



Knowledge Organiser

Year 7 Spring 2 2022

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

Contents Page

Subject: English	3
Subject: Maths	9
Subject: Science	12
Subject: Geography	16
Subject: History	17
Subject: RE	18
Subject: French	19
Subject: German	20
Subject: Computing	21
Subject: PE	22
Subject: Art	25
Subject: Drama	26
Subject: Music	27
Subject: D&T Food	28
Subject: D&T Textiles	30
Subject: D&T Product Design	31

English, Science, PE and Technology are on a rotation so have multiple pages in this booklet. Your teacher will direct you to the appropriate pages to work from.

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Coining	To invent a new word or expression
Etymology	The origin of a word
Invasion	An intrusion of a country or region with armed force
Omission	When parts of a word are not included
Prestige	High status or reputation
Printing Press	A mechanical device for printing ink onto paper
Standardisation	The process of creating and issuing standards within the English Language
Variation	A different version of something
Tier 2 vocabulary	Definition
Effect	(noun) a change which is a result or consequence of an action or other cause
Impact	(noun) a marked effect or influence
Influence	(noun) the capacity to have an effect on the development, or behaviour of something
Reflect	(verb) when something shows or represents something else
Suggests	(verb) causing one to consider or think something

Section 2: New Key Skills/Strategies
<p>Direct address - <i>Do <u>you</u> really believe slang is damaging to the English language?</i></p> <p>Alliteration - <i>Tumtum tree.</i></p> <p>Facts - <i>The Normans invaded Britain in 1066.</i></p> <p>Opinions - <i>I think language should be standardised.</i></p> <p>Rhetorical question - <i>Do you really believe slang is damaging to the English language?</i></p> <p>E motive language - <i>Young children's career prospects are being destroyed</i></p> <p>Statistics - <i>Shakespeare invented <u>1,700</u> words.</i></p> <p>Three (rule of) - <i>The fluid, diverse and impressive English Language.</i></p>
<p style="text-align: center;">Debate phrases</p> <p>Expressing opinion:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>In my opinion/view...</i> <input type="checkbox"/> <i>Personally, I think...</i> <input type="checkbox"/> <i>I have come to the conclusion that...</i> <input type="checkbox"/> <i>Based on the facts, I believe that...</i> <p>Giving an explanation:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>The reason for this is...</i> <input type="checkbox"/> <i>The problem with this is...</i> <input type="checkbox"/> <i>Above all we must keep in mind that...</i> <input type="checkbox"/> <i>The evidence to support this is...</i> <p>Agreeing/disagreeing with others:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>I somewhat/entirely agree...</i> <input type="checkbox"/> <i>I somewhat/entirely disagree...</i> <input type="checkbox"/> <i>Yes, but on the other hand...</i> <input type="checkbox"/> <i>That's a very important point because...</i>

Section 3: Timeline	
500AD	<p>Old English:</p> <ul style="list-style-type: none"> • Most of the population were speaking Celtic languages • Britain was invaded by Germanic tribes • Britain was invaded by Vikings • Invasions led to the creation of Old English • Examples of Old English literature - Beowulf
1000AD	<p>Middle English:</p> <ul style="list-style-type: none"> • Norman French invasion - 1066 • French became the prestige language • English vocabulary expanded with many borrowings from French
1500AD	<p>Early Modern English:</p> <ul style="list-style-type: none"> • No further invasions influencing the English language • The Printing Press - 1476 • Grammarians set out rules for the English Language • Shakespearean plays
2000AD	<p>Modern English:</p> <ul style="list-style-type: none"> • Industrial Revolution - 1760 • Education Act - 1870 • Oxford English Dictionary - 1884 • Newspapers emerged • BBC Radio -1922 • Social media - 2000s

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Shakespearean Tragedy	A play with a tragic story and flawed hero
Shakespearean Comedy	A play with a light hearted tone which ends with a happy ending
Shakespearean History	A play with a social comment based on a historical character and/or period
Tudor Period	A period in history when Queen Elizabeth was queen and Shakespeare wrote his plays
Catharsis	The release of the audience's emotions through empathy with a character
Dramatic Irony	The audience knows something the characters don't
Soliloquy	A speech delivered by a character that other characters do not hear

Tier 2 vocabulary	Definition
Infer	To work something out based on evidence
Connotation	What a word makes you think of
Intention	The purpose behind something
Impact	The effect something has on a reader
Reiterates	Reinforcing an idea within a text

Section 2: New Key Skills/Strategies

Over the course of the unit you will need to use the following strategies to explore the play:

R	Read the question
U	Underline the key words
C	Choose the best approach
S	Select any key information
A	Answer the question
C	Check your answer

This will help you understand and explore key questions.

C	Connective	Firstly, Moreover, In conclusion,
P	Point	The writer uses a simile to...
E	Example	This is illustrated by '.....'
A	Analysis	This suggests... This infers...
T	Think intention and impact	The writer's intention is... This evokes a sense of ...

Section 3: Shakespeare's Life and Times

LIFE

William Shakespeare is born in Stratford Upon Avon to John Shakespeare and his wife Mary. His baptism is recorded in the Parish register of Holy Trinity Church on April 26th, and his birthday commonly assumed to be April 23rd.

Shakespeare marries Anne Hathaway on November 27th at Temple Grafton, a village 5 miles outside Stratford.

Susanna, his first child is born.

Judith and Hamnet, twins, are born. Shakespeare goes to London and starts his theatrical career.

Shakespeare is firmly established as a playwright in London.

Shakespeare becomes the founding member of acting company the Lord Chamberlain's Men.

Shakespeare's son Hamnet dies.

Shakespeare purchases New Place - a large house in Stratford - with some of his new found wealth

Shakespeare becomes 10% shareholder of the Bankside Globe Theatre.

Shakespeare's father dies.

James I becomes King of England and Shakespeare renames his acting company The King's Men, starting to perform regularly at court.

Shakespeare's last recorded acting appearance in Ben Jonhson's Sejanus

Shakespeare's daughter Susanna marries Dr. John Hall.

Shakespeare's mother dies.

Shakespeare's daughter Judith marries Thomas Quiney.

Shakespeare dies on 23rd April and is buried in Holy Trinity Church, Stratford Upon Avon. He has a curse engraved on his gravestone: "Bleste be the man that spares thes stones, and cursed be he that moves my bones".

WORK

Writes: The Comedy of Errors, Henry IV Part 1, Part 2 & Part 3, Richard III, The Taming of the Shrew, Titus Andronicus, Venus and Adonis

Begins writing: The Sonnets, Love's Labour's Lost, The Two Gentlemen of Verona

Writes: The Merchant of Venice, A Midsummer Night's Dream, Richard II, Romeo and Juliet

Writes: As You Like It, Henry IV Part 1 & Part 2, Henry V, Julius Caesar, Much Ado About Nothing, The Merry Wives of Windsor

Writes: All's Well That Ends Well, Antony and Cleopatra, Coriolanus, Hamlet, Julius Caesar, King Lear, Macbeth, Measure for Measure, Othello, Timon of Athens, Troilus & Cressida, Twelfth Night

Writes: Cymbeline, Pericles Prince of Tyre, The Tempest, The Winter's Tale

Writes: Cardenio, Henry VIII, The Two Noble Kinsmen

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Prose	Written language in its standard form, such as a short story or novel
Atmosphere / Mood	The main feeling that is created in a story
Character	The fictional persons who carry out the action of a story
Dialogue	A conversation including two or more characters in a story
Genre	A type or classification of story
Setting	The time and place in which a story is placed
Tone	Writer-centric: the attitude a writer takes towards a text
Theme	The message of the story

Tier 2 vocabulary

Tier 2 vocabulary	Definition
Suggests	To make a reader think something
Novel	A piece of prose that is longer than 60,000 words
Short Story	A piece of prose that is shorter than 10,000 words
Novella	A longer piece of prose that is not long enough to be a novel around 40,000 words
Indicates	To identify an idea to a reader

Section 2: New Key Skills/Strategies

How to Annotate a Text

1. Look at any context information you have - the title, or a description, or a picture - think about what you could work out from that.
2. Read the text once just to get a feeling for it.
3. Make sure you know what you're annotating for - are you trying to find something out about a character or a setting? Or are you trying to find out something about a theme or message?
4. Read the text again with your focus in mind, looking for interesting things. Use the following marks to help you identify relevant information:

Mark	Meaning
*	Important idea or information
<u>Underline</u>	I don't understand this
?	I have questions about this

How to Write about a Text

C	Connective	Introduce your point to the reader
P	Point	Use the words of the question to focus your point
E	Example	Include a short quote to prove your point
A	Analysis	Explain how the quote you've chosen proves the point you were making

Section 3: An Example Annotation

How does the writer make Hagrid's entrance seem exciting?

rumbling makes me think of something dangerous and threatening... almost like thunder

Extract from Harry Potter and the Philosopher's Stone

A low **rumbling** sound had broken the silence around them. It grew steadily louder as they looked up and down the street for some sign of a headlight; it swelled to a road as they both looked up at the sky – and a huge motorbike **fell** out of the air and landed on the road in front of them.

fell is an unusual word choice because motorbikes don't normally fall... it makes it sound more dangerous and exciting

Firstly, the writer makes Hagrid's entrance exciting by using the word 'rumbling' to announce his arrival. This adjective makes me think of thunder and other dangerous things, so shows that Hagrid is maybe going to be a bit dangerous. It also makes me think of very powerful things, which could show that Hagrid is going to be very strong.

Other Questions might be...

- How does the writer create setting?
- How does the writer create a character?
- How does the writer show a theme?

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Faithfully	How to end a formal letter in which the recipient is not known by name
Sincerely	How to end a formal letter in which the recipient's name is known
Byline	A line in a newspaper naming the author of an article
Captions	Words positioned below an image which explain the meaning
Splash Image	The largest image on a newspaper front cover
Headline	The title of the newspaper article
5 Ws	Who, what, where, when and why?
Direct speech	The reporting of speech by repeating the actual words of a speaker

Tier 2 vocabulary	Definition
Alliteration	The same letter or sound at the beginning of closely connected words
Onomatopoeia	A word from a sound associated with what is named
Similes	A comparison of two things using the words 'like' or 'as'
Emotive language	Word choices which evoke an emotional response in the reader
Facts	A thing that is known or proved to be true
Opinions	A view or judgement formed about something.

Section 2: New Key Skills/Strategies		
Over the course of the unit you will need to use the following strategies to explore the play:		
R	Read the question	
U	Underline the key words	
C	Choose the best approach	
S	Select any key information	
A	Answer the question	
C	Check your answer	
This will help you understand and explore key questions.		
P	Purpose	Are you writing to: <ul style="list-style-type: none"> • Inform • Persuade • Argue
A	Audience	Who are you aiming the text at?
F	Format	What are the key conventions of: <ul style="list-style-type: none"> • News report • Leaflet • Letter

Section 3: Other subject specific information
<p>Letter Format</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p style="text-align: right;">Miss Jenny Gamble 15 Hall Road, Anytown CO2 6SY</p> <p>Cinema City 25 Hill Street, Anytown DS3 6NT</p> <p>23rd October 2007</p> <p>Dear Sir,</p> <p>I saw in the local paper that you have set up a new Kids Club. Can you please tell me more about it.</p> <p>Who can join? Where does it meet? How much does it cost? When do meetings take place? What time does it start?</p> <p>Do I need my parents' permission to join?</p> <p>Yours sincerely, Jenny Gamble</p> </div>
<p>Newspaper Report Phrases</p> <ul style="list-style-type: none"> • Reports suggest... • Sources from... • It is thought that... • Eyewitnesses reported... • A spokesman stated that... • It was discovered that... • Scientists conclude... • Not yet confirmed... • We can reveal...

