

Name:

Form:

**“Knowledge is power.  
Information is liberating.  
Education is the premise  
of progress, in every  
society, in every family”**

**Kofi Annan**  
(research who he is)

**YEAR 7**

**KNOWLEDGE ORGANISER:**

**Autumn Term 2020**



**Bluecoat Wollaton**  
believe in yourself, in others, in God

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# Instructions for using your Knowledge Organiser

Every school day you should be studying at least **1** section of your Knowledge Organiser (KO) for home-work.

The timetable on the next page tells you which subjects you should be studying on which days (it doesn't matter if you have that subject on that day or not, you should follow the timetable).

You are to use your exercise book to show the work you have done. Each evening you should start a new page and put the date clearly at the top.

You need to bring your KO and exercise book with you **EVERYDAY** to the academy.

Your parents should tick off your homework every evening using the grid in your KO on page 4. Parents should also sign off your reading using the reading log on page 5, this will be checked in your library lesson.

Your KO and exercise book will be checked regularly in form time, failure to show homework for **ALL FIVE** days of the week will result in an after school detention that day.

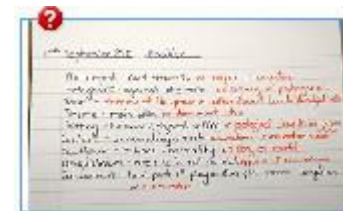
You will also be tested in your lessons on knowledge from the organisers.

## Self-testing

You can use your KOs and book in a number of different ways but you **should not just copy** from the Knowledge Organiser into your book. Use the '*How to self-test with the Knowledge Organiser*' booklet to help you. It can also be found here: <http://www.bluecoatwollaton.co.uk/learning/knowledge-organisers/>

Below are some possible tasks you could do in your workbooks, **no matter which task you do you should always check and correct your work in a different coloured pen.**

- Ask someone to write questions for you
- Write your own challenging questions and then leave it overnight to answer them the next day
- Create mindmaps
- Create flashcards
- Put the key words into new sentences
- Look, cover, write and check
- Mnemonics
- Draw a comic strip of a timeline
- Use the 'clock' template to divide the information into smaller sections. Then test yourself on different sections
- Give yourself spelling tests
- Definition tests
- Draw diagrams of processes
- Draw images and annotate/label them with extra information
- Create fact files



## Presentation

You should take pride in how you present your work:

- Each page should be clearly dated at the top left hand side with Subject 1 written in the middle.
- Half way down the page a line should divide it in two with Subject 2 written above the dividing line.
- Each half of the page should be neatly filled with evidence of self-testing. There should be an appropriate amount of work.
- Failure to show pride in your presentation or wasting space on your page with large writing or starting a number of lines down will result in a **negative point**.



<b>Week starting:</b> <b>31st Aug</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday			
Tuesday			
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

<b>Week starting:</b> <b>7th Sept</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	Bedrock	Geography	
Friday	Science		

<b>Week starting:</b> <b>14th Sept</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

<b>Week starting:</b> <b>21st Sept</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	Bedrock	Geography	
Friday	Science		

You are expected to study the subject(s) shown on your timetable each day.

Each day use a page of your exercise booklet to evidence your work.

<b>Week starting:</b> <b>28th Sept</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

<b>Week starting:</b> <b>5th Oct</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	Bedrock	Geography	
Friday	Science		

<b>Week starting:</b> <b>12th Oct</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

# Autumn Term 1

<b>EXAMPLE</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

<b>Week starting:</b> <b>2nd Nov</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

<b>Week starting:</b> <b>9th Nov</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	Bedrock	Geography	
Friday	Science		

<b>Week starting:</b> <b>16th Nov</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

<b>Week starting:</b> <b>23rd Nov</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	Bedrock	Geography	
Friday	Science		

You are expected to study the subject(s) shown on your timetable each day.

Each day use a page of your exercise booklet to evidence your work.

<b>Week starting:</b> <b>30th Nov</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

<b>Week starting:</b> <b>7th Dec</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	Bedrock	Geography	
Friday	Science		

<b>Week starting:</b> <b>14th Dec</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

# Autumn

## Term 2

<b>EXAMPLE</b>	<b>Subject 1</b>	<b>Subject 2</b>	<b>Signed off</b>
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

# Reading Log

Use this reading log to record the books you read, how long you have spent reading, plus AR quizzes and Bedrock lessons.

Week starting	Mon	Tues	Weds	Thurs	Fri	Sat	Sun	Total no. of minutes read	Bedrock lesson complete?	Parent/Carer Signature
31.8.20										
7.9.20										
14.9.20										
21.9.20										
28.9.20										
5.10.20										
12.10.20										
2.11.20										
9.11.20										
16.11.20										
23.11.20										
30.11.20										
7.12.20										
14.12.20										

**'The more that you read, the more things you will know.  
The more that you learn, the more places you'll go.'**



# Bedrock

Use this page to note down what days you have your Library lesson and what days you can access Bedrock without being locked out by the 24 hour drip feed...

Don't forget the drip feed! 24 hour block between lessons



Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

Monday morning  
Bedrock reports  
sent to your  
English teacher(s)  
to check your  
progress

Add to the grid when you have your Library lesson  
Shade with a pencil the days you can't do Bedrock due to the 24 hour block  
Highlight/colour the days you can complete your Bedrock

Remember that the weekly minimum is:

1 x Bedrock Lesson (ideally during library lesson)

1 x Bedrock homework

= 2 per week

**Aim to get everything done in plenty of time to grow your brain and get plenty of prizes for your progress :)**





Section A: Key vocabulary	
Tier 3 Vocabulary	Definition
Autobiography (n)	An account of a person's life written by that person
Biography (n)	An account of a person's life written by someone other than that person
Anecdote (n)	A short amusing or interesting story about a real incident or person
Hyperbole (n)	Exaggerated statements or claims not meant to be taken literally
Perspective (adj)	A particular attitude towards or way of regarding something; a point of view
Narrative (n)	A spoken or written account of connected events; a story
Simile (n)	Comparison of one thing with another thing using 'like' or 'as'
Metaphor (n)	A thing regarded as representative or symbolic of something else
Tier 2 Vocabulary	Definition
Anguished (adj)	Severe mental or physical pain or suffering
Anxious (adj)	Feeling or showing worry, nervousness, or unease about something with an uncertain outcome
Apprehensive (adj)	Anxious or fearful that something bad or unpleasant will happen
Refuge (n)	The state or place of safety; sheltered from pursuit, danger, or difficulty
Exploit (v)	Make use of (a situation) in a way considered unfair
Sanctuary (n)	Refuge or safety from pursuit, persecution, or other danger
Evolve (v)	Develop gradually
Exaggerate (v)	Represent (something) as being larger, better, or worse than it really is

Section B: Vocabulary	
Idiom (n)	An expression with a non deducible meaning from solely the words e.g. over the moon
Persecute (v)	Subject (someone) to hostility and ill-treatment, especially because of their race or political or religious beliefs
Impel (v)	Drive, force, or urge (someone) to do something
Poverty (n)	The state of being extremely poor
Provoke (v)	Stimulate or give rise to (a reaction or emotion, typically a strong or unwelcome one) in someone
Contrary (adj)	Opposite in nature, direction, or meaning
Devote (v)	Give all or most of one's time or resources to (a person or activity)
Diligent (adj)	Having or showing care in one's work or duties
Enquiring (adj)	Showing an interest in learning new things
Envision (v)	Imagine as a future possibility; visualize
Boisterous (adj)	Noisy, energetic, and cheerful
Aspirational (adj)	Having or characterized by aspirations to achieve social prestige and material success
Section C: Key Autobiographies	
Maya Angelou	An acclaimed American poet, storyteller, activist, and autobiographer, Angelou had a broad career as a singer, dancer, actress, composer, and Hollywood's first female black director, but became most famous as a writer, editor, essayist, playwright, and poet. As a civil rights activist, she worked for Dr. Martin Luther King Jr. and Malcolm X. Her most famous work, <i>I Know Why the Caged Bird Sings</i> (1969), deals with her early years where she lived with her brother and grandmother.

