




*'Everyone has the **right** to be the best version of themselves that they can be. We all have the **responsibility** to make it happen'*

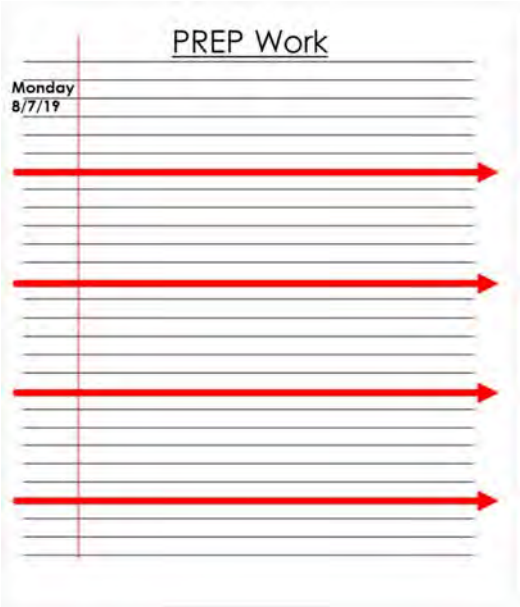
Year 7

Knowledge Organisers

(Autumn Term)

Knowledge Organisers - Instructions

Knowledge organisers are not about copying, they are about memorising the knowledge needed for each subject.



Each time you use your Knowledge Organisers in prep time and at home you should:

⇒ Check to see if your teacher has told you a specific part of the knowledge organiser to learn e.g. for a mini test in class.

⇒ Rule off six lines.

⇒ Select a subject knowledge organiser.

⇒ Select a section from your chosen knowledge organiser.

⇒ Read and re-read the text, using the look and cover technique.

⇒ Write the information learnt into the box using only four lines.

⇒ Using a RED pen, check each word, ticking it if correct. Then add any missing information in RED in lines 5 & 6.

⇒ Do not just copy out the knowledge organiser, you are aiming to memorise the information. This will mean repeating the process multiple times in one sitting and then testing yourself again a couple of weeks later.

	Homework Schedule & Instructions					
Routine Homework	**Year Group**	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
	Year 7, 8 & 9	Maths	English	Science	Humanities	Creative
	Year 10 & 11	Maths	English	Science	Option Subject	Option Subject
	Post 16	Option 1	Option 2	Option 3	Additional Revision	Additional Revision
Regular Homework	Class teachers from the subjects above, foundation and option subjects will set REGULAR homework in addition to the ROUTINE HOMEWORK you are expected to complete each night. This homework will be set on Class Charts and checked regularly. Additional exam-based question homework will be set for Year 10, Year 11 and Post 16, this should be submitted in the next subject lesson as it will be pre-learning to the lesson.					

All students must complete 'routine homework' for 20 minutes each night, this is the minimum expectations. You will be required to write a heading of HW in the column of your Ready to Learn books and continue to write out the knowledge from memory as you have been shown (covering up the knowledge in the knowledge organiser) and then self-checking, correcting any errors in Red pen – this is a continuation from your Prep Time Session.

It is your responsibility to ensure your parent/carer signs each page every week to check that homework has been completed and meets Academy expectations.

1	**Why do you need to Know British Values?** Understanding British values is an important way to enable you to embrace the key values that you need to be equipped for life in modern British society. There are 5 fundamental British Values. **Through understanding the British values of Democracy, the Rule of Law, Individual Liberty, Mutual Respect, and Acceptance for those with different faiths and beliefs**, you will develop self-knowledge, be better able to make the right choices and make contributions to the school and the wider community.

Democracy

2	**Democracy**	8	Examples of Political Parties: Liberal Democrats, Labour, Green Party, Conservatives
3	In the United Kingdom we vote (age 18 +) for the people we want to run our councils and Government.		
4	We vote for Members of Parliament (MP's). Elections take place at least once every 5 years.		
5	In our democracy there are political parties. At the time of writing the political party who has the majority of MP's in Parliament is the Conservative Party. Labour are currently the opposition Party.	9	When elections take place for Members of Parliament, the public go to vote. Traditionally this happens on a Thursday, and people vote in a secret ballot. People only know who you vote for if you decide to tell them – it is rude to ask!
6	The Leader of the Conservatives and our current Prime Minister is Theresa May. The Leader of the Opposition is Jeremy Corbyn.	10	Where can I see British Values at School? Democracy – School Council / Form Representatives / Student Executive. We hold mock elections and in PSHE you will learn more about politics. We participate in the MAT debating competition, held in the council chamber at the Town Hall.
7	MP's debate in the Palace of Westminster, in the House of Commons. On the opposite side of the Building is the House of Lords. The House of Lords (unelected members) ratify law and policies put forward by parliament.		

The rule of law

11	In the UK, we have laws which determine what is legal and illegal. You are expected to know the difference between right and wrong.	14	There are consequences for making the wrong choice or taking illegal actions. We all take responsibility for our actions.
12	The rule of law is a principle that individuals and institutions are subject and accountable to, which is fairly applied and enforced.	15	Where can I see British Values at School? Rule of Law – Our Behaviour Systems and Behaviour Policy. We have agreed rules and expectations so that our school is a safe and happy place where all differences are reconciled peacefully. We have a PCSO that comes into school to educate you in the law.
13	Those who commit crimes will ultimately be brought to justice through the legal system including Police officers, courts and lawyers. The rule of law acts as a deterrent, to deter people from criminal acts.		

Individual liberty

16	In the UK you are free to have an opinion (unless it is extremist) and believe in what you want without discrimination.	18	Where can I see British Values at School? Mutual Respect – Our academy ethos, antibullying and assemblies. Boundaries are used to ensure you are safe.
17	You have the freedom to make choices and decisions without being judged.		

Mutual **respect** for and **tolerance** of those with different faiths and beliefs and for those without faith.

19	Mutual Respect and Tolerance are the proper regard for an individuals' dignity, which is reciprocated, and a fair, respectful and polite attitude is shown to those who may be different to ourselves.	21	We should all actively challenge students, staff or parents expressing opinions contrary to the values we hold in society and as a school and those that underpin the fabric of a democratic Britain. This is crucial to us to protect one another and to tackle 'extremist' views and prevent people from being radicalised.
20	Differences in terms of faith, ethnicity, gender, sexuality, age, young carers and disability, are differences that should be respected, tolerated and celebrated.	22	Where can I see British Values at School? Acceptance of Faith – RE Lessons and Assemblies. We give you messages of tolerance and respect for others no matter what their ethnicity, beliefs, sexuality, gender or disability.

Democracy	Rule of Law	Individual Liberty	Mutual Respect	Tolerance

British Values Knowledge Organiser

‘Oliver Twist’: Knowledge Organiser

Plot breakdown

Oliver is born in the workhouse. When he is a bit older he is nominated to ask for more food because the boys are starving.

He is kicked out of the workhouse and sold to the Sowerberry family to be an undertaker’s apprentice. He’s bullied by Noah, they fight and he is locked up.

Oliver runs away to London, meets Dodger and is introduced to Fagin’s gang.

Oliver is taken out with the gang and is horrified to see Dodger steal a gentleman’s handkerchief. Oliver is wrongly arrested for the theft.

The gentleman, Mr. Brownlow, takes pity on Oliver and takes him in. The gang plot to get him back in case he reveals information about them.

Oliver is abducted by the gang whilst running an errand for Mr. Brownlow.

Oliver is used by Sikes in a burglary. They fail and Sikes runs away. Oliver is left behind but the people who live there feel sorry for him and look after him. They are called Fred and Rose Maylie.

When Bill and Fagin realise what has happened, they plot to catch Oliver again. Nancy overhears and visits Mr. Brownlow to warn him.

Fagin tells Bill about Nancy’s betrayal and Bill murders her. Fagin is discovered and sent to prison and Bill dies trying to run away.

Oliver discovers who his parents were and joins Mr. Brownlow and the Maylies to live happily ever after.

Key words

morality – a code of right and wrong. People who try to be good can be called **moral** and people who do bad things can be called **immoral.**

vulnerable – in a situation in which you could be easily harmed. People living on the streets are **vulnerable.**

brutal – very violent or cruel.

corrupt – a word used to describe a person who uses their power in a dishonest or illegal way in order to make life better for themselves.

villain – a ‘baddie’ who harms other people or breaks the law to get what they want.

malicious – meant to hurt or upset someone.

victim – someone who has been harmed, often by other people.

naïve – If someone is naïve if they don’t have experience of how complicated life can be and therefore trust people too much.

society – the people who live in a certain area. This could be a country, town or small group.

workhouse – a place where people who couldn’t support themselves were sent to live and work.

Context

‘Oliver Twist’ was written in 1837-39.

It was written by Charles Dickens.

In was published chapter by chapter in a periodical (magazine).

Charles Dickens had to work in harsh conditions as a child when his father was sent to prison.

Dickens wanted to criticise a new change to The Poor Law which happened in 1834 and created more workhouses and show how hard life was for poor people.

Characters

Oliver
He is a ‘pale, thin’ orphan who is treated badly by almost everyone he meets. He tries his best to be a good person and experiences ‘horror and alarm’ whenever he sees crimes being committed.

Mr. Bumble
The man who runs the workhouse and gives Oliver his name. He is ‘a fat man’ who enjoys power and doesn’t care about the people beneath him.

Noah Claypole
A ‘malicious and ill-conditioned’ boy who bullies Oliver at the undertakers. He eventually runs away to London and joins the same gang as Oliver.

Fagin
An old man who runs the gang of pickpockets. He seems kind but his ‘villainous-looking and repulsive face’ reflects his selfish nature as he gets young boys to do his dirty work for him.

Jack Dawkins (The Artful Dodger)
A young boy who introduces Oliver to Fagin’s gang who has ‘all the airs and manners of a man’. He’s confident and cunning.

Bill Sikes
A ’rough man’ who has been a criminal for many years. He beats his dog viciously and brutally kills his girlfriend, Nancy.

Nancy
Bill’s girlfriend who risks her life to help Oliver escape from the gang. She loves Bill even though he treats her abusively and she feels guilty about the life of crime she has led.

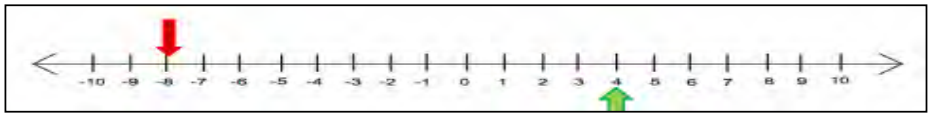
Mr. Brownlow
A wealthy older gentleman who takes Oliver in and looks after him. He believes in Oliver’s goodness even when it looks like Oliver has stolen from him and eventually finds out the truth about Oliver’s parents.

Number & Number System

A Negative Numbers

Addition and Subtraction

Example: -8+12
When adding and subtracting with negative numbers, you should use a number line. Start at the first number given in the sum (here, it's -8)



Then, think about whether you are adding or subtracting your number. If you're adding the number needs to get bigger, so you move to the right each time. If you're subtracting, the number must need to be smaller, so you move left. We need to add 12 in our example, so add 8 to get back to zero, than add on in 1's until you get to 12…

Be aware of circumstances where there are two signs in the middle of the sum:-
Example 1: -5 + - 3
Where the signs in the middle are different, the resulting sum becomes a subtraction so the
above example would be -5-3 which equals -8.
Example 2: -6 - - 3
Where the signs in the middle are the same, the resulting sum bexomes an addition so the
above example would be -6 + 3 which equals -3

B

Prime numbers

A Number is Prime if it has exactly 2 factors: 1 and itself

1 is not a prime number.
2 is the only even prime number.

Factors

The factors of a number are the numbers which divide into it exactly

Factor pairs.
1 is a factor of all whole numbers

Multiples

A number that features in the times table of another number

Times tables knowledge important

C

Keywords
Factor
Multiples
Prime numbers
Square numbers

D

Key Concept: Highest Common Factor (HCF)
List all of the factors of each number then identify the highest number in both lists.
Key Concept: Lowest Common Multiple (LCM)
List the first few multiples of each number and keep going until you find the firs number that is in both lists.

E Prime Factor Decomposition

Prime factor decomposition of a number means writing it as a product of prime factors.

Example

Find the prime factor decomposition of 36.

We look at 36 and try to find numbers which we divide it by. We can see that it divides by 2.

36 = 18 x2

2 is a prime number, but 18 isn't. So we need to split 18 up into prime numbers. We can also divide by 2.

18 = 9 x 2

Ans so 36 = 18 x 2 = 9 x 2 x 2

But we haven't finished, because 9 is not a prime number. We know that 9 divides by 3.

9 = 3 x 3

Hence 36 = 9 x 2 x 2 = **3 x 3 x 2 x 2. This is the answer because both 2 and 3 are prime numbers.**

HCF of 48 and 120

48 = 2 x 2 x 2 x 2 x 3

20 = 2 x 2 x 3 x 3 x 5 **2 x 2 x 3 = 12**

LCM of 6 and 45

6 = 2 x 3

45 = 3 x 3 x 5 **2 x 3 x 3 x 5 = 90**

F How to use your calculator for....

Squares, cubes, square roots and cube roots!

To calculate 5^2 press....

5 x^2 =

To calculate 4^3 press....

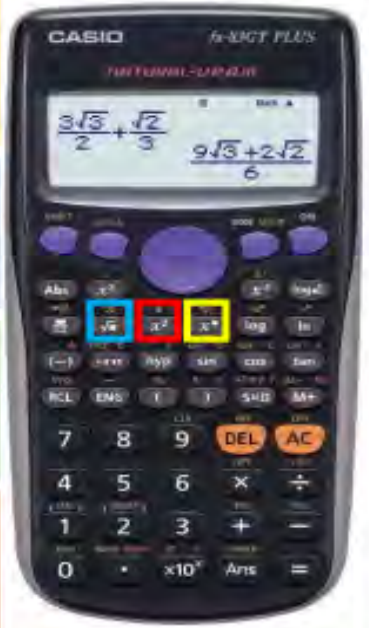
4 $x^{\blacksquare}$ 3 =

To calculate $\sqrt{9}$ press....

$\sqrt{\blacksquare}$ 9 =

To calculate $\sqrt[3]{8}$ press....

Ans $\sqrt[3]{\blacksquare}$ 8 =



To calculate $\sqrt{5^2 + 7^2}$ press.....

$\sqrt{\blacksquare}$ (5 x^2 + 7 x^2) =

Calculating

A

Key words

Addition: Plus, sum, total, add, and more.

Subtraction: Take away, minus, subtract and reduce.

Minuend: A number from which another is subtracted.

Subtrahend: The number subtracted from another

Key Words

Operation: A mathematical process. The most common are add, subtract, multiply and divide (+, -, x, ÷). But there are many more, such as squaring, square root, etc.

Indices (Index): The index of a number says how many times to use the number in a multiplication. It is also referred to as a exponent or power.

B

Key Concept: Column methods for addition and subtraction

Addition: 145 + 28

$$\begin{array}{r} 145 \\ +\ 28 \\ \hline 3 \end{array} \qquad \begin{array}{r} 145 \\ +\ 28 \\ \hline 73 \end{array} \qquad \begin{array}{r} 145 \\ +\ 28 \\ \hline 173 \end{array}$$

So $145 + 28 = \underline{173}$.

Subtraction: 364 - 128

$$\begin{array}{r} 3\overset{5}{\cancel{6}}\overset{1}{4} \\ -\ 128 \\ \hline 6 \end{array} \qquad \begin{array}{r} 3\overset{5}{\cancel{6}}\overset{1}{4} \\ -\ 128 \\ \hline 36 \end{array} \qquad \begin{array}{r} 3\overset{5}{\cancel{6}}\overset{1}{4} \\ -\ 128 \\ \hline 236 \end{array}$$

So $364 - 128 = \underline{236}$.

Subtracting decimals

8.5 – 3.07

$$\begin{array}{r} 8.\overset{4}{\cancel{5}}\overset{1}{0} \\ -\ 3.07 \\ \hline .\ 3 \end{array} \qquad \begin{array}{r} 8.\overset{4}{\cancel{5}}\overset{1}{0} \\ -\ 3.07 \\ \hline .43 \end{array} \qquad \begin{array}{r} 8.\overset{4}{\cancel{5}}\overset{1}{0} \\ -\ 3.07 \\ \hline 5.43 \end{array}$$

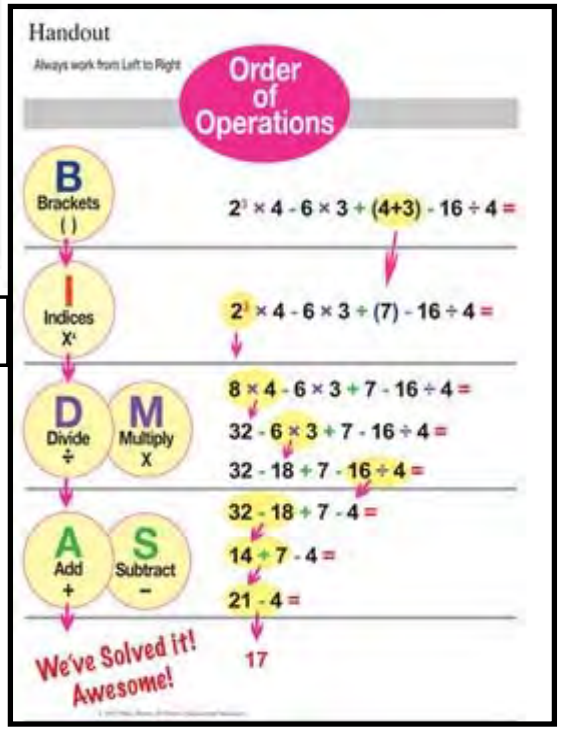
So $8.5 - 3.07 = \underline{5.43}$

C

Symbols

( ), [ ], { },	Brackets
x^4	Indices
x, ÷	Multiplication, Division
+, -	Addition. Subtraction

D



Calculating

Key Words

E

Multiply: Times, product, of

Division: Share, quotient

Multiplying decimals

F

2.3 x 4.7

Multiply both numbers by 10 to give 23 x 47 which is easier to calculate.

23 x 47 = 1081

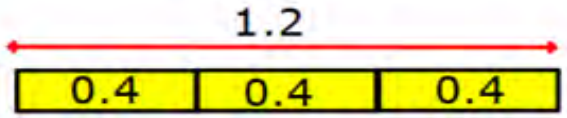
Now divide by 100 to give the answer of 10.81

So 2.3 x 4.7 = 10.81

Dividing decimals

G

1.2 ÷ 0.4 = 3



Make the divisor a whole number. How ever many places it has moved, do the same to the number you are dividing

Key Concept: Column methods for multiplication

H

1. Write one number above the other, making sure the columns line up.
2. Multiply each digit of 254 by 6, working from right to left. If the answer is 10 or more, carry the ten's digit. This is 254 × 6.
3. Now put a 0 in the right-hand column, and multiply each digit of 254 by 2, carrying digits where necessary. This is 254 × 20.
4. Add the two rows to find the final answer.

$$\begin{array}{r} 254 \\ \times\ 26 \\ \hline 4 \end{array} \qquad \begin{array}{r} 254 \\ \times\ 26 \\ \hline 24 \end{array} \qquad \begin{array}{r} 254 \\ \times\ 26 \\ \hline 1524 \end{array}$$

$$\begin{array}{r} 254 \\ \times\ 26 \\ \hline 1524 \\ 0 \end{array} \qquad \begin{array}{r} 254 \\ \times\ 26 \\ \hline 1524 \\ 80 \end{array} \qquad \begin{array}{r} 254 \\ \times\ 26 \\ \hline 1524 \\ 080 \end{array} \qquad \begin{array}{r} 254 \\ \times\ 26 \\ \hline 1524 \\ 5080 \end{array}$$

$$\begin{array}{r} 154 \\ \times\ 26 \\ \hline 1524 \\ 5080 \\ \hline 6604 \end{array}$$

So 254 × 26 = **6604**.

Key Concept: Division

I

Work out 3144 ÷ 8.

Using short division:

1. 8 doesn't go into 3, so look at the first two digits.
2. 8 goes into 31 three times, with remainder 7.
3. 8 goes into 74 nine times, with remainder 2.
4. 8 goes into 24 three times exactly.

$$8\overline{)3144} \qquad 8\overline{)3144} \qquad 8\overline{)3144} \qquad 8\overline{)3144}$$

So 3144 ÷ 8 = **393**.

West Walsall E-Act Academy

Rounding and Estimating

A ROUND DOWN 0,1,2,3,4, Rules of rounding 5,6,7,8,9, ROUND UP

B Key words

Accuracy: The extent to which a given measurement agrees with the standard value for that measurement.

Estimation (Approximation):

Using rounding to find a value close to the actual answer

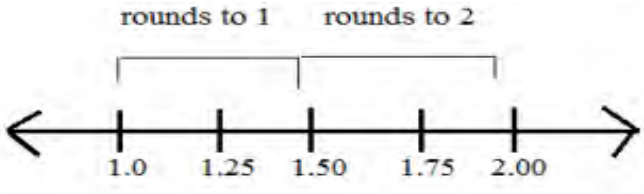
Significant figures: The value of the number with the highest place value.

C Key Concept:

Rounding to nearest whole numbers

Place the number you are rounding on a decimal number line.

Which whole number is it closer to



D Key Concept: Estimation

Round each number to make an easy calculation to do mentally

231 x 8.9

200 x 9 = 1800

So the actual answer is approximately 1800

E Key Concept: Rounding to units, tens, hundreds and thousands

Round 5468.9

to the nearest whole number = 5469

to the nearest ten = 5470

to the nearest hundred = 5500

to the nearest thousand = 5000

F Key Concept: Rounding to decimal places

a. 1.615 ≈1.62 (when rounded off to the hundredths place, it is rounded up because it is closer to 1.62 than to 1.61)

b. 1.613 ≈ 1.61 (when rounded off to the hundredths place, it is rounded down because it is closer to 1.61 than 1.62

c. 1.618 ≈ 1.62 (when rounded off to the hundredths place, it is rounded up because it is closer to 1.62 than 1.61

Rounding and Estimating

E Estimating:

When estimating you are not **guessing** you are making the numbers 'easier' for you to work out the sum. To estimate a sum, you need to

1. Round each number to **1s.f.**
2. Then calculate the sum using the **hierarchy of operations.**

Example 1:

Estimate $\frac{29.91 \times 38.3}{3.1 \times 3.9}$

- Round to 1s.f.

$$\frac{30 \times 40}{3 \times 4} = \frac{1200}{12} = 100.$$

Example 2:

Estimate $\frac{23.43 \times 4.3}{0.483}$

- Round to 1s.f.

$$\frac{20 \times 4}{0.5} = \frac{80}{0.5} = 160$$

F Special case:

Round 23.999 to 2d.p. = 24.00

As the 3rd 9 rounds up the 2nd 9 rounds up the 1st 9 due to the 9 turning into a '10' and insert zeros.