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Alliteration	The repetition of identical consonant sounds
Personification	To give human qualities and human characteristic to an object, animal or idea.
Stanza	A group of lines in a poem.
Onomatopoeia	Language used to imitate the sound being made
Rhyme	A repetition of similar sounds in the last part of the word.
Rhythm	The beat and movement of language
Imagery	An object or action that stands for something beyond itself
Repetition	Using the same word or phrase over and over again.

Tier 2 vocabulary	Definition
Infer	To work something out based on evidence
Implies	To suggest an idea based on the evidence.
Impact	The effect something has on a reader
Suggests	To present an idea based on the evidence.

Section 2: New Key Skills/Strategies		
Over the course of the unit you will need to use the following strategies to explore the poems:		
R	Read the question	
U	Underline the key words	
C	Choose the best approach	
S	Select any key information	
A	Answer the question	
C	Check your answer	
This will help you understand and explore key questions.		
C	Connective	Firstly, Moreover, In conclusion,
P	Point	The writer uses a simile to...
E	Example	This is illustrated by '.....'
A	Analysis	This suggests... This infers...
T	Think intention and impact	The writer's intention is... This evokes a sense of ...

Section 3: Use of Section 1 & 2 Skills.	
Example of how to annotate a poem.	
Fireworks.	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin-bottom: 10px;"> <p>Onomatopoeia This has an impact on the reader as they are able to imagine what the fireworks would sound like.</p> </div> <p>First, A far <u>thud</u>, Then the rocket Climbs the air, a dull red flare, To hang, a moment, Invisible, before Its shut black shell cracks And clasps against the ears, Breaks and billows into bloom, Spilling down clear green sparks, gold spears Silent sliding silver waterfalls and stars.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-top: 10px;"> <p>Imagery. The imagery of the waterfalls and the stars and spears infers that the experiences is sensory and exciting.</p> </div>
Example Questions.	
How does the writer use personification to present the theme of the poem?	
How does the writer use form and structure to interest the reader?	
To what extent does the poet convey the theme effectively to the reader?	

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
murder	One of the most serious crimes, carried out for a range of reasons
crime	An act that is outside the customs and laws of a society
twist	A plot event that is unexpected, and reveals new information to the reader
evidence	Information that is examined to
investigation	The process of revealing unknown or hidden facts
suspicion, alibi, motive	Perspectives of characters in crime drama. They may not always be correct or correctly understood
detective	A common protagonist in a crime story; their thoughts and actions drive the plot

Tier 2 vocabulary	
Tier 2 vocabulary	Definition
development	An event or process through which a story changes
mystery	The parts of a story that are unknown at the beginning
character	Those who feature in the plot of a story. Heroes, villains, victims etc.
plot	The basic order and structure of a story
short story	A briefer, more compact version of a novel

Section 2: New Key Skills and Strategies

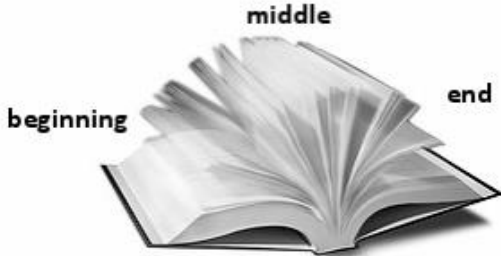
Exciting **sentence styles** and **punctuation** to use in your writing:

2A (sets of adjective) sentence: It was a **sparse, dry** desert with a **calming, exotic** oasis.


Double ly (adverb) starter: **Cautiously and tentatively**, he stumbled to the post, clinging to his chest.

The more, the more sentence: **The more** the vicious gunfire quickened, **the more** petrified he became.

If, if then sentence: **If** he was five minutes earlier, **if** he'd hadn't have stepped onto the road, **then** he might have survived the crash.



Section 3: Applying Section 2 Skills



Double ly sentence

The more, the more sentence

Cautiously and tentatively, the detective examined **the dismal crime scene**. **The more** he saw, **the more** curious he became. **The crimson, gory blood** engulfed the **dismantled, tarnished** kitchen. Who could have caused this scene of utter destruction?

2 A sentence

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Algebra	The use of letters or symbols to represent unknown values.
Axis	x (across) and y (up) axis. Labelled with numbers to plot coordinates.
Quadrant	The four parts of a set of axis. Starting with one in the top right and moving around anticlockwise.
Origin	The centre of a set of axis. (0,0)
Formula	A rule used to find a value.
Equation	Two things are equal and can be solved to find an unknown.
Linear equation	An equation that can be draw as a straight line.
Integer	A whole number.
Tier 2 vocabulary	Definition
Coordinate	Two numbers written in brackets to describe a position on a set of axis. Can also be three numbers for 3D.
Plot	To draw a mark on a set of axis to show the location of a set of coordinates.
Substitute (Substitution)	To replace a letter with a number.
Graph	A set of axis with a line drawn showing an equation.
Table	A grid filled in to work out a set of answers.
Term	A single number or variable
Balance	When one side of an equation is the same as the other.
Equal	Represented by the '=' symbol. Means the same.
Solve	Numerical value that satisfies the equation.

Section 2: Knowledge/Skills

Substitution:
If x = 4

a) $x + 3 = 4 + 3 = 7$

b) $3x = 3 \times 4 = 12$

c) $x + 4 = 3 \times 4 + 4 = 16$

d) $\frac{x}{2} = \frac{4}{2} = 4 \div 2 = 2$

e) $3x^2 = 3 \times 4^2 = 3 \times 16 = 64$

$y = x - 1$					
x	-2	-1	0	1	2
y	-3	-2	-1	0	1

Formula: $A = lw$, $E = mc^2$

Equation: $y = x + 1$, $y = 2x - 3$

Examples of Solving Equations

$x + 3 = 5$
 $x = 2$

$3(x + 4) = 24$
 $3x + 12 = 24$
 $3x = 12$
 $x = 4$

$2x + 7 = 3x + 2$
 $-2x - 2x$
 $7 = x + 2$
 $-2 - 2$
 $5 = x$
 $x = 5$

Section 3: Questions

Plot the points:

- (3, 4)
- (-2, 5)
- (2, -3)
- (-1, -4)
- (0, 2)
- (3, 0)

Write the coordinates of:

-
-
-
-
-
-

Complete the tables and draw the line of the equations in your book:

$y = 2x - 1$

x =	0	1	2	3	4
y =					
Coordinate	(,)	(,)	(,)	(,)	(,)


$y = 3x + 2$

x =	-2	-1	0	1	2
y =					
Coordinate	(,)	(,)	(,)	(,)	(,)

Solve:

- $x + 3 = 7$
- $x - 4 = 6$
- $x + 8 = 2$
- $2x + 1 = 5$
- $3x - 2 = 19$
- $4(x + 2) = 28$
- $8(x - 4) = 88$
- $4x - 2 = 3x + 3$

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Interest	This is a fee paid for borrowing money. It is usually given as a percentage of what you have borrowed. For example an interest rate might be 5%
Simple interest	This is when you pay back the same amount each year until the loan is repaid (see example in section 2)
Percentage change	This is used to compare two amounts, taking into account their sizes.
Percentage increase	This is a percentage change where the final amount is bigger than the starting amount.
Percentage decrease	This is a percentage change where the final amount is smaller than the starting amount.

Tier 2 vocabulary	Definition
Percentage (%)	The number of parts per 100 which means that 100% represents 1 whole. For example, 17% means 17 parts in every 100.
Fraction	How many part of a whole there are. For example, $\frac{3}{4}$ is represented by  where 3 is called the numerator and 4 is called the denominator.
Decimal	A number with a fractional part, which is written after the decimal point. For example 2.31
Equivalence	Two or more amounts are equivalent when they have the same value For example, $\frac{2}{5} = \frac{4}{10} = \frac{40}{100}$ $\frac{1}{2} = 50\% = 0.5$

Section 2: Assessment criteria and examples
<p>Can you work out 15% of 120kg?</p> <p>Method 1. ‘Chunking’ can be done in lots of ways but finding 10% and/or 1% is often helpful. Remember that 100% is the whole lot!</p> <p>10% of 120kg = 12kg (divide 100% by 10) 5% of 120 kg = 6kg (divide 10% by 2)</p> <p>Adding these together gives the final answer 15% of 120kg = 18kg</p> <p>Method 2. Convert the percentage to an equivalent decimal and multiply (quicker if you have a calculator!)</p> <p>15% of 120kg = 0.15 x 120kg = 18kg</p>
<p>Can you increase £80 by 11%?</p> <p>Firstly, find 11% of £80 using either of the methods above and then – because you want an increase – add it on to the £80 at the end (if it was a decrease, you would subtract it from the £80)</p> <p>10% of £80 = £8 (divide 100% by 10) 1% of £80 = £0.80 (divide 10% by 10)</p> <p>11% = £8 + £0.80 = £8.80</p> <p>£80 + £8.80 = £88.80 (Don’t forget about the zero on the end when doing money problems as the calculator will not do it for you!)</p>
<p>Can you write 12 as a percentage of 40?</p> <p>The best way to do this is with equivalent fractions, where you try and turn the denominator into 100. Then you know that the numerator is the percentage!</p> <p>$\frac{12}{40} = \frac{3}{10} = \frac{30}{100} = 30\%$</p> <p>If you have a calculator, you could just do $12 \div 40 \times 100$, which is particularly useful if the numbers are more ‘awkward’.</p>

Can you calculate with simple interest?
<p>Ade takes out a loan of £500 over 10 years and pays simple interest at 6% per year. How much does he have to pay back at the end of the 10 years?</p> <p>Step 1: Work out 6% of £500 10% of £500 is £50 1% of £500 is £5 6% of £500 is £30</p> <p>This is the interest for 1 year</p> <p>Step 2: Calculate the simple interest for 10 years £30 x 10 = £300</p> <p>Step 3: Add the simple interest to the initial amount £500 + £300 = £800</p> <p>Ade has to pay back £800</p>
Section 3: Challenging problems to think about!
<p>(a) What is wrong with this solution for 15% of £48?</p> <p>10% of 48 = 4.8 5% of 48 = 2.4 15% of £48 = 4.8 + 2.4 = 7.2</p> <p>(b) Can we have more than 100%?</p> <p>Can you have 200% of something? What would this actually mean? Can you think of a situation where this would not make sense?</p> <p>(c) What would you prefer to have of the two options below?</p> <p>72% of £50 or 50% of £72</p> <p>(d) If I decrease 60kg by 10% and then increase the answer to that by 10%, why do I not end up back at 60kg?? What would the percentage change actually be?</p> <p>(e) Jack buys 50 pens for 65p each. He sells 80% of the pens making a 20% profit on each one. For the remaining pens, he is forced to reduce his price, making a loss of 9p on each pen. If he sells all of his pens, what is his total profit?</p>

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Arithmetic sequence	A sequence of numbers where each term is found by adding/subtracting to/from the previous number by the value of the term to term rule
Geometric sequence	A sequence of numbers where each term is found by multiplying the previous one by a number called the common ratio, r.
nth term	A rule which allows you to calculate the term that is in the nth position of the sequence. Also known as the 'position to term' rule.

