calendar from this date, the first year of hijrah. The Islamic calendar therefore reads AH 1 when the Christian calendar reads 622 CE.

This symbolises leaving behind darkness (disbelief) and moving into a new era full of light (belief).

Arabia- During the time of Muhammad

Countryside-Arabia was a very poor area, mostly desert or scrub.

People-Some of these were Bedouins who were Nomads, constantly moving their sheep, camels and tents from place to place in search

of food and water for themselves and for their animals.

Houses-The Nomad Arabs lived in tents as they had to move around Arabia from place to place. However those who lived in villages and towns had houses made out of mud. As they moved there animals around from market to market they would take everything with them.

Travel and Work-Many Arabs made a living from tending sheep.

Others used camels in groups, called caravans, to carry goods from town to town to sell.

Religion-There was no single religion in Arabia.

Most Arabs worshipped several gods and spirits that they believed lived in rocks and trees. A very small number of them believed in one God (such as the Arab Christians and Arab Jews.

Kings & Rulers-The Arabs were split in to many tribes. There was no single king who ruled them. The Ka'ba was the most important building in all of Arabia. It was used as a temple for worship. The Ka'ba had over 360 altars, statues and other religious objects or idols which all the Arabs worshipped. People would travel hundred of miles to visit and worship at the Ka'ba.

A young Muhammad

Muhammad was born in 570 in Mecca.
Muhammad was born into a noble tribe called the Quraysh. His father died before he was born, and his mother died when he was 6 years old. As an orphan he was looked after by his grandfather and when he died, by his uncle who was a merchant. When he was older, he became a trader for a rich widow called Khadijah, working as the leader of her caravans. He had done such an impressive job with profits through honesty (rather than cheating people like a lot of traders did in those days) that Khadijah asked him to marry her. Muhammad was 25 when he married Khadijah.
He was well known all over Makkah to be the most honest and hard-working man and was nicknamed 'Al-Amin' meaning 'The trustworthy'. Even the chiefs of the Quraysh praised him for this. Everyone knew that when Muhammad spoke, he always spoke to the truth.

The moment of revelation

According to Islamic teaching, the word of God was revealed through Muhammad in the year 610 CE (AD), when he was 40. God revealed his final message to mankind (about believing in the one God and worshipping the one God, and to lead good and honest lives etc.) through Muhammad. The same message that was delivered to all the other Prophets yet which had been distorted and corrupted over the centuries.

Muhammad was sitting in a cave on Mount Hira, just outside of the city of Makkah, when God spoke to him through the angel Jibril (Gabriel). These revelations happened again and again. In the year 613 CE Muhammad started preaching openly, he told the people of Makkah that there was only one God, and that God had created the world and everything in it. Since there was only one God it was wrong to worship statues and different gods.

At first there was a lot of opposition to Muhammad. His followers were beaten by people who did not want to give up their old way of life. Many people (including traders) did not like his teachings that duty to God, or Allah, was more important than family or tribe. They persecuted his followers for their new faith. The people were not willing to give up their ways of worshipping trees or rocks etc. The Quraysh were especially and extremely angry with Muhammad and his followers. They were losing business in Makkah due to Muhammad making these claims of one God.

Muhammad and his followers were persecuted for their beliefs by the powerful people of Makkah including the Quraysh. They feared they would lose their money, religion and power. They made up things about Muhammad so that people would not listen to him. They called him a liar and a madman. Many people questioned this though as he was once known as 'Al-Amin'. If this was the case, why would he lie about this matter?

YEAR 8 DRAMA – WORKING WITH TEXT

Meaning can be shown both physically and vocally. The following are skills used by actors to communicate characters' personality and intention – this is known as **Characterisation.**

- **Body Language** – Showing what you feel by the way you stand.
- **Gesture** – how you communicate with your hands and/or arms.
- **Facial expression** – showing what you feel on your face.
- **Voice tone** – the emotion that you are putting into your voice. E.g. an angry tone of voice.
- **Pitch** – how high or low you are speaking.
- **Pace** – how fast or slow you are speaking.
- **Pause** – Allowing breaks in the speaking
- **Accent** – changing the way you speak to show where you are from.
- **Status** – how important your character is. This can be shown by the way you stand, talk, walk etc…

Meaning can also be shown through the **design elements**.