G Estimating square roots

1. Find two consecutive square numbers either side.

E.g. √48 **The two consecutive square numbers are 36 and 49.**

2. Find the **square roots** of these two numbers: √36 = 6 and √49 = 7.

Therefore the estimate of √48 would be between 6 & 7.

This can then lead onto estimating the value, as 48 is close to 49, I would estimate that √48 = 6.9

Counting & Comparing

A Key Words

Place value: The value given to a digit by its place in a number.
Digit: Single numbers, 0-9, used to write a whole number.
Integers: Whole numbers.
Decimals: Show parts of a whole number.

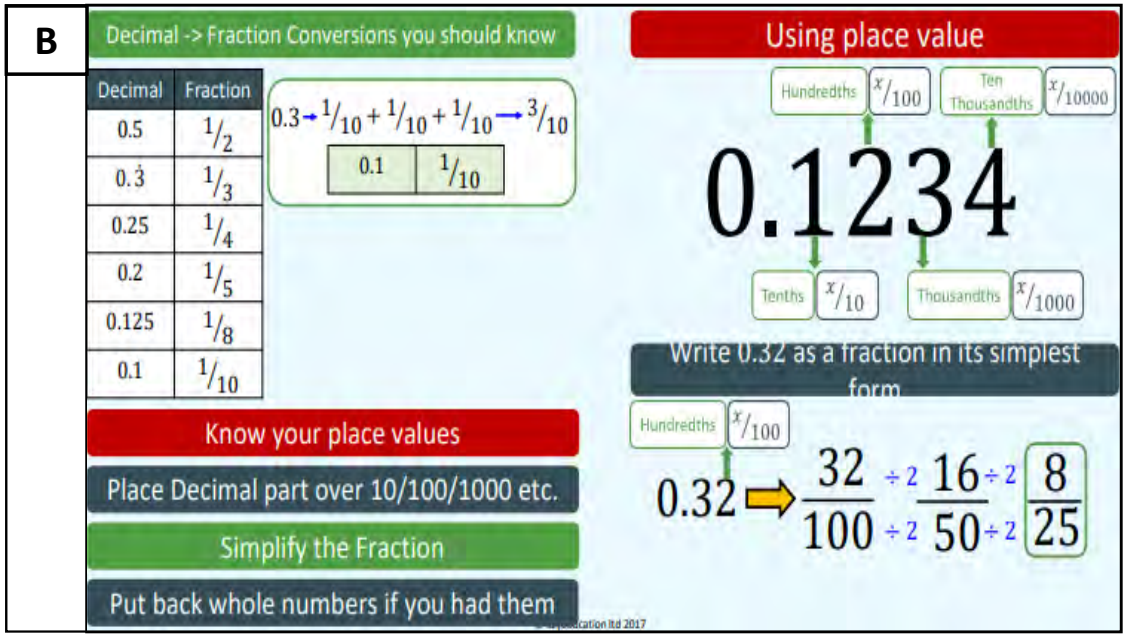
Key Concept: Place Value Table

Hundred Millions	Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Units/Ones	Decimal (.)	Tenths	Hundredths	Thousandths	Ten Thousandths
						3	2	5					
				1	5	6	3	7	.	0	4	2	

Key Concept: Odd and Even Numbers

Odd numbers end in 1, 3, 5, 7 or 9 Even numbers end in 0, 2, 4, 6, 8

B



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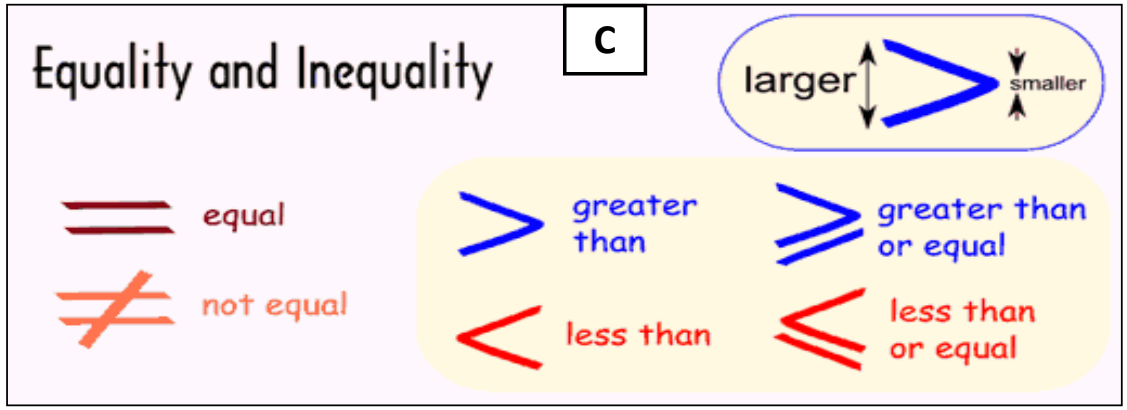


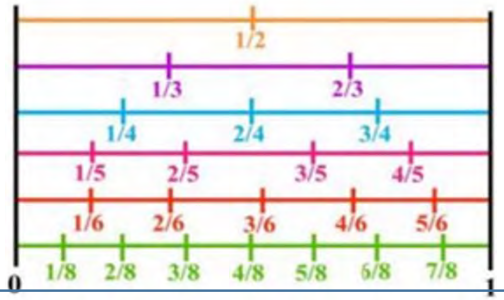
Counting & Comparing

D Key words

Denominator: Shows how many equal part
s the item is divided into, it is on the bottom of the fraction.
Numerator: Shows how many equal parts we are working with, it is on top of the fraction.
Equivalent fractions: Are fractions that are equal in value.
Ascending: Numbers are said to be in ascending order when they are arranged from the smallest to the largest number.
Descending: Numbers are said to be in descending order when they are arranged from the largest to the smallest number.
Improper fraction: A fraction where the numerator is larger than the denominator.
Mixed number: A whole number combined with a fraction.

E Key Concept: Fractions on a number line.

If the numerator is the same, as the denominator increases the value of the fraction decreases.



F Key Concept: Ordering Fractions

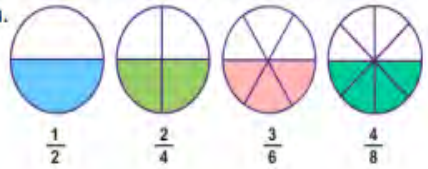
Put the following fractions in ascending order:

$\frac{2}{3}, \frac{5}{6}, \frac{3}{4}, \frac{7}{9}$

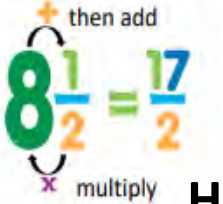
Find the lowest common multiple of the denominators, which is **36** for these fractions.
Write equivalent fractions all with denominator of 36 then put them in ascending order.

G Key Concept: Equivalent fractions

To find an equivalent fraction the numerator and denominator have to be **multiplied** or **divided** by the same number. Adding and subtracting the same number does not work as it does not remain in proportion.



H Key Concept: Mixed number to improper fraction

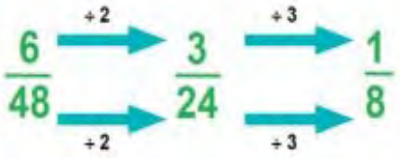


I Key Concept: Improper fraction to mixed number

Divide the numerator y the denominator. The whole number is your whole number in the mixed number and the remainder becomes the numerator of the fraction.

J Key Concept: Simplifying fractions

To simplify a fraction find the highest common factor of the numerator and denominator and divide them both by that number.



Calculations with Decimals

A

To add decimals, follow these steps:

1. Write down the numbers, one under the ot
2. Put in zeros so the numbers have the same leng
3. Then add using column addition, remembering to put the decimal point in the answer.

Example: Add 1.452 to 1.3

Line the decimals up:	"Pad" with zeros:
1.452	1.452
+ 1.3	+ 1.300

B **Subtracting Decimals**

To subtract decimal numbers:

1. Put the numbers in a vertical column aligning the decimal points.
2. Subtract each column, starting on the right and working left. ...
3. Place the decimal point in the answer directly below the decimal points in the terms.
4. Check the answer by adding.

Example: What is 7.368 – 1.15 ?

Line the decimals up:	"Pad" with zeros:
7.368	7.368
– 1.15	– 1.150

C **Multiplying Decimals**

- Multiply normally as you would with integers using column multiplication , ignoring the decimal points.
- Then, put the decimal point in the answer: count up how many numbers are after the decimal point in *both* numbers, then the answer should have that many numbers after *its* decimal point.

2.34 ← 2 decimal places
× 1.6 ← + 1 decimal place
1404
234
3.744 ← 3 decimal places

.43
× .06
.258
4 3 2 1

0.275 × 0.54 = 0.14850
275
× 54
1100
13750
14850

D **Dividing by Decimals**

- The trick is to change the number we are dividing by to a whole number first, by shifting the decimal point of both numbers to the right:

7.5 ÷ 0.25 → 750 ÷ 25

30
25) 750

Now we are **dividing by a whole number**, and can continue as normal using bus-stop method . It is safe to do this if we remember to shift the decimal point of **both numbers** the same number of places.

Example

6 ÷ 0.3 → 60 ÷ 3 = 20

Example

0.546 ÷ 0.07 → 54.6 ÷ 7 = 9.8

09.8
7) 54.6

E

Linked Prior Topics
Place value, column addition / subtraction of integers, column multiplication of integers, bus-stop division of integers

Vocabulary
calculate, addition, subtraction, multiplication, division, decimal, integer

Linked Future Topics
Estimating using calculations, bounds

Equivalent Fractions, Decimals and percentages

A

Percentages to fractions and decimals

27%

We know that percent mean out of 100.

so... $27\% = \frac{27}{100}$

(make sure that your fraction is written in it's simplest form)

To convert from percentage to decimal – divide by 100 and remove the % sign

so... $27\% = 0.27$

B

Fractions to decimals and percentages

To convert a fraction to a decimal, divide the numerator by the denominator.

E.g. $\frac{7}{20}$ is 7÷20 = 0.35

Tip: Use bus-stop method division, with 7 in the bus-stop and 20 outside.

To convert a fraction to a percentage: Use the decimal and times it by 100 and insert the % sign.

e.g. 0.35 × 100 = 35%

C

Decimals to fractions and percentages

To convert a decimal to a percentage: Multiply it by 100 and insert the % sign.

e.g. 0.35 × 100 = 35%

When converting a terminating decimal to fraction, the denominator will be 10, or 100, or 1000 or... (depending on the number of decimal places). The numerator will be the number itself. Then simplify.

So, $0.5 = {}^{5}/_{10} = {}^{1}/_{2}$; $0.4545 = {}^{45}/_{100} = {}^{9}/_{20}$; 0.240 means '240 = ${}^{240}/_{1000} = {}^{6}/_{25}$

D

Fraction	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{4}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{1}{100}$	$\frac{2}{5}$	$\frac{1}{3}$	$\frac{2}{3}$
Decimal	0.5	0.25	0.75	0.1	0.2	0.01	0.4	0.333...	0.666...
Percentage	50%	25%	75%	10%	20%	1%	40%	33.333...%	66.666...%

These are the common fractions decimals and percentages that you need to learn.

Linked Prior Topics

Place value, Equivalent fractions, Multiplication facts, Division facts

E

Vocabulary

Fraction, decimal, percentage, tenths, hundredths, thousandths, recurring; terminating

Linked Future Topics

Comparing fractions, decimals and percentages

Visualising and Constructing

C

Key Words

Symmetry: When one shape becomes exactly like another if you flip, slide or turn it.

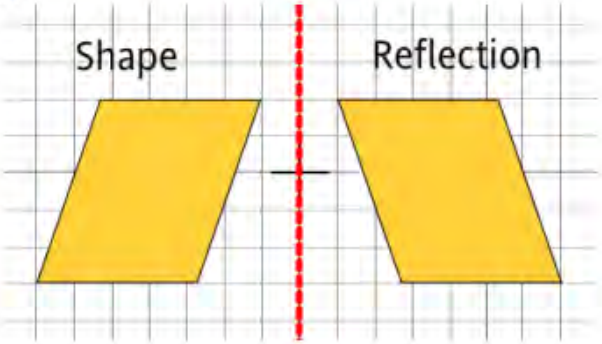
Reflection: An image or shape as it would be seen in a mirror.

Rotate: Turn.

Key Concept: Reflection in a mirror line

When an object is reflected in a line, its size, shape and distance from the line all stay the same.

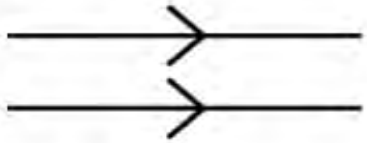
E



G

Parallel lines

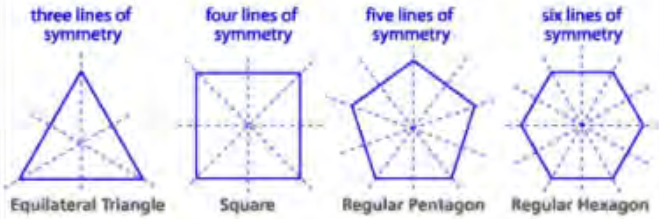
Two or more lines that never meet.
Arrows indicate the lines are parallel.



D

Lines of Symmetry

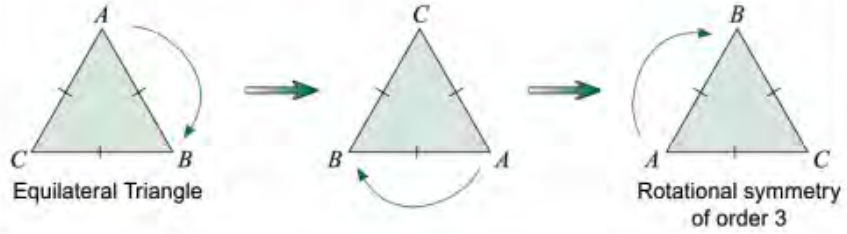
The line of symmetry on a shape is a mirror line, you can fold the shape so that both halves match up exactly. Each side of the line of symmetry is a reflection of the other.



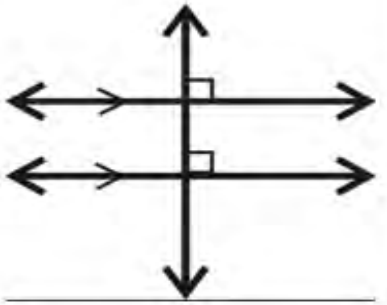
Key Concept: Order of rotational symmetry

The order of rotational symmetry of a shape is the number of positions you can rotate (turn) the shape into so that it looks exactly the same.

F



Perpendicular lines

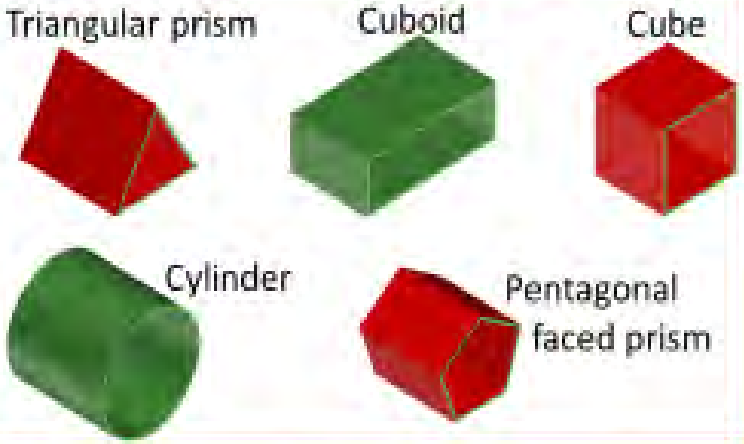


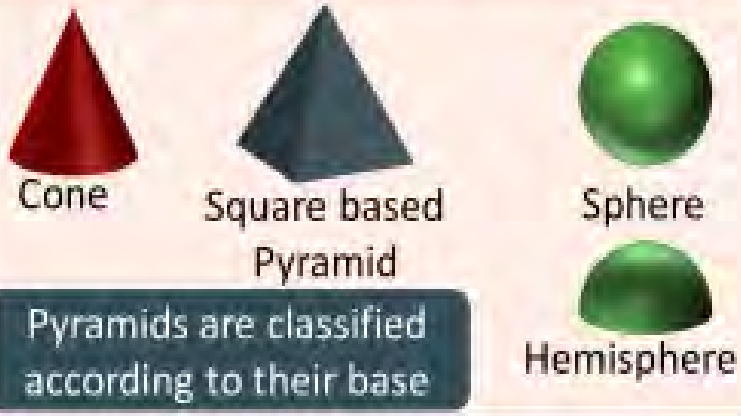
Investigating Properties of Shapes

A

Prisms

The same cross sectional area throughout





Pyramids are classified according to their base

B

Faces, Edges and Vertices

Faces	The flat surface of a 3-D shape
Edges	Where two Faces meet
Vertices	Where two or more edges meet at a point

Faces + Vertices – Edges = 2

Shape	Faces	Edges	Vertices
Cube	6	12	8
Cuboid	6	12	8
Triangular Prism	5	9	6
Pentagonal Prism	7	15	10
Square based Pyramid	5	8	5
Cone	2	1	1
Cylinder	3	2	0
Sphere	1	0	0

Investigating Properties of Shapes

Key Concept: Triangles

C

Equilateral		• 3 equal sides and angles • 3 lines of symmetry • Rotational symmetry order 3
Isosceles		• 2 equal sides and angles • 1 lines of symmetry • Rotational symmetry order 1
Scalene		• No equal sides or angles • No lines of symmetry • Rotational symmetry order 1
Right-angled		• 1 right angle • Can be scalene of isosceles

Key Concept: Quadrilateral

Square		4 equal sides and 4 right angles 2 pairs of parallel sides Diagonals cross at right angles 4 lines of symmetry Rotational symmetry order 4
Rectangle		2 pairs of equal sides and parallel sides 4 right angles 2 lines of symmetry Rotational symmetry order 2

Circumference

The perimeter **around** the circle

Diameter

The distance **across the centre** of the circle

Radius

The distance from the **centre to the edge** of the circle

Sector

Part of the area of a circle, enclosed by two radii

Arc

Part of the circumference of a circle

Tangent

A straight line that touches the curve of the circle at a point

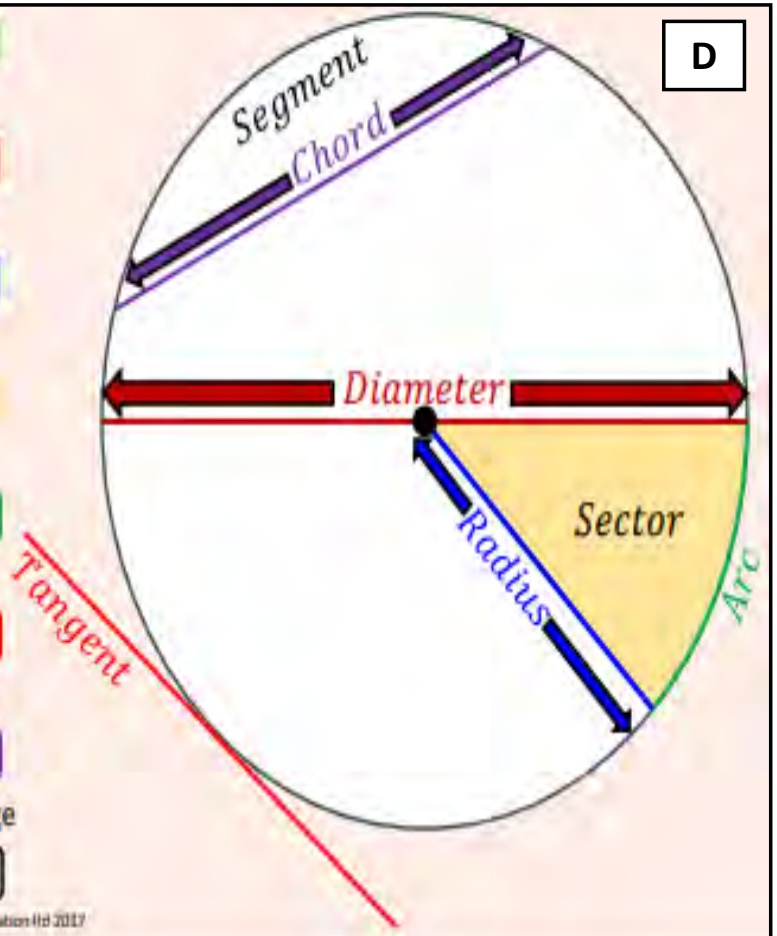
Chord

A straight line segment between two points on the circle edge

Segment

The area created by the chord

D



Algebraic proficiency:Tinkering

Key Words

A

Variable: A numerical value that can change and is represented by a letter.

Terms: A single part of an expression or equation separated by a "+" or "-".

Equation: An equation says that two things are equal. It will have an equals sign "=".

Expression: A group of numbers, variables and operators (+, −,÷,×) grouped together that show the value of something.

Inequality: Shows the relationship between two expressions that are not equal. It will have one of the following signs (<, ≤, >, ≥).

Coefficient : A number used to multiply a variable.

Key Concept: Letters as unknowns

B

A letter is used to represent an unknown quantity. For example 'm' is used to represent the number of sweets in the packet of Maltesers, where every packet has the same number of sweets.

The number in a packet of Maltesers can be written as 'm'.

The number in 3 packets of Maltesers can be written as '3m'.