Section C: Key Autobiographies	
Malala Yousafzai	An activist for female education and the youngest Nobel Prize laureate. She is known for human rights advocacy, especially the education of women and children in northwest Pakistan, where the local Taliban had at times banned girls from attending school.
Nelson Mandela	A South African anti-apartheid revolutionary, political leader, and philanthropist who served as President of South Africa from 1994 to 1999. He was the country's first black head of state and the first elected in a fully representative democratic election. His government focused on breaking the legacy of apartheid by tackling racism and fostering racial reconciliation.
Anne Frank	A German-Dutch diarist of Jewish origin. One of the most discussed Jewish victims of the Holocaust, she gained fame with the publication of <i>The Diary of a Young Girl</i> , in which she documents her life in hiding from 1942 to 1944, during the German occupation of the Netherlands in World War II.

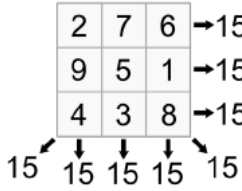









Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Sum (n)	The total when numbers are added
Difference (n)	The result of a subtraction. The difference between 5 and 13 is 8.
Term (n)	Either a single number or variable, or the product of numbers and variables. Examples would be 'y' or '4' or '5x <sup>2</sup> y'
Like terms (n.p)	Terms, as defined above that are the same. Example: <b>2y</b> and <b>4y</b> are like terms but y and y <sup>2</sup> are not like terms.
Expression (n)	A combination of terms and operators (+, - × and ÷). eg. <b>3y - x</b> or <b>4(x + 3)</b>
Simplify (v)	Combine like terms to make an expression simpler <b>6y + 2y = 8y</b>
Perimeter (n)	The distance around the outside of a shape
Multiple (n)	The result of multiplying a number by a whole number, e.g. <b>Multiples of 7 are: 7, 14, 21, 28, 35, 42 ...</b>
Lowest common multiple (LCM) (n)	The smallest number that is a common multiple of given numbers
Numerator (n)	The top part in a fraction
Denominator (n)	The bottom part in a fraction
Vinculum (n)	The horizontal line in a fraction
Tier 2 vocabulary	Definition
Calculate (v)	To work something out using mathematical reasoning
Horizontal (n)	Parallel to the horizon
Vertical (n)	At right angles (perpendicular) to the horizon
Length (n)	The distance from end to end
Width (n)	The distance from side to side

Section 2: Key Facts and Processes
<p>Magic squares have the property that every row, column and main diagonal sums to the same number.</p> <p>The top row: <math>2 + 7 + 6 = 15</math></p> <p>The middle column: <math>7 + 5 + 3 = 15</math></p> <p>A diagonal: <math>4 + 5 + 6 = 15</math></p> 
<p>What are the rules for adding and subtracting negative numbers?</p>  <p><math>+(+2)</math> increase by 2      <math>+(-2)</math> decrease by 2</p> <p><math>- (+2)</math> decrease by 2      <math>- (-2)</math> increase by 2</p>
<p><b>What is the lowest common multiple (LCM) of 8 and 10?</b></p> <p>Multiples of 8: 8, 16, 24, 32, <b>40</b>, 48, 56, 64, ...</p> <p>Multiples of 10: 10, 20, 30, <b>40</b>, 50, 60, ...</p> <p><b>The LCM is 40 (the smallest number found in both lists).</b></p>
<p>Write down 3 fractions <b>equivalent</b> to <math>\frac{7}{9}</math></p> <p><b>Multiply</b> both numerator and denominator by the same number, and the fraction value will remain the same (or equivalent). This also works if you <b>divide</b> both the numerator and denominator by the same number.</p> <p><math>\frac{14}{18}</math>      <math>\frac{21}{27}</math>      <math>\frac{70}{90}</math></p>
<p>We can compare the size of fractions by writing them as <b>equivalent fractions</b> with the <b>same denominator</b>. Compare the <b>numerators</b> to decide which is bigger.</p> <p><b>Which is bigger, <math>\frac{3}{5}</math> or <math>\frac{1}{2}</math>?</b></p> <p><math>\frac{3}{5} = \frac{6}{10}</math>      <math>\frac{1}{2} = \frac{5}{10}</math></p> <p>Six tenths is more than five tenths so that is the bigger fraction. See Section 3 for a diagram to help you with questions like this.</p>

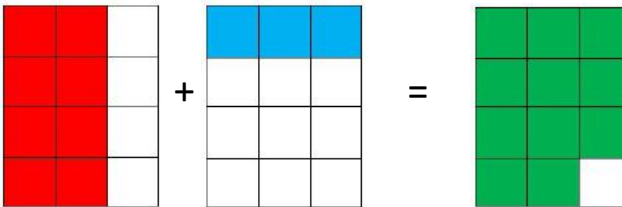
## Section 3: Support

Drawing fractions can help us to visualise the problem.

Consider  $\frac{2}{3} + \frac{1}{4}$

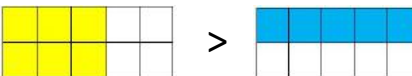
We can use a common denominator of 12, since 12 is the **lowest common multiple** of 3 and 4.

$\frac{2}{3} = \frac{8}{12}$        $\frac{1}{4} = \frac{3}{12}$




Using equivalent fractions, we can see that the answer is  $\frac{11}{12}$

You could also use diagrams to compare fractions. Which is larger,  $\frac{3}{5}$  or  $\frac{1}{2}$ ?



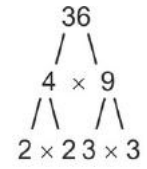
Access **Hegarty Maths** on a computer, tablet device or smartphone for additional support: [www.hegartymaths.com](http://www.hegartymaths.com)

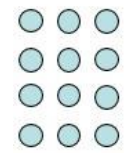

Select **Bluecoat Wollaton Academy** as your school.



Topic	Videos
Adding and subtracting	37, 38, 39, 40 and 41
Collecting like terms	157 and 158
Calculating perimeter	548, 549, 550 and 551.
Equivalent fractions	57,58,59,60 and 61
Adding and subtracting fractions	65 and 66

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Product (n)	The answer to a multiplication
Quotient (n)	The answer to a division question
Factor (n)	A number that divides into another number without a remainder
Multiple (n)	The result of multiplying a number by a whole number
Highest Common Factor (HCF) (n)	The largest number that is a common factor of given numbers
Integer (n)	A number which is not a fraction; a whole number
Prime Number (n)	A number is prime if it has exactly two factors: 1 and itself.
Product of prime factors (n)	A multiplication using only prime numbers whose product is the given number (eg $2 \times 3 \times 5 = 30$ )
Area (n)	The space inside a 2D shape
Quadrilateral (n)	A shape with exactly 4 straight edges
Trapezium (n)	A quadrilateral with one pair of parallel sides
Parallelogram (n)	A quadrilateral whose opposite sides are parallel and equal in length
Tier 2 vocabulary	Definition
Dimension (n)	A length in a given direction
2D /Two dimensional (n)	having only height and width dimensions, but no depth or thickness
Parallel lines (n)	Lines side by side with the same distance constantly between them
Algorithm (n)	A process or set of rules for calculations or problem-solving

Section 2: Key Facts and Processes	
What are the rules for multiplying and dividing negative numbers?	$2 \times -3 = -6$ $8 \div -2 = -4$ $-2 \times 3 = -6$ $-8 \div 2 = -4$ $-2 \times -3 = 6$ $-8 \div -2 = 4$
Write 36 as a product of prime factors	 $2^2 \times 3^2$
List all the factors of 36	Factor pairs: $1 \times 36$ $4 \times 9$ $2 \times 18$ $6 \times 6$ $3 \times 12$
Write a number that is divisible by both 3 and 5	To be divisible by 5 it must end in 0 or 5. To be divisible by 3 the digit sum must be divisible by 3. One example is: 2535
List all the prime numbers up to 20	2, 3, 5, 7, 11, 13, 17, 19
What is the formula for the area of a trapezium?	$\text{Area} = \frac{(a + b)h}{2}$
What is the formula for the area of a triangle?	$\text{Area} = \frac{bh}{2}$
Calculate $\frac{4}{7} \times \frac{3}{5}$	$\frac{4}{7} \times \frac{3}{5} = \frac{4 \times 3}{7 \times 5} = \frac{12}{35}$
Calculate $\frac{4}{9} \div \frac{3}{5}$	$\frac{4}{9} \div \frac{3}{5} = \frac{4}{9} \times \frac{5}{3} = \frac{4 \times 5}{9 \times 3} = \frac{20}{27}$


