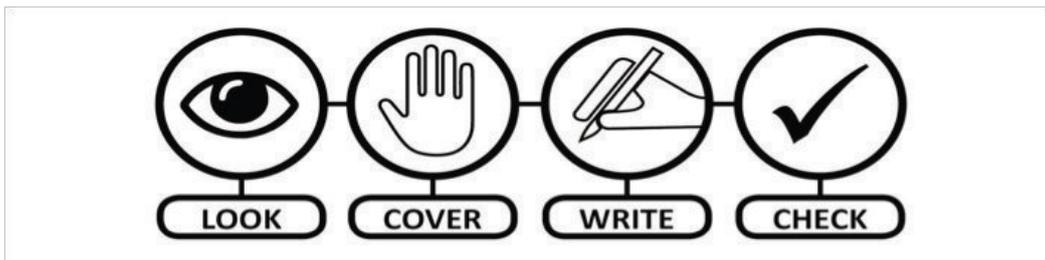




Year 7 Knowledge Organisers Spring: Book 3: Spring

Name:	
Form:	



There is no learning without remembering.

— Socrates

Year 7 : Knowledge Organisers – Guidance for Parents

What are knowledge organisers?

A knowledge organiser is a set of key facts or information that pupils need to know and be able to recall in order to master a unit or topic. Typically an organiser fits onto one page of A4 this helps pupils to visualize the layout of the page which in turn helps them to memorise the information better.

Why are we moving to knowledge organisers?

Typically, most youngsters leave their revision until a few weeks (best case scenario) or days/hours (worst case scenario) before the examinations and tests. This presents a problem. Our short term memory is designed to be just that and has limited capacity. Pupils find themselves unable to retain the information, they become stressed and often give up, convincing themselves they are no good at revising or that they “can’t do subject ‘x’ ”.

The secret to success is to regularly revisit the knowledge to be learned (known as ‘spaced retrieval’). This helps transfer the knowledge from the short-term memory to the long term memory. This not only helps to make ‘learning stick’ but it also frees up our short-term memory for day to day learning and experiences.

How will a knowledge organiser help my child? Suggested activities for parents

Knowledge organisers will be made available at the start of each unit to help them remember what they’re learning and to help them to see the bigger learning journey in their subjects. Instead of forgetting previous learning, pupils continually revisit and retrieve prior learning from their memories.

Most homework set will be linked to all/some aspects of the organiser. This might be to learn keyword spellings or to write an extended response that uses some/all of the knowledge from the organiser. Here are some strategies that might help you to do this.

- Read through the organiser with your son/daughter – if you don’t understand the content then ask them to explain it to you – ‘teaching’ you helps them to reinforce their learning.
- Test them regularly on the spellings of key words until they are perfect. Make a note of the ones they get wrong – is there a pattern to the spelling of those words?
- Get them to make a glossary (list) of keywords with definitions or a list of formulae.
- Read sections out to them, missing out key words or phrases that they have to fill in. Miss out more and more until they are word perfect.

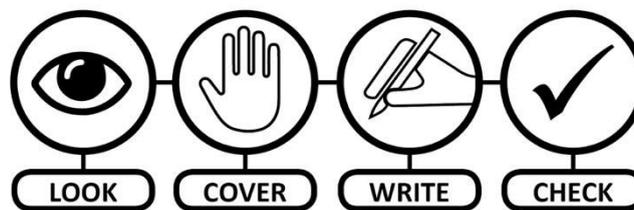
We would recommend that pupils spend thirty minutes per homework learning the knowledge detailed in the organiser. A video on using knowledge organisers can be found at the following link: <https://bit.ly/2MNb2H5>

Knowledge Organisers – Guidance for Pupils

At the start of every 1/2 term, you will be given a knowledge organiser booklet, containing a KO for every subject. These will show you the exact facts, dates, events, characters, concepts and precise definitions that we need you to remember for that topic. Securing this knowledge base will allow you to develop your skills of understanding, analysis and evaluation in lessons more effectively.

You will also be supplied with a knowledge practice book, you will use this book to complete all your home works for all subjects.

How to use a knowledge organiser:



To do this, memorise a section of the organiser then cover up this part of their knowledge organiser, write it out from memory (in a black or blue pen), then self-check and correct any spelling mistakes, missing bits or mistakes (in a purple pen). This way, you will learn the most valuable knowledge in every subject by heart and free up space in their brain to develop your skills

We would recommend that pupils spend thirty minutes per homework learning the knowledge detailed in the organiser.

Your teacher will use low stakes testing to check your learning in your next lesson in the subject.

Day	Homework 1	Homework 2
Monday week 1	English	Art
Tuesday week 1	Maths	Music
Wednesday week 1	Science	Drama
Thursday week 1	RE	MFL
Friday week 1	History	
Monday week 2	Technology	English
Tuesday week 2	Maths	
Wednesday week 2	PE	Science
Thursday week 2	Computer Science	RE
Friday week 2	Geography	

Homework instructions		
Monday 6th January Week 2	INSET DAY	INSET DAY
Tuesday 7th January Week 2	Maths (p7-12) Using the look, cover, write and check methodology complete the knowledge organiser Page 1 - 7JLG, 7JMLD, 7QCN, 7QDH Page 4 - 7JDH, 7JLMC, 7QMLD, 7QLG	English (p13) Conventions of a letter – learn the layout of a letter using look, cover, write until you can complete the whole structure independently. You will complete a test in class.
Wednesday 8th January Week 2	PE (p27) Complete the homework on Diet & Nutrition on Doodle.	Science (p15-16) Use the <i>Look, cover, write, check</i> method for columns 7Ba Animal sexual reproduction and 7Bb Reproductive organs.
Thursday 9th January Week 2	Computer Science (p26) Using Google Slides: Use Look - Cover - Write - Check to remind yourself about the key icons for Google Slides.	RE (p17-18) Learn the spellings and meanings for key words 1-5. Use look, cover, write and check.
Friday 10th January Week 2	Geography (p19-20) Complete the questions from Homework Quiz 1. Find the answers on your UK Knowledge Organiser. Write the questions and answers as flash cards in your homework book. Use techniques such as look, cover, write and blind testing to revise for your quiz in lesson.	
Monday 13th January WEEK 1	English (p13) Learn the discourse marker examples list. Using look, cover, write learn them all. You will complete a test in class.	Art (p14) Zentangle: Produce your own name using zentangle patterns. Aim to fill each letter with detail. Add colour
Tuesday 14th January Week 1	Maths (p7-12) Complete the written homework task set by your class teacher to be handed in on you next maths lesson for feedback	Music Instructions will be provided by your teacher
Wednesday 15th January Week 1	Science (p15-16) Use the <i>Look, cover, write, check</i> method for columns 7Bc Becoming Pregnant and 7Bd Gestation and birth.	Drama Instructions will be provided by your teacher
Thursday 16th January Week 1	RE (p17-18) Learn the spellings and meanings for keywords 6-10. Use look, cover, write and check.	MFL (p24-25) Copy out and learn the words. Look, cover, write, check.
Friday 17th January Week 1	History (p21-23) Look at Section B: Monarchs in the 12th and 13th centuries. Use the look, cover, write, checked, correct in purple pen method on all keywords 1-12, and the timeline and events 13-21.	
Monday 20th January Week 2	Technology (p29-31) Design and Technology – Electronics: Low Stakes Test 2 - Week 4 of Knowledge Organiser (Numbers:1 – 4)	English (p13) Diligence – explore the word using the vocabulary map.

	<ul style="list-style-type: none"> • Use KO to enable you to accurately identify and clearly explain the difference between a polarised and non-polarised component • Use KO and further research to enable you to understand the function of key electronic components within a circuit • Use KO to help you to understand why soldering is not suitable for modelling circuits • Use KO to recall and accurately spell the names of workshop tools and equipment <p><u>Design and Technology - CAD & CAM:</u> <u>Low Stakes Test 2 – Week 4 of Knowledge Organiser (Numbers: 1-7)</u></p> <ul style="list-style-type: none"> • Use KO to be able to identify the difference between first and third angle projection • Use KO to enable you to understand and explain the purpose of an engineering drawing • Use KO to be able to clearly explain the terms “Render” and “Dimensioning” • Use KO to be able to clearly explain the advantages of using CAD to generate designs • Use KO to be able to identify CNC machinery and 3D Printers <p><u>Food:</u></p> <ul style="list-style-type: none"> • Write out the list of key terms and words you will be learning this term. • Use KO to make a series of flashcards identifying the main nutrients and its function in the body. 	
Tuesday 21st January Week 2	<p>Maths (p7-12) Using the look, cover, write and check methodology complete the knowledge organiser Page 2 - 7JLG, 7JMLD, 7QCN, 7QDH Page 5 - 7JDH, 7JLMC, 7QMLD, 7QLG</p>	
Wednesday 22nd January Week 2	<p>PE (p27) Make sure you have completed the homework on Diet & Nutrition on Doodle.</p>	<p>Science (p15-16) Use the <i>Look, cover, write, check</i> method for column 7Be Growing up. Create a set of flash cards using the whole KO for 7B Reproduction as preparation for your end of unit test on Reproduction. Useful link: https://www.bbc.co.uk/bitesize/guides/z9fgr82/revision/1</p>
Thursday 23rd January Week 2	<p>Computer Science (p26) People in Computer Science: Choose two of the Computer Science Pioneers from this table. Create a poster or information sheet about what they did and how they benefited the world of computer science.</p>	<p>RE (p17-18) Use look, copy, write and check to learn the main points of Jesus Baptism.</p>
Friday 24th January Week 2	<p>Geography (p19-20) Complete the questions from Homework Quiz 2. Find the answers on your UK Knowledge Organiser. Write the questions and answers as flash cards in your homework book. Use techniques such as look, cover, write and blind testing to revise for your quiz in lesson.</p>	
Monday 27th January	<p>English (p13)</p>	<p>Art (p14)</p>