Costume is what the character wears and is used to show more about their personality. It can show their age, status, and the time period the play is set in.

Lighting is used to create atmosphere and show the time of day. This is done using colour, angle, and intensity. For example, a dimly lit stage with a cold blue light may create an atmosphere of mystery or suspense, set in the early evening.

Sound is used to add to the atmosphere, heighten emotions and can also be used to show locations for example a wind blowing and a wolf howling can create an eerie atmosphere.

Set includes the scenery, and anything on the stage which is used to show when and where the play takes place. It is used to create levels and make the performing space look visually interesting.

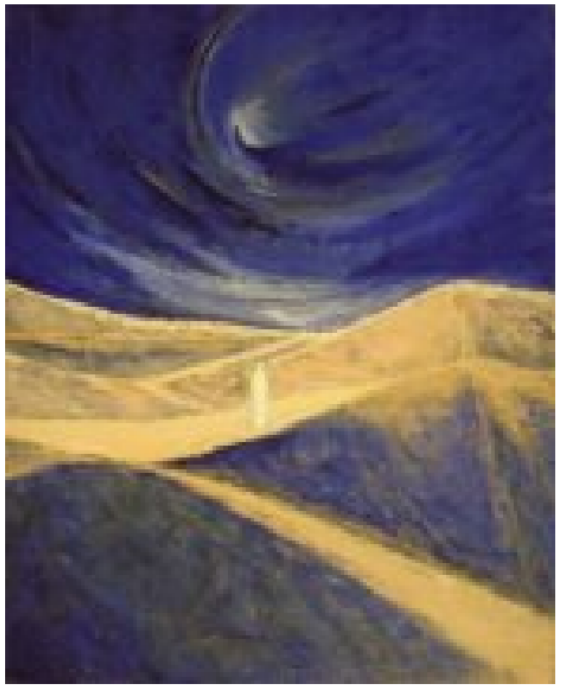
Something to think about….

Does our behaviour really matter? In JK Rowling's book: Harry Potter and the Goblet of Fire, Albus Dumbledore says **"We must all face the choice between what is right and what is easy."**

Lent offers Christians a time to reflect on their behaviour and the choices they have made for example if they have been selfish or if they have taken time to think of others. It is a time to prepare, and rethink. A time to seek reconciliation, a renewal of faith and a new direction. Lent enables Christians re-evaluate their conduct and relationships in all aspects of their life and to look at the direction life is leading them.

Jesus is tested in the wilderness: Matthew 4: 1-11 New Revised Standard Version

Jesus in the Desert: Macha Chmakoff



4 Then Jesus was led by the Spirit into the wilderness to be
tempted[a] by the devil. 2 After fasting for forty days and forty
nights, he was hungry. 3 The tempter came to him and said, 'If
you are the Son of God, tell these stones to become bread.'
4 Jesus answered, 'It is written: "Man shall not live on bread
alone, but on every word that comes from the mouth of
God."'[b] 5 Then the devil took him to the holy city and set him
on the highest point of the temple. 6 'If you are the Son of God,'
he said, 'throw yourself down.

For it is written: "'He will command his angels concerning you,
and they will lift you up in their hands,
so that you will not strike your foot against a stone."'[c]

7 Jesus answered him, 'It is also written: "Do not put the Lord
your God to the test."'[d] 8 Again, the devil took him to a very
high mountain and showed him all the kingdoms of the world
and their splendour. 9 'All this I will give you,' he said, 'if you will
bow down and worship me.' 10 Jesus said to him, 'Away from
me, Satan! For it is written: "Worship the Lord your God, and serve him only."'[e] 11 Then the devil left him,
and angels came and attended him.