Tier 2 vocabulary	
Generate	Definition
Generate	When we substitute values into the nth term to calculate the original sequence
Sequence	A number or picture pattern with a specific rule.
Term	Each value in a sequence is called a term.
Linear	A sequence that increases or decreases by the same number between each term.
Position	Where each number in the sequence is.
Growth	When something gets bigger.
Rule	The value that a sequence increases or decreases by.

Section 2: Knowledge/new skills

ARITHMETIC SEQUENCE

-6, 1, 8, 15, 22

+7 +7 +7 +7

GEOMETRIC SEQUENCE

2, 4, 8, 16, 32

x2 x2 x2 x2

Term to term rule: 3, 7, 11, 15, ... (+ 4)

Position to term rule (also known as nth term):

Position:	1	2	3	4
Term:	3,	5,	7,	9

Position	1	2	3	4
Operation	x2	x2	x2	x2
2 times table	2	4	6	8
Operation	+1	+1	+1	+1
Term	3	5	7	9

nth term = 2n + 1

Section 2: continued

Generating a sequence:

$$nth = 2n + 5$$

1st = $(2 \times 1) + 5 = 7$
 2nd = $(2 \times 2) + 5 = 9$
 3rd = $(2 \times 3) + 5 = 11$
 4th = $(2 \times 4) + 5 = 13$
 5th = $(2 \times 5) + 5 = 15$

7, 9, 11, 13, 15

Section 3: Problem solving tasks

You own a taxi company that charges as follows:

- £3.50 for calling the cab
- 20p for every minute of journey time

1. Work out a formula for the cost of a journey that's **n** minutes long
2. Use your formula to cost a journey of 2 hours

Here is a linear sequence.

7, 11, 15, 19, 23...

Jack says, As the fifth term of this sequence is 23, the tenth term will be 2 times 23, which is 46

Explain why Jack is wrong.

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Resultant force	Single force which can replace all forces acting on an object and have same effect.
Gravitational field strength (g)	The force from gravity on 1 kg (N/kg).
Upthrust	The upward force that a liquid or gas exerts on a body floating in it.
Thrust	Force from an engine or similar
Tension	Force extending or pulling apart.
Static	Non-contact force from charges
Non-contact force	One that acts without direct contact
Field	The area where other objects feel a force.
Magnetic	Material affected by magnetic fields
Electromagnet	Magnet produced by electric current
Tier 2 vocabulary	
Weight	Definition
Weight	The force of gravity on an object (N).
Mass	The amount of stuff in an object (kg).
Friction	Force opposing motion, caused by the interaction of surfaces moving over one another. Called 'drag' if one is a fluid.
Substitute	Replacing words with numbers or symbols
Independent variable	The variable in an investigation you will change
Dependent variable	The variable in an investigation that you will measure
Control variables	Variables you need to keep the same to make the test fair (accurate)

Section 2: New Knowledge

Forces are measured with a **Newton Meter**, in the unit **Newtons (N)**

Forces are represented by arrows, the size and direction of the arrow tells you the size and direction of the force

Balanced forces (equal and opposite)

- Stationary
- Constant speed

Unbalanced forces (unequal or different directions)

- Accelerate
- Decelerate
- Change direction

Drag always acts in the opposite direction to which an object is moving. Tries to slow things down.
Streamlining reduces drag, to allow things to move faster.

$$\text{(average) speed (m/s)} = \frac{\text{distance (m)}}{\text{time taken (s)}}$$

Magnetic fields around a bar magnet

Opposite poles **Attract**
 Like poles **Repel**

Section 3: Skills

Investigative skills

Variables (Something that could change in an investigation)

- Independent variable** – The one you change/are investigating the effect of
- Dependent variable** – The one you will measure/your results
- Control variables** – The variables you need to keep the same in order to make the experiment accurate (fair test)

Planning (Method writing)

Step-by-step numbered **instructions** on how to complete a practical.
 If someone could reasonably ask **HOW** from your method it needs more detail
 Always include **Repeats** and **average!**

e.g. Measure the Distance...

...using a tape measure

Maths skills

Rearranging equations

1. **List** what you're given and what you need to find (*check units*)
2. Write an **equation** with these things in
3. **Substitute** numbers or symbols in for the words
4. Put into a **triangle**
5. Use a **calculator** to find answer
6. Write **units**
7. **Check** answer

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Galaxy	Collection of stars held together by gravity. Our galaxy is called the Milky Way.
Orbit	Path taken by a satellite, planet or star moving around a larger body.
Axis	An imaginary line about which a body rotates.
Moon Phases	The shape of the Moon's directly sunlit portion, as viewed from Earth
Eclipse	A blocking of the light from one celestial body by the passage of another between it and the observer or between it and its source of illumination.
Hemisphere	A half of the earth, usually as divided into northern and southern halves by the equator
Lunar month	The time it takes the moon to orbit the earth once
Dwarf planet	a celestial body like a small planet but lacking certain criteria

Tier 2 vocabulary	Definition
Stars	Bodies which give out light, and which may have a solar system of planets.
Satellite	Object orbiting around a planet, either natural or man-made e.g our moon
Planet	Object of large enough mass, roughly spherical which clears its local orbit around a star
Solar system	A star together with the group of celestial bodies that are held by its attraction and orbit around it
Equator	A line drawn on the earth equal distance from the poles, dividing the earth into northern and southern hemispheres
Year	The time it takes a planet to orbit a star, usually given in earth days
Day	The time it takes a planet to rotate about its axis once, measured in hours

Section 2: New Knowledge

Day and Night

The Earth takes **24hrs** to rotate on its axis once, this is one day and is why the sun appears to rise in the east and set in the west.

When the northern hemisphere is pointed towards the sun it has summer, the southern hemisphere will be in winter.

Ways of investigating space
Find examples of each and where they can be used.

- **Telescopes**
- **Probe**
- **Satellite**
- **Lander or rover**

Section 3: Skills

Research
Used to stimulate debate, challenge and benefit your deeper knowledge

1. Determine/list the key details you need to know (list the **key words/phrases** you could look up)
2. **Search** only the important key words (not whole sentences), if this doesn't work, add more specific detail (use "quotation marks" for words in order)
3. **Scroll** through beyond the first few results
4. Check the **website** address (the http:// part), does it look sensible, then click this to go to actual website not just google (this address is reference not google)
5. **Read** the information and maybe **check** from two sources before you use it (ask yourself; do you understand it, does it answer the question you asked, is it a trustworthy site/author, is the information enough, is it what you actually want?)
6. **Do not** copy and paste information this is **plagiarism** and is illegal.
7. Having read the information, write out an answer to the questions you wanted in your **own words!** Best to do this without looking at the original source.
8. Write **rough** notes first.
9. If you wish to copy a **direct quote** from a source then it must be in "quotation marks" and referenced.
10. **Reference** where you got information from, giving the title of book or website and the author if given.
11. **Present** all you information and references with any **relevant diagrams** in a suitable format

Sources of information

- **Books** can be borrowed from a library or read online
- **Internet** (use google to search, do not copy straight from google, click the link to the website)
- **Specialist adults** ensure the person you quote has accurate knowledge

Task
Now use your skills to research and produce a leaflet about the planets and solar system (including asteroid belt). It should include information on key facts such as **temperature, day length and year length, distance from the sun, other interesting facts.**

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Microscope	A piece of apparatus used to magnify small things
Magnify	To make an object look bigger
Lens	Curved glass that bends light to magnify the object
Specimen	The object you want to view with the microscope
Slide	Rectangle of glass used to put the specimen on
Stage	The part of the microscope you put the slide on
Focus Wheel	Wheel that focuses the image
Cover Slip	Tiny thin piece of glass to cover the specimen
Cell	The building block all living things are made of
Nucleus	Part which controls the cell
Cytoplasm	The jelly like substance inside the cell where all the cells reactions occur
Cell Membrane	Part of the cell which controls what goes into and out of the cell
Mitochondria	Part of the cell where respiration occurs and releases energy
Chloroplast	Part of a plant cell where photosynthesis occurs
Cell Wall	Outer layer of a plant cell that supports and protects the cell
Vacuole	Part of a plant cell that stores water and other substances.
Specialised Cell	A cell which has particular special features that allow it to do its function
Tissue	A group of the same cell working together to perform a function.
Organ	A group of tissues working together to perform a function.
Organ System	A group of organs working together together to perform a function.

Section 2: New Knowledge/Skills

Plant cell

Animal cell

Task 1 - Use the Key Vocab list to label the plant and animal cells
 Task 2 - Complete the table below or organs in each organ system.

Organ System	Organs involved
Circulatory System	
Breathing System	
Digestive System	
Nervous System	

Section 3: Other subject specific things

Specialised Cells
 Name these specialised cells and add if they are plant or animal cells.

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Sperm	The male sex cell (gamete)
Egg	The female sex cell (gamete)
Fertilisation	The process where the sperm and egg join
Ovary	The place where the eggs are released
Oviduct	The tube that connects the ovary to the uterus
Uterus	The place where a baby would develop in pregnancy
Testis	The place where the sperm are made
Penis	The male reproductive organ that pass semen and urine from the body.
Menstrual Cycle	Series of events lasting about a month, in the female reproductive system.
Ovulation	The release of the egg from the ovary. Happens in the middle of the menstrual cycle.
Implantation	The process of a fertilised egg attaching to the uterus lining
Umbilical Cord	The cord that connects the baby to the mothers placenta. Allows essential substances to pass between the mother and baby.
Placenta	The organ where substances are exchanged between the mothers and baby's blood.
Tier 2 vocabulary	Definition
Pregnancy	The 9 months it takes for a baby to grow in the uterus
Identical Twins	Two babies with the same DNA, they develop from the same sperm and egg
Non-identical Twins	Two babies with different DNA. They develop from two sperm and two eggs
Puberty	Time when big physical changes happen in the body of a teenager
Hormones	Chemicals released from the ovary and testis which cause puberty.

Section 2: New Knowledge/Skills

Specialised Cells and Fertilisation

cell division egg cell fertilisation fertilised egg cell sperm cell

Page 1 of 2

Male reproductive System

Female Reproductive System

Section 3: Other subject specific things

Pregnancy

Menstrual Cycle and Menstruation

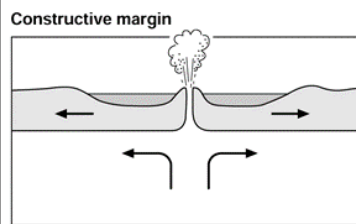
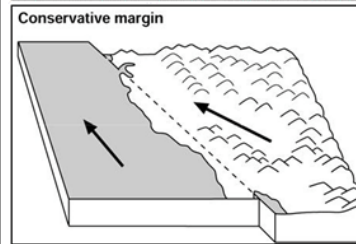
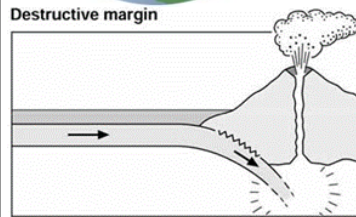
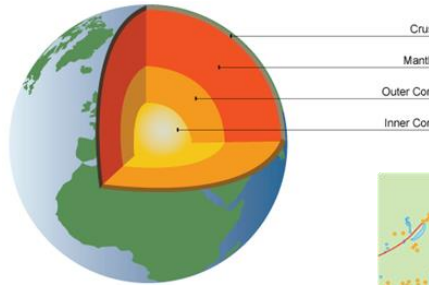
Task - Quick Quiz Questions

1. What specialised features do the sperm and egg have?
2. Where are the sperm made?
3. Where are the eggs made?
4. What happens at fertilisation?
5. How long does pregnancy in humans last?
6. What connects the baby to the mothers placenta?
7. What is the function of the amniotic fluid?
8. Approx. how long does the menstrual cycle last?
9. How is the common name for menstruation?
10. What happens at day 14 of the menstrual cycle?