Week 1	Contentious – explore the word using the vocabulary map.	Texture Hands: Draw around your hand and add detail using a range of textures. Label each texture used, add detail, add colour. IE. Brick, Ice, Bark, Weaving, Leaf vines, Fish scales.
Tuesday 28th January Week 1	Maths (p7-12) Complete the written homework task set by your class teacher to be handed in on you next maths lesson for feedback	Music Instructions will be provided by your teacher
Wednesday 29th January Week 1	Science (p15-16) Use the <i>Look, cover, write, check</i> method for columns 7Ia Energy from Food and 7Ib Energy transfers and stores.	Drama Instructions will be provided by your teacher
Thursday 30th January Week 1	RE (p17-18) Create a storyboard of Jesus Baptism.	MFL (p24-25) Copy out and learn the words. Draw pictures to go with them to help you to remember. Look, cover, write, check.
Friday 31st January Week 1	History (p21-23) Look at Section A: The Norman Conquest . Use the look, cover, write, checked, correct in purple pen method on all keywords 1-11, and all timeline and events 12-18.	
Monday 3rd February Week 2	Technology (p29-31) Design and Technology: Electronics: <ul style="list-style-type: none"> Create flashcards/mind maps to revise and recall all KO subject content in preparation for formative and summative assessment Design and Technology: CAD & CAM: <ul style="list-style-type: none"> Create flashcards/mind maps to revise and recall all KO subject content in preparation for formative and summative assessment Food: <ul style="list-style-type: none"> Design a poster identifying the health and safety rules. You must use drawings and text in your poster and use coloured pencils to colour it in. 	English (p13) Perpetual – explore the word using the vocabulary map.
Tuesday 4th February Week 2	Maths (p7-12) Using the look, cover, write and check methodology complete the knowledge organiser Page 3 - 7JLG, 7JMLD, 7QCN, 7QDH Page 6 - 7JDH, 7JLMC, 7QMLD, 7QLG	
Wednesday 5th February	PE (p27) Make sure you have completed the homework on Diet & Nutrition on Doodle.	Science (p15-16) Use the <i>Look, cover, write, check</i> method for columns 7Ic Fuels ad 7Id Other energy sources.
Thursday 6th February Week 2	Computer Science (p26) A Quick Computing History Timeline: Create your own timeline, similar to this one, that plots the computer science discoveries since the year 2000. You should include at least 10 items.	RE (p17-18) Write 5 facts about Martin Luther
Friday 7th February	Geography (p19-20)	

Week 2	Complete the questions from Homework Quiz 3. Find the answers on your UK Knowledge Organiser. Write the questions and answers as flash cards in your homework book. Use techniques such as look, cover, write and blind testing to revise for your quiz in lesson.	
Monday 10th February Week 1	English (p13) Success Criteria – learn the process needed to write a successful letter using look, cover, write until you can write it out independently. You will complete a test in class.	Art (p14) Produce a research page on the Architect who designed Liverpool’s Metropolitan Cathedral. ‘Sir Frederick Gibberd’ https://www.liverpoolmetrocathedral.org.uk/history-heritage/a-brief-history/ What have you discovered about this architect?
Tuesday 11th February Week 1	Maths (p7-12) Complete the written homework task set by your class teacher to be handed in on you next maths lesson for feedback	Music Instructions will be provided by your teacher
Wednesday 12th February Week 1	Science (p15-16) Use the <i>Look, cover, write, check</i> method for column 7Ie Using Resources. In your book make a set of flashcards to use for revision as preparation for your end of unit test on Energy. Useful link: https://www.bbc.co.uk/bitesize/guides/zggk87h/revision/1	Drama Instructions will be provided by your teacher
Thursday 13th February Week 1	RE (p17-18) Create a Biography about Martin Luther.	MFL(p24-25) Using your KO to help you,translate the letter in to English.
Friday 14th February Week 1	History (p21-23) Look at Section C: The religious rollercoaster of the 1500s. Use the look, cover, write, checked, correct in purple pen method on all keywords 1-12, all of the key people 13-18, and all timeline and events 19-29.	



Improper Fractions

To convert an improper fraction to a mixed number, work out how many whole numbers there are by dividing the numerator by the denominator. Make the remainder the new numerator and leave the denominator as it was.

Example:

$$\frac{7}{5} = 1 \frac{2}{5}$$

5 goes into 7 once with 2 remaining. Therefore there are $\frac{2}{5}$ remaining which stays as a fraction.

Key Vocabulary

Ascending: Ranked in order of size from lowest to biggest.

Lowest common multiple: the lowest quantity that is a multiple of two or more given quantities.

Basic Powers

$$a \times a = a^2$$

$$a \times a \times a = a^3$$

$$a \times a \times a \times a = a^4$$

$$a \times a \times a \times a \times a = a^5$$

$$a \times a \times a \times a \times a \times a = a^6$$

$$a \times a \times a \times a \times a \times a \times a = a^7$$

$$a \times a = a^8$$

$$a \times a = a^9$$

$$5^2 \times 5 = 5^3$$

$$5^2 \times 5^2 = 5^4$$

$$5^3 \times 5^2 = 5^5$$

$$5^3 \times 5^3 = 5^6$$

$$5^4 \times 5^3 = 5^7$$

$$5^4 \times 5^4 = 5^8$$

$$5^5 \times 5^4 = 5^9$$

$$5^5 \times 5^5 = 5^{10}$$

$$5^6 \times 5^5 = 5^{11}$$

Ordering Fractions

Fractions can be compared by finding equivalent fractions with the same denominator.

Place the following fractions in ascending order: $\frac{3}{4}, \frac{2}{12}, \frac{1}{3}$

12 is the lowest common multiple of 4, 12 and 3 so that is the new denominator. Therefore what we have multiplied with the denominator to get 12 we must multiply the numerator with that same number:

$$(\times 3) \frac{9}{12}, (\times 1) \frac{2}{12}, (\times 4) \frac{4}{12}.$$

If we put them in ascending order we get: $\frac{2}{12}, \frac{4}{12}, \frac{9}{12}$



Mixed Number to Improper Fraction:

To convert a mixed number to an improper fraction we follow a process by doing:

- Multiplying the whole number with the denominator.
- Then add it to the numerator.

$2\frac{1}{4}$ - Multiply the 4 by 2 and then add it to the 1.

- $2\frac{1}{4} = \frac{9}{4}$

Key Vocabulary

Improper fraction: This is when the numerator in a fraction is larger than the denominator.

Common denominator: a common multiple of the denominators of several fractions

Algebraic Tables

$$2a \times 1 = 2a$$

$$2a \times 2a = 4a^2$$

$$2 \times 3a = 6a$$

$$2 \times 4a = 8a$$

$$2a \times 5a = 10a^2$$

$$2a \times 6ab = 12a^2b$$

$$2ab \times 7 = 14ab$$

$$2ab \times 8a = 16a^2b$$

$$2 \times 9ab = 18ab$$

$$2 \times 10ab = 20ab$$

$$3a \times 1a = 3a^2$$

$$3a \times 2a = 6a^2$$

$$3 \times 3a = 9a$$

$$3ab \times 4a = 12a^2b$$

$$3ab \times 5a = 15a^2b$$

$$3ab \times 6ab = 18a^2b^2$$

$$3ab \times 7ab = 21a^2b^2$$

$$3ab \times 8a = 24a^2b$$

$$3ab \times 9ab = 27a^2b^2$$

$$3 \times 10ab = 30ab$$

$$4a \times 1 = 4a$$

$$4a \times 2a = 8a^2$$

$$4 \times 3a = 12a$$

$$4a \times 4a = 16a^2$$

$$4a \times 5a = 20a^2$$

$$4a \times 6ab = 24a^2b$$

$$4ab \times 7a = 28a^2b$$

$$4ab \times 8ab = 32a^2b^2$$

$$4 \times 9ab = 36ab$$

$$4 \times 10ab = 40ab$$

Adding mixed numbers

The first step is to convert the mixed number to an improper fraction.

$$2\frac{1}{4} + \frac{2}{5} = \frac{9}{4} + \frac{2}{5}$$

Now create a **common denominator** by looking for the lowest common multiple of 5 and 4 which is 20. Create equivalent fractions using 20 as the common denominator.

$$\frac{9}{4} + \frac{2}{5} = \frac{45}{20} + \frac{8}{20} = \frac{53}{20} = 2\frac{13}{20}$$

Remember the number you multiply the denominator with – you must use that very same number to multiply the numerator with. Put your answer back into a mixed number and simplify the fraction part if possible.



Multiplying Mixed Numbers:

The first step is to convert the mixed number to an improper fraction:

$$2\frac{1}{4} \times 1\frac{2}{5} = \frac{9}{4} \times \frac{7}{5}$$

Then multiply the two numerators and the two denominators:

$$\frac{9}{4} \times \frac{7}{5} = \frac{63}{20}$$

Put your answer back into a mixed number and simplify the fraction part if possible.

$$\frac{63}{20} = 3\frac{3}{20}$$

Key Vocabulary

Reciprocal: To find the reciprocal of a fraction you need to swap over the numerator with the denominator.