Key Concept: Algebraic notation

C

A letter and a number next to each other means multiply

4a = 4 x a

The number will be in front of the letter

m + m + m = 3m

Two or more letters next to each other means multiply

abc = a x b x c

Where terms are multiplied together they are written as a power

y x y x y = y^3

Simplifying Expressions

S + 4 + 2s + 12

= 3s + 16

D

Algebraic proficiency:Tinkering

Key Words

E

Expand: The operation of multiplying terms outside the bracket with those inside the bracket.

Factorise: The operation of dividing an expression by a common factor and rewriting the expression using brackets.

Simplify: To use the rules of arithmetic and algebra to rewrite an expression as simply as possible.

Term: A single part of an expression or equation separated by a "+" or "-".

Key Concept: Expanding brackets

There is no operation symbol between the bracket and the term in front, this means you need to multiply the term outside the brackets by every term inside the brackets.

3(s + 4)

3(s + 4) = 3s + 12

F

Key Concept: Factorising

G

Factorising is the reverse of expanding brackets. i.e. put in brackets.
To factorise, rewrite the expression as factors multiplied together, to do this identify the highest common factor of all terms.

8b + 12

Both terms have a number, 8 and 12.

8 and 12 both have a factor of 4 so

4( )

4 x 2b = 8b and 4 x 3 = 12

8b+12 = 4(2b + 3)

Exploring Fractions, Decimals and Percentages

F

Key Words

Percentage: A measure of proportion that shows how many parts per hundred there are.

Quantity: An amount or number.

G

Key Concept: Calculating a percentage of amount without a calculator

You can find percentages without a calculator, using the following rules:

$50\% = \frac{1}{2}$, so find 50% of something by **dividing by 2**

$25\% = \frac{1}{4}$, so find 25% of something by **dividing by 4**

$10\% = \frac{1}{10}$, so find 10% of something by **dividing by 10**

$1\% = \frac{1}{100}$, so find 1% of something by **dividing by 100**

H

Key Concept: Calculating a percentage with a calculator

To find a percentage of an amount, first divide the percentage by 100% to change the percentage into a decimal. Then multiply the amount by the decimal.

Example: Find 67% of 138

$$67\% \div 100\% = 0.67$$
$$0.67 \times 138 = 92.46$$

Visualising and Constructing

A

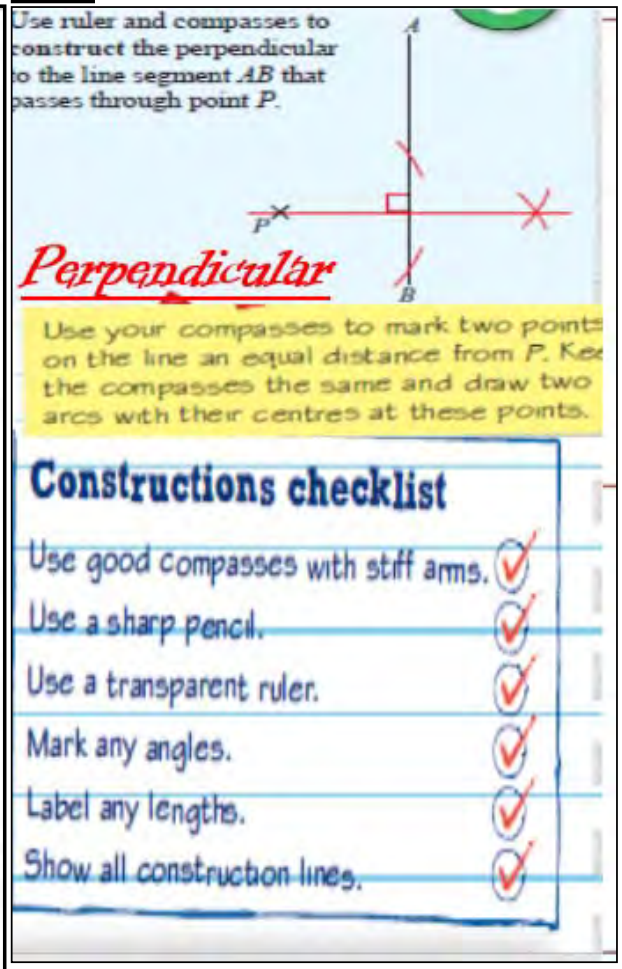
Key Concept: Quadrilateral

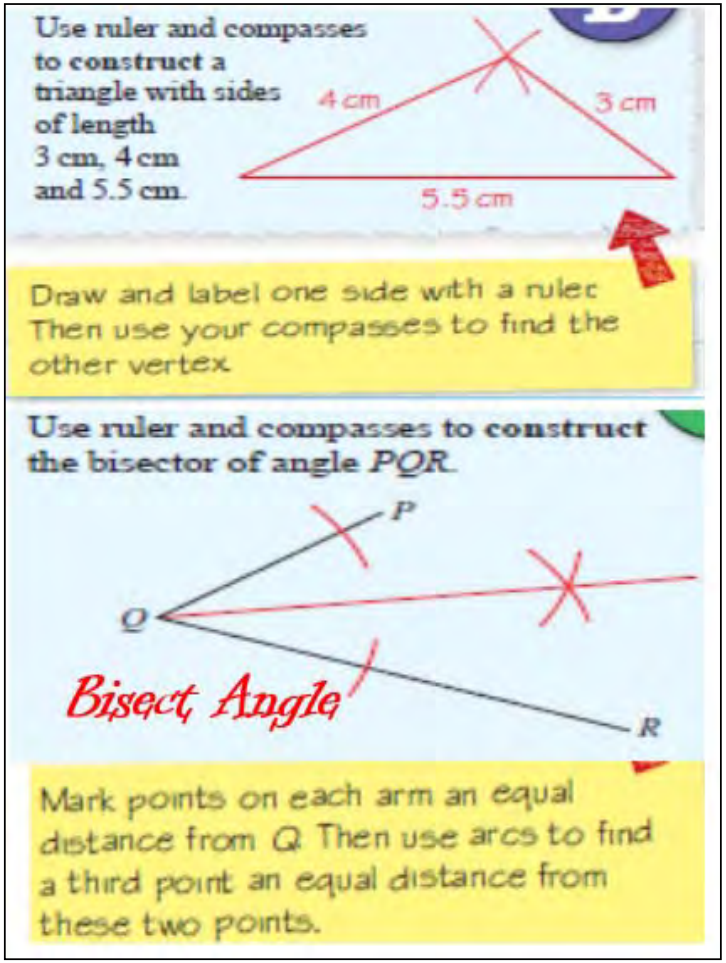
Rhombus		4 equal sides 2 pairs of parallel sides and equal angles Diagonals cross at right angles 2 lines of symmetry Rotational symmetry order 2
Parallelogram		2 pairs of equal sides , parallel sides and angles No lines of symmetry Rotational symmetry order 2
Kite		2 pairs of equal sides and parallel sides 1 pair of equal angles Diagonals cross at right angles 1 line of symmetry Rotational symmetry order 1
Trapezium		1 Pair of parallel sides
Isosceles Trapezium		1 Pair of parallel sides and equal sides 2 pairs of equal angles 1 line of symmetry Rotational symmetry order 1

Key Words

Quadrilateral : is a closed shape (polygon) with four edges (sides) and four vertices (corners) .

B





Algebra Basics 1

Content

A

- A **variable** or an **unknown** is a letter used to represent a number, these can take any values.
- An **expression** is made up numbers and/or letters representing unknown values where there is no equals symbol. For example, $4a + 6$ or $a + b$.
- **Terms** are the separate parts of expressions. For example, in $5x + 3y - 4$, there are three terms $5x$, $+3y$ and -4
- **Coefficients** are the numbers in front of the variable, for example in $6x$ the coefficient is 6 and in $-7y^2$ it is -7.

To **simplify** an expression, you collect together all the terms that are alike. Remember, each term comes with the sign in front of it.

B

Examples:
Simplify the following

1) $x + x + x + x + x = 5x$

2) $5e - 2e + e = 4e$

3) $4x + 2y - x + 5y + 6 = 3x + 7y + 6$

4) $3x^2 + 5x + 2x^2 - 4x = 5x^2 + x$

5) $5 \times 4g = 20g$

6) $3b \times 4c = 12bc$

Linked Prior Topics
Times tables, addition and subtraction

C

Vocabulary
Variable, unknown, expression, term, coefficient, simplify

D

Linked Future Topics
Substitution, solving equations and formulae

E

Algebra Basics 2

Content

- An **equation** contains an 'equals' sign and at least one variable. A value can be found for the variable and this is known as solving the equation.
- A **formula** is a special type of equation which is a rule for working things out such as area.
- For example the formula for the area of a rectangle is A = l x w

where A = area, l = length and w = width

- An **identity** looks like a formula but it is true for all values.

for example $a + b \equiv b + a$

or $(x + 1)^2 \equiv x^2 + 2x + 1$

A

Substitution is where you replace a letter with a number in a formula or expression, to calculate a value.

Examples:

1) Find the value of 5c when c = 4

5 x c

5 x 4 = 20

2) Evaluate $3a^2$ when a = 5

3×5^2

3 x 25 = 75

3) The velocity of a car is given by **v = u + at**, find value of v when u=10, a= -2 and t=4

v = u + a x t

v = 10 + -2 x 4

v = 10 - 8

v = 2

B

Linked Prior Topics

C

Bidmas

Vocabulary

D

Equation, formula, identity and substitution

Linked Future Topics

E

Solving and forming equations, rearranging formula

Expanding and Factorising

Content

To **expand** a **single** bracket, the term on the outside of the bracket needs to be multiplied by each term on the inside of the bracket.

Examples:

1) Expand $2(3m + 5)$
$= 6m + 10$

2) Expand $4r(2r - 3)$
$= 8r^2 - 12r$

3) Expand and simplify $2(4m + 3) + 3(5m + 2)$
$= 8m + 6 + 15m + 6$
$= 23m + 12$

4) Expand and simplify $3(5m + 4) - 2(m + 3)$
$= 15m + 12 - 2m - 6$
$= 13m + 6$

A

Factorising is the opposite of expanding brackets. To factorise, find common factors to take outside the bracket – these may be numbers, letters or both.

Examples:

1) Factorise $10x + 15$
- Take the highest common factor outside the brackets, here it would be 5.
- Then complete the brackets by asking what does 5 need to be multiplied by to get each term in the original expression.
- The factorised expression is $5(2x + 3)$.

2) Factorise $6x^2 - 9x$
- Take the highest common factor outside the brackets, here it would be 3, and any letters that the terms have in common, here it would be x.
- Then complete the brackets by asking what does 3x need to be multiplied by to get each term in the original expression.
- The factorised expression is $3x(2x - 3)$.

B

C Linked Prior Topics

Multiplication, highest common factors

D Vocabulary

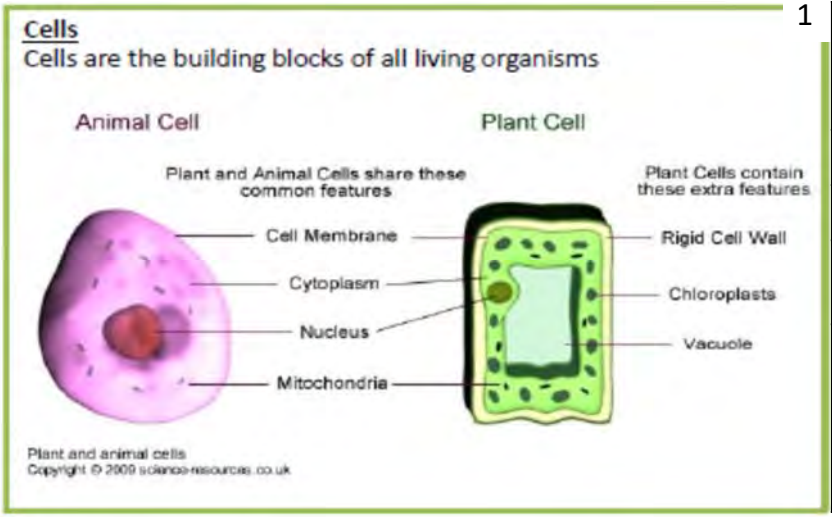
Expanding, factorising, simplify, expression, term, factor

E Linked Future Topics

Expanding double brackets, factorising and solving quadratic equations

Y7 – Cells

1



2

Unicellular organisms	Multicellular organisms
Simple	Complex
Small	Large
One type of cell	Lots of different types of cells
Relies on diffusion to exchange substances	Has organ systems to allow for the exchange of substances with the environment

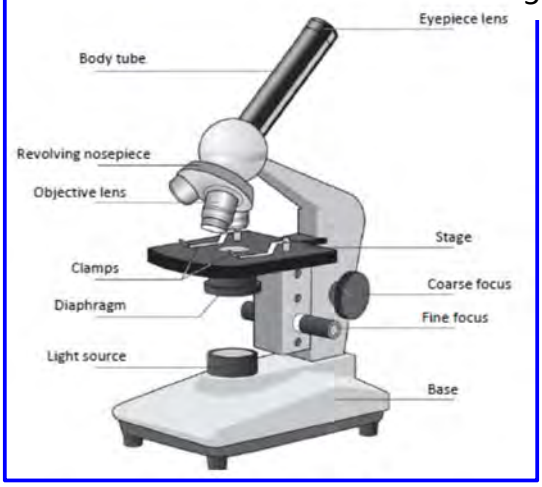
3

Part of cell	Function
Cell wall	Made of cellulose and it supports the cell
Cell membrane	Controls the movement of substances into and out of the cell
Cytoplasm	Jelly-like substance, where chemical reactions take place
Nucleus	Contains genetic information and controls what happens inside the cell
Vacuole	Contains a liquid called cell sap, which keeps the cell firm
Mitochondria	Where respiration takes place
Chloroplast	Where photosynthesis happens

4

Microscope part	Role
Eye piece	That part that you look through
Objective lens	Magnifies the sample
Stage	Provides a solid platform to hold specimen
Focusing knob	Turns so the sample can be focused
Light	Provides light to see the sample clearly

5



6

Cells to Organ Systems

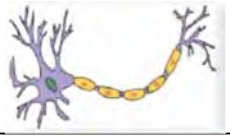
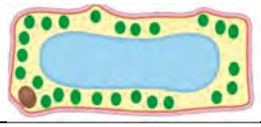
Cells → tissue → organ → organ system

Cell	Simplest unit of an organism
Tissue	A group of similar cells working together to perform a role
Organ	A group of similar tissues working together to perform a job
Organ system	A group of different organs that work together to do a particular job
Organism	A living thing that performs the seven life processes

7

Preparing an onion slide

Cut out a small piece of onion. Peel off the inner surface (membrane). Put the piece of membrane flat on a slide and add two drops of iodine solution. Gently lower the cover slip onto the slide using the forceps. Place the slide onto the microscope. Focus using focusing knobs and draw **three** or **four** cells in your book and label.

Type of Cell	Function	Special Features
Red blood cells 	To carry oxygen around the body	Large surface area for oxygen to pass through. Contains haemoglobin which joins with the oxygen. Contains no nucleus so there is more space.
Nerve cells 	To carry nerve impulses to different parts of the body	Long with connections at each end. Can carry electrical signals.
Sperm cell 	To reach the female egg cell and join with it	Long tail for swimming. Head for getting into the female egg cell.
Root hair cell 	To absorb water and minerals from the soil	Large surface area so it can absorb more.
Leaf cell 	To absorb sunlight for photosynthesis	Large surface area to absorb more energy from the Sun. Lots of chloroplasts.

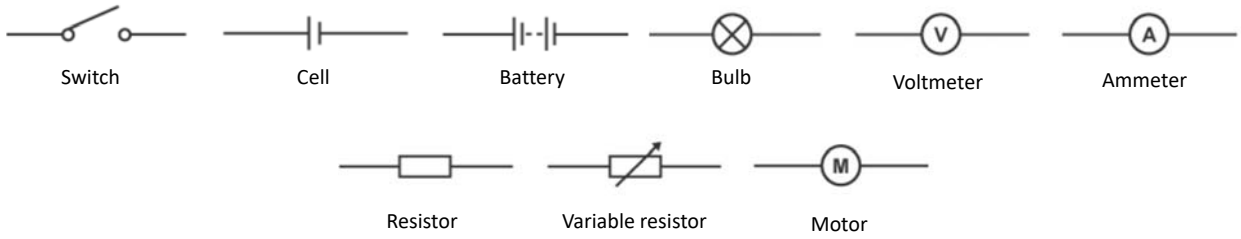
Key word	Definition
cell	The smallest functional unit of a living organism. It contains parts to carry out life processes.
cell membrane	The cell component that surrounds the cell and controls movement of substances in and out.
cell wall	The cell component that surrounds the cell and strengthens it. In plant cells it is made of cellulose.
chloroplast	The plant cell component that absorbs light so the plant can make food by photosynthesis.
cytoplasm	Jelly-like substance (found in cells) where most chemical processes happen.
leaf cell	The plant cells that contain chloroplasts, where photosynthesis takes place.
microscope	An optical instrument used to magnify objects, so small details can be seen clearly.
mitochondria	Part of the cell where food molecules are broken down during the process of respiration, enabling energy transfer.
multi-cellular (organism)	Living things made up of many types of cell.
nerve cell	An animal cell that transmits electrical impulses around the body.
nucleus	The cell component that contains genetic material (DNA), which controls the cell's activities.
red blood cell	An animal cell that transports oxygen around the body.
root hair cell	A plant cell that takes in water and minerals from the soil.
specialised cell	A cell whose shape and structure enable it to perform a particular function.
sperm cell	A cell containing male genetic material.
structural adaptations (of cells)	Special features to help a cell carry out its functions.
uni-cellular (organism)	Living things made up of one cell.
vacuole	The cell component that contains liquid, and can be used by plants to keep the cell rigid and store substances.

Y7 – Current

1

Circuit symbols

When drawing an electric circuit, we use different symbols to represent different components, the symbols you need to memorise are:



2

Current

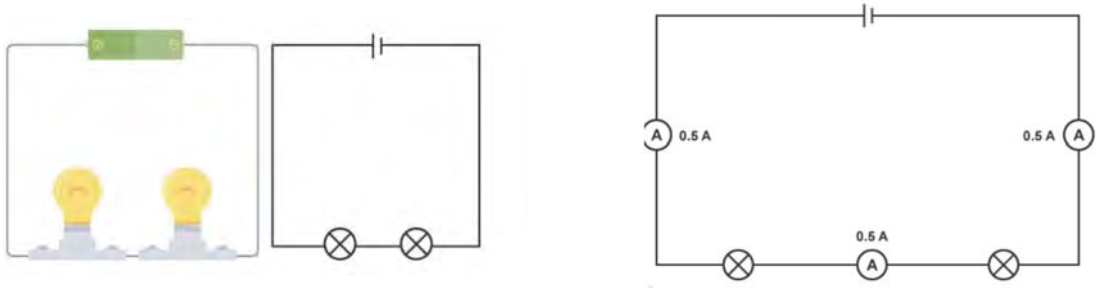
Electric current is how **many electrons are flowing in one second measured in amps (A).** For electric current to flow, you require a complete circuit.

Y7 – Current

3

Series circuits

If either of the lamps were to break the circuit would not be complete and the light bulb would go out. The current is always the same at any point in a series circuit.

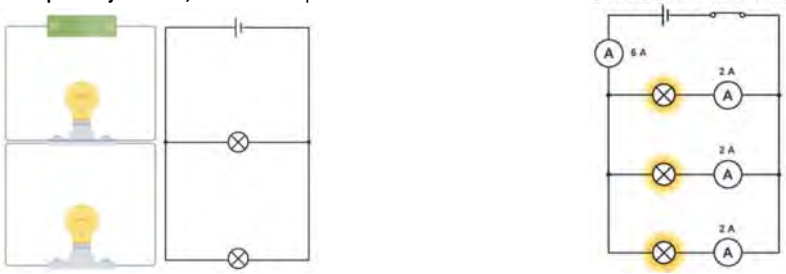


4

Parallel circuits

In a parallel circuit components are in more than one loop. Lights in a house are connected in parallel, when one light bulb breaks the whole circuit is not broken so the other light bulb will stay alight.

In a parallel circuit the current **splits at junctions,** see the example. The current on the different branches of the circuit must add up to the total current.



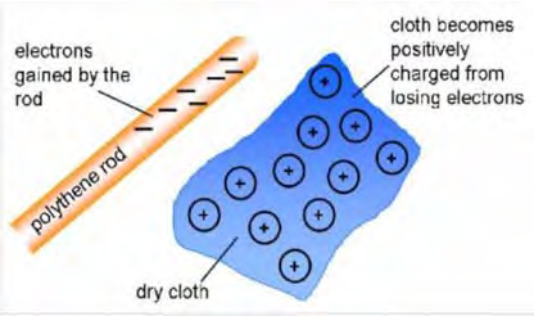
Y7 – Current

5

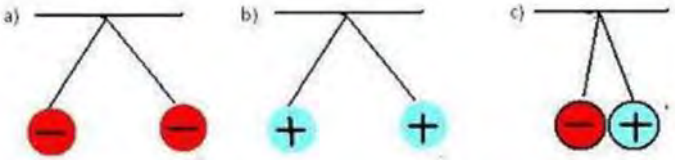
Charging up

Some particles are electrically charged e.g. electrons, these can therefore carry an **electric charge**. There are two types of electricity:
1.Static Electricity
2.Current Electricity

In static electricity, when **two insulators are rubbed together,** electrons are transferred, causing an electric charge to build up.



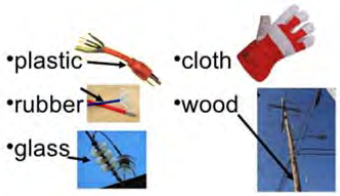
When this happens one object has a positive charge and one will have a negative charge, **like charges repel and opposite charges attract.**



6

Conductors and insulators

Insulators do not allow current to flow through them.



Conductors allow an electric current to flow through them.