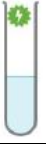








Section 3: Support	
 <p>There are 3 in each group            3 is the <b>multiplicand</b>            There are 4 of these groups            4 is the <b>multiplier</b>  <math>3 \times 4</math> The <b>product</b> is 12</p>	
<p>Find the reciprocal of <math>\frac{3}{4}</math>.</p> <p><math>\frac{3}{4}</math> and <math>\frac{4}{3}</math> are reciprocals since</p> <p><math>\frac{3}{4} \times \frac{4}{3} = \frac{12}{12} = 1</math></p> <div> <p>Reciprocals multiply together to make a product of 1.</p> </div>	
<p><b>To multiply a fraction by an integer:</b>            Multiply the numerator by the integer. Leave the denominator unchanged:</p> $\frac{2}{9} \times 4 = \frac{2}{9} \times \frac{4}{1} = \frac{8}{9}$	
<p>Access <b>Hegarty Maths</b> on a computer, tablet device or smartphone for additional support: <a href="http://www.hegartymaths.com">www.hegartymaths.com</a></p> 	
Select <b>Bluecoat Wollaton Academy</b> as your school.	
Topic	Videos
Area of 2D shapes	553—559
Factors, primes and squares	27—33, 99—101
Multiplying and dividing fractions	67—72
Multiplying/dividing decimals	48—51
Multiplying/dividing negatives	42 and 43
Reciprocals	71

## Section A: Key Vocabulary

Tier 3 vocabulary	Definition
Cell (n)	What all living things are made of.
Nucleus (n)	Contains genetic information and uses this to control the functions of the cell.
Cytoplasm (n)	Where chemical reactions happen.
Cell membrane (n)	Barrier which controls the substances that pass into and out of the cell.
Cell wall (n)	Supports the cell.
Mitochondria (n)	Where respiration (energy transfer) happens.
Ribosome (n)	Where protein synthesis (protein making) happens.
Chloroplast (n)	Absorbs light energy for photosynthesis.
Vacuole (n)	Contains cells sap to support the cell.
Pili (n)	Allows the cell to attach to things, like other cells.
Flagella (n)	Allows the cell to move.
Mitosis (n)	Cell division for making identical cells.
Stem cell (n)	A type of cell that does not yet have a specific function.
Tier 2 vocabulary	Definition
Safety (n)	The condition of being protected from or unlikely to cause danger, risk, or injury.
Equipment (n)	The necessary items for a particular purpose.
Method (n)	A particular procedure for accomplishing or approaching something, especially a
Calculate (v)	Determine (the amount or number of something) mathematically.
Magnify (v)	To make something appear larger than it is.
Structure (n)	An object made from several parts.
Function (n)	An activity that is natural to or the purpose of a person or thing.
Adjust (v)	Alter or move (something) slightly in order to achieve the desired fit, appearance, or
Compare (v)	Estimate, measure, or note the similarity or dissimilarity between.

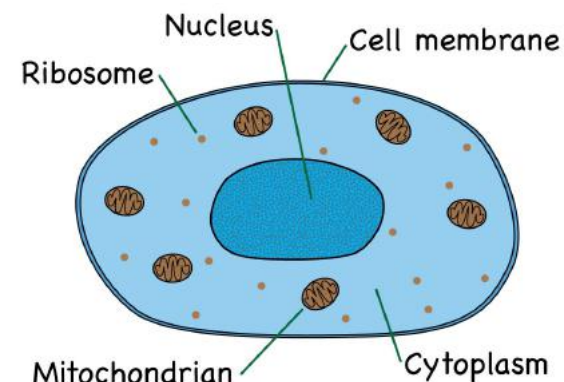
## Science—Cells—Autumn Term 1

### Section B: Scientific Apparatus

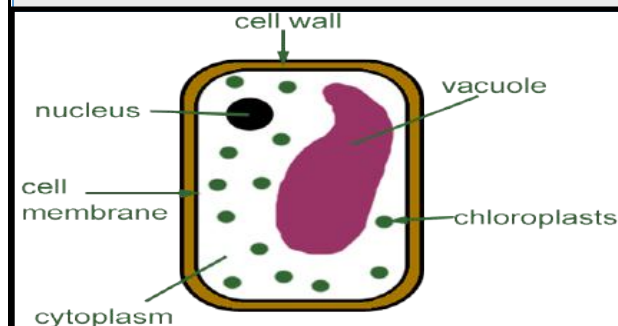
Name	Diagram	Function
Test tube		Used for putting small amounts of liquid in.
Boiling tube		Used for heating substances over a Bunsen burner.
Conical flask		Has a very stable bottom, used to hold a funnel when filtering.
Funnel		Used for filtering solids from liquids.
Measuring cylinder		For measuring volumes of liquids.
Beaker		Useful for keeping liquids in.
Bunsen burner		A heat source.
Gauze		Allows you to heat a beaker over a Bunsen burner.
Thermometer		Measures the temperature of things.
Tripod		Holds objects over a Bunsen burner so they can be heated.

### Section C: Diagrams

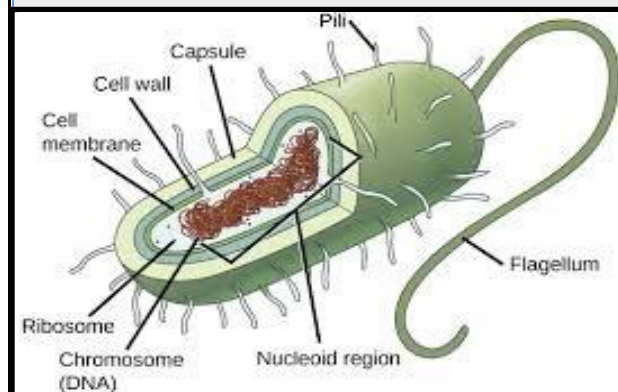
#### Animal Cell



#### Plant Cell



#### Prokaryote (Bacteria)






Section A: Key Vocabulary	
Tier 3	Definition
Particle (n)	Everything is made up of these.
Solid (n)	Substance in a firm, stable shape.
Liquid (n)	Substance that can flow.
Gas (n)	Substance that expands to fill the space it is in.
Mass (n)	The amount of matter in a substance.
Volume (n)	The amount of space that a substance takes up.
Density (n)	The mass in a particular volume.
Diffusion (n)	Liquid and gas particles spreading
Pressure (n)	The force of an object pushing
Tier 2	Definition
Classify (v)	Arrange things in categories according to shared qualities or characteristics.
Property (n)	An attribute, quality, or characteristic of something.
Arrangement (n)	The action, process or result of putting things in order.
Model (n)	A three-dimensional representation of a thing or of a proposed structure.
Theory (n)	An idea used to explain a situation or justify a course of action.
Collide (v)	To hit into something when moving.
Categorise (v)	To place into a particular class or
Explain (v)	To make an idea or a situation clear to someone by describing it in more detail or revealing relevant facts.