The reciprocal of $\frac{3}{20} = \frac{20}{3}$

Algebraic Tables

$6a \times 1 = 6a$	$7a \times 1a = 7a^2$	$8a \times 1 = 8a$
$6a^2 \times 2a = 12a^3$	$7a \times 2a = 14a^2$	$8a \times 2a = 16a^2$
$6 \times 3a = 18a$	$7 \times 3a = 21a$	$8b \times 3a = 24ab$
$6 \times 4a = 24a$	$7ab \times 4a = 28a^2b$	$8a \times 4a = 32a^2$
$6a^2 \times 5a = 30a^3$	$7ab \times 5a = 35a^2b$	$8a \times 5a = 40a^2$
$6a \times 6ab = 36a^2b$	$7ab \times 6ab = 42a^2b^2$	$8a \times 6ab = 48a^2b$
$6ab \times 7 = 42ab$	$7ab \times 7ab = 49a^2b^2$	$8ab \times 7a = 56a^2b$
$6ab \times 8ab = 48a^2b^2$	$7ab \times 8a = 56a^2b$	$8ab \times 8ab = 64a^2b^2$
$6a \times 9ab = 54a^2b$	$7ab \times 9ab = 63a^2b^2$	$8a \times 9ab = 72a^2b$
$6a \times 10ab = 60a^2b$	$7 \times 10ab = 70ab$	$8b \times 10ab = 80ab^2$

Subtracting Mixed Numbers

The first step is to convert the mixed number to an improper fraction.

$$2\frac{1}{4} - \frac{2}{5} = \frac{9}{4} - \frac{2}{5}$$

Now create a **common denominator** by looking for the lowest common multiple of 5 and 4 which is 20. Create equivalent fractions using 20 as the common denominator.

$$\frac{9}{4} - \frac{2}{5} = \frac{45}{20} - \frac{8}{20} = \frac{38}{20} = 1\frac{18}{20} = 1\frac{9}{10}$$

Remember the number you multiply the denominator with – you must use that very same number to multiply the numerator with. Put your answer back into a mixed number and simplify the fraction part if possible.



Calculating Equivalent Fractions

Equivalent fractions are made by multiplying or dividing the **denominator** and **numerator** of the fraction by the same number.

For example, to find fractions that are equivalent to $\frac{1}{3}$, multiply the numerator and denominator by **the same number**.

$\frac{1}{3} = \frac{6}{6}$ Here both the numerator and denominator have been multiplied by 6.

Key Vocabulary

Equivalent: An amount that is equal in value to another amount.

Numerator: The top number in a fraction which shows how many parts you have.

Denominator: The bottom number in a fraction which shows how many parts it is divided into.

Basic Powers

$$1^2 = 1$$

$$2^2 = 4$$

$$3^2 = 9$$

$$4^2 = 4$$

$$5^2 = 5$$

$$6^2 = 6$$

$$7^2 = 7$$

$$8^2 = 8$$

$$9^2 = 9$$

$$10^2 = 10$$

$$11^2 = 121$$

$$12^2 = 144$$

$$13^2 = 169$$

$$14^2 = 196$$

$$15^2 = 225$$

$$16^2 = 256$$

$$17^2 = 289$$

$$18^2 = 324$$

$$19^2 = 361$$

$$20^2 = 400$$

$$\sqrt{1} = 1/-1$$

$$\sqrt{4} = 2/-2$$

$$\sqrt{9} = 3/-3$$

$$\sqrt{16} = 4/-4$$

$$\sqrt{25} = 5/-5$$

$$\sqrt{36} = 6/-6$$

$$\sqrt{49} = 7/-7$$

$$\sqrt{64} = 8/-8$$

$$\sqrt{81} = 9/-9$$

Equivalent Fractions

Equivalent fractions are fractions that are worth **exactly the same** even though they are written differently. $\frac{1}{4}$ is worth the same as $\frac{6}{24}$ because $\frac{6}{24}$ will **simplify** to $\frac{1}{4}$ by dividing by a common factor of 6.



Adding & Subtracting Fractions with the same denominator:

Fractions with the same **denominators** can be added (or subtracted) by adding (or subtracting) the **numerators**.

For example

$$\frac{2}{5} + \frac{1}{5} = \frac{3}{5} \qquad \frac{2}{5} - \frac{1}{5} = \frac{1}{5}$$

Key Vocabulary

Common: Equal to or the same.

Multiple: A number that may be divided by another a certain number of times without a remainder.

Division Tables

$2 \div 2 = 1$	$3 \div 3 = 1$	$5 \div 5 = 1$
$4 \div 2 = 2$	$6 \div 3 = 2$	$10 \div 5 = 2$
$6 \div 2 = 3$	$9 \div 3 = 3$	$15 \div 3 = 5$
$8 \div 2 = 4$	$12 \div 3 = 4$	$20 \div 5 = 4$
$10 \div 2 = 5$	$15 \div 3 = 5$	$25 \div 5 = 5$
$12 \div 2 = 6$	$18 \div 3 = 6$	$30 \div 5 = 6$
$14 \div 2 = 7$	$21 \div 3 = 7$	$35 \div 5 = 7$
$16 \div 2 = 8$	$24 \div 3 = 8$	$40 \div 5 = 8$
$18 \div 2 = 9$	$27 \div 3 = 9$	$45 \div 5 = 9$
$20 \div 2 = 10$	$30 \div 3 = 10$	$50 \div 5 = 10$

Adding & Subtracting Fractions with Different Denominators:

If two fractions do not have the same denominator, then find a common denominator by making **equivalent fractions**.

Example:

Work out: $\frac{1}{3} + \frac{4}{7}$

Create a common denominator by looking for the of 7 and 3. This is 21 which is the lowest common multiple.

Create equivalent fractions using 21 as the new common denominator.

So: $\frac{1}{3} = \frac{7}{21}$ $\frac{4}{7} = \frac{12}{21}$ Therefore: $\frac{7}{21} + \frac{12}{21} = \frac{19}{21}$

This is the final answer as the fraction cannot be **simplified**. 11



Dividing Fractions

$$\frac{2}{3} \div \frac{1}{4}$$

To answer this questions we use the acronym **KFC**.

This stands for **KEEP, FLIP, CHANGE**.

KEEP the first fraction. **FLIP** the second fraction.

CHANGE the division operation to a multiplication operation.

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

If the fraction is improper then it needs to be converted into a mixed number.

Key Vocabulary

Mixed number: A mixed number is a combination of a whole number and a fraction.

To calculate a mixed number you work out how many times the denominator goes into the numerator.

$\frac{8}{3} = 2\frac{1}{3}$. 3 goes into 8 twice with 2 remaining. The remaining is written as a fraction.

Negative Times Tables

$-1 \times 4 = -4$

$-1 \times -6 = 6$

$-1 \times -7 = 7$

$-2 \times -4 = 8$

$2 \times -6 = -12$

$2 \times -7 = -14$

$-3 \times 4 = -12$

$-3 \times 6 = -18$

$-3 \times 7 = -21$

$-4 \times -4 = 16$

$-4 \times 6 = -24$

$-4 \times 7 = -28$

$5 \times -4 = -20$

$-5 \times -6 = 30$

$-5 \times -7 = 35$

$-6 \times 4 = -24$

$-6 \times 6 = -36$

$-6 \times 7 = -42$

$-7 \times -4 = 28$

$7 \times 6 = 42$

$7 \times 7 = 49$

$-8 \times 4 = -32$

$-8 \times 6 = -48$

$-8 \times 7 = -56$

$9 \times -4 = -36$

$9 \times -6 = -54$

$9 \times -7 = -63$

$-10 \times 4 = -40$

$-10 \times -6 = 60$

$-10 \times -7 = 70$

Multiplying Fractions:

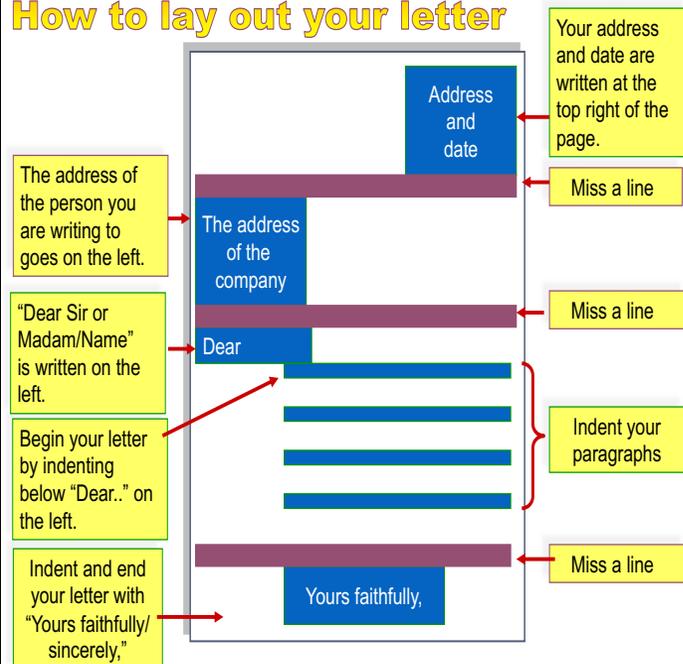
To **multiply** two fractions together, multiply the **numerators** together and multiply the **denominators** together.

$$\frac{2}{3} \times \frac{3}{4} = \frac{6}{12} = \frac{1}{2}$$

$\frac{6}{12}$ can be simplified to $\frac{1}{2}$ as 6 is the highest common factor (HCF) of 6 and 12.