Y7 – Current

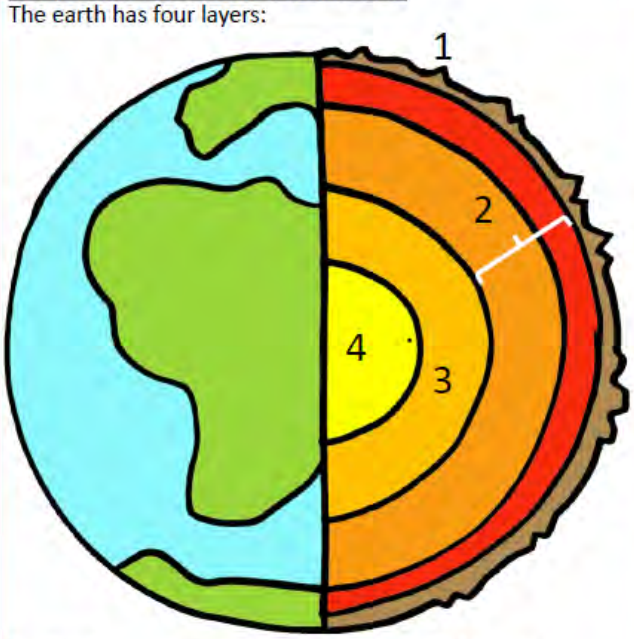
Key word	Definition
Current	Flow of electric charge, usually electrons, in amperes (A).
Ammeter	A device for measuring electric current in a circuit.
Electric charge	A positive or negative charge.
Attract	Be pulled together, for example, opposite poles of a magnet attract and positive and negative charges attract.
Repel	Be pushed away from each other, for example, like magnetic poles repel and like electric charges repel.
Electrostatic force	Non-contact forces between two charged objects.
Atoms	Everything is made from atoms.
Electron	Tiny particles that are part of atoms and carry a negative charge.
Neutral	Describes an object or particle that has no charge, or in which positive and negative charges cancel out, giving no overall charge.
Charged up	When materials are rubbed together, electrons move from one surface to another.
Negatively charged	An object that has gained electrons as a result of the charging process.
Positively charged	An object that has lost electrons as a result of the charging process.
Electric field	A region where a charge material or particle experiences a force.

Y7 – Earth Structure

1

Composition and Structure of the Earth

The earth has four layers:



1 – Crust
2 – Mantle
3 – Outer core
4 – Inner core

2

Resources and recycling

- The Earth's crust provides us with resources such as glass, plastic, paper and aluminium
- However, these resources are finite (they are not unlimited), which is why we recycle them

3

Resource	Made from	Recyclable?
Glass	Sand	Yes, but needs sorting
Plastic	Oil	Yes but needs sorting
Paper	Wood	Yes, but only a few times
Aluminium	Aluminium ore	Yes, but not all metals

Y7 – Earth Structure

4

Rocks

There are **three** main types of rock

1. Igneous rock
- Formed by cooling of magma
- **Rapid** cooling (e.g. volcanic eruption) gives extrusive igneous rock.
- **Slow** cooling (under the earth's surface) gives intrusive igneous rock

	Extrusive	Intrusive
Magma cools	On surface	Underground
Speed of cooling	Rapid	Slow
Crystal size	Small	Large
Example	Basalt (used in construction)	Granite (also used in construction but can be polished e.g. kitchen counters)

5

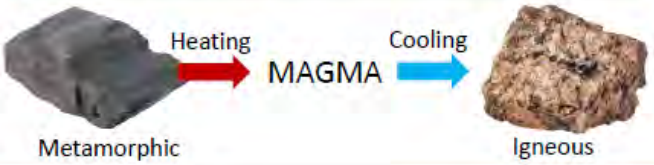
Rocks

There are **three** main types of rock

2. Sedimentary rock
- Formed by compression of layers of sediment in the ocean

Transport
↓
Deposition
↓
Sedimentation
↓
Compaction
↓
Cementation

- Once formed, sedimentary rock may be slowly moved to the Earth's surface by **uplift**, or remain underground where immense pressure and heat will turn it into metamorphic rock
- **Limestone** is an example of a sedimentary rock, which is used to manufacture glass and cement
- Sedimentary rocks have:
  - 1. **Layers**, because of the layers of sediment
  - 2. **Fossils**, because the sediment includes animal remains
  - 3. **Rounded grains**, because of weathering by the water



6

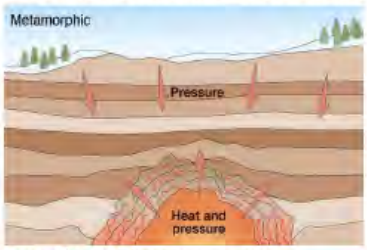
Rocks

There are **three** main types of rock

3. Metamorphic rock
- Formed when immense **heat and pressure** change the chemical properties of the minerals in sedimentary rock
- Properties depend on which sedimentary rock was involved

e.g.
Limestone becomes marble

Shale becomes slate

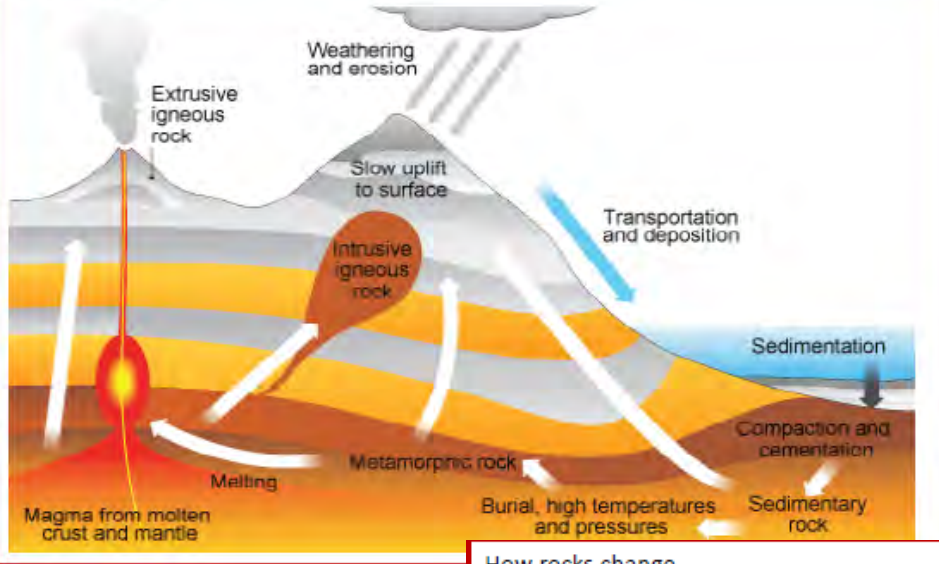


- If melted, metamorphic rock becomes magma

Y7 – Earth Structure

7

The Rock Cycle



8

How rocks change

Igneous rocks become **sedimentary** rocks by:
- Weathering, erosion, transportation, deposition, sedimentation, compaction, cementation

Sedimentary rocks become **metamorphic** rocks by:
- Burial (high pressure) and high temperatures

Metamorphic rocks become **extrusive igneous** rocks by:
- Melting to magma, eruption, rapid cooling above the surface

Metamorphic rocks become **intrusive igneous** rocks by:
- Melting to magma, slow cooling beneath the surface, uplift

Y7 – Earth Structure

Crust	The rocky outer layer of the Earth.
Mantle	The layer of Earth that is below the crust. It is solid but can flow very slowly.
Core	The innermost layer of the earth, which extends about halfway from the centre of the earth to the surface.
Minerals	Chemicals that rocks are made from.
Igneous rocks	Formed when liquid rock (lava or magma) cools and freezes. Their minerals are arranged in crystals. Examples are granite, basalt and obsidian.
Sedimentary rocks	Formed from layers of sediment which can contain fossils. Examples are limestone, chalk and sandstone.
Metamorphic rocks	Formed from existing rocks that have been exposed to heat/pressure over a long time. Examples are marble, slate and schist.
Weathering	The breaking down of a rock into smaller pieces by physical, chemical or biological processes.
Sediments	Pieces of rock that have broken away from their original rock.
Deposition	The settling of sediments that have moved away from their original rock.
Magma	Liquid rock below the Earth's surface.
Rock cycle	Sequence of processes where rocks change from one type to another, over millions of years.
Uplift	Uplift happens when huge forces from inside the Earth push rocks upwards
Ceramic	A compound that is hard, strong, and has a high melting point.

Y7- Forces

WHAT IS A FORCE?

1

•A force is a push or pull
•They act in pairs (interaction pairs)
•Forces can make an object speed up, slow down, change direction, turn or change shape.
Forces are measured in Newtons (N)

BALANCED AND UNBALANCED

2

Balanced forces produce no change in movement
Unbalanced forces change the speed and/or direction of moving objects

WHAT IS RESULTANT FORCE?

3

•Resultant force is the overall force acting on a object.

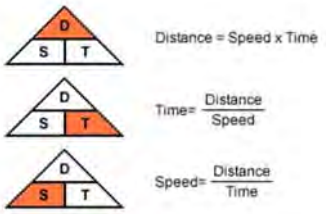
Friction = 10N
Thrust = 30N
Resultant Force= 30N – 10N = 20N
Overall force acting on object = 20N

SPEED

4

Speed is a measure of how far something travels in a particular amount of time.

SPEED = DISTANCE / TIME



AVERAGE SPEED

5

•The speed of an object tells you how fast or slow it is moving.
You can find the average speed of an object if you know:
•The distance travelled
•The time taken to travel that distance

CALCULATING AVERAGE SPEED

6

Average speed = distance ÷ time
Q: What is the average speed of a runner who covers 100 m in 10 s?
Average speed = 100 ÷ 10 = 10 m/s

Q: A car covers 2 km in 100 s. What is its average speed?
2 km = 2 × 1000 = 2000 m
Average speed = 2000 ÷ 100 = 20 m/s

Units: Average speed is usually given in metres per second, m/s. If you are given the distance in km, multiply it by 1000 to get the distance in m.

Real world relevance - Average speed cameras

7

Speed cameras are used to find out if a motorist is speeding. The camera takes two photographs of the vehicle. These can be:

1. A certain time apart, so that the distance travelled in that time can be worked out
2. A certain distance apart, so that the time taken to travel from one road marking to the next can be worked out

Y7- Forces

WHAT IS RELATIVE MOTION?

8

Relative motion is useful when you want to know the speed of something when you are moving too.
You can calculate the relative motion of objects depending on the situation the objects they are in. They are outlined below:

Situation	Relative speed
Objects moving in the same direction towards, or away from, each other	Fastest speed – slowest speed
Objects moving in opposite directions towards, or away from, each other	Add the two speeds together

EXAMPLE

9

Two cars are travelling in the same direction on a road. The blue car is travelling at 25 m/s in front of the red car, which is travelling at 30 m/s. What is their relative speed?

Answer:
relative speed = 30 – 25 = 5 m/s

The red car is catching up with the blue car.

EXAMPLE

10

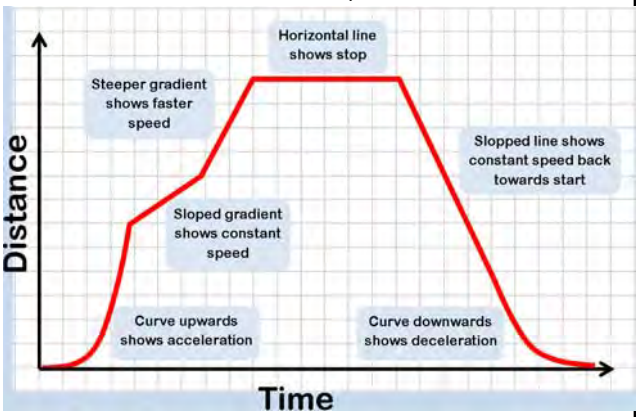
Two cars are travelling on a road in opposite directions. The blue car is travelling at 25 m/s and the red car is travelling at 30 m/s. What is their relative speed?

Answer:
relative speed = 30 + 25 = 55 m/s

DISTANCE TIME GRAPHS

11

Distance-time graphs are used to show how far something travels in a certain amount of time.



1. The slope of the line (gradient) shows the speed at which the object is moving
2. The steeper the graph the faster the object is going
3. Flat sections are where it has stopped
4. Downhill sections means it is moving back towards its starting point
5. Curves represent a changing speed
6. A steepening curve means the object is accelerating
7. A curve levelling off means the object is decelerating

Y7- Forces

Contact force	A force caused by objects physically touching each other e.g. friction, tension, air resistance and normal contact force
Non-contact force	Forces where the objects are separated, they do not need to be physically touching. e.g. gravity, magnetism and electrostatic force
Newton meter	A balance used to measure force /weight
Resultant Force	The overall force acting on a object
Force	Push or pull
Speed	Speed is a measure of how far something travels in a particular amount of time.
Relative motion	The speed of a moving object relative to the speed of another moving object
Distance time graphs	Used to show how far something travels in a certain amount of time.

Y7 – Voltage and Resistance

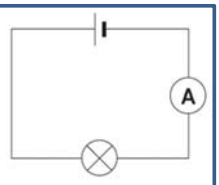
1

WHAT IS CURRENT?

•Electric current is the flow of charge around a circuit
•It can only flow if a circuit is complete
•The moving charges are negative electrons

AMMETERS MEASURE CURRENT

•Ammeters measure electrical current. It is measured in amperes or A for short
•Current is measured through the circuit by inserting the ammeter in to the circuit.



VIP **CURRENT IS NOT USED UP AS IT FLOWS THROUGH A CIRCUIT** VIP

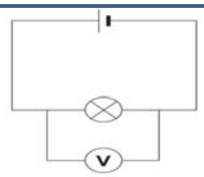
2

WHAT IS POTENTIAL DIFFERENCE?

•In a circuit the battery provides the driving force to push charge around the circuit. ***The driving force is called the potential difference***.
•If you increase the potential difference more current will flow.

VOLTMETERS MEASURE POTENTIAL DIFFERENCE

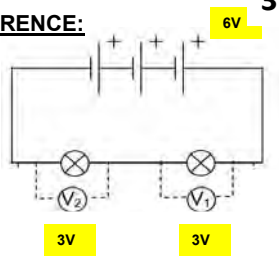
•Voltmeters measure potential difference in Volts or V for short.
•Potential difference is measured across something such as a light bulb



3

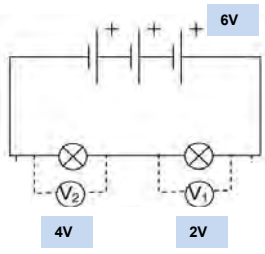
MEASURING POTENTIAL DIFFERENCE: SERIES CIRCUIT

•The total potential difference supplied by the cell is divided up between the components. If the components all have the same resistance they will have equal amounts of potential difference across them.



•The potential difference across components add up to the potential difference of the cell

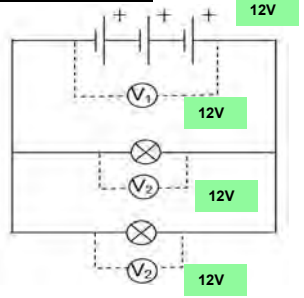
•If the resistance are not equal they may have different amounts of potential difference across them but when added up they must always equal the potential difference supplied by the cell.



4

MEASURING POTENTIAL DIFFERENCE: PARALLEL CIRCUIT

•The potential difference supplied by the cell is the same potential difference as that across each component in the parallel circuit.



Y7 – Voltage and Resistance

5

WHAT IS RESISTANCE?

•Resistance is anything in the circuit that slows down the flow of current.

•Any component added to a circuit can cause the flow of the current to slow down .

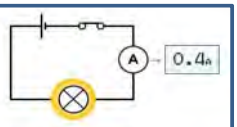
•Components are materials that electricity can pass through and are normally good conductors such as a light bulb or a motor.

•The lower the resistance of a component the better it is at conducting electricity.

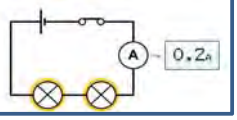
•Resistance is measured in Ohms (Ω)

RESISTANCE = POTENTIAL DIFFERENCE / CURRENT

•Example: There is one bulb in a series circuit, the current passing through it is 0.4A.



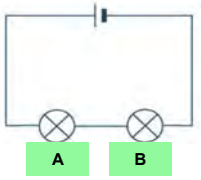
•A second light bulb is now added. There are now two bulbs resisting the current so there is more resistance.



•As long as potential difference stays the same – the higher the resistance of the components, the smaller the current through it.

•Example: Bulb A has a resistance of 3 Ω and Bulb B has a resistance of 1.5 Ω .

•Bulb B has a lower resistance so bulb B is a better conductor than Bulb A.

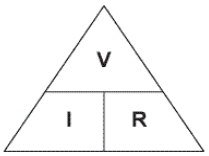


6

CALCULATING RESISTANCE

•Resistance, potential difference and current are all linked by the following formula:

V = Potential difference (V)
I = Current (A)
R = Resistance (Ω)



CALCULATING RESISTANCE

•Calculate the resistance of a circuit which has a bulb with a voltage of 9V and a current of 3A.

Resistance = Potential difference / Current

9 / 3 = 3

Resistance = 3 Ω

CALCULATING POTENTIAL DIFFERENCE

• Calculate potential difference if the resistance of a bulb is 3 Ω and the current is 2A.

Potential difference = Current x Resistance

2 x 3 = 6

Potential difference = 6V

CALCULATING CURRENT

• Calculate current when there is a 12Ω resistor with a potential difference of 24V.

Current = potential difference / resistance

24 / 12 = 2

Current = 2A

Y7 – Voltage and Resistance

•**Current** : Electric current is the flow of charge around a circuit

•**Ammeter:** A device that measures current

•**Potential difference:** In a circuit the battery provides the driving force to push charge around the circuit. *The driving force is called the potential difference*.

•**Voltmeter**: Measures potential difference

•**Series circuit:** A closed circuit in which the current flows through one path

•**Parallel circuit**: A circuit in which the current is divided in to two or more paths

•**Resistance:** Anything in the circuit that slows down the flow of current.

•**Components of a circuit:** anything that is added to a circuit e.g. bulb or motor

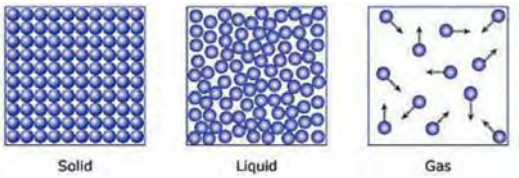
Y7 – Particle Model

1

- All matter is made up of particles.
- Particles are found in all 3 states of matter. Particles in the 3 states behave differently.

2

- In **solids**, particles are arranged in a **regular pattern** and they can only **vibrate** in a fixed position. Particles in solids are not free to move.
- In **liquids**, particles can **slide pass** each other. They are **arranged randomly**.
- In **gases**, particles carry a lot of energy and they **move in all directions** in a high speed. Particles are **far apart** and are **arranged randomly**.



3

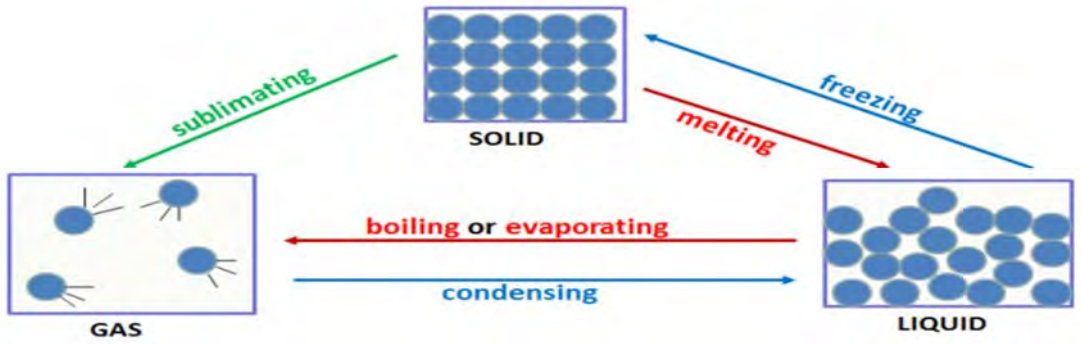
Melting and boiling points

- A substance is a solid below its melting point.
- A substance is a liquid between is melting and boiling point.
- A substance is a gas above its boiling point.

4

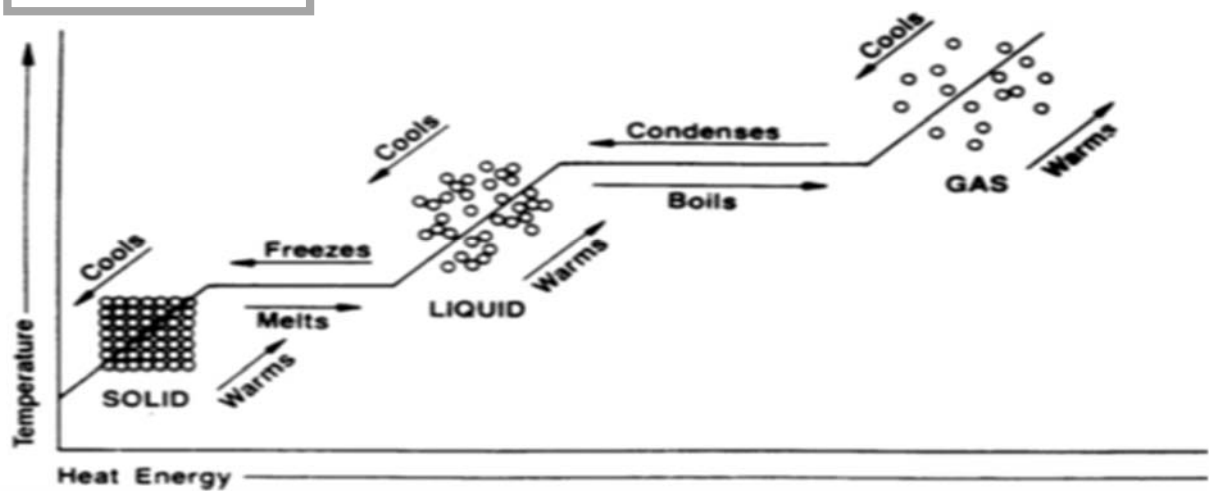
Change of State

Changes of state take place when the particles gain or lose energy. When energy is applied, particles gain energy and move further apart. When energy is lost, particles become closer to each other and arrange themselves more regularly.



Y7 – Particle Model

5



6

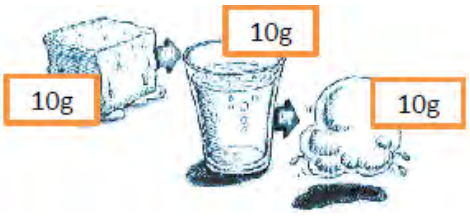
Evaporation and boiling

Process	How particles leave the liquid	Temperature
Evaporation	Particles escape from the liquid surface.	Happens at any temperature.
Boiling	Bubbles of the substance in the gas state form throughout the liquid. They rise to the surface and escape.	Happens only at the boiling temperature.