## Science—States of Matter— Autumn Term 2

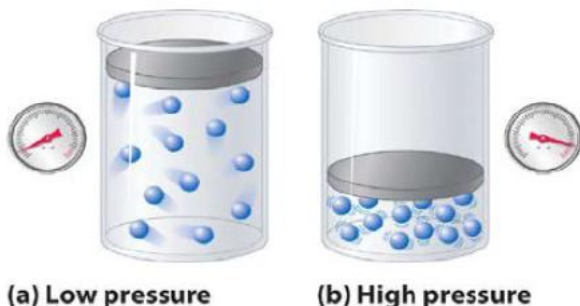
Section B: Science Skills
Writing a method in Science
What is a method?
A method is a set of instructions for carrying out an experiment. They should be written so that anybody could pick up the method and follow it correctly.
Methods must include:
Methods are:
- written step by step;
- include the equipment;
- the amount/volume of any substance;
- timings;
- the number of repeats.
Example method for using a microscope to view cheek cells
<ol style="list-style-type: none"> <li>1. Take 1 cotton bud.</li> <li>2. Place the cotton bud inside your mouth and gently rub the inside of your cheek for 20 seconds.</li> <li>3. Take a microscope slide, holding it on the edge and gently rub the cotton bud over the centre of the slide.</li> <li>4. Dispose the cotton bud in the waste container.</li> <li>5. Take some methylene blue stain.</li> <li>6. Place one drop of methylene blue on the slide, where you rubbed the cotton bud.</li> <li>7. Take one cover slip and gently place over the top of the stain.</li> <li>8. Place the slide on the stage of the microscope, and use the microscope to look at the cells.</li> </ol>

## Section C: Diagrams

### States of Matter

State	Solid	Liquid	Gas
Closeness of particles	Very close	Close	Far apart
Arrangement of particles	Regular pattern	Randomly arranged	Randomly arranged
Movement of particles	Vibrate around a fixed position	Move around each other	Move quickly in all directions
Energy of particles	Low energy	Greater energy	Highest energy
2D diagram			

### Gas Pressure



(a) Low pressure      (b) High pressure

### Important formula

**Density (g/cm<sup>3</sup>) = mass (g) / volume (cm<sup>3</sup>)**

E.g. Mass = 10g, volume = 5cm<sup>3</sup>, density = 10/5  
= **2g/cm<sup>3</sup>**

**Pressure (N/m<sup>2</sup>) = Force (N) / area (m<sup>2</sup>)**

E.g. Force = 50N, area = 2 m<sup>2</sup>, pressure = 50/2  
= **25N/m<sup>2</sup>**

**Volume (cm<sup>3</sup>) = Length (cm) x Height (cm) x width (cm)**

E.g. Length = 5cm, height = 5cm, width = 5cm,  
volume = 5 x 5 x 5 = **125cm<sup>3</sup>**



# Religious Studies— Life in a Church School—Autumn Term 1



Section A: Key vocabulary	
Tier 3 Vocabulary	Definition
Altar (n)	A table used in the centre of Christian worship
Covenant (n)	Agreement of promise
Holy Communion (n)	Part of Christian worship where bread and wine are shared as symbols of Jesus' death on the cross
Sin (n)	To go against God's commands
Omnipotent (adj)	All - powerful
Omnibenevolent (adj)	All-loving
Omniscient (adj)	All-knowing
Omnipresent (adj)	All-present
Tier 2 Vocabulary	Definition
Belief (n) Believe (v)	Accept something is true without proof
Symbol (n) Symbolise (v)	Something that represents something else
Sacrifice (v)	To give up something of value
Faith (n)	Complete trust in someone or something

Section B: Key information
<p>Holy Communion, which is also called the Eucharist , Mass or the Last Supper is accepted by almost all Christians.</p> <p>It is a re-enactment of the Last Supper - the final meal that Jesus shares with his disciples (followers) before his arrest and crucifixion.</p> <p>At the meal Jesus blessed and ate bread and wine and instructed his disciples to do the same in memory of him</p> <p><i>"And he took the bread , gave thanks and broke it, and gave it to them saying this is my body broken for you, do this is remembrance of me" In the same way after supper he took the cup, saying this is the cup of the new covenant in my blood, which is poured out for you" Luke 20:21-22</i></p> <p>The people taking part drink a sip of wine (or grape juice) and eat a piece of bread which has been blessed by the leader.</p> <p>Different churches have different ways of doing this and different ways of understanding what it means and what spiritual events are happening at the time, but they all do it as a reminder that Jesus sacrificed his life for humankind.</p>

Section C: Key information	
Roman Catholics	Protestants
Alcoholic wine in a large cup (chalice)	Non-alcoholic wine in small individual cups
Wafers	Pieces from a loaf of bread
Once a week	Once a month
	
The Nature of God as described in the Bible	
Omnipotent - "I am the Lord, the God of mankind,	
Omnibenevolent - "The Lord is compassionate and gracious, slow to anger and abounding in love"	
Omniscient - "For He looks to the ends of the earth and sees everything under the heavens" Job 28:24	
Omnipresent - "If I go up to the heavens, you are there: if I make my bed in the depths you are	



# Religious Studies— The Bible—Autumn Term 2



Section A: Key vocabulary	
Tier 3 Vocabulary	Definition
Scripture (n)	Holy books of a religion
Testament (n)	Part of the bible Literally: agreement
Gospel (n)	Book about the life and teaching of Jesus. Literally: good news
Fundamentalist (n)	Believe that the Bible is perfect. Everything written inside is literally true with no mistakes
Liberal (n)	Believe the Bible is about people's experience of God, but it was written by people, so has flaws and can't be perfect
Tier 2 Vocabulary	Definition
Authority (n)	The power or right to give orders, make decisions and enforce obedience
Interpret (v) Interpretation (n)	To read closely for deeper meaning
Metaphor (n) Metaphorical (adj)	Figure of speech that describes an object or an action in a way that isn't literally true but helps explain an idea

Section B: The Bible

How to look up a Bible reference:

Romans 12:2

Book

All the books are listed in the table of contents. Then at the top of every page you will find the book as well.

Chapter

Chapters are indicated by a number before the : It's written next to the book at the top of the page and as a larger number in the text.

Verse

To find the verse, look for the small number in the text which indicates the verse.

Christian Beliefs about the Bible:

The Bible is a library of 66 books written by different people in at different times and in different places

The **Old Testament** consists of 39 books and was written between about 1200 and 100BC. The books are the same as in the Hebrew Tenakh (Jewish Scriptures)

The **New Testament** has 27 books and contains the life and teachings of Jesus and the early church

**All Christians** believe the Bible


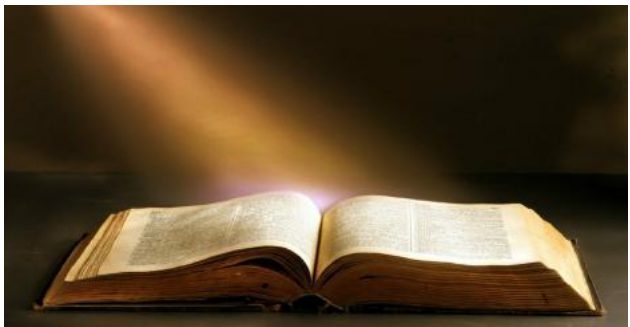
Is the Word of God

Has authority

Inspires them – helps them live their lives as Christians

“All Scripture is God-breathed and is useful for teaching, rebuking, correcting and training in righteousness” 2 Timothy 3:16

Christians differ on how they understand this should be interpreted

Section C: Interpreting the Bible
Jesus heals a Blind man (Luke 18:35-43)

<p><b>Fundamentalist:</b> If it is one of the Gospels, then it must have happened exactly as it says. Jesus has the power to heal, which is a sign that he was the Son of God</p> <p><b>Liberal:</b> Jesus might have had powers, but that is not what is important. The inner meaning of the story is what matters most, that Jesus can help cure spiritual blindness and help us be less selfish</p>


Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Anglo-Saxon (n)	Germanic tribes who lived in England from the 5 <sup>th</sup> century and made up most of the population at the time of the Norman Conquest.
Celt (n)	A group of people from central Europe who had shared beliefs, traditions and languages.
Dark Ages (n)	A time after the fall of the Roman Empire where there was a decrease in learning which meant not many records are kept from this period.
Domesday Book (n)	A survey of England and Wales completed for William the Conqueror. It told him about how much land people owned and what was on it.
Earldom (n)	The land ruled over by an Earl (an important person in the medieval community).
Motte and Bailey (n)	A castle made up of two structures, a mound topped with a wooden keep and an enclosure at the bottom.
Saxon (n)	A group of early Germanic people who settled across Europe.
Witan (n)	An Anglo-Saxon council (a group of people who give advice) or parliament (a group of people who help the King to rule the country). Also called Witenagemot.
Tier 2 vocabulary	Definition
Conquer (v)	To take over land or people by armed force.
Exile (v)	Being removed or barred from your native country.
Feudalism (n)	The social system in Europe with the king at the top and the peasants (ordinary people) at the bottom.
Heir (n)	A person who is entitled to land or a title once someone else dies.
Illegitimate	Something not authorised by the law or no evidence for your claim to the throne.
Landholder (n)	A person who owns land and makes money from it, by selling products from it or renting.
Monasteries (n)	A building where monks live under a religious vow.
Nobles (n)	A person of high birth. Usually owning land and wealthy.
Oath (n)	A promise about someone's future behaviour or promise to a person.
Settlement (n)	A place which was previously uninhabited which is now home to a community.
Succession (v)	The process of inheriting a title. For example the line of succession in a family.