Week 1 – Conventions of a Letter

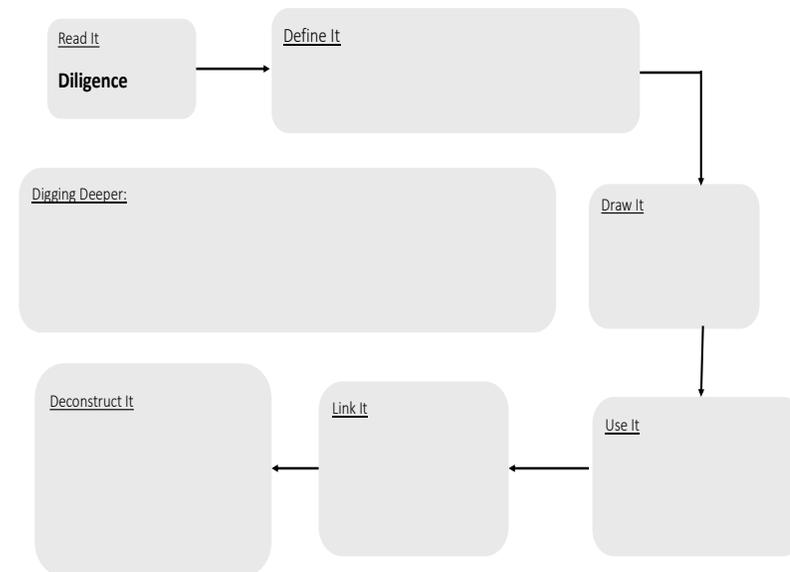
How to lay out your letter



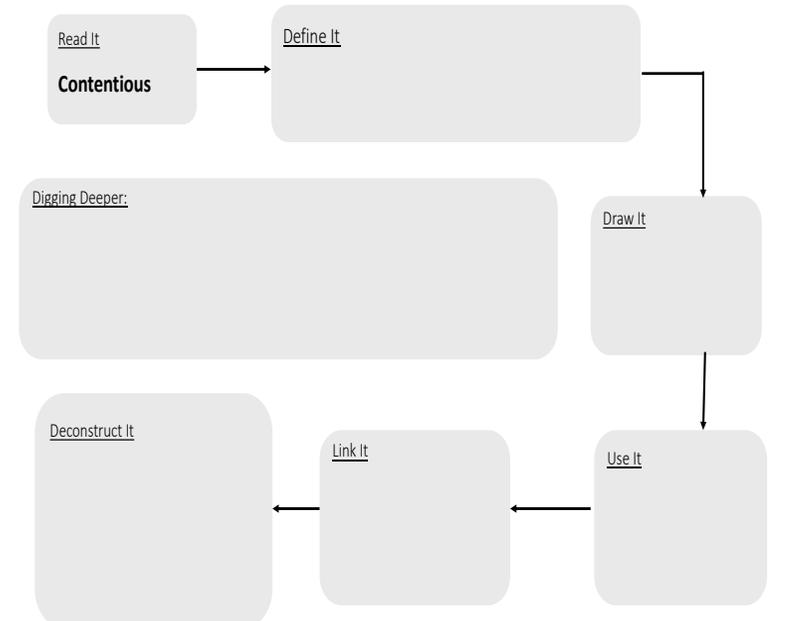
Discourse Markers – week 2

- Firstly
- Secondly
- Thirdly
- Arguably
- Fundamentally
- Naturally
- Surely
- Alternatively
- On the contrary
- Surprisingly
- Laughably
- Shockingly
- Outrageously
- Certainly
- Indeed
- To conclude
- In conclusion
- Finally

Week 3



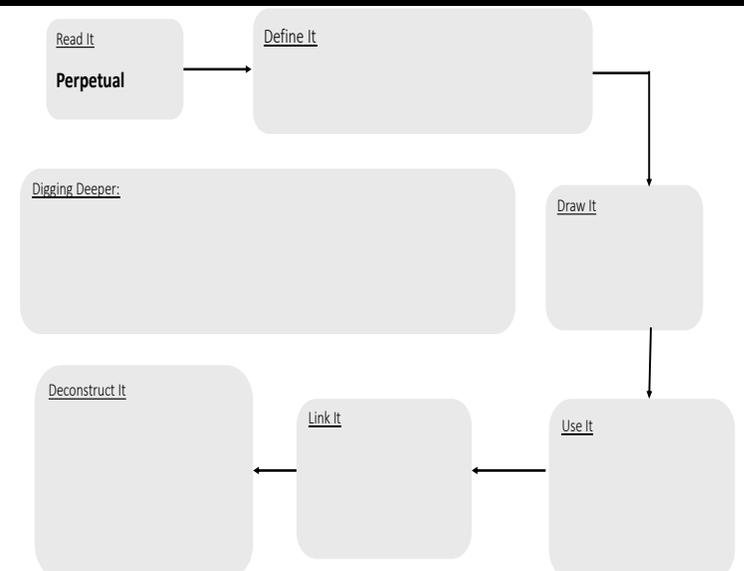
Week 4 - Vocabulary



Week 6 – Success Criteria

- Style and tone needs to be adapted to suit audience
- Address and salutation to indicate that it is a letter
- Use of paragraphs important to organise your letter
- Introductory paragraph-overview of the letter's main points
- Appropriate closing/valediction (Yours faithfully/sincerely)
- A variety of engaging discourse markers used accurately and effectively
- Content is detailed and reasoning is supported with examples

Week 5 – Vocabulary





Year 7 Art & Design - Knowledge Organiser Term 2

A: Key Skills:

1: Techniques and Processes 2: Composition and layout 3: Typography skills 4: Architecture

1: Term 2 TEXTURE/ARCHITECTURE:

In the visual arts, **texture** is the perceived surface quality of a work of art. It is an element of two-dimensional and three-dimensional designs and is distinguished by its perceived visual and physical properties. Use of **texture**, along with other elements of design, can convey a variety of messages and emotions.

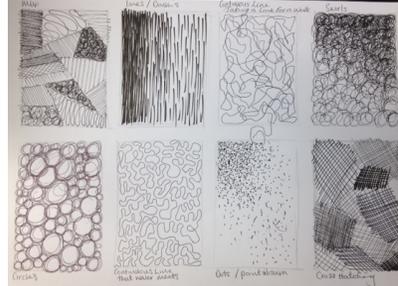
Typography:
Composition
and Layout



Architecture is both the process and the product of planning, designing, and constructing buildings or any other structures. Architectural works, in the material form of buildings, are often perceived as cultural symbols and as works of art.

Developing techniques:

Mark Making



Collage Techniques



B: Expressing an opinion: Sentence starters

I feel/believe that
In my opinion
It seems to that
Based on my experience

Literacy: Key Vocabulary

Composition

The arrangement and layout of artwork/objects

Media

Refers to the materials that are used to create a work of art.

Technique

The skills and process in which artists use tools to create a piece of art work.

Refine

Something that's refined has gone through a process to improve it.

Tone

Refers to the light and dark values used to produce a realistic object /drawing.

Mark Making

Is a term used to describe the various use of lines, patterns and textures created in a piece of artwork.



Chetan Kumar



Frederick Gibberd

7Ba ANIMAL SEXUAL REPRODUCTION

Endangered animals are those that are in danger of becoming extinct because there are very few left.

Sexual reproduction is a process in which two individuals mate to produce **offspring**.

Gametes

- These are the **specialised** cells necessary for sexual reproduction.
- Males make **sperm cells** and females make **egg cells**.
- In fertilisation, a sperm cell enters an egg cell and the two **nuclei** of the cells **fuse** (become one).
- A single **fertilised egg cell** is formed, which can grow into a new organism.

Fertilisation

- For fertilisation to happen, the sperm cells must reach the egg cells.
- **External fertilisation** is when this happens outside the bodies of the animals (e.g. in fish).
- **Internal fertilisation** is where the male parent places sperm cells inside the female.

External Fertilisation

- Some eggs do not get fertilised because the sperm cells are washed away.
- Many animals do not look after their fertilised eggs and so a lot are eaten by other animals.
- Animals that use external fertilisation must produce huge numbers of egg cells to ensure some survive.

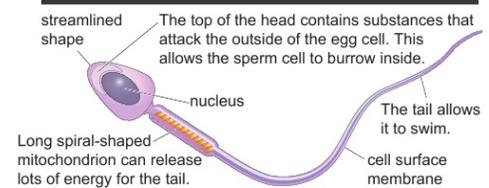
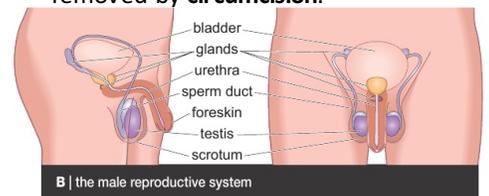
Internal Fertilisation

- Birds and mammals use internal fertilisation.
- They produce fewer egg cells because sperm are more likely to reach them.
- These animals usually look after their fertilised eggs and offspring.

7Bb ANIMAL SEXUAL REPRODUCTION ORGANS

Male

- Sperm cells are made in the **testes**, which hang outside the body in the **scrotum** – this helps keep sperm cool.
- When released, sperm cells travel through **sperm ducts**, where fluids are added from **glands** to provide energy.
- This mixture is called **semen**, which leaves the body through the **urethra**.
- The head of the penis is protected by the **foreskin**, which is sometimes removed by **circumcision**.



Female

- Each **ovary** contains small, undeveloped egg cells which develop and are released every 28-32 days after puberty.
- This stops during **menopause** - around the age of 45-55.
- Eggs are swept through the **oviduct** by hairs, called **cilia**, towards the **uterus**.

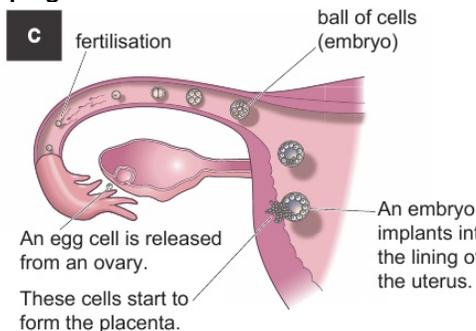


7Bc BECOMING PREGNANT

During **sexual intercourse**, the penis is stimulated to pump semen out into the top of the vagina. This is **ejaculation**.