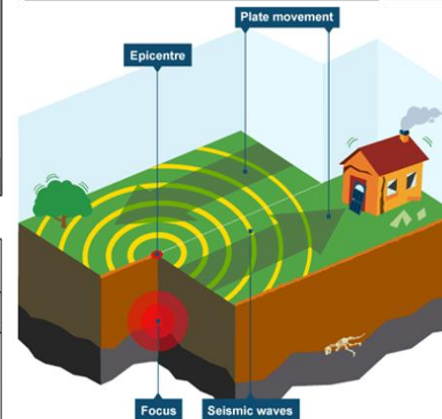
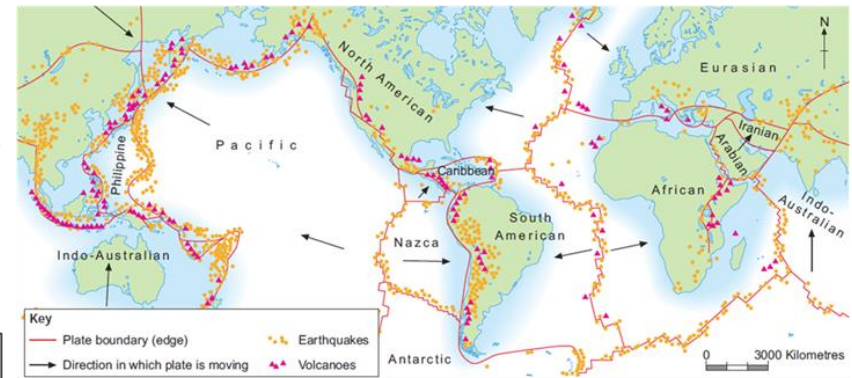
Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Destructive boundary	Two plates moving together - one is oceanic and one is continental
Constructive boundary	Two plates that are moving apart and new crust is being formed
Composite cones	Steep sided volcano made up of layers of ash and thick lava
Epicentre	The point of the earth's surface immediately above the focus of an earthquake
Focus	The point in the Earth's crust where an earthquake occurs
Tectonic plates	Large slabs of the earth's crust
Magma	Molten rock below the earth's surface
Lava	Molten rock flowing out of the ground
Ocean trench	Long narrow depressions in the sea floor
Shield volcanoes	A volcano with gentle slopes formed by highly fluid lava.
Seismic waves	The waves of energy caused by sudden movements in the plates

Tier 2 vocabulary	Definition
Distributions	The spread of earthquakes and volcanoes across the earth
Natural disaster	A sudden event that causes widespread destruction and loss of life
Natural hazard	A natural event that threatens or has the potential to cause damage and loss of life

Section 2: New Knowledge



Wegener's Theory - Known as continental drift. Millions of years ago the continents that we know today were joined together as one super continent known as Pangea.



How an earthquake occurs

- Managing the risk
- Prediction
 - Planning
 - Preparation

Section 3: Geographical Skills

- Interpret atlas maps, eye witness accounts, scientific evidence, public information material, to investigate plate tectonics
- Describe and explain the theory of plate tectonics

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Medieval	Of the Middle Ages
Aquitaine	A region of France.
Normandy	A region of France ruled over by English kings since the Norman Conquest
Crusade	A military expedition made by Christian armies to recover the Holy Land.
Jerusalem	The holy city for Jews, Christians and Muslims.
Tudors	The royal family name from 1485-1603
Circumnavigate	To sail around the world.
Tournament	The tournament was a forum for knights where they could practise and show off their military skills in activities such as jousting to display their chivalrous qualities and win both riches and glory.


Tier 2 vocabulary	
Successor	Definition
Holy Land	The area around Jerusalem where many religious events happened in Jewish, Christian and Islamic religion.
Pope	The head of the Roman Catholic Church.

Section 3: Plantagenet Women Timeline
1120 Death of William, Henry I's son.
1124 Vacancy for Henry's successor.
1125 Stephen is married (to Matilda, Countess of Boulogne.)
1127 Nobles made to swear an oath of loyalty to Matilda, Henry's daughter, to be his successor.
1135 Death of Henry I. Stephen becomes king.
1141 Battle of Lincoln; Matilda defeats Stephen, who is now her prisoner.
1142 Stephen's forces drive out Matilda.
1153 Death of Stephen's son and heir.
1154 Succession of Matilda's son as Henry II.
1154 Becomes Eleanor of Aquitaine was queen of England as wife of Henry II
1173 Eleanor of Aquitaine was imprisoned.
1190-1194 Eleanor ruled England on behalf of Richard I
1204 Eleanor died.

Section 4: Crusades Timeline
1071 Seljuk Turks take control of Jerusalem, stopping pilgrimages to Jerusalem and attacking the Byzantine Empire.
1095 The Pope declares he will help the Byzantines and calls on Christians to take back Jerusalem. The First Crusade.
1096 Many people set off on the First Crusade. They arrive at Constantinople and are given supplies and advice from the emperor.
1097 Crusaders capture Nicea after a 6 week siege. The siege of Antioch begins.
1098-9 Crusaders take 3 months to reach Jerusalem. They attack and are successful. The Muslim leader agrees a peaceful route out for his court. Jerusalem is stormed leading to deaths of many Muslims and Jews.

Section 5: Black Tudors Timeline
1485 The Battle of Bosworth brings Henry Tudor to the throne and he is known as Henry VII.
1509 John Blanke takes part in Henry VII's funeral. Henry VIII becomes king.

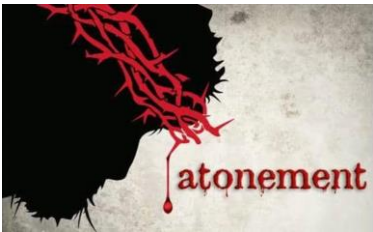
Section 6: Enquiry Questions
How could royal power lie in female hands?
Were the crusades a holy war?
What was life like in Tudor England?
How did Kaufmann uncover the lives of Black Tudors?

Section 7: Source Analysis
How does this portrait of Matilda, from the time, try to show her as a true monarch?

<p>"All who die by the way, whether by land or by sea, or in battle against the pagans, shall have immediate remission of sins. This I grant them through the power of God with which I am invested. O what a disgrace if such a despised and base race, which worships demons, should conquer a people which has the faith of omnipotent God and is made glorious with the name of Christ!"</p> <p>1. Using detail from this source, how does Pope Urban persuade people to go on the First Crusade?</p> <p>2. How does the Pope stir up hatred for his enemy and try to convince people they are going on a holy war?</p>

Section 8: Interpretations
Watch the following video and to find out:
a) How Miranda Kaufmann uncovered the lives of the Black Tudors.
b) Why does she say it was important for her to do this?
http://www.mirandakaufmann.com/black-tudors.html

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Kosher	Jewish food laws.
Shabbat	The Jewish day of rest.
Tzedakah	Charitable giving, typically seen as a moral obligation in Judaism.
Anatta	The belief that there is no unchanging, permanent self, soul or essence in living beings.
Anicca	The belief in the impermanence of things - nothing lasts.
Dukkha	The belief that suffering, and unsatisfactoriness are innate and inevitable in birth, aging, death, rebirth and redeath.
Atonement	The reconciliation of God and humans brought about by the redemptive life and death of Jesus.
Messiah	The "promised" or "anointed one," a saviour who will deliver humankind from its sins.

Tier 2 vocabulary	Definition
Values	The moral principles and beliefs or accepted standards of a person or social group.
Responsibilities	The things which one is required to do as part of a job, role, or legal obligation.

Section 2: Key Questions
<p>What do we value? A discussion of personal values.</p> <p>What does it mean to be chosen? Jewish people: Torah and God's chosen people: The Torah documents the history and moral code of the Jews as God's chosen people, e.g. Deuteronomy 14:2. Although God stands in relationship with all his creation, Torah means Jews have certain roles. What are these in relation to other groups, e.g. Leviticus 19:34? What are particular Jewish requirements, e.g. keeping kosher and Shabbat? What are Jewish requirements when it comes to social justice, e.g. tzedakah? How does being Jewish make a difference to people's lives?</p> <p>What do Buddhists value? Buddhists: impermanence and the self: Find out what Buddhists believe about no-self, annatta. How far does impermanence help them grasp this complex concept? As the body and mind are subject to the endless cycles of change and decay, our impermanence in this form is a way of accepting no-self. Discuss if an acceptance of annatta would lead someone to take their desires less seriously, and overcome selfishness and greed.</p> <p>What Christian concepts have stood the test of time? Christians: Messiah and atonement: remind students that Christians see humans as fallen. The Jewish sect which became Christianity broke with Judaism in coming to see Jesus as their spiritual saviour: heralding the promise of atonement, and a chance to make things right with God. Why do Christians see Jesus as Messiah? What different ways do Christians explain Jesus' atonement? How might Christians respond in their own lives?</p>


Section 3: Assessment information
<p>Assessment essay question.</p> <p>What difference does it make to believe in..?</p> <p>In answering this question you should consider the following, What difference does it make to believe you are God's chosen people? What difference would it make if you believed you have no self? How might it affect your life if you were certain that you would go to heaven?</p> <p>Aim for at least three paragraphs,</p> <p>It makes a significant difference for some...</p> <p>It makes some difference for many...</p> <p>It makes no significant difference for some...</p> <p>If you have time finish with a final paragraph that summarizes all your points and comes to a conclusion.</p> <p>Skills checklist – as you write your essay check that you have included...</p> <p>Knowledge – facts and religious or non-religious beliefs,</p> <p>Impact of belief – how it affects what people think and do,</p> <p>Specialist terms,</p> <p>Sources of authority – where people get their ideas/beliefs from – quotations,</p> <p>Judgement – how strong, valid or sound the argument is,</p> <p>Opinion – at least 2 different points of view</p>

Section 1: Key Vocabulary and questions	
Tier 3 vocabulary	Definition
infinitive	Verb in its original form (to do/doing)
conjugation	Correct verb for the subject
liaison	Pronunciation of s/t/x + vowel
present continuous	on going action 'I aming'
definite article	le, la, les, l' (the)
indefinite article	un, une (a)
regular verbs	Follow a pattern (ER, IR, RE)
irregular verbs	Follow their own pattern
cognate	words spelt the same in English

Questions	Translation
Quel temps fait-il?	What's the weather like?
Tu es sportif/sportive?	Are you sporty?
Qu'est ce que tu aimes faire?	What do you like to do/doing?
Est-ce que tu aimes...?	Do you like...?
Qu'est-ce que tu fais?	What do you do/ are you doing?
Est-ce que tu fais...?	Do you do...?
Est-ce que tu joues...?	Do you play...?
Quand...?	When...?
Comment...?	How...?
Pourquoi?	Why?