# History— Anglo-Saxon and Norman England—Autumn Term

## Section 2: Important ideas

### Early castles

**Diagram of a Norman Motte and Bailey castle**

### Diagram of the Feudal System

**Diagram of the Feudal System**

In return for the land, those below give their loyalty to those above. E.g. The knights fight for the Nobles.

Those above pass land down to those below. E.g. The King owns all the land and gives some to the nobles etc.

Section 3: Facts/Context/Historical relevance/dates	
Key Dates:	
43 AD	Britain becomes part of the Roman Empire
410 AD	The fall of the Roman Empire in England
419 AD	Anglo-Saxons invade Sussex
753 AD	Bede publishes his book on the history of the English people
1066	September: Harald Hardrada, King of Norway, invades England.
1066	Battle of Stamford Bridge in Yorkshire
1066	William, Duke of Normandy, lands in England
1066	October: Battle of Hastings
1067	The first motte and bailey castle was built in England
1086	The Domesday Book is commissioned (ordered) by William
1096	The Normans set off on their first crusade to Jerusalem
1204	The French King Phillip II invades Normandy. Most Normans decide to become English and stay in England.

# Geography—Map skills and rivers—Autumn Term



Section A: Key vocabulary	
Tier 3	Definition
Abrasion (n)	A process of erosion. Rocks scrape along the bed and banks of a
Confluence (n)	The point where two rivers meet.
Contour lines (n)	A series of lines on maps which connect areas of the same height.
Drainage basin (n)	The area of land that is drained by a river and its tributaries; the catchment area of the river.
Floodplain (n)	Flat areas of land either side of the river channel.
Hydraulic power (n)	A process of erosion where air and water is forced into the cracks in a rock causing it to break apart.
Latitude (n)	Vertical lines on a map which show how far north or south a place
Longitude (n)	Vertical lines on a map that show how far east or west a place is. It
Meander (n)	A bend in a river.
Mouth (n)	The end of a river, usually where it meets the sea.
Source (n)	The start of a river.
Tributary (n)	A smaller river which joins the main river channel.
Tier 2	Definition
Condensation	Cooling of water vapour turning it from gas to liquid.
Continent (n)	Any one of seven large land masses of the Earth.
Country (n)	A nation with its own government, occupying a particular area.
Evaporation (n)	The heating of water turning it from a liquid to a gas.
Ocean (n)	A very large expanse of sea.
Precipitation (n)	Any moisture in the atmosphere which falls to the earth as rain,
Saturated (adj)	Holding as much water as can be absorbed.

Section B: Important ideas and concepts	
Questions:	Answers:
Why do rivers get wider and deeper from source to mouth?	As a river flows downstream, the <b>channel</b> gets deeper and wider. This is because more water is added to the river from <b>tributaries</b> . A higher volume of water requires more space in the river channel. As the river travels downstream, it transports more and more sediment, which helps to erode the channel to make it deeper and wider.
Why do rivers flood?	<p>Rivers flood because of a range of different factors. These could include:</p> <ul style="list-style-type: none"> <li>- Heavy rainfall or prolonged rainfall. This causes the river to overtop its <b>banks</b> because there is a large volume of water entering the river.</li> <li>- Steep slopes surrounding the river. This causes water to move downhill quickly into the river, causing it to overtop its banks.</li> <li>- <b>Impermeable surfaces</b>. This means that water cannot soak into the ground. Lot of towns and cities are built using impermeable materials, such as concrete and tarmac. When water lands on these surfaces, it runs straight over the surface and into rivers or drains, rather than soaking into the ground, which causes river levels to rise quickly.</li> </ul>
Why do people live on floodplains?	The world has a rapidly increasing population, so more houses need to be built in areas that haven't yet been built on. Traditionally, lots of towns and cities have been built next to rivers or coasts because it is convenient for transport by boat. The water was also used for powering factories and industry.

Section C: maps
<p>Compass directions</p>
<p>Countries of the UK</p>
<p>Continents and oceans</p>



Section A: Key terms	
Tier 3 Vocabulary	Definition
Conjugate (v.)	Giving the different forms of the verb depending upon who you are talking about and in
Translate (v.)	To change words or text into a different language.
Infinitive (n.)	The basic form of a verb which doesn't reflect a specific tense or subject/person.
Cognate (n.)	A word which is spelt the same
Definite article (n.)	The word for 'the' - a determiner that introduces the noun and implies it is specific.
Indefinite article (n.)	The word for 'a/an' - a determiner that introduces the noun and implies it is non-specific.
Tier 2 Key Questions	Meaning
¿Qué tal?	How are you?
Estoy... (fenomenal)	I am... (fantastic)
¿Cómo te llamas?	What is your name?
Me llamo...	My name is...
¿Cuántos años tienes?	How old are you?
Tengo ... años	I am ... years old
¿Cuándo es tu cumpleaños?	When is your birthday?
Mi cumpleaños es el...	My birthday is on the...
¿Tienes mascotas?	Do you have any pets?
Tengo... / No tengo...	I have.../ I don't have...







Section B: Key Grammatical Points		
Definite Articles - How to say 'the'		
In Spanish, all nouns are either masculine or feminine, singular or plural and so we can 4 different ways to say the word 'the':		
	Singular	Plural
Masculine	El tigre (the tiger)	Los tigres (the tigers)
Feminine	La jirafa (the giraffe)	Las jirafas (the giraffes)
Indefinite Articles—How to say 'a'/'an' or 'some'		
Like with the word 'the', when we want to use the word 'a', 'an' or 'some' we need to change it depending upon whether a noun is masculine, feminine, singular or plural.		
	Singular	Plural
Masculine	Un hermano (a brother)	Unos hermanos (some brothers)
Feminine	Una hermana (a sister)	Unas hermanas (some sisters)
Gender: How to identify masculine and feminine nouns in Spanish		
Every noun is either masculine or feminine in Spanish. The gender is demonstrated by using the articles 'el' (masculine) or 'la' (feminine) in front of the noun. The nouns endings can also help you identify if it is masculine or feminine (most of the time!):		
Common masculine endings		Common feminine endings
- o		- a
- or		- dad
- aje		- ión
an accented vowel (-á, -é, -í, -ó, -ú)		- ía

Section C: EATTACO vocabulary	
Tenses /verbs	
Ser	To be
Soy	I am
Eres	You (singular) are
Es	He/she/it is
Somos	We are
Sois	You (plural) are
Son	They are
Tener	To have
Tengo	I have
Tienes	You (singular) have
Tiene	He/she/it has
Tenemos	We have
Tenéis	You (plural) have
Tienen	They have
Connectives	
y	and
con	with
también	also
pero	but
Amounts (High-frequency words)	
bastante	quite
mi / mis	my
tu / tus	your





Section A: Key terms	
Previous Tier 3 Vocabulary (from Autumn 1)	
Conjugate	Cognate
Translate	Definite article
Infinitive	Indefinite article
New Tier 3 Vocabulary	Definition
Present tense	A tense expressing an action that is currently going on or performed often, or a state that currently or generally exists.
Regular verbs	A verb that follows standard patterns when conjugated.
Irregular verbs	A verb that doesn't follow the standard patterns when conjugated.
Stem-changing verbs	Verbs where the stem (middle part of the word) changes when they are conjugated (in all forms except WE and YOU PL.– see 'jugar').
Tier 2 Key Questions	Meaning
¿Qué te gusta hacer?	What do you like to do?
¿Qué haces en tu tiempo libre?	What do you do in your free time?
¿Qué deportes haces?	What sports do you do?
¿Qué tiempo hace?	What's the weather like?
Tier 1 Key Nouns	
el fútbol (football)	el baloncesto (basketball)
el tenis (tennis)	la equitación (horse-riding)
la natación (swimming)	la gimnasia (gymnastics)
el voleibol (volleyball)	los artes marciales (martial arts)
mis amigos (my friends)	los videojuegos (videogames)