Semen is sucked up through the cervix and the sperm travel up through the oviducts to meet the egg.

The fertilised egg then divides over and over again as it travels towards the uterus. When it reaches the uterus, the ball of cells (**embryo**) sinks into the lining. This is called **implantation** and the woman is now **pregnant**.



Pregnancy

- The embryo continues to grow and is surrounded by watery **amniotic fluid**, in a bag called the **amnion**.
- A **placenta** also grows. This allows **oxygen**, water and food from the mother's blood to go into the embryo's blood, and waste materials (like **carbon dioxide**) go into the mother's blood.
- The umbilical chord carries the embryo's blood to and from the placenta.
- The mother's and embryo's blood do not mix because the mother's blood is pumped at high pressure, which would damage the embryo's blood vessels.

7Bd GESTATION AND BIRTH

The **gestation period** is the time from fertilisation until birth. This lasts 9 months in humans.

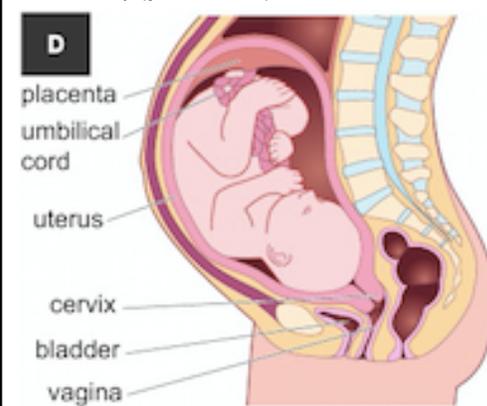
Once an embryo has developed a full set of **organs** it is called a **foetus**.

Pregnant women need healthy diets to protect the foetus. They should also exercise to keep muscles strong and their **circulatory system** working well.

Most pregnant women get an **ultrasound scan**, which produces **images** of the foetus.

Alcohol, **drugs**, chemicals from cigarette smoke and some viruses can go through the placenta and harm the foetus's **brain**.

The blood of a woman who smokes carries less oxygen than it should, which can lead to an early (**premature**) birth.



Labour begins with **contractions** (squeezes) of the uterus. These push the baby out.

When the baby is out, the umbilical chord is cut and the placenta passes out through the vagina (**afterbirth**). Eventually, the scar from this forms the **navel** (belly button).

Babies are fed milk from the mother's **mammary glands** in their breasts. As well as energy, this provides the baby with **antibodies**, which help prevent diseases.

7Be GROWING UP

Puberty in humans starts between 10 and 15 years old and usually finishes at 18. It is started by **sex hormones** released by the brain. These can cause spots (**acne**) and emotional and physical changes. This period of time is called **adolescence**.

Changes during puberty

- Stronger body smell (both)
- Pubic hair grows (both)
- Hair grows under arms (both), on face and chest (boys)
- Voice deepens (boys)
- Shoulders get wider (boys)
- Testes and penis get bigger, and testes start to make sperm (boys)
- Breasts develop (girls)
- Ovaries start to release eggs (girls)
- Hips get wider (girls)

The Menstrual Cycle

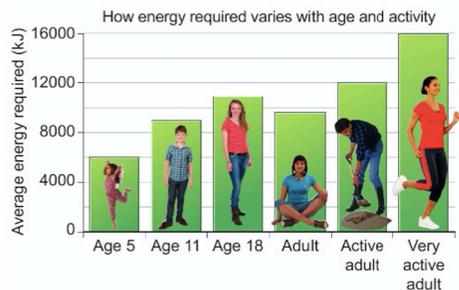
- **Menstruation** (having a period) is where the uterus lining breaks apart. This passes out the vagina along with a little blood and an unfertilised egg.
- **Ovulation** is where the uterus lining begins to repair and a matured egg cell is released.
- The egg is swept along the oviduct towards the uterus whilst the lining thickens.
- If no egg is fertilised the uterus lining breaks down and the cycle begins again.

The changes in an organism from birth until it can have offspring are called its **life cycle**.



71a ENERGY FROM FOOD

- Humans and animals need energy to live
- Food is a source of energy
- Energy is measured in **Joules (J)** or **Kilojoules (kJ)**
- 1 Kilojoule = 1000 Joules
- Different people need different amounts of energy
- The amount of energy a person needs depends on their age and how active they are



- If a person's **diet** provides more energy than they use, they will gain weight. If it provides less, they will lose weight.

71b ENERGY TRANSFERS AND STORES

- Energy cannot be created or destroyed. This is called the **law of conservation of energy**.
- Energy can be **stored** in different ways:

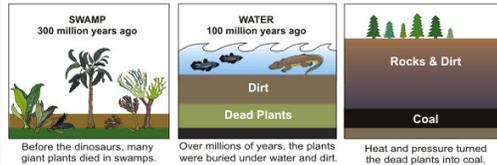
- **Chemical Energy** (Food, batteries, petrol)
- **Kinetic Energy** (Moving objects)
- **Thermal Energy** (Hot objects)
- **Elastic Potential Energy** (Stretched objects, like an elastic band)
- **Gravitational potential Energy** (High objects that can fall)
- **Nuclear Energy**

- Energy can be **transferred** (moved) from one store to another.
- Energy can be transferred by **Heat, Light, Sound, Electricity** and **Forces**

71c FUELS

- A **fuel** is a store of chemical or nuclear energy.
- Energy is released from most fuels by burning.
- Energy from burning fuels can be used to generate electricity.
- **Fossil Fuels** such as **coal, oil** and **natural gas** are formed from the remains of dead organisms that died millions of years ago.

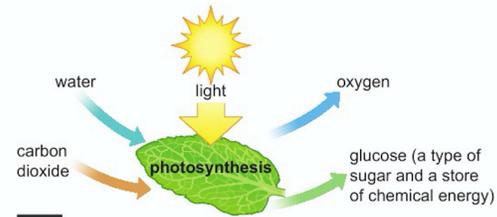
HOW COAL WAS FORMED



- Fossil fuels are **non-renewable** because they cannot be replaced as quickly as they are used up.
- Fuels that can be replaced quickly are **renewable**. An example is biofuel, made from animal waste or plants that can be easily grown.

71d OTHER ENERGY RESOURCES

- Most of the energy we use comes from the sun. This is because the plants that eventually become fuel use sunlight to grow.



- Light energy from the sun (**solar energy**) can also be converted to electricity by **solar panels**.
- Renewable energy can also come from other sources.
- **Wind turbines** turn kinetic energy from the wind into electrical power.
- Moving water can be used to generate **hydroelectric power**
- Water can be heated by pumping it deep below the earth's surface. This is called **geothermal power**.

71e USING RESOURCES

Energy resource	Advantages	Disadvantages
fossil fuels (used to generate electricity, to power transport and for heating)	<ul style="list-style-type: none"> ▪ cheap compared with other resources ▪ convenient to use in cars and other vehicles 	<ul style="list-style-type: none"> ▪ release polluting gases when they burn ▪ non-renewable
nuclear (used to generate electricity)	<ul style="list-style-type: none"> ▪ no polluting gases 	<ul style="list-style-type: none"> ▪ power stations are very expensive ▪ produces dangerous waste materials ▪ non-renewable
renewable resources (mainly used to generate electricity)	<ul style="list-style-type: none"> ▪ no polluting gases ▪ renewable 	<ul style="list-style-type: none"> ▪ most are not available all of the time

- Burning fossil fuels releases **Carbon Dioxide (CO₂)**
- Carbon dioxide in the atmosphere causes the Earth to warm up. This is called **global warming**.
- There are ways we can use less fossil fuels – this includes:
 - Wearing warm clothes instead of using central heating
 - Use public transport, walk or cycle instead of driving
 - Insulate homes so less energy escapes
 - Use more **efficient** appliances
- **Efficiency** is a way of saying how much energy transferred by a machine is useful and how much is wasted.

RE Year 7 Knowledge organiser 3

Key words	The Baptism of Jesus
<p>1. Sacraments An outward sign of an inward gift, given by Jesus, in order to give grace to a human being.</p> <p>2. Confirmation Confirming your faith and renewing your baptismal vows.</p> <p>3. Holy Orders Vocational sacrament, whereby a person chooses to dedicate their life to God by becoming a member of the clergy.</p> <p>4. Anointing of the Sick Healing sacrament bringing strength to the seriously ill and dying.</p> <p>5. Marriage Vocational sacrament uniting two people in front of God.</p> <p>6. Baptism Sacrament of initiation whereby a person is welcomed into the Church.</p> <p>7. Eucharist Receiving the body and blood of Jesus during Mass.</p> <p>8. Reconciliation Healing sacrament to fix our relationship with God when we feel we have done something wrong.</p> <p>9. Trinity The three persons of God. The Father, Son and Holy Spirit.</p> <p>10. Disciple A follower/student of a particular faith.</p>	<p>There once was a man named John the Baptist, who was one of Jesus' cousins. He became a preacher and was telling others to ask for forgiveness for things they had done wrong. He wanted to help others change their lives so they could become like a brand new person inside.</p> <p>As people were coming to John to be baptised, they were wondering if he was the Saviour they had waited for. John heard what they were saying and he told them, "I am baptising you now, but very soon someone greater than me will come. He is so great that if He asked me to carry His shoes it would be an amazing honour."</p> <p>One day Jesus came by to be baptised. John said to Jesus, "You should be baptising me. I cannot baptise you Lord."</p> <p>Jesus replied, "It's important that I do this now. I am ready and I want to be an example to others and show them that it's important."</p> <p>So John took Jesus and baptised Him. He placed his hand on His back and laid him down into the water until He was covered. Then he brought Him back up again. As soon as Jesus was baptised the sky opened up and the Holy Spirit came like a beautiful white dove, and landed right on Jesus' shoulder. Then a voice from heaven said, "This is my Son, I love him and I am pleased with him."</p> <p>Baptism is important because Jesus made sure this was the first thing He did when He started His ministry. It is also the last thing He said before going up to heaven. He said, "Therefore go and make disciples of all nations, baptising them in the name of the Father and of the Son and of the Holy Spirit, and teaching them to obey everything I have commanded you..." Matthew 28:19,20</p>



MARTIN LUTHER

THEOLOGIST | 1483–1546

Martin Luther was a German monk who changed Christianity when he began the Protestant Reformation in 16th-century Europe. In May 1522, he organized a new church, Lutheranism.