Lent is a key Christian festival where people reflect on their lives. Jesus was tested in the wilderness. People often set themselves challenges ahead of Holy Week culminating in Easter Sunday. They try to be kinder or give something up.

The film Hail Caesar! follows a day in the life of Eddie Mannix, a Hollywood fixer for Capitol Pictures in the 1950s, who cleans up and solves problems for big names and stars in the industry. At times Eddie's life is filled with the dilemma of making the right choices and decisions:

https://www.youtube.com/watch?v=UILLd-uBMk4

Reflect/think about a time: In the clip the Eddie has gone to talk through things with a priest, his lifestyle choices and behaviour.

Why do you think Eddie felt the need to talks things through?

What impact had Eddies choices had on him?

When Eddie talks about a decision he has to make, the Priest talks about the inner voice and listen to the voice until you hear what is right.

Have you ever had an experience like Eddie's?

EXPERIENCES that can help us ENCOUNTER:

How might choices and random acts of kindness and generosity help us grow?
Watch this video clip from the film the Fight Within and hear how a chance decision to act generously to a stranger, leads to an unexpected exploration about making decisions and choices.

https://www.youtube.com/watch?v=fOzp6IplsNY

What do you think prompted the man to buy and share pizza? What other things were shared other than pizza? Who benefitted from the encounter?

In the Christian tradition the word stone or rock has many symbolic meanings. The word stone and rock are used over 400 times in the bible and signify strength, steadiness, protection and durability. 'So I will call you Peter, which means "a rock." On this rock I will build my church, and death itself will not have any power over it.' (Matthew 16:18) Peter had followed Jesus but he had not always behaved well or made good choices in his life. However, Peter was the first to recognise Jesus as the Messiah. Jesus knew that Peter would go onto betray him but did not give up on Peter. He could see how in the future, he could trust Peter and how Peter would ensure that the message of salvation for God's people would spread across the world. Read the account (Matthew 19:13-18)

Draw a stone and cut it out or find a small stone from the garden wash and dry it and use an indelible Sharpie) or glitter glue pen. Think about all the good habits, actions and behaviours you want to develop or improve e.g. kindness, selflessness, faithful generosity etc. Then place your 'stone'/'rock' somewhere in your room where you will see it every morning and evening as a reminder of your intention.

Multi-disciplinary learning. Key Stage 3.

What is a Fake News?

Some people believe in things that other people do not. Here are a couple of examples for which there is little evidence.

Bigfoot lives in the Northwest Pacific area of North America

There is a Plesiosaur (The Loch Ness Monster) living Loch Ness in Scotland

However, some people then believe that other people are covering it all up. This can lead to some surprising places.

Activity 1: If there was Bigfoot or a Plesiosaur as shown above then how difficult would it be to keep it a secret? Look up how big Lock Ness is and how many people visit it every year.

Activity 2: Think about these questions / discuss them in a video chat with friends: What happens to you when you believe that the entire sections of society are keeping secrets? How could all scientists or the entire government keep a secret? How difficult would it be for 1000s of people to keep a secret? Why do film makers like conspiracy theories for their movies?

Activity 3: Listen to this radio programme. It is available on BBC Sounds. https://www.bbc.co.uk/sounds/play/m000dfqn

How many conspiracy theories are mentioned? Which ones have you heard about?

Activity 4: Mr Ford once, for a joke spread the rumour that the canteen at his college was serving Weetabix that were so cheap, the box they came in had more nutritional value as at least it contained roughage in the cardboard box. he got into a lot of trouble and had to write an apology to be displayed at the college canteen till. Write a letter for Mr Ford, to try to explain that he now understands how serious disinformation can be, highlighting what might have gone wrong.

Activity 5: Craft a conspiracy theory about Mr Ford. Email him with it. How would you get people to believe it? How far could you stretch it? How could you stop it once people started believing it – even if it was you who made it up?

For those of you with access to Disney watch Lion Guard "Beware of the Zimwi" episode. How can belief cause panic?