Section B: Key Grammatical Points			
The Present Tense			
You use the present tense to talk about what usually happens. It can express an action that is performed often or it is a state that currently, or generally, exists. In Spanish, the verb endings change depending on who is doing the action. You take off the endings (-ar, -er, -ir) and add			
Pronoun	-AR	-ER	-IR
Yo (I)	-o	-o	-o
Tú (You sing.)	-as	-es	-es
Él/Ella (He/She/It)	-a	-e	-e
Nosotros (We)	-amos	-emos	-imos
Vosotros (You pl.)	-áis	-éis	-ís
Ellos/Ellas (They)	-an	-en	-en
Using Opinions in Spanish			
You can use opinion phrases either by following them with a noun or with another verb in the infinitive.			
	Me encanta	I love	
	Me gusta mucho	I really like	
	Me gusta	I like	
	No me gusta	I don't like	
	No me gusta nada	I really don't like	
	Odio/Detesto	I hate	

Section C: EATTACO vocabulary	
Tenses /verbs	
Jugar	To play
Juego	I play
Juegas	You (singular) play
Juega	He/she/it plays
Jugamos	We play
Jugáis	You (plural) play
Juegan	They play
hacer	To do
Hago	I do
Haces	You (sing.) do
Hace	He/She does
Hacemos	We do
Hacéis	You (pl.) do
Hacen	They do
Connectives	
porque	because
sin embargo	however
cuando	when
o	or
Adjectives	
aburrido	boring
divertido	fun
interesante	interesting
guay	cool
estúpido	stupid



Section A: Key vocabulary	
Tier 3 Vocabulary	Definition
Shape (n)	A 2D enclosed space built with line.
Form (n)	A 3D geometrical figure.
Symmetry (n)	When one side of an object mirrors the other.
Detail (n)	The smaller areas of your artwork.
Scale (n)	The size of an object (whole) in relation to another object (whole).
Texture (n)	How an object feels to touch.
Control (n)	How carefully you work with a specific media.
Composition (n)	Where you place the objects on a page.
Media (n)	The materials you work with eg pencil, paint.
Linear (a)	Using line only.
Mark-making (n)	Different textures and lines created in any media
Proportion (n)	The size relationship of different elements. Eg height compared to width.
Tone (n)	The lightness or darkness of something.
Tonal Range (n)	The full range of tone from light, medium to dark.
Edge to edge (n)	guidelines to help you fill the page with your drawing.
Blending (n)	A seamless transition between two or more colours or tones.
Negative Space (n)	The space around or in-between an object.

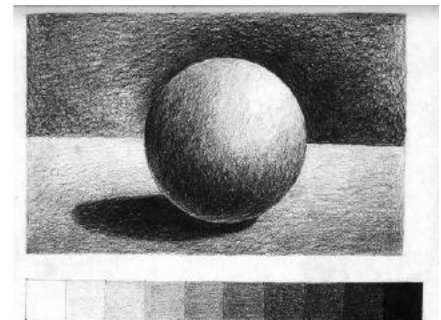
Section B: Key Vocabulary	
Tier 2 Vocabulary	Definition
Create (v)	To make something
Trace (v)	To copy by drawing over its lines on a piece of transparent paper.
Refine (v)	To make minor changes to improve your work.
Skill (n)	The ability to do something well; expertise
Adapt (v)	To alter or change something.
Apply (v)	Put or spread (your media) on a surface .
Challenge (v)	To push yourself to do something difficult.
Continuous (adj)	In art: a linear drawing without taking your pencil off the page.
Construct (v)	To build something from smaller pieces
Effect (n)	A change which is a result of an action or other cause.
Dense (a)	In art: using marks closely together to make a thick tone.
Deepen (v)	To make darker.
Produce (v)	To make
Repeat (v)	To make more of the same.
Study (v)	An investigation and analysis of a subject

## Section C Key Vocabulary

Pencils come in different grades. The softer the pencil the darker the tone. H= hard B= black (soft) In art, the most useful pencils will be 2B and 4B for shading. If your pencil has no grade, it is likely to be an HB (hard black, in the middle of the scale).



To prevent your drawing from looking flat, a range of tonal shading is essential to make objects look 3D. Pressing harder and lighter and layering with your pencil creates different tones. As a surface goes away from you the tones usually darken. Shading straight across the surface will make an item appear flat. Using the direction of your pencil to help enhance the 2D surface Including shadows will also help objects appear 3D and separate objects from each other.







Section A: Key vocabulary	
Tier 3 Vocabulary	Definition
Narration (n)	A technique whereby one or more performers speak directly to the audience to tell a story, give information, or comment on the action of the scene or the motivations of characters.
Gesture (n)	A body movement that conveys meaning, think of a wagging finger to tell someone off.
Masking (v)	When you stand in front of other members of the cast so you are concealing the audiences' view of what they are doing - like a mask.
Corpsing (v)	To lose focus and come out of role often to giggle.
Improvisation (n)	Performance work that you create yourself and then perform. There are three main types of Improvisation: SPONTANEOUS, POLISHED and PARALLEL.
Tier 2 Vocabulary	Definition
Character (n)	A person represented in a film, play, or story
Abstract (ad)	Existing in thought or as an idea but not having a physical or concrete existence. Eg. Love
Exaggerate (v)	Enlarged or altered beyond normal proportions
Dialogue (n)	a conversation between two or more people as a feature of a book, play, or film

Section B: Drama Devices	
Thought-tracking	Thought-tracking helps inform an audience about a character. You see it in action when a character speaks out loud about his/her inner thoughts at a particular moment in the drama, or during a Freeze Frame / Still-Image.
Greek chorus	A company of actors who comment (by speaking or singing in unison) on the action in a classical Greek play.
Body as a Prop	Using your body to create props and objects on stage.
Sound-scaping	Using voice and body to create the sound of an environment.
Physical Theatre	A form of theatre which emphasises the use of physical movement, as in dance and mime, for expression.
Angels and Devils	A device to show a character's conscience at work. It is often represented as Angels & Devils to be the good and bad thoughts.
Conscience Alley / Thought Tunnel	Actors forms two lines facing each other. One walks between the lines as each member of the group speaks their advice.

Section C: Still Image Elements	
Still Image / Freeze Frame	A still image is a frozen moment on stage where the characters stay still to clearly stop the play and show the audience a moment in time. It is often used to highlight something
Body language	Body language is communication by movement or position, particularly facial expressions, gestures and the relative positions of characters.
Levels (drama)	Using different heights onstage to create visual interest. Levels can be used to suggest status - meaning the power or authority one character has over another
Facial expressions	Conveys an emotion that tells us about the character and the way they react to a situation.
Proxemics	How the actors/characters are placed on a stage. The distance or level between character / actors shows their relationships and feelings.



## Music—Voice and Timbre—Autumn Term

Section A: Key vocabulary	
Tier 3 Vocabulary	Definition
Pitch (n)	How high or low a note is
Tempo (n)	The speed of the music
Texture (n)	How thick or thin a sound is
Timbre (n)	The different sounds of different instruments
Dynamics (n)	How loud or quiet music is
Tonality (n)	Can relate to key or major/minor
Duration (n)	How long a sound lasts
Attack and Delay (adv)	Whether sound starts suddenly or gradually
Silence (n)	No sound! - As important as sound
Tier 2 Vocabulary	Definition
Continuous (adj)	Continuous forming an unbroken whole; without interruption.
Maximum (n)	As great, high, or intense as possible or permitted
Diminish (v)	Make or become less.
Clarity (n)	The quality of being easy to see or hear; sharpness of image or sound.
Classify (n)	Arrange (a group of people or things) in classes or categories according to shared qualities or characteristics.