QUICK FACTS



Studied to be a lawyer



95 Theses



Married former nun



Excommunicated from the Roman Catholic Church



Now 65 million Lutherans worldwide

"You are not only responsible for what you say, but also for what you do not say."

BIOGRAPHY

Photo: Stock Montage/Getty Images

Martin Luther(1483–1546)

Martin Luther was a German monk who forever changed Christianity when he nailed his '95 Theses' to a church door in 1517, sparking the Protestant Reformation.

Who Was Martin Luther?

Martin Luther was a German monk who began the Protestant Reformation in the 16th century, becoming one of the most influential and controversial figures in the history of Christianity. Luther questioned some of the basic rules of the Catholic Church, and his followers soon split from the Roman Catholic Church to begin the Protestant Churches. A prominent theologian, Luther's desire for people to feel closer to God led him to translate the Bible into the language of the people, radically changing the relationship between church leaders and their followers.

Becoming a Monk

In July 1505, Luther had a life-changing experience that set him on a new course to becoming a monk.

Caught in a horrific thunderstorm where he feared for his life, Luther cried out to St. Anne, the patron saint of miners, "Save me, St. Anne, and I'll become a monk!" The storm subsided and he was saved.

Disillusionment with Rome

At age 27, Luther was given the opportunity to go to a Catholic church conference, he disagreed with what they believed in at that time.

He came back to Germany and decided to study in the University of Wittenberg in an attempt to understand his faith more. He excelled in his studies and received a doctorate, becoming a professor of theology at the university

'95 Theses'

On October 31, 1517, Luther, angry with Pope Leo X's who he disagreed with over how he was running the Catholic Church. He nailed a sheet of paper with his 95 Theses on the University of Wittenberg's chapel door.

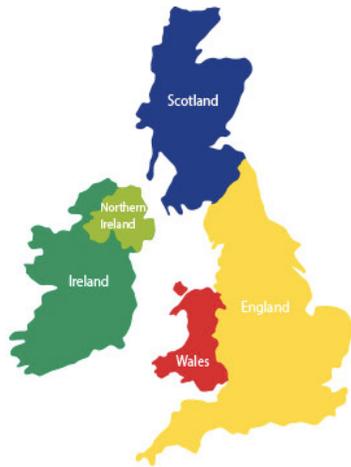
Though Luther intended these to be discussion points, the 95 Theses laid out a devastating criticisms of the Catholic Church. These 95 proposed changes got a lot of attention and inspired others to disagree with the church. Eventually they lead to Martin Luther being excommunicated (no longer a member of the Catholic Church).

Lutheran Church

Luther returned to Wittenberg Castle Church in Eisenach, in May 1522 to organize a new church, Lutheranism. He gained many followers, and the Lutheran Church and eventually inspired others (like Henry the 8th) to protest against the Catholic Church and set up new Churches of their own.

Martin Luther died in 1546 but his legacy still lives on today.

UK Place Knowledge



British Isles – England, Wales, Scotland, Northern Ireland and Republic of Ireland



United Kingdom – England, Wales, Scotland and Northern Ireland

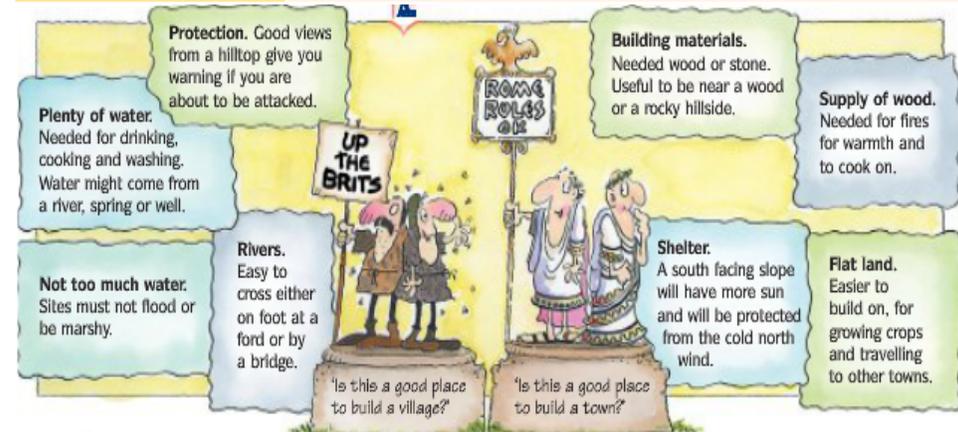


Great Britain – England, Wales and Scotland

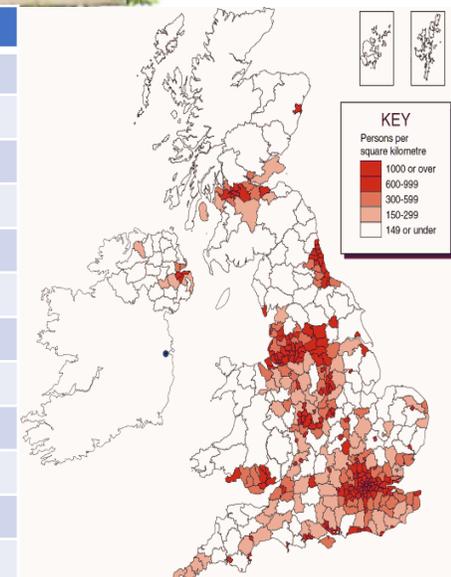
Key Terms	
Human	Features that are man-made
Physical	Features that are natural
Human and Physical Attractions of the UK	
<u>Human</u>	<u>Physical</u>
Big Ben/Houses of Parliament	Ben Nevis
Wembley Stadium	Lake Windermere
Liverpool One	River Severn
Albert Dock	Snowdonia
Angel of the North	Loch Ness
Alton Towers	Giant's Causeway

UK Settlements

Settlements Key Terms	
Distribution	The pattern of how things are spread out, e.g. where people live
Sparse population	An area with very few people.
Dense population	An area with a large number of people.
Settlement	An area where people live, e.g. village, town or city



City	Population
Belfast	280,000
Birmingham	992,000
Bristol	380,000
Cardiff	310,000
Edinburgh	450,000
Glasgow	560,000
Leeds	720,000
Liverpool	440,000
London	7,513,000
Manchester	420,000
Newcastle	259,000
Southampton	220,000



UK Rivers

Water Cycle Key Terms

Precipitation	Moisture falling from clouds as rain, snow or hail.
Interception	Vegetation prevent water reaching the ground.
Surface Runoff	Water flowing over surface of the land into rivers
Infiltration	Water absorbed into the soil from the ground.
Transpiration	Water lost through leaves of plants.

Physical and Human Causes of Flooding.

Physical: Prolong & heavy rainfall Long periods of rain causes soil to become saturated leading runoff.	Physical: Geology Impermeable rocks causes surface runoff to increase river discharge.
Physical: Relief Steep-sided valleys channels water to flow quickly into rivers causing greater discharge.	Human: Land Use Tarmac and concrete are impermeable. This prevents infiltration & causes surface runoff.

River Management Schemes

Soft Engineering	Hard Engineering
<p>Afforestation – plant trees to soak up rainwater, reduces flood risk.</p> <p>Demountable Flood Barriers put in place when warning raised.</p> <p>Managed Flooding – naturally let areas flood, protect settlements.</p> 	<p>Straightening Channel – increases velocity to remove flood water.</p> <p>Artificial Levees – heightens river so flood water is contained.</p> <p>Deepening or widening river to increase capacity for a flood.</p> 

Types of Erosion

The break down and transport of rocks – smooth, round and sorted.

Attrition	Rocks that bash together to become smooth/smaller.
Solution	A chemical reaction that dissolves rocks.
Abrasion	Rocks hurled at the base of a cliff to break pieces apart.
Hydraulic Action	Water enters cracks in the cliff, air compresses, causing the crack to expand.

Types of Transportation

A natural process by which eroded material is carried/transported.

Solution	Minerals dissolve in water and are carried along.
Suspension	Sediment is carried along in the flow of the water.
Saltation	Pebbles that bounce along the sea/river bed.
Traction	Boulders that roll along a river/sea bed by the force of the flowing water.

UK Coasts

Formation of Bays and Headlands

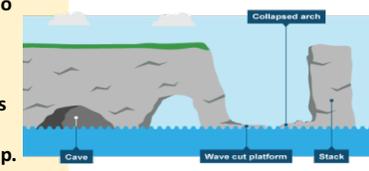


- 1) Waves attack the coastline.
- 2) Softer rock is eroded by the sea quicker forming a bay, calm area causes deposition.
- 3) More resistant rock is left jutting out into the sea. This is a headland and is now more vulnerable to erosion.

Formation of Coastal Stack

- 1) Hydraulic action widens cracks in the cliff face over time.
- 2) Abrasion forms a wave cut notch between HT and LT.
- 3) Further abrasion widens the wave cut notch to form a cave.
- 4) Caves from both sides of the headland break through to form an arch.
- 5) Weather above/erosion below – arch collapses leaving stack.
- 6) Further weathering and erosion leaves a stump.