7

Conservation of Mass

Mass stays the same before and after a change of state. For example, 10g of ice melts into 10g of water, and 10g of water evaporates into 10g of water vapour. The same applies to other substances.



Y7 – Particle Model

8

Diffusion

Diffusion is the **movement of particles from a higher concentration to a lower concentration.**
Diffusion will stop when particles spread themselves evenly. Diffusion occurs in liquids and gases but not in solids, because particles in a solid are not free to move.
Examples of diffusion include:
1.Oxygen diffusing into cells.
2.Carbon dioxide diffusing out of cells.


Diffusion

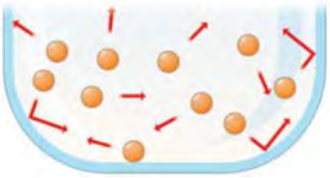
There are **2 factors** affecting the rate of diffusion:
1.Temperature: When temperature increases, particles gain more energy. They can then move and spread out at a higher rate.
2.Concentration: When concentration increases, the rate of diffusion increases.

9

Gas Pressure

Gas pressure is **caused by gas particles colliding with the walls of the container.** A container also experiences pressure on the outside. Air particles on the outside collide with the outside wall.

An imbalance between the pressure on the inside and outside can cause the container to change its shape.



There are **3 factors** affecting gas pressure:
1. Number of particles:
The more gas particles inside the container, the more often collisions will occur, creating a higher pressure.
2. Temperature:
If gas particles are heated up, they move with a higher speed and collide more often with the walls of the container, causing a higher pressure.
3. Volume:
If the same amount of gas particles are put into a container of a smaller volume, pressure will increase because particles will collide more frequently with the walls when they have less space.


(a) Low pressure (b) High pressure

Y7 – Particle Model

Key word	Definition
Particle	A very tiny object, such as an atom or molecule, that materials are made from. They are too small to be seen with a microscope.
Particle model	A way to think about how substances behave in terms of small, moving particles.
Mixture	A mixture is made up of two or more pure substances that are mixed (not chemically joined) together. A mixture's properties are different from the properties of the individual substances that make it up.
Solid	In a solid state, a substance cannot be compressed and cannot flow.
Liquid	In the liquid state, a substance can flow but cannot be compressed.
Gas	In the gas state, a substance can flow and can also be compressed.
States of matter	The three forms in which a substance can exist – solid, liquid and gas.
Melt (melting)	The change of state from solid to liquid at the melting point of a substance.
Change of state	The process by which a substance changes from one state to another.
Freeze (freezing)	The change of state from liquid to solid at the melting point of a substance
Melting point	The temperature at which a substance melts.
Boil (boiling)	The change of state from liquid to gas that occurs when bubbles of the substance in its gas state form throughout the liquid. Boiling occurs at the boiling point of a substance.
Boiling point	The temperature at which a substance boils.
Evaporate (evaporation)	The change of state from liquid to gas that occurs when particles leave the surface of the liquid. It can happen at any temperature. Evaporation can be used to separate a solid dissolved in a liquid.
Condense (condensation)	The change of state from gas to liquid. It can happen at any temperature below the boiling point.
Sublime (sublimation)	The change of state from solid directly to gas.
Diffusion	The process by which particles in liquids or gases spread out through random movement from a region where there are many particles to one where there are fewer.
Gas pressure	The force exerted per unit area on the walls of a container. It is caused by collisions of particles with the walls.

Introduction to Geography through maps

The world is separated into seven continents and five main oceans. Within this there are numerous seas, plus approximately 200

7 Continents
North America
South America
Europe
Asia
Africa
Australasia/ Oceania
Antarctica

5 Oceans
Indian Ocean
Pacific Ocean
Atlantic Ocean
Artic Ocean
Southern Ocean

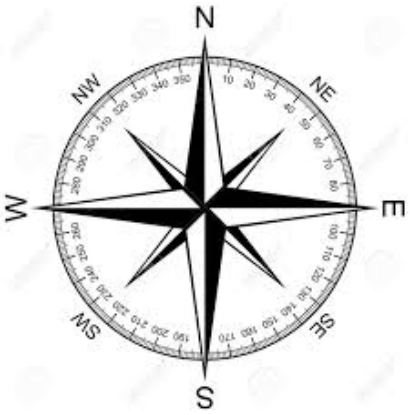
The United Kingdom The United Kingdom is a political union of four countries within the islands of the British Isles (which also contains the Republic of Ireland) on the western edge of the continent of Europe. The capital of the UK is London, and each of the other countries of the UK have their own capital city.

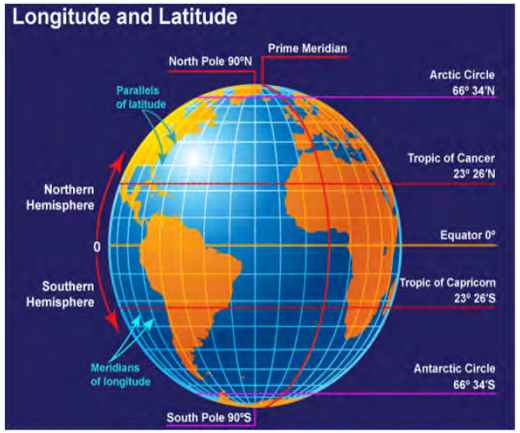
Physical Geography is the study if natural features and processes on earth

Human Geography is the study if man made features and processes on earth

Environmental Geography is the study of how humans affect the natural world

Introduction to Geography through maps





Maps show **height** in a number of different ways:

Spot heights

shows exact heights by a black dot with a number next to it. The number is the height above sea level in metres

Contours

lines drawn on maps that join places of the same height. They are usually an orange or brown colour. Some contour lines have their height above or below sea level written on them.

Layer shading

Maps are sometimes shaded to show the height of land

Symbols

Symbols help us to include lots of detail on maps that are drawn to **scale**. They include simple images, letters and abbreviations. Here are some examples:

Symbol	Meaning
	Campsite
	Motorway
	Railway
	Railway station

OS maps are split up into squares. These are known as grid squares. A grid reference is used to help describe the location of a place or feature on a map. It directs you to a certain grid square

How to read a **4 figure grid reference**: remember the rule *along the corridor, up the stairs.*

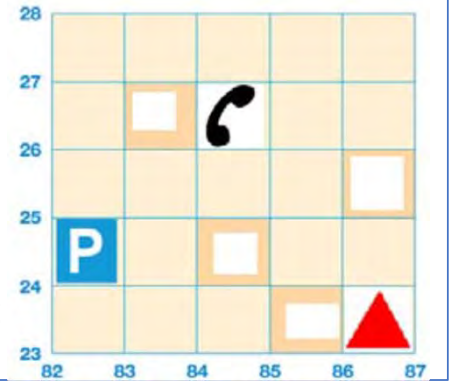
Step by step process to write the 4 figure grid reference of the telephone:

1. Draw a X in the bottom corner of the grid square.

2. Along the corridor – go along the horizontal axis until you reach the line that the X is on = 84. These make up the first two numbers.

3. Up the stairs – go along the vertical axis until you reach the line that the X is on = 26. These make up the second two numbers

4. Therefore the 4 figure grid reference is 84, 26



6 figure grid references

These are used to state where exactly in a grid square a feature is. To create a 6 figure grid reference you need to also say how many tenths *across* the square and *up* the square the symbol is. The extra two numbers make up the 3rd and 6th number in the grid reference.

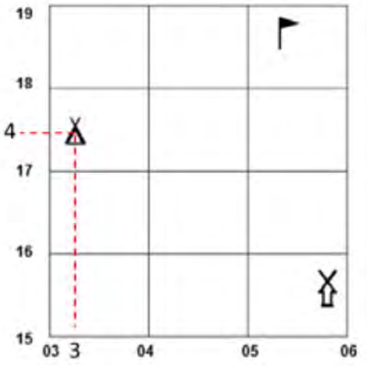
Step by step process to write the 6 figure grid reference of the campsite:

1. What is the grid square? 03, 17

2. To work out the 3rd number you state how many tenths across the campsite is in 03, 17 = 033, 17 _

3. To work out the 6th number you state how many tenths up the grid square the campsite is = 033, 174

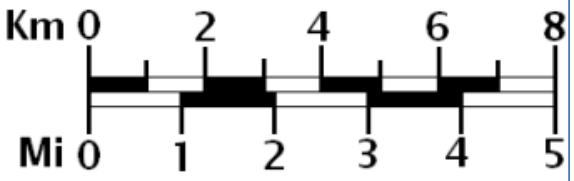
4. Therefore the six figure grid reference is 033, 174

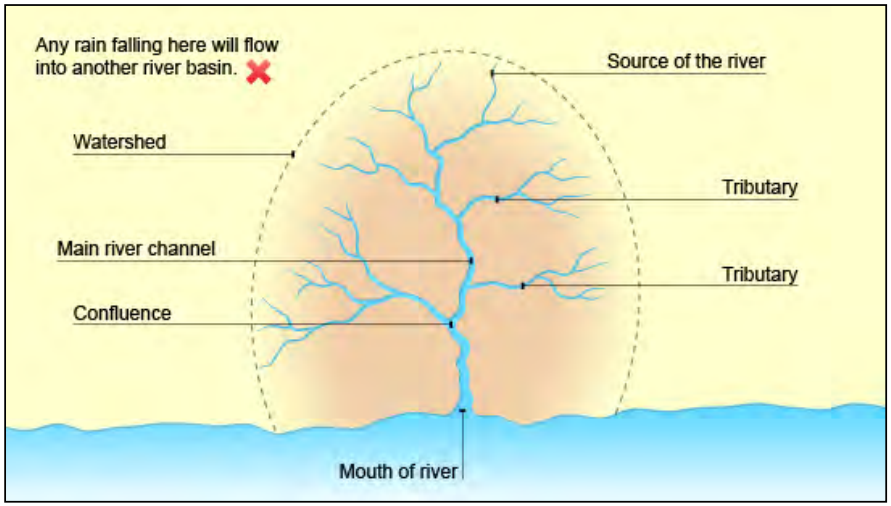


Scale

A scale is used to help us work out real distances between two places on a map. You can use a scale line or ratio (e.g. 1 : 25,000).

If a scale is 1 : 25,000 then it means 1cm on the map is the same distance as 25,000 on the ground. Therefore if a church and school are 2cm away from each other on a map, they are actually 50,000cm away from each other on the ground. 50,000cm = 500m.





What is a drainage basin?

An area of land drained by a river an it's tributaries

What are the Features of Drainage basins?

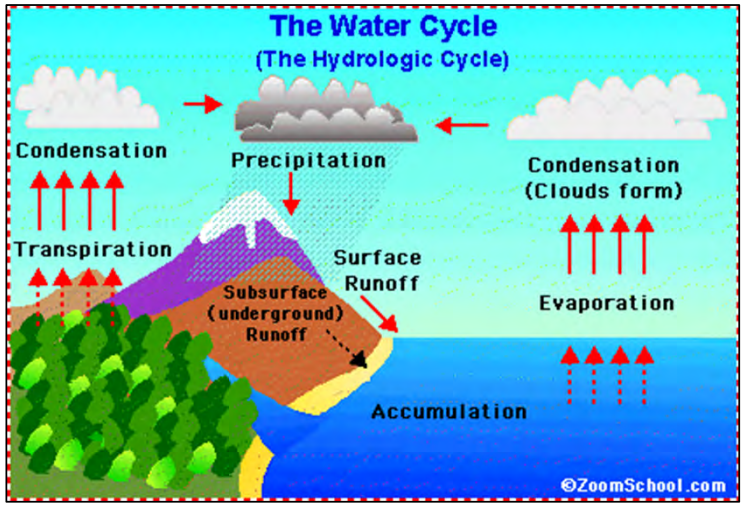
Watershed: Highland or hill that separates one drainage basin from another

Confluence: the point where two rivers/streams meet/join

Tributary: a smaller stream or river that joins a bigger stream or river

Source: the starting point of a river or stream

Mouth: the point where a river leaves the drainage basin and enters the sea



River processes shape the land in different ways as the river moves from its source to its mouth.

Erosion

Erosion involves the wearing away of rock and soil found along the river bed and banks. Erosion also involves the breaking down of the rock particles being carried downstream by the river.

The four main forms of river erosion

Hydraulic action - the force of the river against the banks can cause air to be trapped in cracks and crevices. The pressure weakens the banks and gradually wears it away.

Abrasion - rocks carried along by the river wear down the river bed and banks.

Attrition - rocks being carried by the river smash together and break into smaller, smoother and rounder particles.

Solution - soluble particles are dissolved into the river.

RIVERS

Transport

Rivers pick up and carry material as they flow downstream.

The four different river transport processes

Solution - minerals are dissolved in the water and carried along in solution.

Suspension - fine light material is carried along in the water.

Saltation - small pebbles and stones are bounced along the river bed.

Traction - large boulders and rocks are rolled along the river bed.

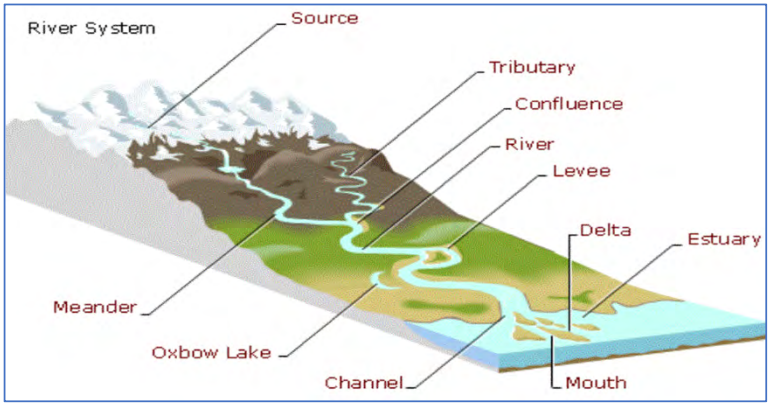
Rivers need energy to transport material, and levels of energy change as the river moves from source to mouth. When energy levels are **very high**, large rocks and boulders can be transported. Energy levels are usually higher near a river's source, when its course is steep and its valley narrow. Energy levels rise even higher in times of flood. When energy levels are **low**, only small particles can be transported (if any). Energy levels are lowest when velocity drops as a river enters a lake or sea (at the mouth).

Deposition

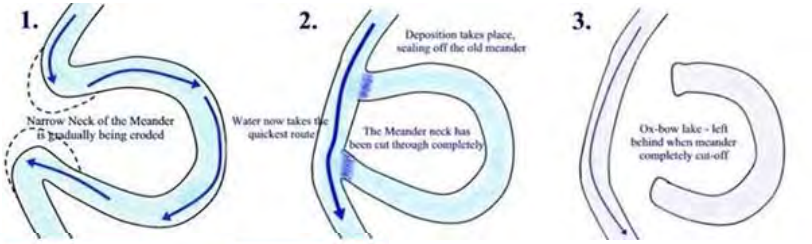
When a river **loses energy**, it will drop or deposit some of the material it is carrying.

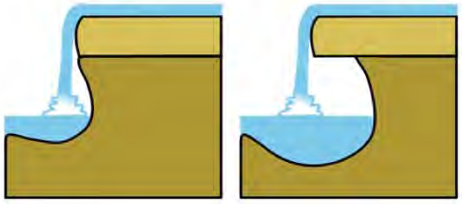
Deposition may take place when a river enters an area of **shallow water** or when the **volume of water decreases** - for example, after a flood or during times of drought.

Deposition is common towards the **end of a river's journey**, at the mouth. Deposition at the mouth of a river can form **deltas** - for example, the **Mississippi Delta**.



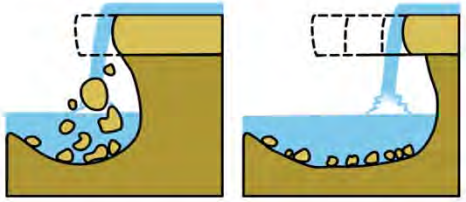
RIVERS





1. Waterfalls typically form in the upper stages of a river. They occur where a band of hard rock overlies a softer rock. Falling water and rock particles erode the soft rock below the waterfall, creating a plunge pool.

2. The soft rock is undercut by erosional processes such as hydraulic action and abrasion creating a plunge pool where water and debris swirl around eroding the rock through corraision further deepening it and creating an overhang.



3. Hard rock overhang above the plunge pool collapses as its weight is no longer supported.

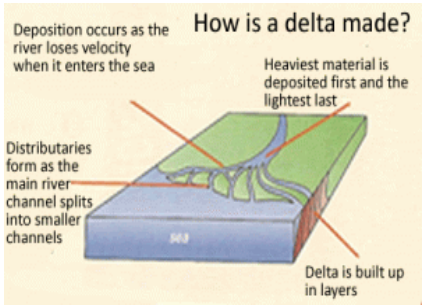
4. Erosion continues and the waterfall retreats upstream leaving behind a gorge.

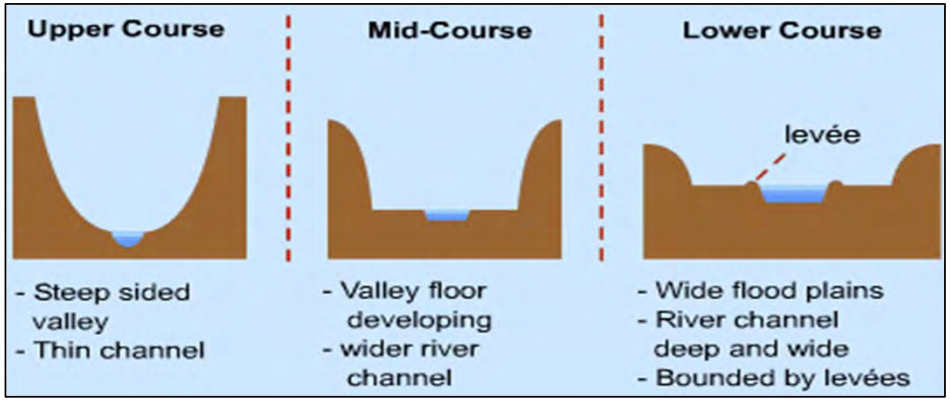
Meanders:
Large bends that swing from side to side (sinuosity) on the floodplain. Faster flowing water erodes the outside of the bend through lateral erosion creating a steep bank (river cliff) whilst the inside of the bend due to slower shallower water deposition takes places creating a gently sloping bank (slip-off slope).

Ox-bow lakes:
When a meander grows its neck narrows then at times of flood the river simply cuts straight through it leaving an old meander cut off (horseshoe-shaped lake). Deposition blocks up the old bend.

Levees:
Levees are natural embankments formed by the deposition of sediment at times of flood. Large sediment is dropped first as the river floods onto the floodplain and loses velocity. Smaller sediment is deposited afterwards and when this process is repeated the banks get higher forming Levees.

Flood plains:
The area of land at the side of a river in the lower course. Lateral erosion on the outside bend cause meanders to migrate across the valley floor so the valley floor becomes wide and flat. During floods rivers deposit fine sediments called alluvium.





Flooding is a natural occurrence but since 1998 severe flooding has occurred somewhere in the UK every year sometimes twice in a year. The main reasons for this are as follows:

1. Increased population = more housing. Building on the cheaper land of the flood plain has put 2.3million houses at risk of flooding.
2. Land use changes with urban developments = more impermeable surfaces which increases surface run-off.
3. Changes in weather patterns linked to climate change making extreme weather more likely as a result of the changes in the behaviour of the jet stream. Storms that once occurred every 100yrs are now more likely to happen every 80yrs in southern UK

Soft Engineering	Advantages	Disadvantages
River restoration –rivers original course including meanders	More attractive for recreation, creates natural habitats	Some flood banks often still needed.
Floodplain retention-land use according to flood risk	Low risk areas are used for building, high risk land is used for parks/recreation.	Poor public accessibility to some areas
Hard Engineering	**Advantages**	**Disadvantages**
Embankments– high banks (levees)	Stop overflowing, covered in grass can blend with the environment.	Can burst under pressure, water can flow over the top.
Flood walls	Prevent water spreading in high impact areas e.g. housing	Expensive, cause flooding downstream, look unnatural
Demountable flood barriers	Put up and taken down, replace ugly permanent defences	Risk of timing issues, can only be used where deployed
Flood barriers or storm surge barriers	Protect large areas, can be used at high tide or storm surge is forecast	High construction costs and regular maintenance needed

Topic: The Norman Conquest Knowledge Organiser-Year 7-Autumn Term 1

Background information

King Edward the Confessor had ruled since 1042 and his reign had been stable. When Edward the Confessor died in January 1066, he had no children and there was no clear heir to the throne.

The Witan (a group of nobles) initially crowned Harold Godwinson, a powerful English earl, as king. However, over the course of 1066, 3 different claimants, including Harold Godwinson, fought over who would be king of England.

Name	Claim	Skills
Harold Godwinson	➢ Claimed Edward promised him the throne ➢ Had been deputy king during Edward's reign. ➢ He was married to Edward's sister, Edith	➢ Wealthy landowner ➢ Most powerful Earl in England ➢ Support from other Earls. ➢ Strong and brave
Harald Hardrada	➢ Danish ➢ Related to King Cnut (who reigned England between 1016-10.35)	➢ Excellent soldier ➢ Powerful Viking. ➢ Had a large **army**
William of Normandy	➢ He was a distant cousin of Edward ➢ Claimed that Edward promised him the throne in 1051.	➢ Experienced leader. ➢ Brutal warrior. ➢ Support from the Pope

The Battle of Stamford Bridge 25/09/1066

- This was a battle between Harold Godwinson and Harald Hardrada
- It was fought on the 25th of September 1066 in Yorkshire
- Godwinson's army had marched all the way from the south of England
- The English army caught the Norwegians by surprise and many did not have their armor on
- Many of Hardrada's army were attacked and killed as they tried to cross a river
- On the other side of the river the Viking soldiers formed a strong, defensive shield wall
- Supposedly the English army were delayed from crossing the river by one Norse axe man who apparently killed up to 40 English soldiers as they tried to cross
- After several hours the English had the upper hand and forced the Viking army to run away. Hardrada was killed and Godwinson was victorious

The Battle of Hastings 14/10/1066

- After the battle of Stamford Bridge Godwinson marched his army, as fast as possible, down to Hasting's in the south of England
- This rapid march meant that some of Godwinson's soldiers were left behind.
  William's soldiers had been resting, having already arrived.
- The two armies faced each other at a place which is now called battle.
- Godwinson had the high ground and was in a strong defensive position on top of a ridge
- William's army was at the bottom of the hill and in quite marshy ground
- William had three ranks of soldiers, archers in front, then infantry and then mounted knights (cavalry) at the back
- Harold was winning at the start, his strong defensive position meant that the Normans were attacking uphill.
- However, at one point during the battle some of Harold's soldiers chased after the fleeing Norman troops. This meant that they lost the protection of the shield wall and were killed.
- William used the tactic of pretending to run away several times in order to weaken the English defenses.
- Eventually, in a final assault, Harold was killed. This caused the English army to flee and left William as the victor.