Section 2: Grammar	
faire (to do/make)	
Subject pronoun	Irregular verb
je tu il/elle/on nous vous ils/elles	fais fais fait faisons faites font
faire + de	
Use faire + de to talk about sports you do and other activities	
de + le → du	le vélo → Je fais du vélo
de + la → de la	la cuisine → Tu fais de la cuisine
de + l' → de l'	l'équitation → Il fait de l'équitation
de + les → des	les randonnées → Elle fait des randonnées
jouer (to play)	
Subject pronoun	Regular verb ER
je tu il/elle/on nous vous ils/elles	joue joues joue jouons jouez jouent
jouer + à	
Use jouer + à to say which sports or games you play	
à + le → au	le basket → Je joue au basket
à + la → à la	la pétanque → Il joue à la pétanque
à + les → aux	les cartes → Tu joues aux cartes



Section 3: Section 3: WAGOLL
<p>Moi, je suis assez grand sportif ! Au collège je joue au rugby et je fais de la natation tous les mercredis. J'adore aussi l'équitation et tous les week-ends j'aime faire du vélo avec ma sœur. En hiver j'adore faire du patin à glace mais je n'aime pas faire du ski parce que c'est vraiment difficile et il fait trop froid !</p>  <p>J'ai deux copains qui s'appellent Antoine et Amandine. Amandine n'est pas très sportive mais elle adore jouer aux cartes et elle télécharge souvent des chansons surtout du pop ! Antoine est assez intelligent et il adore la musique. Il joue de la guitare et il chante tout le temps. Il déteste regarder la télé parce que c'est ennuyeux mais il aime prendre des selfies et partager des photos avec ses copains. En été quand il fait beau on joue au tennis ensemble et on porte un short et un tee shirt. C'est hyper-cool !</p> <p>À savoir: Most French students have for two weeks for February half term depending on where they live in France. Where do you think many of them go. activities do you think they might do?</p>  <p>Prepositions: avec - with en - in sur - on</p> <p>Other Key Words: tout (m) /toute (f) /tous (m.pl)/toutes (f.pl)- all, every</p>

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Paradigm	The full verb with all parts
1st person	Talking about yourself (I/we)
2nd person	Talking in the you form
3rd person	Talking about one or more other people (he/she/they)
Stem	The part of the verb without the 'en' ending
Irregular verb/Strong verb	A verb where the stem changes in the du/er/sie form
Adverbs of time	An adverb that tells you when or how often something happens
WO2 Inversion	Where a sentence starts with an adverb, the subject pronoun and verb are swapped

Questions	Translation
Bist du sportlich?	Are you sporty?
Was spielst du?	What do you play/What are you playing?
Was spielst du gern?	What do you like playing?
Was machst du gern?	What do you like doing?
Wann?	When?
Wie oft?	How often?
Und was noch?	And what else?

Section 2: Grammar
Irregular Verbs (Strong Verbs)
fahren - to travel ich fahre - <i>I travel</i> du fährst - <i>you travel</i> er/sie/es fährt - <i>he/she/it travels</i>
wir fahren - <i>we travel</i> ihr fahrt - <i>you travel</i> Sie fahren - <i>you travel</i> sie fahren - <i>they travel</i>
sehen - to see ich sehe - <i>I see</i> du siehst - <i>you see</i> er/sie/es sieht - <i>he/she/it sees</i>
wir sehen - <i>we see</i> ihr seht - <i>you see</i> Sie sehen - <i>you see</i> sie sehen - <i>they see</i>
lesen - to read ich lese - <i>I read</i> du liest - <i>you read</i> er/sie/es liest - <i>he/she/it read</i>
wir lesen - <i>we read</i> ihr lest - <i>you read</i> Sie lesen - <i>you read</i> sie lesen - <i>they read</i>

Section 3: WAGOLL
Ich bin ziemlich sportlich. Mein Lieblingssport ist Wasserball und ich spiele zweimal pro Woche. Ich spiele auch sehr gern Hockey, aber ich spiele gar nicht gern Rugby. Das spiele ich nie. Ich höre besonders gern Musik. Jede Woche lade ich meine Lieblingssongs herunter und sehe oft Musikvideos auf YouTube. Am Wochenende gehen meine Freunde und ich in die Stadt. Wir gehen manchmal schwimmen oder einkaufen.
Und was noch? Ich gehe jeden Tag ins Internet. Ich spiele sehr gern Online-Spiele und ich suche oft Infos für die Hausaufgaben. Meine Mutter ist auch ein großer Internet-Fan. Sie schreibt ein Blog und liest gern E-Books.

Gut zu wissen
Separable Verbs
Some verbs in German can be split up. The start of the verb (prefix) is separated from the infinitive and put at the end of the sentence:
herunterladen - to download fernsehen - to watch TV
<p style="text-align: center;">Ich lade Musik <u>herunter</u>.</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Am Wochenende <u>sehe</u> ich <u>fern</u>.</p> <div style="text-align: center;">  </div>

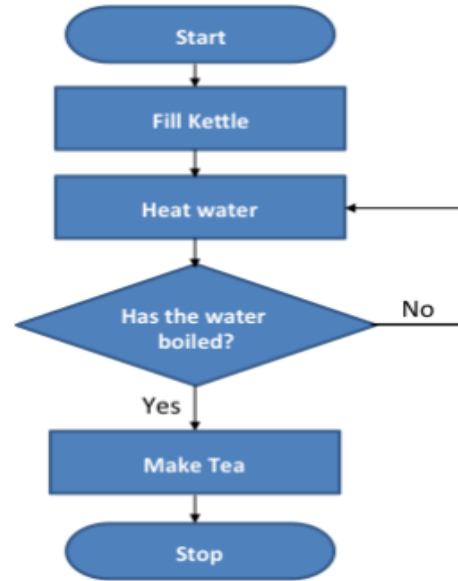
Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Instruction	An instruction is a single command we give to a computer, to perform one action.
Branching	A decision or choice in the program, which makes different.
Process	A single instruction, or group of instructions given a name.
Sub-routine or Sub-program	A "reusable" block of instructions, "called" or used within a procedure.
Flowchart	A picture of the instructions used to solve a problem
Simulation	A simplified copy of a real-world system (traffic lights, train points etc)

Tier 2 vocabulary

Tier 2 vocabulary	Definition
Computational Thinking	Identify and understand a problem, work out the steps to solve it.
Model	"Run" or investigate a simulation. eg What would happen if I changed this value...
Investigate	Find out why the program behaves in a specific way.
Modify	Take some working code and change values in it.
Run	Instruct the computer to follow a program.
Comment	Write messages on your flowchart, to help understand it better.
Operate	Control or change values in a program.
Decompose	Split a problem into tiny, solvable steps

Section 2: New Knowledge/Skills



In the flowchart above, find (and write down an example of):

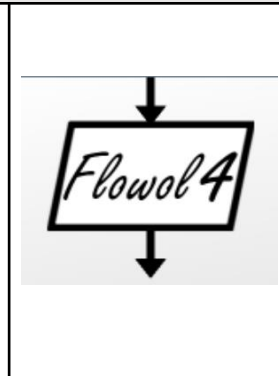
Process	
Decision	
Repetition	
Could you add input or output to this? What would it be?	

Label the symbols:

Section 3: Other subject specific things

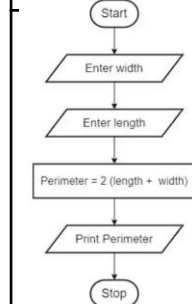
Flowol 4

This is the software we'll be using to experiment with flowcharts. It uses "Mimics" or simple real life situations. We can then easily build a flowchart to control each mimic, and simulate changes, as we control motors, sensors, lights etc. When used as intended, flowol can actually control real devices, like the arduino microcontroller we discussed in Term 2



Making a Flowchart using Computational thinking techniques:

A Computer Scientist would use a *flowchart* before programming (like last term's Scratch) to create a simple, easily understandable version of a problem. The first step is to *abstract* the problem, by removing any unwanted information or detail (in a program that calculates a perimeter, we don't care what the item is we're calculating it for, or what colour it is - we just need the length and width). Then we *decompose* the problem into tiny steps - what steps do we need to complete in order to solve the problem? Each step becomes an *instruction* (or *sub-routine*). Now we have a clear structure for a flowchart, which then helps to write clear, understandable code.



PE: Basketball

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Stance	'Knees and Squeeze' is great phrase to help you into a good stance with the basketball.
Triple threat position	When holding the ball, always be ready to pass, shoot or dribble.
Jump stop	Land on two feet when you catch the ball from a pass or at the end of a dribble.
Pivot	Turn on the ball of one foot when holding the ball to face a different direction.
Chest pass	Pass the ball in a straight line from your chest to your teammate's chest.
Bounce pass	Push the ball towards the floor so that it bounces up into your teammate's hands.
Travel	An important rule: don't run with the ball or shuffle your feet (use your jump stop and pivot).
Double dribble	Another important rule: once you have dribbled the ball, you cannot start dribbling again.


Section 2: New Knowledge/Skills

In your Year 7 basketball lessons you will spend some time developing your **co-ordination** by doing a wide range of ball skills to improve your control over the ball with your hands.

You will learn the key points of the main skills of basketball including: **stance, footwork, passing shooting and dribbling**.

You will learn to play the game using some of the major **rules** such as: **travel, double dribble, out of bounds**. You will learn how to **start** the game with a **'tip-off'** and how to **re-start** the game after an infringement or after a basket is scored: **endline ball/sideline ball**.

You will also learn how to play the game by following the **Top Tips for being a Good Basketball Player**. How many of these can you remember?



PE: Table Tennis

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Grip (handshake grip)	Hold the bat the correct way to help you to play all the different shots effectively. Three fingers round the handle and the finger and thumb on the blade.
Stance	The way you stand: to play table tennis effectively, keep the feet apart and the knees slightly bent.
Service/serve	To start the rally, hit the ball so that it bounces on both sides of the net.
Rally	Playing the ball back and forth with your partner/opponent.
Backhand push	Facing the table, with the bat across in front of your tummy/chest area, push the ball smoothly over the net.
Forehand push/drive	Turn your feet and body slightly towards the same side you hold your bat. Keep your elbow close to your body and push the ball back over the net from your strong side. A harder hit is called a drive.


Section 2: New Knowledge/Skills

In your year 7 table tennis lessons you will work towards being able to play a **game of singles** with a classmate, knowing the important rules and being able to do the basic skills.


Firstly, learning to grip the bat correctly and to take up a good stance will be key to your progress: use the handshake grip.

You will learn how to **serve** the ball to start a **rally**, trying to make sure the ball bounces on both sides of the net.

The basic shots needed to keep the rally going are the forehand and backhand push. The forehand push is played on your strong side and the backhand push with your bat across in front of your body.



How many **rules** of the game can you remember?



PE: Gymnastics

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Routine/sequence	A series of gymnastic movements and skills performed in a flowing given order.
Tension/Extension /Control	The 3 fundamental skills required to hold an aesthetically pleasing balance.
Travel/Transitional Movements	A gymnastic movement through space from one area to another.
Balance	The ability to hold yourself gymnastically within a support base for a minimum of 3 seconds (demonstrating TEC).
Jump	Performing gymnastic shapes and movements in the air.
Roll	A form of gymnastic travel, pivoting around the centre of mass.
Flow	The ability to link gymnastic skills and movements together with no obvious joints (needed during a routine/sequence).