Example:
Old Harry
Rocks,
Dorset

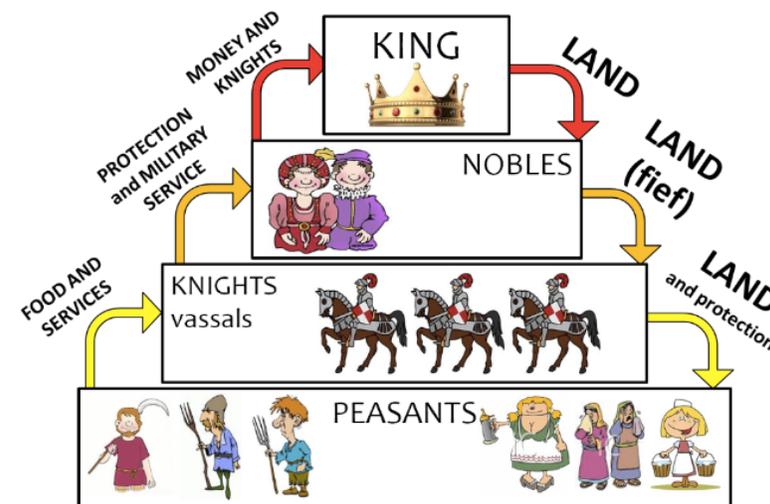


Coastal Defences

Hard Engineering Defences		
Groynes	Wood barriers prevent longshore drift, so the beach can build up.	<ul style="list-style-type: none"> ✓ Beach still accessible. ✗ No deposition further down coast = erodes faster.
Sea Walls	Concrete walls break up the energy of the wave. Has a lip to stop waves going over.	<ul style="list-style-type: none"> ✓ Long life span ✓ Protects from flooding ✗ Curved shape encourages erosion of beach deposits.
Gabions or Rip Rap	Cages of rocks/boulders absorb the waves energy, protecting the cliff behind.	<ul style="list-style-type: none"> ✓ Cheap ✓ Local material can be used to look less strange. ✗ Will need replacing.
Soft Engineering Defences		
Beach Nourishment	Beaches built up with sand, so waves have to travel further before eroding cliffs.	<ul style="list-style-type: none"> ✓ Cheap ✓ Beach for tourists. ✗ Storms = need replacing. ✗ Offshore dredging damages seabed.
Managed Retreat	Low value areas of the coast are left to flood & erode.	<ul style="list-style-type: none"> ✓ Reduce flood risk ✓ Creates wildlife habitats. ✗ Compensation for land.

Year 7 Knowledge Organiser 1 Section A: The Norman Conquest

Key Terms / Events	
1. Claimant	A person who believes they have a right to the throne. For example: Harald Hardrada (King of Norway), Harold Godwinson (King of England), Edgar the Atheling (Hungary) and William (Duke of Normandy) all wanted the English crown in 1066.
2. Conquest	To invade and take control of another territory, e.g. the Norman Conquest of England (1066).
3. Rebellion	To go against and try to overthrow the King. William faced many rebellions in the early years of his reign.
4. Harrying of the North	William and the Normans attacked the North of England between 1069 and 1070. Houses and crops were burned and many people died of starvation.
5. Feudal System	The way in which society was organised into different groups. The King was at the top, and peasants were at the bottom. Land was given in exchange for services. See Image 1.
6. Fief	Land that was granted to people as part of the Feudal System.
7. Homage	A promise to be loyal to your 'lord'.
8. Absolute monarchy	A monarch who has total authority (total power to make whatever decisions they want).
9. Motte and bailey	The types of castles that the Normans first built when they invaded England in 1066. See Image 2.
10. Domesday Survey	A survey of England carried out by William in 1085-1086 to find out which resources England had and how much he could tax different areas.
11. Succession	Taking over from another monarch (King or Queen).



Feudal Pyramid of Power

Image 1. The Feudal System.

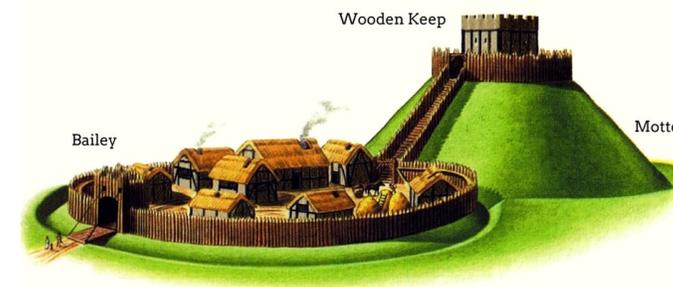


Image 2. Diagram of a Motte and Bailey Castle.

12. 5th January 1066
Edward the Confessor's death.

13. 25th September 1066
The Anglo-Saxons won the Battle of Stamford Bridge. Hardrada died.

14. 14th October 1066
The Normans won the Battle of Hastings; Harold Godwinson was killed.

15. December 1066
William was crowned King of England.

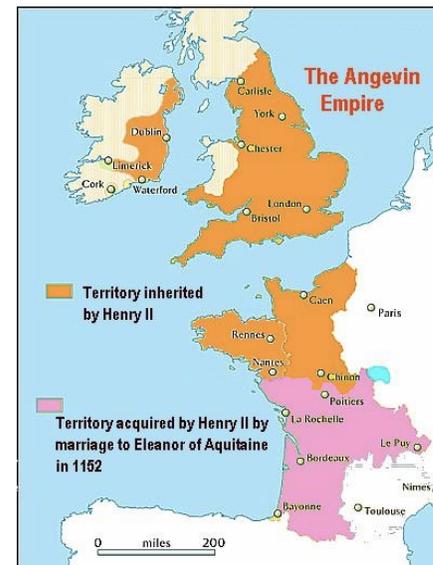
16. Winter 1069-1070
The Harrying of the North.

17. 1085-1086
Domesday Survey carried out.

18. 1087
Death of William the Conqueror.

Year 7 Knowledge Organiser Section B: Monarchs in the 12th and 13th centuries

Image 1. The Angevin Empire.



Key Terms / Events	
1. Angevin Empire	The land ruled over by King Henry II, King Richard I and King John I. It contained territory in England, Wales, Ireland, and France. See Image 1.
2. Archbishop of Canterbury	Very important religious position in England. Henry II made Thomas Becket the Archbishop of Canterbury in 1162.
3. Constitutions of Clarendon, 1164	An attempt by Henry II to reduce the power of the Church and limit the influence of the Pope in England.
4. Crusades	A series of religious wars between Christians and Muslims (1095-1291) that were fought mainly to secure control of holy sites.
5. Treaty of Goulet, 1200	Ended conflict between England and France over Normandy. King John had to accept that King Philip of France ruled over the territory in France.
6. Scutage	A tax that King John made barons pay if they did not offer him military service.
7. Baron	A member of the nobility. King John made this group very angry by taxing them highly.
8. Chateau Gaillard	John's key defensive castle in Normandy. King Phillip of France took this in 1204 and this led to King John losing Normandy. John is often called 'John Lackland' due to him losing land.
9. Excommunicate	To exclude (expel) somebody from the Church. King John was excommunicated by the Pope between 1209 and 1213.
10. Battle of the Bouvines, 1214	King John was badly defeated at this battle. He was attempting to take back Normandy from France. This was a failure.
11. Magna Carta, 1215	A charter of rights agreed to by King John. This limited the power of the King.
12. Divine right of Kings	The belief that a monarch cannot be subject to any authority on Earth as they have been given the right to rule directly by God.

Key People	
22. King Henry II	Ruled England between 1154 and 1189.
23. Thomas Becket	Archbishop of Canterbury between 1162 and his murder in 1170.
24. King Phillip II of France	Ruled France between 1180 and 1223.
25. King Richard I (Lionheart)	Ruled England between 1189 and 1199.
26. King John I	Ruled England between 1199 and 1216.

13. 1154
King Henry II was crowned King of England.

14. 1170
Thomas Becket was murdered (see Image 2).

15. 1189
Henry's sons (Richard and John) rebelled against their father. Henry died shortly after. He was succeeded by Richard.

16. 1189-1192
Richard fought in the Third Crusade. He was captured in 1192 on his way back from the Holy Land.

17. 1199
Richard was killed. He was succeeded by King John.

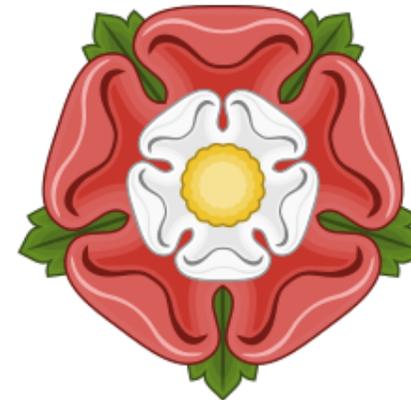
18. 1204
John lost Normandy to King Philip of France.

19. 1214
John failed to re-take Normandy. His forces were badly defeated at the Battle of the Bouvines.

20. 1215
King John signed the Magna Carta.

21. 1216
King John's death.

Year 7 Knowledge Organiser, Section C: The religious rollercoaster of the 1500s.