Activity 6: Find out how anti-vaccination conspiracy theory has killed people.

https://www.iflscience.com/health-and-medicine/one-map-sums-damage-caused-anti-vaccination-movement/

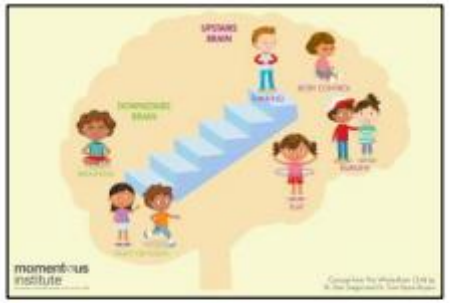
Activity 7: Challenge activity. Research one of the more popular myths and present a clear and referenced case to debunk it.

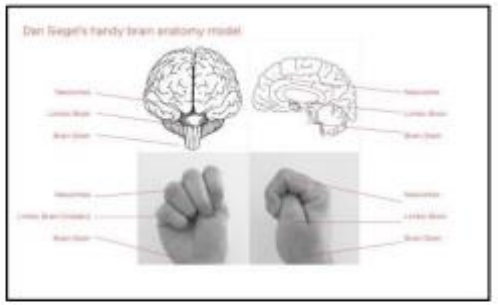
https://www.osce.org/odihr/441101?download=true

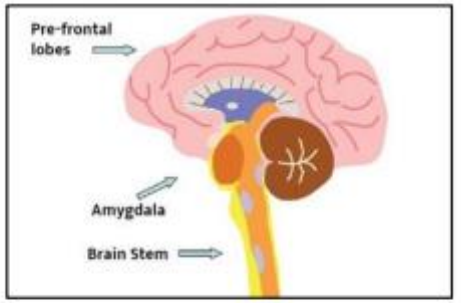
KS3 Knowledge Organiser - Understanding and Training our Brain

BRAIN STRUCTURE

Be able to use the hand model and the upstairs/downstairs model to explain the brain.
Know the term amygdala.

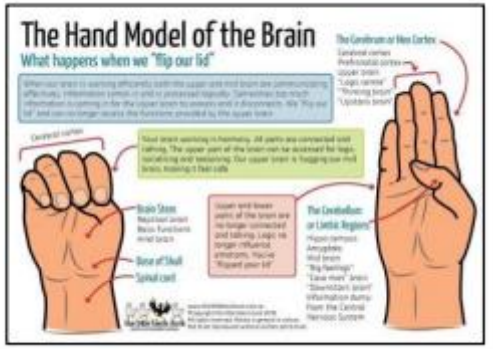






WHEN OUR BODY PERCEIVES A THREAT

1. The amygdala floods our body with the hormones adrenaline and cortisol
2. This prompts us to either FIGHT, FLIGHT or FREEZE
3. Our heart rate and blood pressure increase
4. Our skin pales or flushes
5. Our ability to feel pain decreases
6. Our pupils dilate
7. Our memory might be affected
8. We might be trembling
9. Sometimes people lose control of their bladder!



WHERE TO SEEK SUPPORT IF YOU NEED IT

- Shelf help books in the library or public library
- Parent or other adult at home
- Friends
- Older student
- Tutor or achievement leader
- Learning mentor
- Wellbeing team (Miss Neal, Mrs Freds, Mrs Dobell, Mrs Crissall, Mrs Horne)
- Mrs Whitcombe or another member of the leadership team
- School nurse drop in
- School nurse referral
- Kooth
- Emotional wellbeing hub
- Dr Hope
- Samaritans

HOW TO HELP YOUR BRAIN LEARN

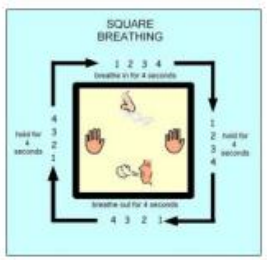
1. Challenge your brain
2. Be curious and imaginative
3. Deal with stress or anxiety first
4. Drink plenty of water
5. Eat a healthy diet
6. Get enough sleep
7. Take plenty of physical exercise
8. Break your learning into chunks
9. Take brain breaks regularly