Key term	Definition
Claimant	A person who believes that he or she has a right to something.
Reign	How long a king or queen rules for.
Reinstate	To give someone back their job or power.
Witan	A group of Anglo- Saxon Earls who advised the king and made decisions.
Pope	The head of the Catholic Church.
Heir	Someone who inherits property or a throne after someone else dies.
Flee	To run away from conflict
Noble	A wealthy and aristocratic landowner

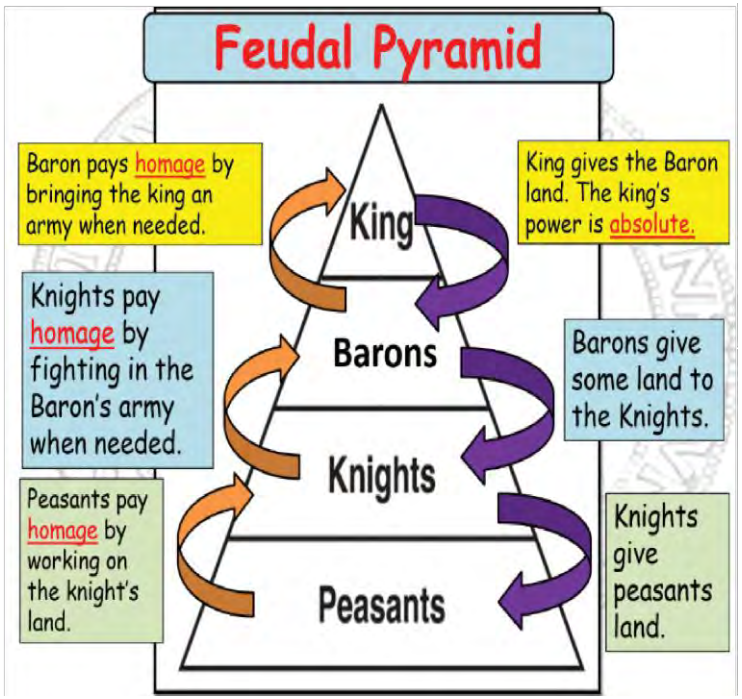
Topic: Norman Control Knowledge Organiser-Year 7-Autumn Term 1 & 2

Background information

Even though William had won the battle of Hastings he did not control the country. Many English people were against William and had no reason to accept him as king. This meant that William had to try and force the English to obey him. He used several methods to control England. The 4 main methods were; *The Feudal System, The Doomsday Book, building castles and dealing with rebellions harshly.*

The Feudal System & Magna Carta

The feudal system was a way of distributing and controlling the land in England. **The Magna Carta** was a royal charter agreed between King John and the Barons, it contained 63 promises the king made to his people and the Barons. King John did not stick to the terms of the Magna Carta.



The Doomsday Book

- This was a number of large books which William requested
- They gave specific details about who owned what in England
- It didn't only refer to property. It also listed crops, types of fields, livestock and equipment.
- The total possessions were given a value. William was able to use this information to work out how much people owed him

Castles

William began building castles around England as quickly as possible. - Until 1070, the Normans quickly built Motte and Bailey castles out of wood. By 1100, all new castles were made of stone. - William ordered his nobles to build castles in important locations, such as borders, near existing towns, , on high ground, or near important resources, like water or wood.

Norman castles were much bigger than other buildings, meaning that the Normans could easily intimidate the local population with a small number of troops.

Over time castles became more advanced.

Key term	Definition
Hierarchy	A system which organises people in terms of their power and importance
Motte	Earth mound in which the keep for a castle was built on
Bailey	Outer area that surrounded the motte. This was where houses, stables and so on were built
Keep	Secured buildings which housed the Norman earls or those of important people that needed shelter
Barons	Members of the lowest order of British nobility (Lord)
Earl	An important English nobleman.

Motte and Bailey

Circular Square Keep

Square Stone Keep

Concentric

Topic: Religion in the Middle Ages Knowledge Organiser-Year 7-Autumn Term 2

The Church

Medieval people believed God, Heaven and Hell all existed. They were taught that the only way they could get to Heaven was if the Roman Catholic Church let them. Everybody would have been terrified of Hell and the people would have been told of the sheer horrors waiting for them in Hell in the weekly services they attended.

Medieval Education

Education had to be paid for and peasants could not afford it. The most educated people were those who worked in the church. The language used by the church was Latin. All church services and the bible were in Latin. Therefore, church and priests controlled the information which peasants were given.

The Wealth of the Church

Peasants paid 10% of what they earned in a year to the Church. This was called tithing and could be paid in seeds, harvested grain and animals, as many peasants had little money. The Church told peasants that if these tithes were not paid then they would go to hell. The Church also charged peasants for baptisms, marriages and to be buried in holy ground. Peasants were told that if they did not pay for these rituals they would also go to hell.

Heaven and Hell

Heaven, Hell and Purgatory: -Life after death was very important to people during the Middle Ages. -Christians believed that if you followed the Church's rules and led a good life, you would go to heaven. -If you didn't follow the Church's rules or lead a good life, Christians believed that you would go to purgatory or hell. -Most people during the Middle Ages could not read or understand Church services (they were in Latin). -Doom Paintings were used to help people to understand and to show them what would happen if they didn't follow the church's rules.

Thomas Becket

Because the Church was so important in Medieval England, King Henry 2nd wanted his friend, Thomas Becket to be Archbishop of Canterbury. That way Henry could control the Church through Becket. Unfortunately for Henry, Thomas became very pious and took the position seriously. He would not do what Henry wanted. Henry became very angry and Thomas fled to France. After the Pope threatened to excommunicate Henry, he forgave Becket, who came back to England. However, he was still not loyal to Henry and excommunicated three bishops who were. In a rage Henry shouted 'will no one rid me of this turbulent priest?' Four knights overhead and, to try and please the King, they rode to Canterbury and murdered Becket on the altar of the Cathedral. The murder was disastrous for Henry. He was whipped and the four knights had to go on crusade for 14 years. Becket's shrine became an important place for Christians and Becket became a saint.

Key term	Definition
Catholicism	The Christian Church which is followed by Catholics
Hierarchy	A system in which people are ranked according to their importance
Tithe	A 10% tax which people had to pay to the Church. It could be paid in money, seeds or equipment
Purgatory	A place which Catholics believe in. This is between heaven and hell and is where people 'burn off' their sins before they can enter heaven.
Doom Painting	A painting ibn Medieval churches which showed the joy of heaven and the horrors of hell.
Archbishop of Canterbury	The Head of the Church in England, appointed by the Pope In Rome
The Pope	The Head of the Catholic Church on Earth

Autumn 1: Looking for God: Knowledge Organiser

Christianity | Islam | Hinduism | Sikhism | Judaism

Section A:TOPIC AREA	Section B:KEYWORDS/KEY INFORMATION	Section C: Reflection/Thinking Points
Does God exist?	Atheist: Someone who does not believe in God Agnostic: Someone who is not sure God exists Theist: Someone who does believe in God	• Why do some people believe that God does not exist? • Which religions believe in God • Why do theist believe God exists?
Religious experience	Prayer: An attempt to talk to God, usually through words Near Death Experience: Where someone feels they have experienced God when they have come close to death Holy Book: A religious book	• Why is prayer important/meaningful to some people? • Why do some people have suffered with a near death experience? • Why do some religious people read holy books?
Hinduism and God	Monotheism: Belief in one God Polytheism: Belief in more than one God Trimurti: The "three forms of God"	• Why do some religions believe in one God? • Why are some believers monotheistic? • Why do some religion believe in polytheism?
Sikhism and God	Guru Granth Sahib Ji: Holy Book Mool Mantar: Basic teaching of God Ik Onkar: The belief of one God Gudwara: Sikh place of worship Waheguru: Wonderful Lord Mukti: Escape from rebirth	• Why is the Guru Granth Sahib Ji important o many Sikhs? • Why is attending a Gudwara a sacred experience for many Sikhs? • What do Sikhs believe about the after life? How does the keywords Mukti relate to this?
Islam and God	Allah: Arabic meaning "God" Tawhid: The belief in the oneness of God Shahadah: First pillar of Islam that states the belief and faith in Allah Five pillars of Islam: Five acts Muslim should follow.	• Why is the Shahadah stated in prayer? • Why is Tawhid important to many Muslims? • Why is the first pillar of Islam and important element to a Muslims' life?
Christianity and God	Holy Trinity: Three Persons of God, one God.	• Why is the Holy trinity important towards the understanding of God?
Judaism and God	Tanakh: A collection of Jewish holy books Shema: First title of prayer that is recited every morning Torah: Jewish holy book Deity: God or Goddess	• Why is prayer important to many Jewish people? • Why would many Jewish people believe idolatry or using a deity is a sin/going against God?

AUT 2: Jesus Christ Super Star: Knowledge Organiser

Christianity

Section A: TOPIC AREA	Section B: KEYWORDS/KEY INFORMATION	Section C:Reflection/Thinking Points
Role Models	Sinless: Free from sin Eternal: Everlasting, goes on forever Principles: A fundamental system of beliefs/behaviour	• Why are Role Models important? • Why could Jesus be an important role model to Christians? • Why is setting a good example or being a 'good Christian' a fundamental part to a religious believer
Lazarus	Miracles: An extraordinary event that can not be explained through scientific law	• Why is the story of Lazarus important to many Christians • Why can the story of Lazarus be an effective moral lesson to some Christians? • Why can the story of Lazarus help Christians today with life?
The Good Samaritan	Parable: A simple story that is used to illustrate a moral/spiritual lesson Gospel: The teaching/ revelation of Christ Samaritan: A charitable or helpful person	• Why is the story of the Good Samaritan important to many Christians • Why can the story of Good Samaritan be an effective moral lesson to some Christians? • Why can the story of the Good Samaritan help Christians today with life?
Zacchaeus	Role Model: A person that is looked to by others as an example Betrayal: The breaking or going against someone or something	• Why is the story of the Zacchaeus important to many Christians • Why can the story of Zacchaeus be an effective moral lesson to some Christians? • Why can the story of the Zacchaeus help Christians today with life?
Crucifixion	Crucifixion: When Jesus died on the cross Resurrection: When Jesus rose from the dead Eternal: Everlasting, goes on forever	• Why is the crucifixion of Jesus Christian important to many Christians? • Why do many Christians relate to the suffering of Jesus Christ? • Why is the crucifixion symbolic?
Resurrection	Resurrection: When Jesus rose fro the dead	• Why is the resurrection of Jesus Christ important to many Christians • Why does the resurrection of Jesus Christ relate to many Christians today?

Bonjour	Hello
Salut	Hi
Comment t'appelles-tu?	What's your name?
Je m'appelle	My name is
Comment ça va?	How are you?
Ça va (très) bien	I'm (very) well
Pas mal, merci	Not bad thanks
Ça ne va pas!	Not good!
Et toi?	And you?
Au revoir	Good bye!
À plus!	See you later!

1

janvier	January
février	February
mars	March
avril	April
mai	May
juin	June
juillet	July
aout	August
septembre	September
octobre	October
novembre	November
décembre	December

4

lundi	Monday
mardi	Tuesday
mercredi	Wednesday
jeudi	Thursday
vendredi	Friday
samedi	Saturday
dimanche	Sunday

2

Je suis	I am
Je ne suis pas	I am not
Il est/elle est	He is/she is
amusant(e)	fun
arrogant(e)	arrogant
bavard(e)	chatty
fort(e)	strong
grand(e)	Big/tall
intelligent(e)	intelligent
méchant(e)	Nasty/bad
patient(e)	patient
petit(e)	Small
timide	shy

10

Tu aimes?	
J'aime	
Je n'aime pas	
Le sport	
Le foot	
Le vélo	
Le college	
Le cinéma	
Le poisson	
La danse	
La musique	
Les pizzas	
Les serpents	
Les glaces	
Les jeux-videos	
Les vacances	
Les BD	
Les mangas	
Les araignées	

9

un	1
deux	2
trois	3
quatre	4
cinq	5
six	6
sept	7
huit	8
neuf	9
dix	10
onze	11
douze	12
treize	13
quatorze	14
quinze	15
seize	16
dix-sept	17
dix-huit	18
dix-neuf	19
vingt	20
Vingt-et-un	21
Vingt-deux	22
…	…
trente	30
trente-et-un	31

3

C'est	It is
sympa	nice
génial	great
moderne	modern
triste	sad
nul	rubbish
démodé	Old-fashioned

8

As-tu des freres et soeurs?	Do you have any brothers/sister?
J'ai	I have
Un frère	A brother
Une soeur	A sister
Un demi-frère	A half (step) brother
(deux) frères	Two brothers
(trois) demi-soeurs	Three half/step sisters
Je n'ai pas de freres et soeurs	I don't have any brothers/sisters
Je suis fils/fille unique	I am an only child
Quel age as-tu?	How old are you?
J'ai (onze) ans	I am 11 years old

5

Un tableau	A board
Un poster	A poster
Un/une prof	A teacher
Un écran	A screen
Un ordinateur	A computer
Une porte	A door
Une fenetre	A window
Une tablette	A tablet
Des tables	Some tables
Des chaises	Some chairs
Des élèves	Some pupils

7

Dans ma salle de classe…	In my classroom…
Sur la photo…	On the photo
Il y a	There is
Au fond/au centre	At the back/in the middle
A gauche/a droit	On the left/on the right

6

chanter	To sing/singing
danser	To dance/dancing
retrouver mes amis	To meet up/meeting up
bloguer	To blog/blogging
surfer	To surf/surfing
tchatter	To chat/chatting (online)
rigoler	To laugh/laughing
étudier	To study/studying
nager	To swim/swimming
jouer	To play/playing
gagner	To win/winning

11

Y7- Autumn 1- La rentrée

Y7- Autumn 1- La rentrée

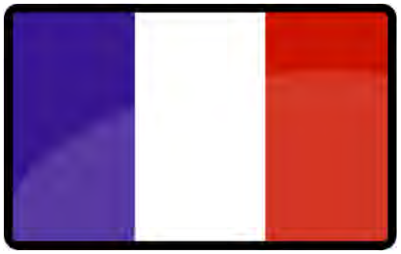
1	Parle moi de toi-même.	Tell me about yourself.
	Je m'appelle Lucie et j'ai onze ans. Mon anniversaire c'est le vingt-trois janvier. J'ai une sœur qui s'appelle Kate, elle a neuf ans mais je n'ai pas de frères.	My name is Lucie and I am 11 years old. My birthday is 23rd January. I have a sister who is called Kate, she is 9 years old but I do not have any brothers.
2	Décris ta salle de classe.	Describe your classroom.
	Dans ma salle de classe il y a des tables et des posters mais il n'y a pas de tablettes. C'est sympa mais un peu démodé. Au fond il y a un grand écran blanc et à droit il y a des fenêtres.	In my classroom there are tables and posters but there is not any tablets. It's nice but a little old-fashioned. At the front there is a big screen and on the right there are windows.
3	Qu'est ce que tu aimes?	What do you like?
	J'aime le vélo car c'est très amusant et j'adore la danse parce que c'est vraiment intéressant mais je n'aime pas le foot car c'est ennuyeux. Je déteste les serpents et les araignées. Quelle horreur!	I like cycling because it's really fun and I love to dance because it's really interesting but I don't like football because it's boring. I hate snakes and spiders! How horrible!
4	Tu es comment?	What are you like?
	Je suis vraiment sympa et intelligent(e) mais je ne suis pas timide. Parfois je suis bavarde. Mon ami est très fort et il est grand mais il n'est pas méchant!	I am really nice and intelligent but I am not shy. Sometimes I am chatty. My friend is strong and he is tall but he is not nasty.
5	Qu'est ce que tu aimes faire?	What do you like to do?
	J'aime bloguer et j'aime bien retrouver mes amis! Je n'aime pas chanter et je déteste nager car c'est nul. Ma vie c'est rigoler et malheureusement étudier.	I like blogging and I like to meet my friends a lot. I don't like to sing and I hate to swim because it is boring. My life is to laugh and unfortunately studying.

Quel temps fait-il?	What's the weather like?
Il fait beau	It's fine
Il fait mauvais	It's bad
Il fait chaud	It's hot
Il fait froid	It's cold
Il y a du soleil	It's sunny
Il pleut	It's raining
Il neige	It snows
quand	when
Je reste à la maison	I stay at home

1

En été	In summer
En automne	In autumn
En hiver	In winter
Au printemps	In spring

2



Je joue	I play
au basket	basketball
au billiard	pool
au foot	football
au rugby	rugby
au hockey	hockey
au tennis	tennis
au volley	volleyball
a la pétanque	boules
aux boules	boules
aux cartes	cards
aux échecs	chess

3

Qu'est-ce que tu fais?	What do you do?
Je fais du skate	I do skateboarding
Je fais du patin à glace	I do ice-skating
Je fais du vélo	I do cycling
Je fais du ski	I do skiing
Je fais du judo	I do judo
Je fais du theatre	I do drama
Je fais de la cuisine	I do cooking
Je fais de la danse	I do dancing
Je fais de la gymnastique	I do gymnastics
Je fais de la natation	I do swimming
Je fais de l'athletisme	I do athletics
Je fais de l'équitation	I do horse-riding
Je fais des randonnées	I do hiking
Je ne fais pas de sport	I don't do sport

5

Qu'est ce que tu aimes faire…	What do you like to do
Sur ton portable	On your mobile
Sur ta tablette	On your tablet
J'aime	I like
Je n'aime pas	I don't like
J'adore	I love
Je deteste	I hate
bloguer	blogging
écouter de la musique	Listening to music
envoyer des sms	Sending texts
prendre des selfies	Taking selfies
partager des photos	Sharing photos
partager des vidéos	Sharing videos
regarder des films	Watching films
tchatter avec mes copains/mes copines	Chatting with my friends
télécharger des chansons	Downloading songs

7

Je fais… du vélo	I do cycling…
souvent	often
parfois	sometimes
tout le temps	All the time
tous les jours	everyday
tous les weekends	Every weekend
tous les lundis	Every Monday

6

Parce que c'est	Because it is
amusant	fun
marrant	funny
ennuyeux	boring
facile	easy
Intéressant	interesting
rapide	quick

8

Je suis	I am
Je ne suis pas	I am not
assez	quite
très	very
sportif/sportive	sporty

4

Y7 - Autumn 2- Mon temps libre

Y7- Autumn 2- Mon temps libre

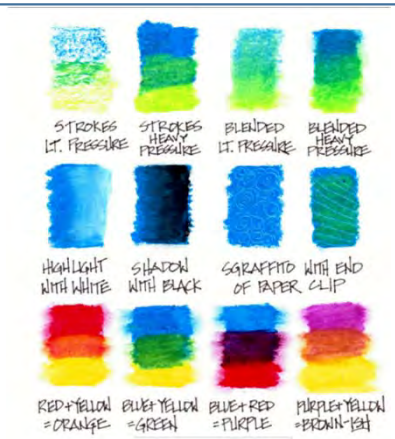
1	Quel temps fait-il?	What weather is it?
	Normalement en été il fait chaud et il y a du soleil, mais en printemps il pleut parfois. Quand il pleut, je reste à la maison mais c'est ennuyeux, par contre s'il neige je joue dans le jardin parce que c'est amusant.	Normally in summer, it is hot and it is sunny, in spring it rains sometimes. When it rains, I stay in the house but it's boring, however if it snows I play in the garden because it is fun.
2	Tu es sportif?	Are you sporty?
	Oui, je suis assez sportif/sportive. Je joue au rugby et au hockey mais c'est un peu fatigant. Mon ami n'est pas sportif. Il préfère jouer aux échecs et aux cartes. Quand il y a du soliel je joue au tennis parce que c'est amusant	Yes, I am sporty. I play rugby and hockey but it is a little tiring. My friend is not sporty. I prefers to play chess and cards. When it is sunny I play tennis because it's fun.
3	Qu'est ce que tu fais?	What do you do?
	Je fais de la danse tous les jours car c'est amusant et je fais souvent de l'athlétisme parce que c'est marrant. Je fais parfois de la natation, mais je ne fais jamais de l'equitation car c'est ennuyeux. Mon ami fais du vélo tous les lundis et du ski tous les hivers, il adore le sport! Je voudrais jouer à la pétanque en été.	I do dance everyday because it's fun and I often do athletics because it's funny. I sometimes do swimming but I never do horse-riding because it is boring. My friend does cycling every Monday and skiing every winter, he loves sport! I would like to play bowls in summer.
4	Qu'est ce que tu aimes faire en ligne?	What do you like to do online?
	J'aime écouter de la musique et envoyer des SMS sur mon portable parce que c'est amusant . Par contre, sur ma tablette je préfère regarder des films et partager des photos parce que c'est très facile. Je pense que bloguer c'est vraiment intéressant.	I like to listen to music and sending texts on my mobile because it's fun. However, on my tablet I prefer watching films and sharing photos because it's very easy. I think that blogging is really interesting.

1. Definition of Colour

Is one of the most dominant elements. It is created by light. There are three properties of color; Hue (name,) Value (shades and tints,) and Intensity (brightness.)

2. **Colour Blending** is a term used often in **art**, it is the technique of gently intermingling two or more **colours** or values to create a gradual transition or to soften lines. As an **artist**, it's important to practice **blending** in any medium you choose to work with.