Section 2: New Knowledge/Skills


What do you understand the term **aesthetically pleasing** to mean? Why is this so important in sports like gymnastics? You should know/demonstrate use of TEC (**tension, extension and control**) in order to produce high quality balances and also be able to recognise points of balance.

Know/demonstrate various methods of gymnastic travel/transitional movements to include **hop, jump, slide, crawl, twist, roll**.

You should be able to perform a simple individual **sequence**, demonstrating knowledge of or use of the key vocabulary. Sequences should incorporate **flow** between different gymnastic skills and movements.

SLD (**speed, level and direction**) changes should be used to enhance sequences.

End of unit quiz questions code: (this will also be released in your Google Classroom group at the end of each unit of work)



PE: Netball

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Footwork	The landing foot of a player can move until they have passed the ball.
Pivot	Turning on the ball of the foot when holding the ball to face a different direction.
Marking	Standing in front of another player - preventing them from moving or receiving the ball.
Dodging	A method used to move away from a defender.
Passing	Sending the ball to another player.
Signalling	Pointing or indicating to other players to give them useful information.
Centre pass	Method used to start a game or to restart the game after a goal is scored.
Free pass	Method of restarting the game after a foul has been committed.

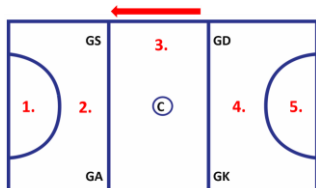
Section 2: New Knowledge/Skills

A key phrase for remembering the footwork rule is: **CLIP - CLOP**

3 keywords to remember when passing a ball are:
STEP - PUSH - POINT

The different types of passing that can be used within a game of netball are: **Chest, bounce, shoulder and overhead.**

The diagram below shows a netball court and the starting positions of each player at a centre pass. Identify the areas each player can go in.



End of unit quiz questions code

Free passes are awarded for: footwork, offside, held ball

Only the GS and GA can shoot and this must be from within the shooting circle

PE: Hockey

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Grip	Always keep the left hand at the top of the stick. The right hand goes about halfway down the stick.
Stance	The ready position to control, dribble or pass the ball; left foot forward, stick at 45 degrees and head up.
Dribble	Moving the ball along by tapping it, rather than pushing it, with your stick. 'Tap/look, tap/look'.
Block tackle	The most effective way to stop a dribbler. Get your legs wide apart and your stick low to the ground.
Push pass	The safest and most accurate way to send the ball to your teammate: 'put/push/point'.
Reverse stick	Turn that stick over to make sure you always use the flat side of the stick.
Self pass rule	Remember that you can dribble the ball to yourself when restraining the game.
Shooting circle	To make hockey safer, no longer shots are allowed - make sure you are inside the circle when you try to score.

Section 2: New Knowledge/Skills

In year 7 hockey you will learn all the **skills** and **rules** needed for you to be able to safely play a **small-sided game** with your classmates, such as 5v5.



You will learn the key skills of: **grip, stance, dribble, block tackle, push pass and reverse-stick.**

You will learn that in a game you must not touch the ball with your feet or the back of your stick. You will know how to **start** the game (**a pass-back**) and how to **restart** the game after the ball goes out: **sideline ball, top of the circle.**

Watch out for your classmates who use the **'self-pass rule'**!! A great way to score before the other team are ready!!



PE: Swimming

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Technique	The way you perform something in sport.
Stroke	One of the 4 methods of competitive swimming: front crawl, breaststroke, back crawl, butterfly.
Water confidence	The ability to perform a variety of skills in the water.
Push and glide	Making a strong push from the wall and getting the body fully extended to gain momentum at the start of a width.
Streamlined	Keeping the body in a position - straight and narrow - which reduces water resistance.
Personal survival	Skills which may help a person survive in a dangerous situation.
Treading water	Staying afloat in the same place with minimum effort.
Water polo	A team sport where players try to throw the ball into a goal at the end of the pool.

Section 2: New Knowledge/Skills

It is of vital importance that we follow the **safety rules** in and around the swimming pool. Can you list 3 safety rules that must be followed in your swimming lessons?

You will focus mainly on developing your **technique** in front crawl and back crawl. The two key parts of technique that we will focus on are the arm action and the leg action.

Question - can you describe the key points of the arm and leg actions in front crawl and back crawl?

You will learn and practice a variety of **water skills** and **survival skills** to improve your confidence in the water, including breath holding, underwater swimming and treading water.

Question - Can you list some of the basic rules of **water polo** and describe how to **dribble** and **pass** the ball?



PE: Rugby

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Carry (grip)	How to hold the ball: hold it in two hands with the hands on the sides of the ball (not the ends).
Passing	Send the ball to a teammate using a two-handed swinging action across the body.
Running with the ball	As soon as you catch the ball - run! Try to go forwards with the ball carried in 2 hands.
Try	Placing the ball down on the floor behind the opponents' try-line to score 5 points.
Support	Helping a teammate by running just behind and to the side of them so that they can pass to you.

Section 2: New Knowledge/Skills

In Year 7 we will be playing 'touch' rugby. There is no tackling so that you can focus on learning the skills and how to play the game.


You will learn how to carry the ball and how to pass the ball.

Question - What 2 things should you do as soon as you catch the ball?

You will play small-sided games passing the ball between teammates to get the ball across the try-line.

Question - How many points are awarded for a try and what else happens after a try is score in a full rugby game.

You will learn how to pass the ball backwards and how to position yourself so that a teammate with the ball can pass backwards to you.



Question - What 'code' of rugby do we play at Belper School?
rugby union or rugby league

PE: Football

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Passing	Sending the ball to another player.
Receive	Collecting the ball from another player.
Control	Keeping the ball safe when it is collected. This is a cushion action and can be on different levels.
Dribble	Moving with the ball at your feet.
Turn	Changing direction with the ball.
Signalling	Pointing or indicating to other players to give them useful information.
Possession	The team or player in control of the ball.

Section 2: New Knowledge/Skills


Here are some questions to see what you can remember from your football lessons.

List three different types of **pass**.
Name three different body parts that a player can use to **control** the ball.

When might a player choose to **dribble** rather than **pass** the ball?

Which ways of **turning** with the ball have you used in lesson time?

Can you identify one rule for each of the following situations when playing a game:
Kick-off
Throw-in
Goal-kick
Free-kick:



You can use the QR code to access the Year 7 Football homework questions once you have completed your football lessons.

PE: Running

New Knowledge/Skills

Running is an important part of our PE programme for 2 main reasons:

Running is essential to being able to play all other sports, and...
Running is the most popular way across the world that people use to keep fit.

Can you list some of the reasons why running is the most popular keep fit activity

In our Year 7 running lessons, we will develop our ability to run at a **steady pace** for a long period of time. We will set a **target time** and understand what a **personal best** is.

PE: Health and Fitness

New Knowledge/Skills

Throughout PE lessons in Year 7, we will consider the 2 main aims of a warm-up:

- To reduce the chance of injury
- To improve performance

You will develop a range of exercises to raise your pulse and prepare your body before exercise and you will learn the names of the key muscles.

Can you name 5 of the major muscles in the body?

Can you demonstrate 10 exercises you can use in a warm-up?

PE: Leadership

New Knowledge/Skills

Leadership is an essential part of all sports and fitness activities.

You will develop your own leadership skills in lessons by helping others to warm-up, by helping others to improve their skills and by officiating some games.

Key question: Why are leaders important in sport?

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Primary colour	Root colour from which all other colours are mixed- Red -Yellow -Blue
Secondary colour	Two Primary colours mixed together to make Orange, Purple and Green
Tertiary colour	A secondary colour mixed with a primary colour
Complementary	Colours opposite each other on the colour wheel that make each other appear brighter
Abstract	Art that does not attempt to show external reality
Non-naturalistic	Not closely imitating real life
Impasto	Use of thick paint to create texture
Painterly	Application of loose visible paint strokes
En plein air	outdoors
Expressionist	Expressing the inner world of emotion rather than external reality
Impressionist	An artistic style capturing a moment of time
Stipple	A painting technique using small dots of colour
Tier 2 vocabulary	Definition
Colour	pigment
Blended	One colour merged into another
Media	Type of material used
Strokes	Marks used in painting
Applied	Added to the painting
Landscape	Depiction of an outdoor scene
Portrait	Depiction of a person.

Section 2: New Knowledge/Skills
<p>Artists Henri Matisse Andre Derain Claude Monet Berthe Morisot</p>
<p>Fauvism</p> <p>A term applied to a group of artists working in a similar way around 1905-1910. This group included Andre Derain and Henri Matisse.</p> <p>Their paintings were made using bold , non-naturalistic colours and loose dabs of paint. The paintings were often simplified so appeared quite abstract. Colours were used to express mood and emotion so are also called expressionistic. The Fauvists were particularly interested in using complementary colours- these are pairs of colours which appear opposite each other on the colour wheel and when used side by side in a painting, make each other look brighter. Sometimes the paint was applied thickly to the canvas- a technique known as Impasto.</p>
<p>Impressionism</p> <p>A term applied to a group of artists, initially in France, working in the 1860s onwards. This group of artists included Monet, Renoir, Degas and Berthe Morisot.</p> <p>They worked ‘on the spot ‘ outdoors-‘ en plein air’ rather than from sketches in the studio. New technological advances in paint tubes meant paint could be carried outside. The artists found they could capture momentary effects of sunlight by working quickly and so had a greater awareness of light and colour. Brushwork became rapid and broken into separate dabs to show the changing quality of light and movement. The term Impressionism came from Monet’s work ‘Impression- Soleil Levant’ (impression- sunrise)</p> <p>Subject matter was ordinary everyday life and captured moments of time much as we might do with photography now. (The first portable camera was available in 1884- invented by George Eastman).</p>

Section 3: Colour Mixing
<p>Primary colours Red Yellow Blue</p>
<p>Secondary colours</p> <p>Red and yellow - orange Yellow and blue - green Blue and red - purple</p>
<p>Tertiary colours</p> <p>A secondary colour mixed with a primary colour, for example, red and green</p>
<p>Harmonious colours Colours next to each other on the colour wheel- These colours work well with each other and create an image which is pleasing to the eye.</p>
<p>Complementary colours</p> <p>Red – Green Yellow – Purple Blue - Orange</p>
<p>Tint A colour mixed with white</p>
<p>Shade A colour mixed with black</p>
<p>Tone A colour mixed with grey</p> <p>Artists will use tints, shades and tones when mixing colours.</p>

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Theatre Production	The planning, rehearsal and presentation of a work to an audience at a particular set time.
Stage Set	Representation consisting of scenery and other properties used to identify location of a dramatic production.
Stage Design	The creation and choreography of scenery and properties in a particular production.
Costume	The clothes designed to be worn within a performance to say something about the character and the production.
Performance Convention	Rules that exist in the Theatre
Fourth Wall	The Fourth Wall is a Performance Convention. The Audience can see through the 4th Wall and watch the performance. The actors can not see through the wall and act as if the Audience were not there.
Breaking the Fourth Wall	When Actors acknowledge the Audience within the Performance.
Tier 2 vocabulary	Definition
Character	The person created in a play or novel.
Analysis	Detailed examination of the elements or structure.
Evaluation	The making of a judgement about the value of something.