Section B: Key Vocabulary	
<b>Ensemble (n)</b>	A group of musicians
<b>Orchestra (n)</b>	A large ensemble of musicians which includes all four families of instruments
<b>Strings (n)</b>	String instruments are made from wood. All string instruments make their sound by strings vibrating. Sometimes we pluck the strings with our fingers or a pick. Other times we can pull a bow across the strings to make the sound.
<b>Woodwind (n)</b>	The instruments in this family all used to be made of wood, which gives them their name. Today, they are made of wood, metal, plastic or some combination. They are divided into flutes and reed instruments.
<b>Brass (n)</b>	Brass instruments are made out of metal. The sound vibrations are created by the players lips.
<b>Percussion (n)</b>	Percussion instruments include any instrument that makes a sound when it is hit, shaken, or scraped. It's not easy to be a percussionist because it takes a lot of practice to hit an instrument with the right amount of strength, in the right place and at the right time.


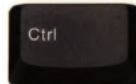



Section C: The Orchestra	
Conductor (n)	Someone who leads and guides an orchestra or a group of singers in order to perform a piece to the best of their abilities. The conductor makes sure that the music is interpreted properly by acting as the guide to the musicians or singers.
<p style="text-align: center;"><b>Sections of the Orchestra</b></p>	
Strings (n)	<u>Bowed</u> - Violin, Viola, Cello, Double Bass
	<u>Plucked</u> - Harp, classical guitar
Woodwind (n)	Piccolo, Oboe, Clarinet, Bass Clarinet, Flute, Bassoon
Brass (n)	Trumpet, French Horn, Trombone, Tuba
Percussion (n)	<u>Tuned</u> - Xylophone, Vibraphone, Timpani, Glockenspiel, Tubular Bells
	<u>Untuned</u> - Bass Drum, Cymbals, Gong, Triangle, Tambourine

# Computing — "I am a Digital Citizen" — Autumn Term 1



Section A: Key vocabulary	
Tier 3 vocab	Definition
<b>Attachment (n)</b>	A computer file sent along with an email message.
<b>Browser (n)</b>	A computer program used to navigate the world wide web.
<b>Email (n)</b>	Messages sent electronically over a computer network.
<b>Network (n)</b>	Two or more computers connected together to share resources.
<b>File extension (n)</b>	The suffix at the end of a filename that indicates what type of file it is.
<b>Folder (n)</b>	A virtual location where programs, files and other folders can be located.
<b>Shortcut key (n)</b>	A combination of keys that when pressed at the same time, perform a task that can be done with a mouse.
Tier 2 vocab	Definition
<b>File (n)</b>	A specific piece of data held on a computer.
<b>Organise (v)</b>	To put your files in suitable locations with suitable names, in order that you can find them again easily.
<b>Acceptable Use Policy (n)</b>	A set of rules that all users must agree to follow, in order to use a computer network.
<b>Program (n)</b>	An application or a piece of software that is installed onto a computer.
<b>Search engine (n)</b>	A computer program that is used to look for information on the Internet.

Section B: Common File Formats	
<b>doc</b>	A document format used by Microsoft Word
<b>ppt</b>	A presentation format used by Microsoft PowerPoint
<b>jpg</b>	A common picture file format
<b>html</b>	The file extension for pages on the Web
<b>mp4</b>	A multimedia format commonly used for Videos
<b>mp3</b>	An audio coding format for sound or music files
<b>pdf</b>	A common document format for viewing and sharing on the web
<b>gif</b>	A format for image files that supports both animated and static images
<b>svg</b>	A format used by vector graphic design

Section C: Useful shortcut keys			
Open file explorer	Windows + e	Key	Name
Show desktop	Windows + d		Windows key
Save current file	Ctrl + s		
Copy	Ctrl + c		Control
Paste	Ctrl + V		
Cut	Ctrl + x		Tab
Undo	Ctrl + z		
Redo	Ctrl + y		F5 (function 5)
Select all	Ctrl + a		
Switch between programs	Windows + Tab		Shift
Refresh the page	F5		



Section A: Key vocabulary		
Tier 3 vocab	Definition	Examples
<b>Binary (n)</b>	A number system used by computers that uses only 2 digits.	10010110
<b>Bit (n)</b>	The smallest unit of measurement, a single binary digit.	1 or 0
<b>Hardware (n)</b>	The physical parts of a computer, or related devices.	Laptop, printer, cables
<b>Input device (n)</b>	A piece of hardware used to provide data to a computer.	Mouse, keyboard
<b>Output device (n)</b>	A piece of hardware that outputs data from a computer.	Speakers, printer
<b>Software (n)</b>	A set of instructions or programs that tell the computer what to do.	PowerPoint, Scratch
<b>Storage device (n)</b>	A piece of hardware that stores data.	CD, USB memory stick
<b>Denary (n)</b>	The standard number system used around the world, also known as "decimal" or "base 10".	1, 2, 45, 943
Tier 2 vocab	Definition	
<b>Capacity (n)</b>	The maximum amount that something can contain. In Computing this relates to storage.	1 TB hard drive
<b>Convert (v)</b>	To change into a different form.	From binary to denary
<b>Feature (n)</b>	An important part or characteristic of something.	Capacity, cost
<b>Process (n)</b>	Part of a program running on a computer	Saving a file
<b>Representation (n)</b>	Using signs or symbols to stand in for, or take the place of something else. In Computing this is Binary numbers.	01000001 represents the letter A on the keyboard

Section B: Binary	
Binary numbers up to 10	
0001	1
0010	2
0011	3
0100	4
0101	5
0110	6
0111	7
1000	8
1001	9
1010	10

8 bit Binary conversion								
128	64	32	16	8	4	2	1	What number is this?
1	0	1	1	1	1	0	1	
The value of each <b>bit</b> goes up in multiples of 2								
<b>The Rules of Binary Addition</b> Work Right to Left and apply these simple rules: <div style="float: right;"> </div> <ol style="list-style-type: none"> <li>0 + 0 = 0</li> <li>0 + 1 = 1</li> <li>1 + 0 = 1</li> <li>1 + 1 = 0 <b>Carry 1</b></li> <li>1 + 1 + 1 = 1 <b>Carry 1</b></li> </ol>								

Section C: Units of data	
One Bit 	There are 8 bits in one byte. The <b>largest</b> number you can represent with 8 bits is 11111111, or 255 in denary. Since 00000000 is the smallest, you can represent 256 things with a <b>byte</b> .

Bit	Single Binary Digit (1 or 0)
Byte	8 bits
Kilobyte (KB)	1,024 Bytes
Megabyte (MB)	1,024 Kilobytes
Gigabyte (GB)	1,024 Megabytes
Terabyte (TB)	1,024 Gigabytes
Petabyte (PB)	1,024 Terabytes
Exabyte (EB)	1,024 Petabytes

Section A: Key vocabulary	
Tier 3 Vocabulary	Definition
Anaerobic exercise ( <i>n</i> )	Exercise without the presence of oxygen. E.g . 100m sprint
Antagonistic Pairs ( <i>n</i> )	A muscle that opposes the action of another e.g. Bicep curl. Bicep contracts whilst the tricep relaxes
Aerobic exercise ( <i>n</i> )	Exercise with oxygen present. E.g marathon
Delayed onset muscle soreness ( <i>adj</i> )	Also known as DOMS. Pain and stiffness left in muscles hour or days after exercise
Lactic Acid ( <i>n</i> )	Waste product produced during anaerobic exercise.
Tier 2 Vocabulary	Definition
Flexibility ( <i>adj</i> )	Range of movement possible at a joint
Injury ( <i>adj</i> )	Trauma or repetitive stress associated with physical activity.
Intensity ( <i>adj</i> )	Amount of power uses when performing an activity
Coordination ( <i>adj</i> )	Move two or more body parts at
Heart Rate ( <i>n</i> )	How many time the heart beats per minute

Section B:	
5 phases of a Warm up and 3 phases of a Cool Down	
Pulse raiser	Eg- jogging and skipping. Slowly increase muscle temperature, loosen joints and increase respiratory and cardiac rates.
Dynamic movement.	Eg-lunges, agility ladder exercises. Increasing in intensity and speed.
Stretching	Eg-groin walk and open and close the gate. Increases the extensibility of the muscle and helps reduce the risk of injury.
Skill rehearsal.	Eg-passing drills for football. Help develop the core skills/techniques. Increases coordination of antagonistic pairs of muscles, increased confidence and coordination.
Mobility	Eg-arm swing and hip circles. Loosens up the joints and increases range of movement (ROM).
Light Jog	Allows respiratory and cardiac levels to reduce gradually.
Refuelling	Consume carbohydrates (CHO), proteins and fluids within 2 hours. Replace glycogen and build muscle.
Stretching	Hold for 30 secs. Blood flow is increased allowing faster recovery.