3. **Colour Layering** is a term used often in **art**, it is the technique of gently layering two or more **colours** or values on top of each other to create depth and realism within an image. As an **artist**, it's important to practice **layering** in any medium you choose to work with.



4. Types of Colour Techniques

5

Colour theory

Primary Colours = red, blue & yellow

You cannot make a primary colour.

Secondary Colours = purple, orange & green

A secondary colour can be made by mixing two primary colours

Cold colours = purple, blue & green

Warm colours = red, yellow & orange

Complimentary Colours =

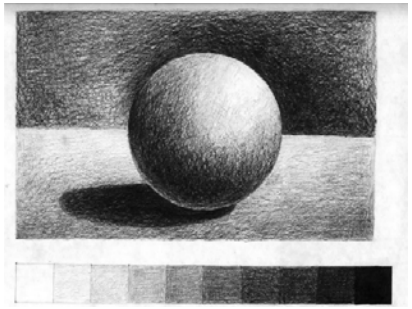
Orange & Blue	Red & Green	Yellow & Purple

Tertiary Colors

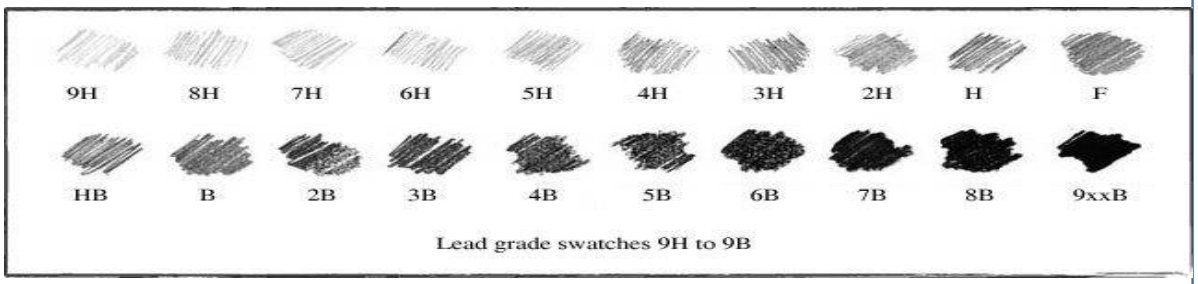
- Colors made by mixing a Primary Color with the Secondary Color that is next to it on the color wheel

Primary + Secondary = Tertiary Color

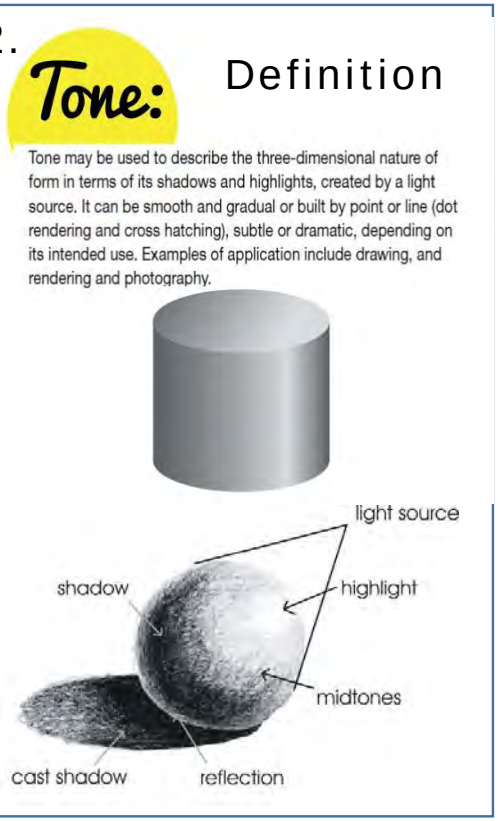
Blue-Green, Blue-Purple, Red-Purple, Red-Orange, Yellow-Orange, Yellow-Green



1. **Pencils are** like a number line, from 9B to 9H. B means soft, **H** means hard; the higher the number the harder/softer the **pencil** is. **Use H pencils** when **you** want lighter lines/shading, **use** B when **you** want darker lines/shading.



2.



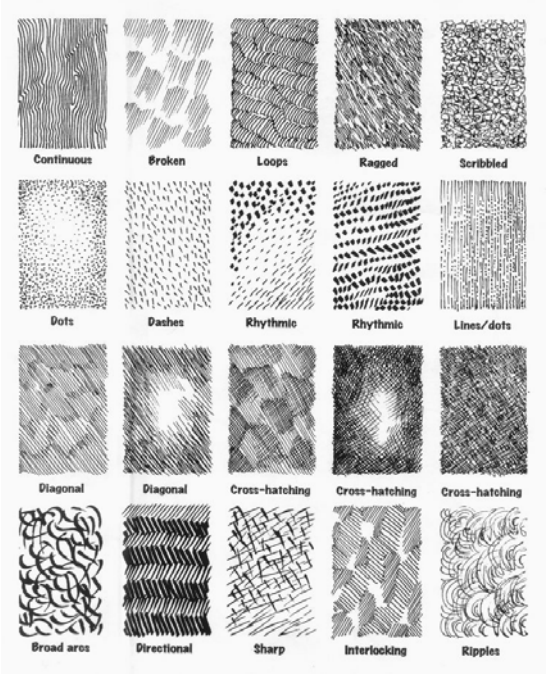
3. A **highlight tone** is any spot in a **drawing**, painting, or photograph where the area is brighter than the surrounding area.
Mid tones are the tones in between the highlight tones and the shadow tones.
A shadow tone is the dark side of an object within a drawing, painting or photograph, that is not facing the light and reveals the form and mass of an object.

LINE

1. **Definition of Line:**

A Mark made by a pointed tool such as a brush, pen, or stick

2. **Mark making** refers to the use of line to create different patterns, **lines**, textures and shapes.



3.

Contour Line Drawing

contour lines - Lines that surround and define the edges of a subject, giving it shape and volume.

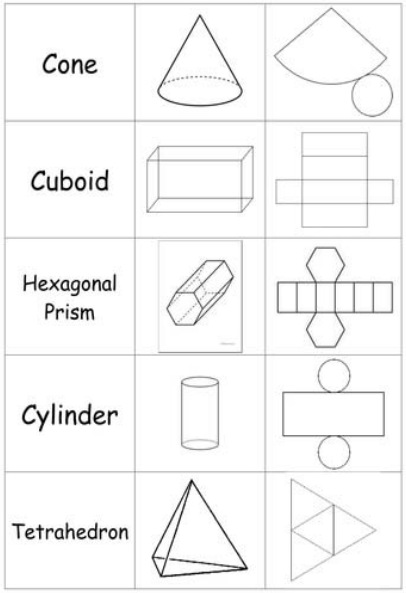
When you draw lines curving around the surface, or contour, of an object, you give that object **volume**. You make that object appear to be 3-D.

4. **CONTINUOUS LINE DRAWING**. The **line** in a **continuous line drawing** is unbroken from the beginning to the end. The **drawing** implement stays in uninterruped contact with the surface of the paper during the entire length of the **drawing**

FORM

1. Definition of Form

Objects that are three-dimensional having length, width and height. They can be viewed from many sides. Forms take up space and volume.



2.

You can use net shapes to create forms.

You add ‘tabs’ to your nets to help construct your forms

You can use materials such as paper and cardboard to create 3D shapes

3. You can also use mediums such as clay, modroc, wire, plaster and wood to construct 3D forms

Plaster

a pasty composition (as of lime or gypsum, water, and sand) that hardens on drying

Wood

a porous and fibrous structural tissue found in the stems and roots of trees and other woody plants

Clay

A mixture of water, mud and rock

Modroc

A combination of plaster and bandage

Wire

A wire is a single, usually cylindrical, flexible strand or rod of metal

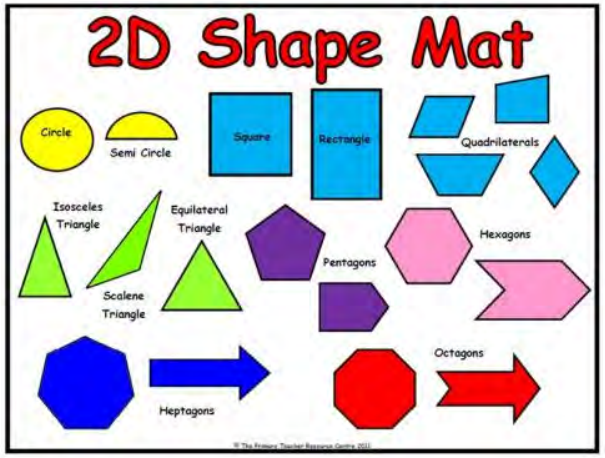
SHAPE

1.

Definition of Shape

A flat, enclosed area that has two dimensions, length and width. Artists use both geometric and organic shapes.

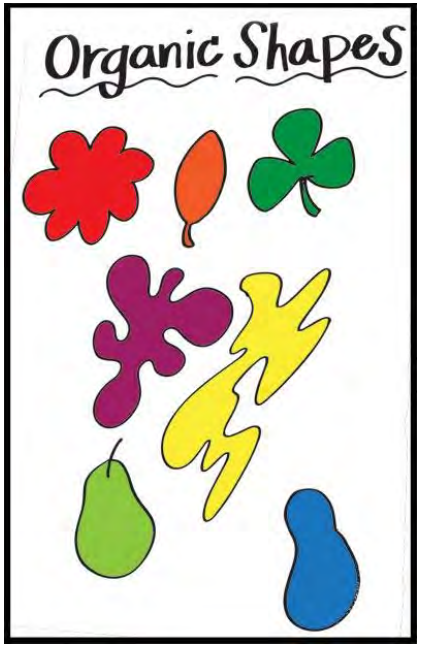
2. **Geometric Shapes**

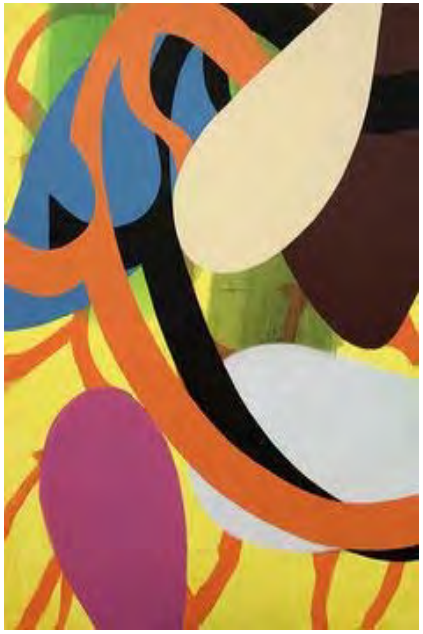


Geometric shapes are shapes made out of points and lines including the triangle, square, and circle. Other shapes are so complex that it takes math in order to create them. These shapes are the opposite of organic shapes. While geometric shapes are more precise, organic shapes are natural.

3. **Organic Shapes**

In contrast, organic shapes are free-form, unpredictable and flowing in appearance. These shapes, as well as organic forms, visually suggest the natural world of animals, plants, sky and sea.





1. Definition of

Pattern:

Pattern is the repetition or alternation of one or more components to create a visual unit. Any visual element can be used to create a pattern. Repetition can be very powerful in creating a sense of order in a composition. Alternation can create more complex patterns than those created by repetition alone. Examples of application include architecture facades and interior decoration; textile and wallpaper design.

2. Different Types of Pattern

Cultural Patterns

Cultural patterns in countries such as Africa and Australia can have symbolic meanings, it can also determine different types of tribes.

Repeated Patterns

A design for decorating a surface composed of a number of elements (motifs) arranged in a regular or formal manner

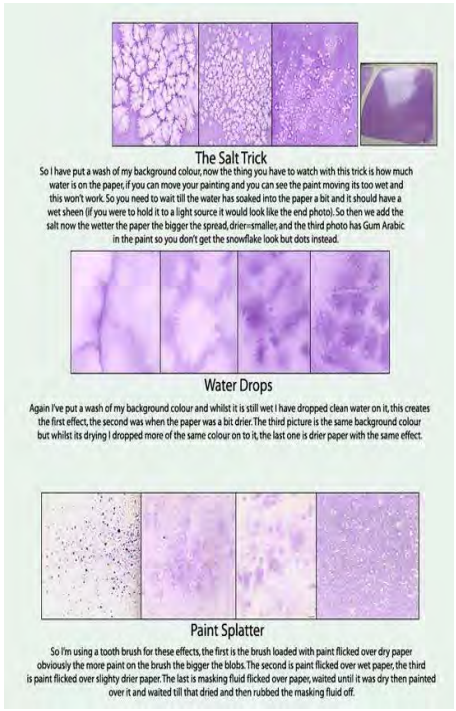
Symmetrical Patterns

When two **patterns** are **symmetrical**, one becomes exactly like another when flipped or turned. A common example of symmetry is a reflection.

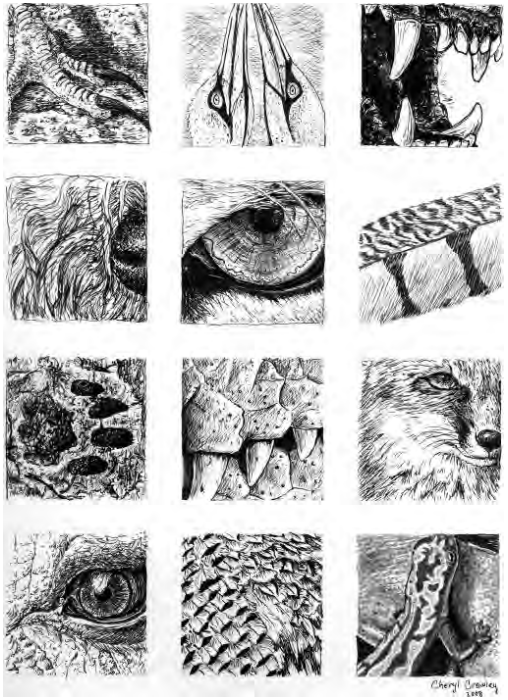
Texture

1. **Definition of Texture**

Describes the feel of an actual surface. The surface quality of an object; can be real or implied.



Water Colour



Pen

2. You can use a range of mediums and techniques to either create a textured surface or to create the appearance of texture.

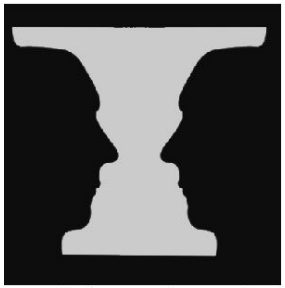
You can imprint objects and materials into surfaces such as clay and plaster to create textured surfaces.

You can add materials such as string, cardboard, wood and pva glue onto and into surfaces to create textures.

SPACE

1. **Definition of Space**

Is used to create the illusion of depth. Space can be two-dimensional, three-dimensional, negative and/or positive.

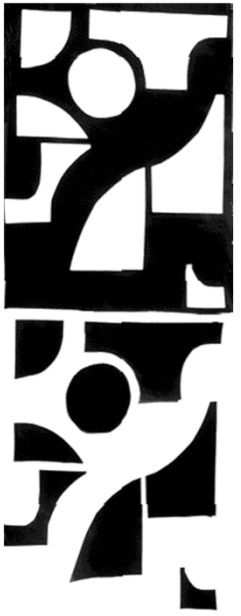


NEGATIVE

2. **Negative space, in art**, is the **space** around and between the subject(s) of an image. **Negative space** may be most evident when the **space** around a subject, not the subject itself, forms an interesting or artistically relevant shape, and such **space** occasionally is used to artistic effect as the "real" subject of an image

3. **Positive space** refers to the main focus of a picture, while negative **space** refers to the background. When used creatively and intelligently, **positive** and negative**space** together can tell a story using visual composition alone

POSITIVE



Introduction to Drama

Still Image

Sometimes called a **Freeze Frame**, a still image will show actors frozen on stage in a particular position to communicate a moment in a story

Facial Expressions

How you communicate your characters emotions or intentions through controlling your eyes, mouth, etc.

Body Language

Communicating how your character is feeling through the use of your posture, stance and gestures.

Storyboard

A collection of drawings in time order to help plan a piece of performance.

Using **captions** will also help plan what your characters are going to say or make the story clearer

Levels

You can make an image or scene more interesting by having people sitting, standing or lying down at different **levels** to enhance meaning in the scene or image.

Gestures

Using a movement to communicate or emphasise what you are saying

Ensemble

In an ensemble, there is no 'star' – *all* performers make an important contribution

Mime

Making the invisible visible through your imagination and movement

Stimulus

A **stimulus** is anything which stimulates ideas for creating drama work.

It could be a picture, a piece of music, text, a place, an item of clothing or anything else which gives you a starting point for making drama.

Production

This includes all of the practical, visual and technical things done to support the performance of drama

Lighting, live and recorded sound, set design, costume and effects are all elements of production

Atmosphere

This describes the particular feeling which **performance** and **production** give the audience.

It might be creepy, sad, joyous or any other feeling

Characterisation

Characterise

To make a character, giving them clear and consistent features in their personality, speech and actions.

Ernie's Incredible Illucinations

A play

Alan Ayckbourn

Imply

If you **imply** something, you suggest it without simply showing or doing

Ensemble

In an ensemble, there is no 'star' – all performers make an important contribution

Ensemble performance, ensemble cast

Physicality

All of the physical elements of a character, especially when exaggerated, can be described as their **physicality.**

Movement, gesture, mannerisms, expressions, body language

Evaluate

Form a judgement of quality, using a set of standards

Identify the good and bad

Describe its quality

Explain your opinion

Blocking

Arranging movement, including entrances, exits and everything in between is all part of **blocking**

This is typically an early job in the rehearsal process, but changes can be made as work progresses

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

Audience ☺ / Empty Seats ☹

Levels

Split Stage

How to Read a Script

Usually, a scripted scene will begin with a few stage directions

The scene becomes the Public Library. It is very quiet. Various people tip-toe about. At one end sits an intellectual-looking Lady with glasses, reading; at the other, an old Tramp eating his sandwiches from a piece of newspaper. One or two others. A uniformed Attendant walks up and down importantly. The Lady with glasses looks up at the lights. She frowns

Lady Excuse me ...
Attendant Sssshhh!

If the writer wants a line to be spoken in a particular way, they might give the reader direction.

Lady Sorry. *(Mouthing silently)* The light's gone.
Attendant *(mouthing)* What?
Lady *(whispering)* I said the light's gone over here.
Attendant *(whispering)* What?
Lady New bulb.

If characters need to move or there is other action this should be written in *italics*

The Attendant shakes his head, still not understanding

(Loudly) UP THERE! YOU NEED A NEW BULB - IT'S GONE. I CAN'T SEE!
People Sssshhhh!
Attendant *(whispering)* Right.
Lady *(whispering)* Thank you.

Sometimes, it might be obvious to the reader how something should be spoken without further direction

If there is action during dialogue, it can be made clear with (brackets) and *italics*

ostinato

YR7

UNIT 1

A

Key words

Ostinato	a repeated pattern
Dynamics	louds and quiets
Pitch	highs and lows
Timbre	the sound an instrument makes
Texture	how many sounds
Structure	the plan of the piece
Tempo	the speed
Duration	how long or short a note is
Composing	to make music up and develop it
Binary	a piece with 2 sections
Polyrhythm	many different rhythms

B

What will you be doing?

You will learn how to play and compose your own ostinato and this will involve:

Understanding an ostinato/introducing the keyboard

Creating a group ostinato using hands/feet

Using percussion instruments to create an ostinato

Understanding binary form

Adding some of the elements of music

More complex ostinati – creating different layers

Developing your performing, composing and listening skills

YR7

UNIT 2

THE 12 BAR BLUES

A

Key words

Improvisation	to make up as you play
Quaver	a ½ beat note
Crotchet	a 1 beat note
Minim	a 2 beat note
Semibreve	a 4 beat note
Time signature	tells you how many beats in a bar
Scale	a sequence of notes going up and down and from which melodies are created
Stave	the 5 lines and 4 spaces that music notation is written onto
Treble clef	the key to treble clef notes on the stave
Chord	a group of notes played together
Triad	a 3 note chord
Key	tells you which key a piece is in e.g. G major/ A minor
Major	a key that sounds happy – e.g. C major
Minor	a key that sounds sad e.g. G minor

B

What will you be doing?

You will learn the 12 Bar Blues on the xylophone and keyboard which will also involve:

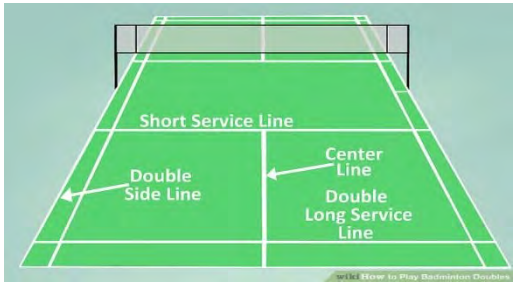
- Individual/pair/class activities
- Adding improvisation
- Learning basic notation/note values
- Understanding chords
- Introduction to time signatures
- Scales of C/G/D/A major
- Developing vocal skills
- Developing listening, performing and improvisation skills

C

Blues music comes from North America and developed from a mixture of African musical features (improvisation, call and response) and western European musical features (chords, scales). The word 'blue' (apart from being a colour) also reflects a mood – sadness. It seems a little strange to have a style of music whose origins begin out of sadness but it's true and you'll learn about how and why it began. It developed during the early 1900's and is now a very popular (and more often than not happy) style of music with blues festivals held all over the world. There are different types of blues: We're going to learn about the 12 bar blues.

KNOWLEDGE ORGANISER- BADMINTON- BASICS

Basic Rules	• The game starts with a serve • The serve must land past the short service line • The server must stand before the short service line when serving • The returner must stand before the short service line when returning the serve • The racquet head must face downwards and be below the waist when serving • Whoever wins the point serves next • Players can only hit the shuttle once each time after their opponent has hit it



Basic Shots

Short serve- The Low Serve is a way to start a game of badminton. This shot needs to cross the oppositions service line and can be used to Outwit an Opponent by varying the depth of the shot.