Section 2: New Knowledge/Skills
<p>Continuing and Developing our study of “The Woman in Black” A script.</p> <p>The piece was originally a short story, then became a theatre production. We will continue to look closely at sections of the script.</p> <p>(There is also a film, but we don’t use that in lessons.)</p> <p>Watching Live Theatre in the Classroom:</p> <p>Over the last few years we have seen the development of Theatre pieces being recorded as Live Events, rather than being created as films. As a Drama Department we felt it important to use this resource in our teaching.</p> <p>This half term we also watch a Live Performance and develop the evaluation and analysis of productions .</p> <p>We will watch the National Theatre production of “Peter Pan”. The original and famous play called “Peter Pan” is by J M Barry.</p> <p>The play explores fantasy, childhood and growing up: these themes are also explored in this superb production of the piece.</p> <p>The National Theatre play with the concepts of “Fairy Dust”, here instead we hear about “Happy Thoughts”. We see the actual mechanics of flying in the theatre and yet seem to lose none of the magic of “Peter Pan”</p>

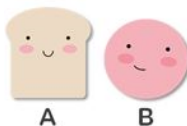
Section 3
<p>Reasons we take you on Theatre Visits and Watch Live Theatre .</p> <ol style="list-style-type: none"> 1. The magic... When done well the piece of Theatre can transport the audience into a different world. The theatre has a special energy that the audience, that is you, can feel! 2. It Reflects our world NOW... The performance is of the time it is created. Live Theatre and Streamed Theatre is produced in the culture and time that we exist. It reflects the culture around us back at us. This makes us think about the world in which we live. 3. A Teams’ Creation... You can see a vast team of individuals working together towards one event and one aim. This is amazing to be involved in, but also inspiring to us.. 4. A Brain Work Out... .Great theatre can get you to think and/or feel something, jog a special memory or figure something out. This exploring of our Emotional Intelligence is essential to our personal development. 5. There are of course lots of other brilliant reasons to watch theatre, but lastly this performance of “Peter Pan” is perfect for you in Yr 7 Drama. The production is fun, playful energetic and explores that place between being a child and a grown up.

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Harmony	Playing two or more notes at the same time. The “harmony part” in music is different to the melody part
Melody/Theme	Playing two or more notes at the same time. The “harmony part” in music is different to the melody part
Pitch	The highness or lowness of a sound or musical note
Ostinato	A repeated musical pattern. An ostinato can be a repeated rhythm or a repeated melody and are usually short.
Drone	A repeated note or notes of long duration played through the music. When two notes are used, they are often five notes apart (a fifth).
Phrase	A short section of music, like a “musical sentence”
Form/Structure	How a piece of music is organised into different sections or parts.

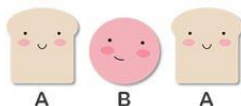
Tier 2 vocabulary	Definition
Contrast	To be different especially in a way that is very obvious
Timing	The ability to synchronise with another person
Expression	Making your thoughts or feeling known

Section 2: New Knowledge/Skills

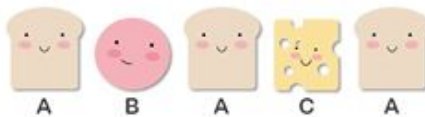
Binary Form (AB) describes music in two sections. The first section can be labelled “A” and the second section “B” (either or both sections may be repeated). The “B” section **contrasts** musically in some way to the first “A” section.



Ternary Form (ABA) describes music in three sections. The first section can be labelled “A” and the second section “B” The “B” section **contrasts** in some way to the first “A” section which is then **repeated** after the “B” section again.



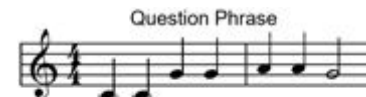
Rondo Form (ABACADA...) describes music where a main **theme** or **melody** “A” keeps returning between different contrasting sections “B, C, D...” (called **episodes**)



Section 3

Question and Answer Phrases

Two short sections in a piece of music. The first **QUESTION PHRASE** is followed by the **ANSWER PHRASE** which in some way copies or answers the first – like a ‘musical conversation’. The **MELODY** below shows the opening of “Twinkle Twinkle Little Star” - notice how the **QUESTION PHRASE** rises in **PITCH** and the **ANSWER PHRASE** descends in **PITCH**.



Treble Clef Pitch Notation



C D E F G A B c' d' e' f'
 Treble Clef “Lines” Note Names Treble Clef “Spaces” Note Names Repeat Mark

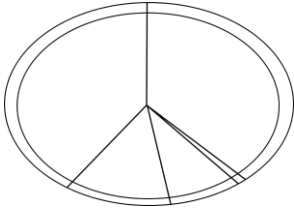


Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Claw Grip	A knife hold where the fingers are curled under and not laid flat on the food surface.
Bridge Grip	A knife hold where the knife is positioned between the thumb and fingers to create a bridge shape.
Pre-heat	Turning the oven on prior to being needed so it reaches the required temperature.
Simmer	A cooking method which requires the liquid to be just below boiling point (small bubbles on surface).
Rubbing-in method	Using your finger-tips to rub together the fat and flour in a recipe to create a breadcrumb looking texture.
All-in-one method	A cake making method. When all ingredients for a recipe are added into the mixing bowl and combined.
Seasonal Foods	Foods which are grown and ready-to-eat at different times of the year. (Spring, Summer, Autumn and Winter).
Eatwell Guide	A guide which shows the different food groups and the proportions they should be eaten in.
4 Cs	Relate methods used to keep food production safe and hygienic. Cross-Contamination, Cleaning, Cooking and Chilling.
Intensive	A type of farming used to produce a large amount of food.
Organic	A type of farming used to produce food which avoids the use of chemicals and pesticides.
Carbohydrates	A nutrient we obtain from our food which provides energy.

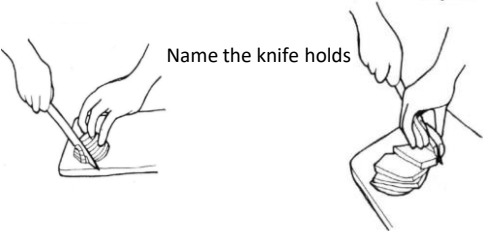
Tier 2 vocabulary	Definition
5-A-Day	A Government scheme to encourage eating more fruit and vegetables.
Safety	Working in a way to avoid injury or danger.
Hygiene	Working in a clean and organised manner.
First-Aid	Basic assistance given for minor injuries.
Peeling/ Chopping/ Slicing	Methods of preparing some fruit and vegetables.
Equipment	The necessary items for a particular purpose
Measuring / weighing	Accurately preparing the correct amount of ingredients / liquids for a recipe

Section 2: New Knowledge/Skills

Eatwell guide
Label the diagram and add the extra sections



4 Cs
Name the knife holds



Cross-contamination: How do we use chopping boards to avoid this in the T8 Kitchen?

The **DANGER ZONE** temperatures are: _____

Section 3

Useful Abbreviations:

- tsp
- tbs
- g
- ml
- l

Seasonal Food Chart

Spring	Summer	Autumn	Winter
Asparagus	Beetroot	Field Mushrooms	Brussels Sprouts
Carrots	Broad beans	Lettuce	Cabbage
Cauliflower	Carrots	Marrow	Carrots
Celeriac	Cauliflowers	Potatoes	Cauliflower
Cucumbers	Courgettes	Pumpkin	Celeriac
Curly Kale	Cucumber	Rocket	Curly Kale
Purple sprouting broccoli	Fennel	Squashes	Fennel
Savoy Cabbage	Fresh Peas	Sweetcorn	Leeks
Spring Greens	Garlic	Watercress	Parsnip
Spring Onions	Green beans		Potatoes
Watercress	Salad & salad leaves	Apples	Red Cabbage
	New Potatoes	Blackberries	Swede
Rhubarb	Radishes	Damsons	Turnip
Gooseberries	Salad onions	Elderberries	
	Tomatoes	Pears	Apples
	Watercress	Plums	Pears
	Blueberries		
	Currants		
	Plums		
	Raspberries		
	Strawberries		

Homework 1
Create a Health & Safety poster using the tier 2 and 3 vocabulary from the knowledge organiser to teach younger students how to keep safe in the kitchen. Complete the H&S quiz on Google classroom, or ask your teacher for a paper copy

Homework 2
Use the seasonal foods chart above to identify which recipes can be made using seasonal ingredients on your HW sheet. Complete the quiz on Google classroom, or ask your teacher for a paper copy.

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Dietary Fibre	Found in fruits, vegetables and wholemeal products it helps prevent constipation and reduces the risk of heart disease
Carbohydrate	Found in pasta, rice and potatoes - it gives us energy
Protein	Found in beans, nuts, lentils, meat, fish ,eggs & dairy products - it helps us grow
Vitamins	Help to prevent illness
Minerals	E.g. Calcium / Iron - help maintain body processes
Energy balance	Balancing the amount of energy being put into the body through food, and the amount of energy used for activity.
Traffic light labelling	Colour coded food labels comparing fats, sugar & salt to an adult's average requirements. (Red- eat less, amber- not too many, Green- good to go!)
Perishable	Perishable foods are those which need to be kept in the fridge. They are often foods which have a higher risk of giving us food poisoning if they aren't stored or prepared correctly
Tier 2 vocabulary	
Fats	Definition
Fats	Needed for energy found in margarine, butter, oil.
Vegetarian	A vegetarian doesn't eat meat or fish, but does eat eggs / cheese / milk
Preservation	Making something last longer (extending its shelf life).
Modifying	Changing / altering
Descending order	Most to least e.g. ingredients on a food label

Section 2: New Knowledge/Skills

5-a-day

Eat at least 5 portions of a variety of fruit and vegetables every day. An adult portion is 80g but children need smaller portion sizes. 1 portion is roughly the amount you can fit in the palm of your hand.

Eat as many of the different categories below as possible because they all contain different combinations of fibre, vitamins, minerals and other nutrients.

Find out more: www.nhs.uk/live-well/eat-well/why-5-a-day

eatwell 8 TIPS for HEALTHY EATING

- 1 Base your meals on starchy foods** (Illustration: plate with rice and chopsticks)
- 2 Eat lots of fruit and veg** (Illustration: apple and broccoli)
- 3 Eat more fish – including a portion of oily fish each week** (Illustration: fish and fish fingers)
- 4 Cut down on saturated fat and sugar** (Illustration: burger and chocolate bar)
- 5 Eat less salt – no more than 6g a day for adults** (Illustration: salt shaker)
- 6 Get active and try to be a healthy weight** (Illustration: person running)
- 7 Drink plenty of water** (Illustration: glass of water)
- 8 Don't skip breakfast** (Illustration: plate with egg and toast)

Diet related health issues

By choosing to eat the wrong balance of foods we increase our risk of some of the following health issues:

- Heart disease
- Stroke
- Diabetes Type 2
- Tooth Decay
- Cancer

Section 3:

Preservation

Food can be preserved in different ways. This means that it will keep for longer without spoiling or causing food poisoning. Preservation methods include

- Freezing
- Drying
- Pickling
- Jamming
- Canning

Preservation extends a product's **shelf life**.

Use by dates should always be followed as they are found on perishable foods which can cause food poisoning.