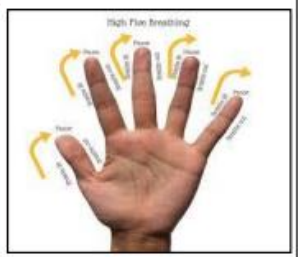
FIVE WAYS TO WELLBEING

Know the five; know what they mean; give examples

BREATHING

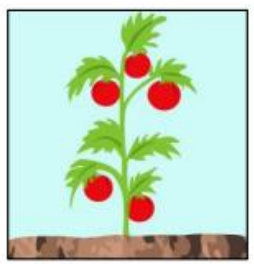
4, 5, 6 breathing
Breathe in for 4, hold for 5, breathe out for 6. Repeat as long as you need to.





WHAT TO DO WHEN YOU WORRY TOO MUCH

- Stop your worries growing by paying less attention to them
- Fight your thoughts with logical answers
- Use planned worry time
- Imagine and deal with a worry monster
- Re-set your system with exercise
- Re-set your system with relaxation techniques



GROUNDING

Keeping everybody safe at open academy

iPhone users

Android users

We aim to keep everyone in our community safe. If you feel worried about yourself or someone else, please **speak to someone you trust as soon as you can**. Please find your trusted or an emotionally available adult in the academy who will be there to listen and support you. Our Designated Safeguarding Leads (DSL) are **Mr Davis, Mrs Milroy, Mr Ford, Mr Ward, Miss Wenlock, Mr Fisher, Mr Richardson, Mrs Molloy, Mrs Clayton and Mrs Hewitt-Coleman.**

What is abuse in safeguarding concerns?

Physical Abuse - Physical abuse is any way of intentionally causing physical harm to a person or purpose. This could result in injuries such as in bruises, broken bones, burns or scalds or bite marks.

Emotional Abuse - Emotional abuse is any type of abuse that involves the continual emotional mistreatment of a person. It's sometimes called psychological abuse. Emotional abuse can involve deliberately trying to scare, humiliate, isolate or ignore and stopping you from seeing friends or family.

Sexual Abuse - When a child or young person is sexually abused, they're forced or tricked into sexual activities without permission. This include being forced to look at images or videos. Sexual abuse can happen anywhere – and it can happen in person or online.

Neglect - Neglect can be a lot of different things. It is when you do not get enough help or care from someone who should be looking after you. This could include having a lack of food, clothing and attention and medical care.

Bullying is behaviour that hurts someone else. It includes name calling, hitting, pushing, spreading rumours, threatening or undermining someone. It can happen anywhere – at school, at home or online. Online bullying is called Cyber-bullying. It's usually repeated over a long period of time and can hurt a child both physically and emotionally.

County Lines is the police term for urban gangs exploiting young people into moving drugs from a hub, normally a large city, into other markets - suburban areas and market and coastal towns - using dedicated mobile phone lines or "deal lines". Children as young as 12 years old have been exploited into carrying drugs for gangs. This can involve children being trafficked away from their home area, staying in accommodation and selling and manufacturing drugs.

Someone who starts to believe in or supports extreme views linked to terrorism and forms of extremism leading to terrorism is linked to **Radicalisation**. Extremism can also be linked to this as extreme views, vocal or active opposition to fundamental British values, including democracy, the rule of law, mutual respect and tolerance of different faiths and beliefs.

Where do I go for help and advice?

Speak to any available adult in school. This could include your Head of Year, Mr Davis, Mrs Milroy, Mr Richardson or Mr Ford. Advice can be found by scanning the QR codes at the top.

If you feel you need support or see or hear something that concerns you, report it!
We are here to help.

Links to advice

Childline – 0800 1111	Advice on mental health.	Staying safe online	Advice on LGBT+ issues	Advice for young people
www.childline.org.uk	www.youngminds.org.uk	www.childnet.com	www.theproudtrust.org	www.themix.org.uk