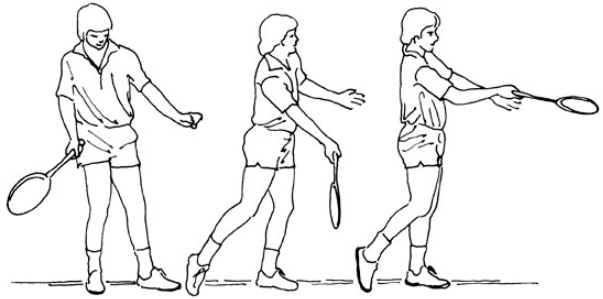
1) Lead with your racket leg, non racket leg slightly behind with your feet pointing forward
2) Short backswing then bring the racket forward
3) Hold the shuttle in front of your waist level
4) Push the shuttle, keeping it low

Overarm shot- The overarm shot is a shot which is taken from above the head.

1) Raise your racket up by your end, arm bent
2) Stand sideways on, raise non racket arm
3) Hit shuttle at its highest point

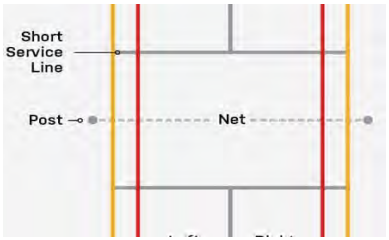
Underarm shot- The underarm shot is a shot which is taken from underneath the body.

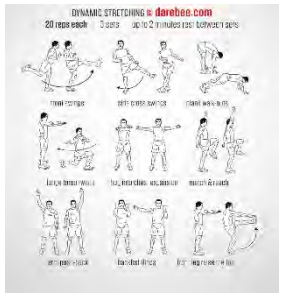
1) Forehand or backhand grip depending on which side you are hitting the shuttle
2) Keep your racket up in front of your body
3) Lunge forward
4) Racket high, drive the shuttle over the net



KNOWLEDGE ORGANISER- BADMINTON- BASICS

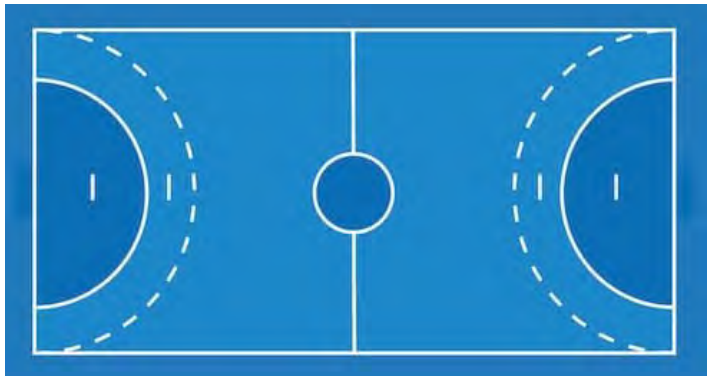
Key words	
Rally- to work with a partner to hit the shuttle across the net.	**Serve**- the first shot which begins the point.
Overhead shot- the action of hitting the shuttle over your head.	**Underarm shot-** the action of hitting the shuttle from underneath.
Shuttle- the object that is hit over the net	**Racquet-** the object you hold that hits the shuttle
Posts- the two objects which hold the net in place	**Net-** the object which divides the court into two

Leadership	
Equipment Specialist- responsible for setting up and putting equipment away properly.	1) Ensure each post is in correct place (edge of the centre of the court, facing inwards) 2) Ensure net is properly tied to posts, white ribbon at top. 3) Ensure net is folded away properly after use 4) Ensure posts are put away in cupboard neatly, facing alternate ways. 5) Ensure rackets and shuttles are out and put away neatly. 
Umpire- ensuring rules are followed and apply them	1) Ensuring the basic rules of badminton are followed 2) Ensure fair play between players 3) Applying the rules of badminton e.g. calling shots 'out' if they land out.
Coach- Correctly identifying strengths and areas for improvement for another performer.	1) Identify strengths of a performer 2) Identify weaknesses of a performer 3) Suggest ways the performer could improve **What went well:** **Even better if:**

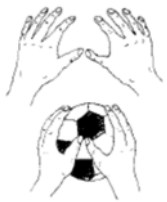
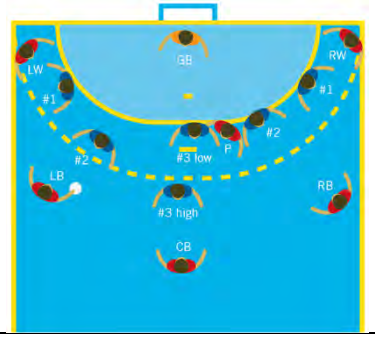
Fitness focus		
Warm ups	**Stretching**	**Cool down**
Pac-man: take in turns to chase your partner and try to 'tag' them. You can only step on the badminton court lines. **Hares and hounds:** Line up in a vertical line, one behind the other. When the leader shouts 'hares', you run to one side, and 'hounds' the other.	Static stretching:  Dynamic stretching: 	Stretching:  Light jogging or walking to return body temperature to resting rate and avoid injury.

KNOWLEDGE ORGANISER- HANDBALL- BASICS

Basic Rules	• A match consists of two periods, usually 30 mins each. • Each team consists of 7 players; a goalkeeper and 6 outfield players. • Outfield players can touch the ball with any part of their body that is above the knee. • Once a player receives possession, they can pass, hold possession or shoot. • If a player holds possession, they can dribble or take three steps for up to three seconds without dribbling. • Only the goalkeeper is allowed to come into contact with the floor of the goal area. • Goalkeepers are allowed out of the goal area but must not retain possession if they are outside the goal area.



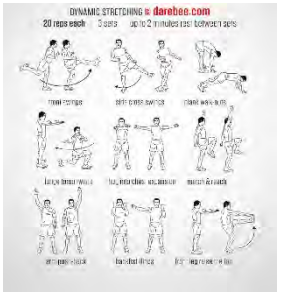
Basic Skills

Passing and receiving- passing the ball quickly and accurately to a team mate and catching the ball properly are essential skills in handball.	**Moving into space-** moving into space to receive the ball is crucial in handball to provide the person on the ball with a passing option and attack.	**Basic defending-** knowing where to stand and how to defend in handball. Every player must get back to defend the goalkeepers area.
Receiving/catching: Make a 'W' with hands Relax the fingers Soft hands to 'cushion' the ball Hold out hands at head height  **Passing:** Elbow should be as high or higher than shoulder Ball should be thrown with one hand Point your non-throwing arm at target Aim to hit the receiver's hands 	Find space on the court, away from defenders (ideally in front of the player with the ball) Move into that space Signal where and how you want to receive the ball Receive the ball and then look for a pass to make 	Everyone must defend and attack in handball as a team As defenders you must all protect the goal by getting back and standing around the goal area Each player should mark the same corresponding player on the opposing team, e.g. winger v winger, centre v centre, etc. 

KNOWLEDGE ORGANISER- HANDBALL- BASICS

Key words	
Pass- the action of passing the ball to a teammate	**Receive-** the action of catching the ball from a teammate
Space- an open space on the court where there are no opponents	**Defend-** the process of getting back as a team and protecting the goal area
Attack- the process of getting forward as a team and creating a scoring opportunity	**Free-throw-** a free throw usually awarded because of a foul/violation
Goalkeepers area- the semi-circle around the goalkeepers area	

Leadership	
Equipment Specialist- responsible for setting up and putting equipment away properly.	1) Ensure balls and bibs are out 2) Ensure any other equipment that is needed is out 3) Ensure goals are set up in the correct place 
Umpire- ensuring rules are followed and apply them	1) Ensuring most of the rules of handball are followed 2) Ensure fair play between players 3) Applying the rules of handball e.g. blowing the whistle when a foul has been committed.
Coach- Correctly identifying strengths and areas for improvement for another performer.	1) Identify strengths of a performer 2) Identify weaknesses of a performer 3) Suggest ways the performer could improve **What went well:** **Even better if:**

Fitness focus		
Warm ups	**Stretching**	**Cool down**
Pac-man: take in turns to chase your partner and try to 'tag' them. You can only step on the handball court lines. **Hares and hounds:** Line up in a vertical line, one behind the other. When the leader shouts 'hares', you run to one side, and 'hounds' the other.	**Static stretching:**  Dynamic stretching: 	**Stretching:**  Light jogging or walking to return body temperature to resting rate and avoid injury.

Knowledge organiser: **Physical Education** **Trampolining** **Beginner**

A - Safety rules:

1. Always inform your teacher before the lesson of any injuries or medical conditions
2. Always wear PE kit with socks
3. Keep long hair tied back and finger nails short
4. Remove all jewellery, watches and objects from your pockets
5. No chewing gum
6. Use the trampoline only in the presence of the teacher and only when given permission
7. Never use the equipment unless adequate spotters are available
8. Always face the performer and pay attention when spotting
9. Do not step on to the trampoline whilst someone else is bouncing as it is dangerous
10. Do not go underneath the trampoline
11. Do not attempt new skills without permission

B - Stopping:

Land with your feet 'flat' onto the bed.

Begin bending your knees as you touch down on the trampoline.

Keep your back straight and ensure you do not lean forwards or backwards.

C - Straight jumping:

Stand in middle of trampoline on the red cross.

Eyes focus on the end frame/mat throughout the jump

Knees and hips bend and push straight

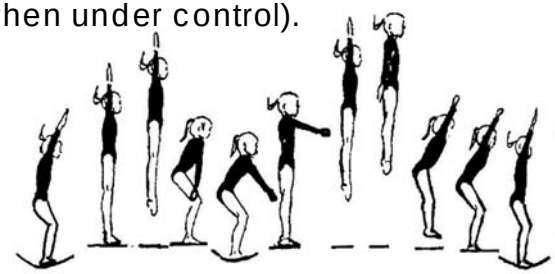
Toes and ankles push straight

Flex ankles on landing

Feet slightly apart but together in the air

Hips straight

Arms above head – (make circles – only when under control).



D - Seat landing:

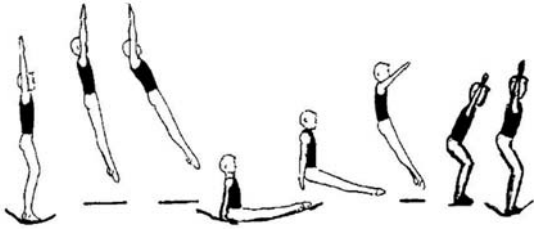
Press hips forward and upward during take-off to create rotation.

Focus on the end bed.

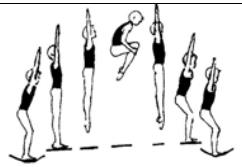
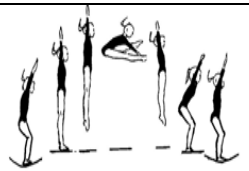
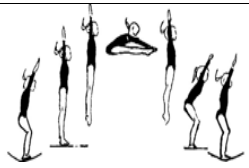
Legs straight hips to heels.

Hands are placed flat, slightly behind and to the side of the hips with the fingers pointing forwards.

Start with arms up and finish with them up on return to feet.

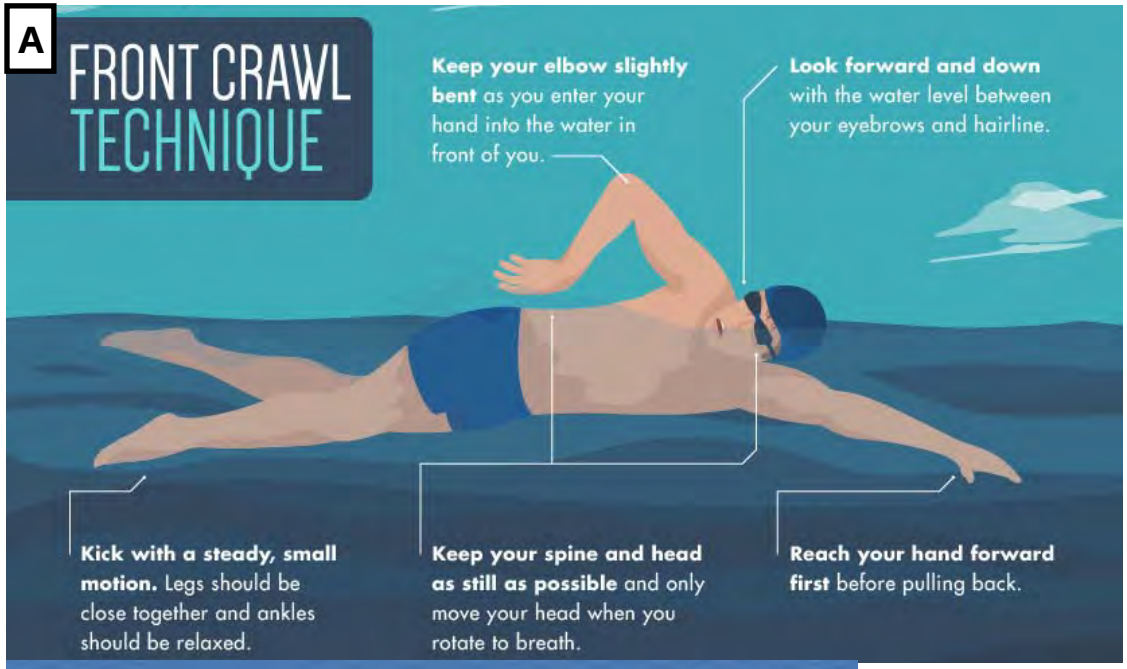


E - Shape Jumps:

Tuck	
Straddle	
Pike	

A

FRONT CRAWL TECHNIQUE



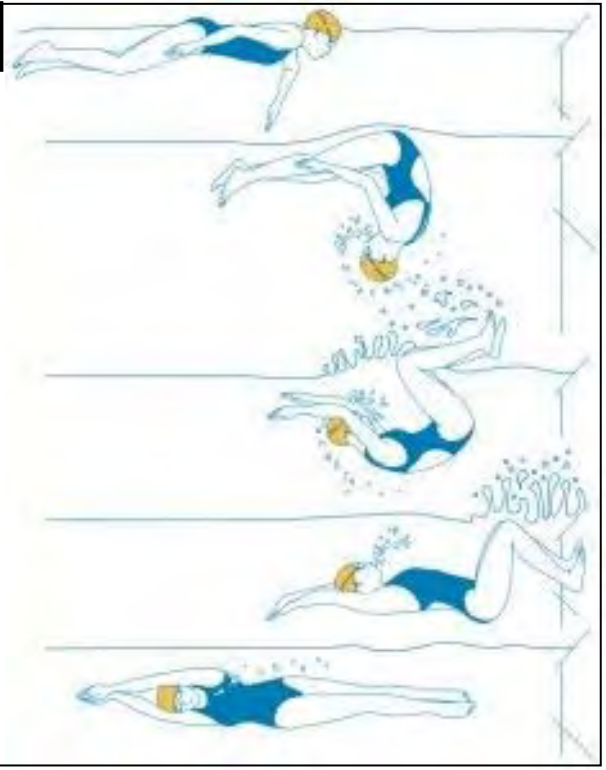
Knowledge Organiser:

Physical Education

Swimming

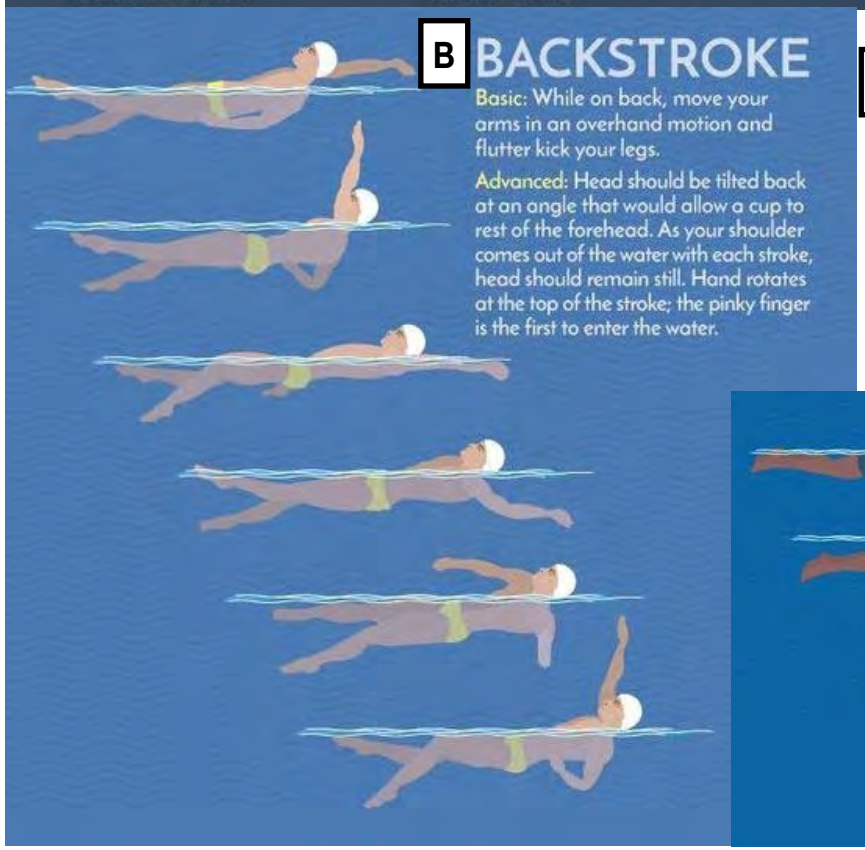
D

Tumble turn



B

BACKSTROKE



Basic: While on back, move your arms in an overhand motion and flutter kick your legs.

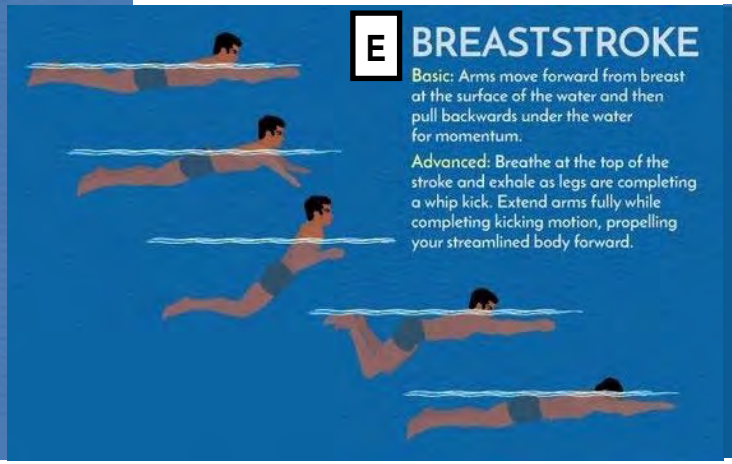
Advanced: Head should be tilted back at an angle that would allow a cup to rest of the forehead. As your shoulder comes out of the water with each stroke, head should remain still. Hand rotates at the top of the stroke; the pinky finger is the first to enter the water.

C **Streamlined position**

Small drag in streamlined position

E

BREASTSTROKE

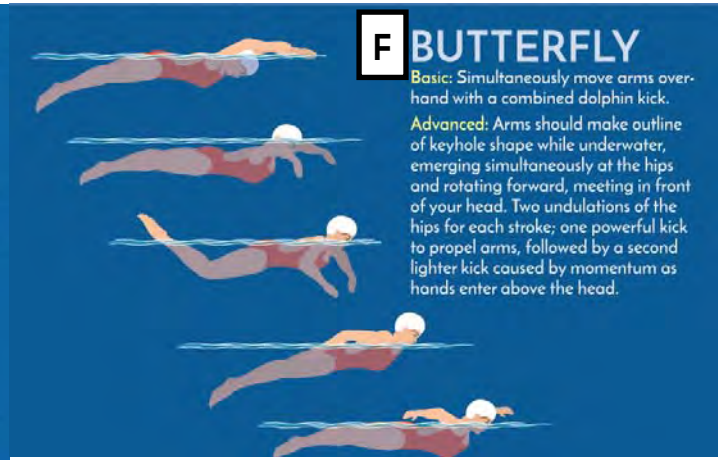


Basic: Arms move forward from breast at the surface of the water and then pull backwards under the water for momentum.

Advanced: Breathe at the top of the stroke and exhale as legs are completing a whip kick. Extend arms fully while completing kicking motion, propelling your streamlined body forward.

F

BUTTERFLY



Basic: Simultaneously move arms over-hand with a combined dolphin kick.

Advanced: Arms should make outline of keyhole shape while underwater, emerging simultaneously at the hips and rotating forward, meeting in front of your head. Two undulations of the hips for each stroke; one powerful kick to propel arms, followed by a second lighter kick caused by momentum as hands enter above the head.

E-Safety—Knowledge Organiser

Topic Key

Digital Footprint	The information about a person that exists on the Internet because of their online activity
Cyberbullying	The bullying of another person using the internet, mobile phones and other digital devices, with the intent to deliberately upset them.
Grooming	Deliberate act taken to befriend and create an emotional connection with a child, resulting in not good intensions.
Sexting	Sending sexually explicit messages or images by cell phones and other electronic devices.
Chat room	A website, or part of a website which allows people to communicate via a computer network in real time.
Block	Action taken to stop interactions from set people via online communication
Emoji	Small digital image or icon used to express an idea, emotion, etc.
Social Network	Social Networking sites offer a free, personal page for you to describe your interests, a list of friends that are also on the site, favourite music, recent photographs, what's happening and so on.
Hacking	Gaining access to a computer, with the intension of stealing data or causing damage.
Cyberpal	A friend who you only communicate with through the internet or cyberspace.

Computer Science Key

Publisher	A desktop publishing piece of software used to create posters, brochures, business cards and banners.
Fit for purpose	This has become a trendy way of saying that whatever is being developed meets all the criteria required.
Email Attachment	An attachment is a file that you want to include with your email message. You can add many attachments to an email message.
Font	Font refers to a complete set of characters which include the letters, numbers and symbols all in a particular type and style.
Email	Electronic mail is a form of communication where mainly text based messages are exchanged by using computers attached to a network.

Protection from online bullying and harassment:
Cyberbullying is an extremely unpleasant and upsetting experience. There are several authorised websites that offer advice on how to stay safe online and what to do if Cyberbullying occurs:

- BBC Webwise (www.bbc.co.uk/webwise)
- Childline (http://www.childline.org.uk)
- ThinkUKnow run by the Child Exploitation and Online Protection Centre (CEOP) (www.thinkuknow.co.uk)
- The Bullying UK helpline is available on 0808 800 2222