Best before dates are just a recommendation that the food will be at its best quality up to this date, but it can still be eaten for some time afterwards and is safe to do so.

Homework 1

Revision for Assessed task. Read the information on both of the Y7 Food Tech Knowledge Organisers to help remind you of the Eatwell guide, nutrients and healthy eating ready for your assessment.

Homework 2

Sugar coated cornflakes

Energy 488kJ 114kcal	Fat <0.5g	Saturates <0.1g	Sugars 13g	Salt 0.45g
6%	<1%	<1%	15%	8%

of an adult's Reference Intake.
Typical values per 100g: Energy 1626kJ/381kcal

Each fillet (240g) contains

Battered fried cod

Energy 2474kJ 593kcal	Fat 37g	Saturates 4.3g	Sugars <0.5g	Salt 0.96g
29%	53%	22%	<1%	16%


of an adult's Reference Intake.
Typical values per 100g: Energy 1031kJ/247kcal

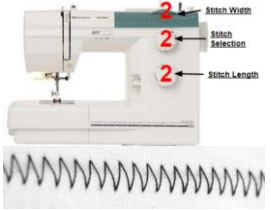
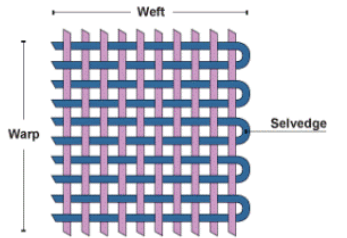
Analyse the traffic light labels provided above.

Explain how you would modify the recipes, or what you would swap them to to make them more healthy.

Give two examples of breakfast dishes which would provide a balanced nutritious start to the day instead of sugar coated cereal.

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Block Print	A method of printing textiles by stamping ink-dipped blocks—usually made from wood or linoleum—onto fabric
Applique	Means applying (sewing or bonding) one piece of fabric to another – usually shapes or designs on top of a fabric background
Bondaweb	Is a soft adhesive mesh with a transfer paper backing . Makes bonding (or sticking) two fabrics together quick & easy.
Calico	Calico fabric is a plain-woven textile , made from half-processed and unbleached cotton fibres.
Woven	A Woven fabric is any textile formed by weaving . Woven fabrics are often created on a loom
Loom	A loom is a machine or device for weaving thread or yarn into textiles . Looms can range in size from very small hand-held frames, to large free-standing looms
Warp	The warp is the set of yarns that run lengthwise (up & down) on a loom
Weft	Weft threads are the horizontal threads that are interlaced (in & out) through the warp
Tier 2 vocabulary	Definition
Template	A paper or cardboard shape which can be traced onto fabric prior to cutting out. Templates are used when making garments in the fashion industry

Section 2: Skills
<p>Applique You will use applique to decorate the front of your bag. Applique describes adding layers of fabric shapes to make a picture or design. We can use Bondaweb to stick the layers down before we sew them. Bondaweb is a glue that is activated by the heat from the iron to melt it and adhere the layers together. To use the bondaweb:</p> <ol style="list-style-type: none"> 1. Firstly cut the shape you want to make from it. 2. Next iron the shape onto the REVERSE of the fabric. 3. Cut out the fabric shape using the outside of the Bondaweb as a guide. 4. Peel the paper from the back of the bondaweb 5. Place the bondaweb/fabric shape onto your bag where you want it to go, bondaweb side down. 6. Place a paper towel over the top of your work 7. Iron in place for 10 swirls 8. Check if it has glued in place. If not repeat step 7 again until it is stuck down.
<p>Block Printing Block printing is a method of decorating fabric that has been used for many hundreds of years. Traditionally the blocks would be made from carved wood.</p> 
<p>Manufacturing Steps</p> <ol style="list-style-type: none"> 1. Mark out the seam allowances on the calico fabric. 2. Use bondaweb to applique the design to the front of the bag. 3. Sew around the applique design. 4. Make the block print 5. Use the block print to make a repeat pattern on the back of the bag 6. Iron the fabric paint when it is dry to fix it into the fabric 7. Fold the bag together INSIDE OUT 8. Sew along the seam allowance lines down each side, in straight stitch and zig zag. 9. Fold the top of the bag over twice and sew in place. 10. Make the straps 11. Sew the straps to the top of the bag

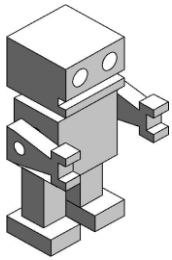
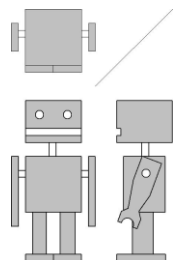
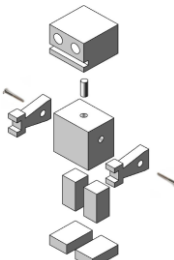
Section 3: Knowledge
<p>Zig Zag A zig zag stitch is often used for Decoration around the outside of an appliqued piece of fabric.</p>  <p>It is also useful to neaten the edges of a woven fabric and stop it from fraying.</p>
<p>Fabric Crayons Fabric crayons are an easy way to add more detail to a fabric design. They work in the same way as normal wax crayons, you draw straight onto the fabric. There is an extra step though to fix the crayons into the fabric you need to iron it. The heat from the iron fixes the crayons into the fibres of the fabric so that you can wash it etc. You need to remember to cover your crayon design with a paper towel so that the excess wax can be absorbed.</p>
<p>Weaving The cotton calico fabric you are using for your bag is woven on a loom.</p>  <p>This diagram shows you the key parts of the fabric.</p> <p>It is easy to remember that the WEFT goes from LEFT to right if you think of WEFT=LEFT</p>
<p>Homework Tasks Task One: Copy the diagram of the WEAVING, label the Warp and Weft. Challenge: can you research the BIAS and mark onto your diagram where that would be? Task Two: The settings for a basic zig zag stitch are shown above. Can you predict what would happen the stitch if you adjusted the dials?</p> <ol style="list-style-type: none"> 1. Draw what you think the shape of the zig zag would be if I changed the Width to 5 2. Draw what you think the shape of the zig zag would be if I changed the width to zero.

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Task Analysis	Investigating the topic being studied by breaking it down in the different possible focal points
Orthographic	A style of 3D drawing shown in 3 different views
Isometric	A style of drawing using 30 degree angles
Timber	A wooden beam in the frame of a house, boat, etc.
Hardwoods	The wood from a broadleaved tree (such as oak, ash, or beech) as distinguished from that of conifers
Softwoods	The wood from a conifer (such as pine, fir, or spruce) as distinguished from that of broadleaved trees
Man-made wood/ board	They are usually composed of natural woods and resin, which binds them together. This forms wood such as Ply
PPE	Personal protective equipment used in the workshop
Tri-Square	A tool for measuring or marking out accurate right angles
Pillar Drill	versatile machines that can be used on a wide range of materials where single hole drilling is required.
Disc sander	A machine to help sand down work to a correct measure or creating a smooth finish
Steel Rule	A tool to help measure accurately
Tenon Saw	A tool for cutting different types of wood by using a forwards and backwards movement
Hand File	A tool used to remove fine amounts of material from a workpiece. It is common in woodworking, metalworking
PVA adhesive	Polyvinyl acetate, commonly known as wood glue

Tier 3 vocabulary	Definition
Grain	The lines along the wood that create the decorative look
Annual Rings	Circular rings that indicate the age of the tree
Knot	Small dark circles where a branch once grew
Warping	When wood has twisted in different directions
Splitting	When ends of wood have dried too quickly and split
Cupping	When a plank of wood curves towards the centre

Section 2				
	Measure	Mark	Cut	Sand
Feet				
Arms				
Shape				
Legs				
Head				
Mouth				
Eyes				
Body				
Dowel				

Section 3: Health and Safety in the Workshop
I understand the safety rules in the workshop and promise to follow them
Student sign:.....Teacher sign:.....

Section 3		
Wood types	Medium-Density - Fibreboard	Redwood
Oak	Plywood	Cedar
Beech	Chipboard	Pine
Mahogany		Spruce
Teak		Fir
Balsa		
Properties of woods: Strength, toughness, hard wearing, colourful and interesting appearance, grains, density, good shock absorbency.		
Drawing Styles:		
Isometric	Orthographic Projection	Exploded View
		
Homework 1 Produce a safety poster. See page 2 of the booklet. Also use the tier 2 and 3 vocabulary from the knowledge organiser to teach other students how to keep safe in the workshop.		
Homework 2 a)Types of timber. What are the 3 main categories? Use the tier 3 vocabulary to help identify them. 1. 2. 3. Produce a leaflet outlining the 3 categories of woods and how we identify between them using interesting facts. Using the wood types listed above choose one from each column. Research its origin, draw a picture of the tree and its leaves, describe its appearance and an example(s) of what we make the wood into as a product.		
b)Find an item which is made of wood from your home. Sketch it. Try and identify which wood it is by using the materials list above and explain why this wood has been chosen to make this product by identifying the correct properties from the list above.		

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Casting	An object made by pouring molten metal or other material into a mould.
Pewter	An Alloy metal that is mostly made of tin and then mixed with other metals such as copper.
CAD	Computer Aided Design. Using computers to design a product.
CAM	Computer Aided Manufacture. Using a computer to control the machine making a product.
Abrasive	A surface that causes damage or wear by rubbing.
Coping Saw	A handsaw with a thin blade that is attached to the handle by a U-shaped frame, used for cutting curved shapes into wood.
Wet and Dry	Wet and dry paper is a type of sandpaper with a coating of abrasive material. Wet and dry can be used wet with water as well as dry for the purpose of polishing.
File	A tool used to remove fine amounts of material from a workpiece. It is common in woodworking, metalworking, and other material types.
Laser Cutter	Laser cutting is a technology that uses a laser to vaporize materials, resulting in a cut edge. It can also be used to engrave and rasterise.
Die Mould	A mould create with a hollow centre used in the casting process. (See casting definition).
Acrylic	A petroleum based plastic material with outstanding strength, stiffness and variety of thicknesses and colours
Pillar Drill	An electrical drill that can be used to drill holes into a variety of different materials.

Section 3: Health and Safety in the Workshop
I understand the safety rules in the workshop and promise to follow them
Student sign:.....Teacher sign:.....

Section 3: New Knowledge/Skills	
New Skill/ Knowledge	I have demonstrated this:
Explain the casting process	
Research existing product	
Develop ideas and design for a customer	
Learn how to use 2D design software Basic Tool	
Learn how to use 2D design software Text Tool	
Learn how to use 2D design software Contour Tool	
Use a pillar drill to drill a hole in you keyring or scrap metal.	
Use a coping saw to remove the spout	
Use a file to remove remainder of spout	
Use wet and dry paper	
Explain the difference between engraving and cutting on the laser cutter	
Identify the different between Acrylic and Pewter	
Evaluate	

Section 4: Homework tasks
<p>Homework 1:</p> <p>Complete Homework Challenge 1 in your booklets: Page 6 This homework should help you to generate some ideas for your keyring and be able to see the variety of different keyrings that can be made. Make sure you answer all of the questions and include a picture for each different Keyring. When you are describing each design, make sure you describe it fully (imagine the picture is not there).</p> <p>Homework 2;</p> <p>Complete Homework Challenge 2 in your booklets: Page 11. Demonstrate your understanding of all of the skills that you have learnt .</p>