Section C:
 <p>STANDING HAMSTRING STRETCH</p>  



## Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Cross contamination (n)	Transferring potentially harmful bacteria (microorganisms) from one thing to another
Microorganism (n)	A tiny living thing eg; bacteria, moulds and yeasts
Food poisoning (n)	Illness caused by bacteria or other toxins in food, typically with vomiting and diarrhoea
Carbohydrate (n)	One of the three macronutrients, used in the body for energy
Complex carbohydrate (n)	These are starchy carbohydrates and release energy slowly eg; pasta, bread and potatoes
Simple carbohydrate (n)	These are sugary carbohydrates and release energy quickly eg; cakes, sweets and high sugar fizzy drinks
Protein (n)	One of the three macronutrients used in the body for growth and repair
Nutrient (n)	A substance that provides nourishment essential for the maintenance of life and for growth
Macronutrient (n)	A nutrient needed in the body in large amounts
Micronutrient (n)	A nutrient needed in the body in small amounts
Tier 2 vocabulary	Definition
Detergent (n)	A water-soluble cleansing agent which combines with dirt to make them more soluble. Also called washing up liquid
Personal hygiene (n)	Maintaining cleanliness of one's body and clothing
Nutrition (n)	The process of providing or obtaining the food necessary for health and growth
Mould (n)	A microorganism that can cause food to spoil
Fibre (n)	Nutrients that are resistant to the action of digestive enzymes
5 a day (n)	Guidelines for eating fruit and vegetables
Calorie (n)	A measure of the amount of energy in food
Cuisine (n)	A style of food from a country or region
Danger zone (n)	The temperature range that bacteria multiply rapidly 5°C to 63°C

# Technology— The Wonderful World of Food— Autumn Term 1

## Section 2: Important ideas



### Claw grip

Create a claw by partly curling your fingers together into a claw shape. Press the tips of your fingers (nails) against the food to be gripped and then lean your fingers slightly forward of your nails so that you can't see your nails when you look down on your hand.



It is the best method to use when food needs to be cut into slices or diced.

### Bridge hold

Create a bridge over the food with your hand. The fingers should be on one side and the thumb should be on the other. Hold the food to be cut between the fingers and thumb creating a bridge. The knife should go through the bridge to cut the food.



It is especially useful for cutting circular items into halves and quarters, e.g. tomatoes, apples.

## Section 3: Facts/Context/Historical relevance/dates

### Why Food Is Cooked

- To make it safe to eat
- To improve its shelf life (makes it last longer)
- To develop flavours
- To improve texture
- To make it easier to digest

### The four conditions bacteria need to grow;

Food, moisture, warmth and time.

**High risk foods** are moist and high in protein eg; cheese, meat, milk and cooked rice. These must be covered and stored in the correct shelf in the fridge or freezer.

### Foods that should not be stored in the fridge

Dry pasta, flour, sugar, dried fruit, unopened canned foods, chocolate, cereals.





Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Food miles (n)	The distance a food product travels from where it's grown to where it's sold
Free-range (adj)	A farming technique where farm animals have more space to move and live naturally
Organic farming (n)	A more natural way of farming eg; growing crops without pesticides and artificial fertilisers
Seasonal foods (n)	When certain foods are harvested and at their best at specific times of the year
Food sustainability (n)	A method of growing food that has a minimal impact on the environment
Food recycling (n)	Some left over food or peelings from preparing foods that we throw away could be put to use by recycling them into a compost heap or the garden waste bin collection
Food reusing (n)	Using leftover food to make another meal
Food reducing (n)	Limiting the amount of food that we waste
Tier 2 vocabulary	Definition
Import (n/v)	Something that is bought into a country
Export (n/v)	Something that is sold to another country
Consumer demand (n)	What people who buy items want, what they desire
Carbon footprint (n)	The impact a product has on the environment
Food provenance (n)	Where ingredients and the foods made from them originally come from.
Plant crops (n)	Farming plants which grow seeds, fruits, vegetables and grains such as potatoes, oats, carrots, apples
Climate (n)	The weather in different countries eg; dry, humid, cold and wet
Rearing livestock (n)	Farming cows, sheep, pigs and goats to be sold and used in food processing
Dairy farming (n)	Farming dairy cattle (cows) for their milk to be sold to make cheese, butter, yoghurt
Fisheries (n)	Farming freshwater fish eg salmon, trout
Preserved (adj)	Methods used to keep food fresh eg; smoking, salting, canning, pickling and drying

## Technology— The Wonderful World of Food—Autumn Term 2

### Section 2: Important ideas

#### What is Fair Trade?

Fair trade. Fair trade is a way of buying and selling products that allows the farmers to be paid a fair price for their produce, and have better working conditions. Trade is 'unfair' when farmers receive very low income and have poor conditions while the companies that sell their products make lots of money from them



Examples of some Fairtrade foods;

Chocolate, bananas, coffee, tea, wine, sugar



The following eight pieces of information must appear by law on food labels:

- name of food or drink;
- list of ingredients (including additives and allergens);
- weight or volume;
- date mark;
- storage and preparation conditions;
- name and address of the manufacturer, packer or seller;
- country of origin and place of provenance
- nutritional information

Additional information may also be provided such as cooking instructions or serving suggestions.

### Section 3: Facts/Context/Historical relevance/dates

#### Sensory Analysis

Appearance	What the food looks like, colours, shapes, texture
Aroma	How food smells
Texture	How food feels in your mouth, this is also called mouth-feel
Taste	The flavour of a food

#### INGREDIENTS

Water, Carrots, Onions, Red Lentils (4.5%) Potatoes, Cauliflower, Leeks, Peas, Cornflower, **Wheat** flour, Cream (**milk**), Yeast Extract, Concentrated Tomato Paste, Garlic, Sugar, **Celery** Seed, Sunflower Oil, Herb and Spice, White Pepper, Parsley

#### ALLERGY ADVICE

For allergens, see ingredients in **bold**

#### Food allergies

An allergy is a reaction the body has, in food this can be very severe and can result in anaphylactic shock.

Allergens must be identified in the ingredients list. They may appear in bold, italics or be underlined.

#### The 14 most common food allergens;

Foods containing gluten, present in wheat, barley and rye 	Crustaceans 	Eggs 	Fish 
Peanuts 	Soybeans 	Milk 	Nuts 
Celery 	Mustard 	Sesame seeds 	Sulphur dioxide 
Lupin 	Molluscs 	The presence of any of these in pre-packaged products has to be declared.	



Section A: Key vocabulary	
Tier 3 Vocabulary	Definition
Prototype (n)	A model/ trial run of a design
Orthographic (adj)	A 2D drawing of two or more sides of an object
Specification (n)	A list of design requirements
Design Brief (n)	A paragraph that describes the project/ product
Tier 2 Vocabulary	Definition
Aesthetics (n)	The appearance of something.
Annotate (v)	To label a design idea with notes .
Client (n)	Who the product is made for.
Function (n)	The purpose of a product.
Packaging (n)	A material used to wrap or protect goods for storage and transportation.

Section B: Key information	
Dimension	Measurement
Mm	Millimetres
Cm	Centimetres (10mm = 1cm)
M	Metre (100cm = 1m)
CAD	Computer Aided Design
CAM	Computer Aided Manufacture
Primary colours	Red, Blue, Yellow
Secondary colours	Orange, purple, green
Blend	Mixing two or more colours together
Shading	Adding colour to make drawings look 3D

Section C: Key information	
2D Design tool symbols	
<ul style="list-style-type: none"> <li>Select</li> <li>Straight line</li> <li>Contour</li> <li>Transform</li> <li>Delete</li> </ul>	
<ul style="list-style-type: none"> <li>Gridlock</li> <li>Zoom</li> <li>Line colour</li> <li>Grouping</li> </ul>	