Key Terms / Events	
1. Pope	The worldwide leader of the Catholic Church.
2. Monastery	A building (or buildings) where a community of monks under religious vows live. They were very wealthy institutions at the start of the reign of Henry VIII.
3. Reformation	The break-away from the Catholic Church and the setting up of the Protestant Church of England which was separate from the Pope's authority.
4. Heir	A person who will take over the throne after a monarch's death.
5. Dissolution of the monasteries	Henry VIII disbanded monasteries in England between 1536 and 1541.
6. Pilgrimage of Grace	A revolt against Henry VIII that took place in 1536-1537. This was mainly caused by Henry VIII's religious changes (reformation).
7. Heretic	A person who goes against the accepted religious beliefs.
8. Privy Council	The closest group of advisors to the monarch.
9. Religious Settlement, 1559	An attempt by Elizabeth to unite the country. England became a Protestant country, but Elizabeth included some elements (compromises) to appeal to Catholics. Also known as the 'middle way'.
10. Excommunication	To exclude (expel) somebody from the Church. Queen Elizabeth was excommunicated by the Pope in 1570.
11. Recusants	A person who refused to attend Protestant Church services during the rule of Elizabeth I.
12. Catholic plots	There were four attempts by Catholics to remove Elizabeth as Queen and replace her with her Catholic cousin, Mary, Queen of Scots.

Key People	
13. King Henry VIII	King of England between 1509 and his death in 1547.
14. Thomas Cromwell	Chief minister to Henry VIII. Key individual in the reformation.
15. Edward VI	Son of Henry VIII. Protestant. King of England between 1547 and 1553.
16. Lady Jane Grey	Briefly Queen of England for nine days in 1553.
17. Mary I	Daughter of Henry VIII. Catholic. Queen of England between 1553 and 1558. Also known as 'Bloody Mary'.
18. Elizabeth I	Daughter of Henry VIII. Protestant. Queen of England between 1558 and 1603.

19. 1509
Henry VIII became King of England.

20. 1533
Henry VIII divorced Catherine of Aragon, and married Anne Boleyn.

21. 1534
The Act of Supremacy declared Henry VIII to be the 'Supreme Head of the Church of England.' The 'break from Rome'.

22. 1536-1541
The Dissolution of the Monasteries by Henry VIII.

23. 1536-1536
The Pilgrimage of Grace.

24. 1547
Henry VIII died. He was replaced by his 9-year old son, Edward VI.

25. 1553
Edward died aged 15. He was replaced by Lady Jane Grey, who ruled for only nine days.

26. 1553-1558
Mary I ruled England. She made the county very Catholic.

27. 1558
Mary I died and was replaced by Elizabeth I.

28. 1559
Elizabeth's Religious Settlement. Made England Protestant. Tried to find a 'middle way'.

29. 1570
The Pope excommunicated Elizabeth. This encouraged Catholics to rebel against the Queen.

Homework 1

Copy out and learn the words.
Look, cover, write, check.



Mis ojos y mi pelo

¿De qué color son
tus ojos?

Tengo los ojos ...
azules
grises
marrones
verdes

¿Cómo es tu pelo?

Tengo el pelo ...
blanco
castaño
gris
negro
pelirrojo
rubio
liso
largo
corto
rizado
ondulado
Tengo barba.
Tengo bigote.
Tengo gafas.

My eyes and my hair

What colour are your
eyes?

I have ... eyes.
blue
grey
brown
green

What's your hair like?

I have ... hair.
white
brown
grey
black
red/ginger
blond
straight
long
short
curly
wavy
I have a beard.
I have a moustache.
I have glasses.

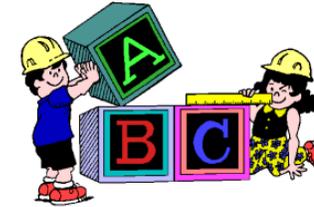
Homework 2

Copy the words out in Spanish and English and draw pictures to go with them.
Learn the words carefully.
Look, cover, write, check



En el Colegio

Una <u>asignatura</u>	Subject
El <u>inglés</u>	English
Las <u>matemáticas</u>	Maths
El <u>español</u>	Spanish
El <u>francés</u>	French
La <u>historia</u>	History
La <u>geografía</u>	Geography
Las <u>ciencias</u>	Science
El <u>teatro</u>	Drama
El <u>dibujo</u>	Art
La <u>música</u>	Music
La <u>tecnología</u>	DT
La <u>informática</u>	IT
La <u>educación física</u>	PE
La <u>religión</u>	RE



Homework 3

Translate the letter in to English.

Hola.

Me llamo Felipe y vivo en Málaga en España. Tengo trece años y mi cumpleaños es el diecinueve de julio.

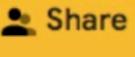
Mi colegio se llama el Colegio de Santa María y me gusta mucho. Estudio el español, las matemáticas, las ciencias, la geografía, la historia, el inglés, el teatro y la educación física. Me encanta el teatro porque es fácil y también me gusta el inglés porque es importante. Odio la geografía porque es aburrida.

El profesor de ciencias es severo y la profesora de historia es simpática.

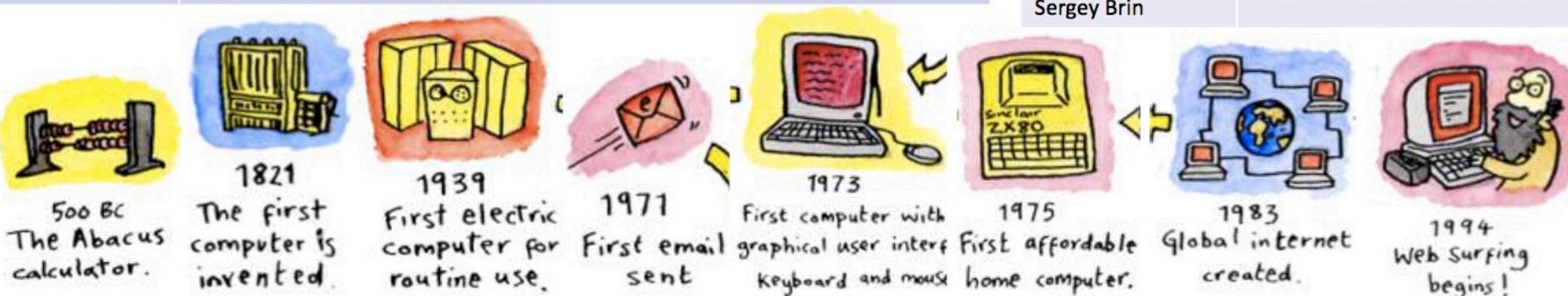
¿Cómo es tu colegio?

Computer Science: Computer History & Collaboration

Using Google Slides

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	Explore gives you options on slide layout when you insert an image
	Lets you insert an image into your slide
Transition	Choose slide transitions and animations
Theme	Choose a preset theme for your presentation

People in Computer Science	
Ada Lovelace	First person to write computer programs nearly 200 years ago
Charles Babbage	Designed the Analytical Engine – effectively the first computer in 1821
Alan Turing	Works on breaking German codes at Bletchley Park and designs the Turing Machine which modern computers are based on. (1936)
Jon Von Neuman	Invented the stored-program model of computing while working on the atomic bomb. His design is still used to build computers today. (1940's)
Grace Hopper	Worked on the invention of high-level programming languages still used today (1952)
Bill Gates	Co-Founded Microsoft (1975)
Steve Wozniak	Created the first Apple computer. (1976) Founded Apple Computing (1977)
Steve Jobs	Founded Apple Computing with Steve Wozniak (1977)
Tim Berners-Lee	Invented the World Wide Web (1989)
Larry Page & Sergey Brin	Google was invented (1996)



A Quick Computing History Timeline



PE Knowledge Organiser Diet & Nutrition



We get energy from the food we eat and it is measured in **calories (Kcal)**.

An average male needs about 2,500 Kcal/day and an average female needs about 2,000 Kcal/day. However, the amount of energy a person needs depends on things like their age, gender, height and amount of exercise they do.

Energy that is not used is stored in your body as fat. If you always eat too many calories than you need, it can lead to obesity.

So that your body can get all of the nutrients it needs, you need to eat many different types of food. This is known as a **balanced diet**.

Macronutrients are the 3 main forms of food we get energy from.

Carbohydrates can be found in the form of simple sugars or complex starches.

Proteins play an essential role in building and repairing muscle.

Fats contain the most energy per gram out of all the macronutrients.

Carbohydrates should give you around half of the energy you need each day.

The 2 main types of carbohydrate are sugar and starch. Carbohydrates are the preferred source of energy for different types of exercise. Energy in carbohydrates is released to the muscles through the process of respiration.

Some examples of foods that are a good source of carbohydrate include: bread, potatoes, rice and pasta.

Protein is also an important part of a balanced diet. It is broken down into amino acids and used by the body to build and repair cells and tissues.

Protein can be used to produce energy but not until stores of carbohydrates and fats have been used up.

Protein helps build powerful muscles so is important for athletes such as shot putters, hammer throwers, weightlifters and wrestlers.

Athletes should take protein straight after exercise to ensure their muscles are getting the correct nutrients as soon as possible.

Fats contain a lot of energy but take longer to be released because they need a lot of oxygen. Carbohydrates can produce a quick release of energy so many athletes will eat a diet high in carbohydrates before an event.

Carbohydrate loading is a technique athletes use before an event. For example:

- **a week** before a race an athlete's energy stores will be entirely depleted as their training intensity peaks.
- **6-4 days** before the race the athlete will follow a low-carbohydrate, high-protein diet to keep glycogen stores low.
- **3 days** before the race the athlete will switch to a carbohydrate-rich diet to build up glycogen stores.
- **the night before** the race the athlete will have a large carbohydrate-rich meal e.g. pasta.

Micronutrients are also important to help our bodies function properly. They are needed in much smaller quantities.

Vitamins are classed as organic micronutrients. **Minerals** are classed as inorganic micronutrients. They help increase your immune system and turn your food into energy.

Fibre is also important in a person's diet in order to maintain a healthy digestive system.

Water is important to prevent dehydration. Dehydration has the following effects on the body:

- it thickens the blood which slows blood flow to muscles
- it forces the heart to work harder than normal
- it slows a person's reactions
- it can cause muscle fatigue and cramp



Chorus
Forum Theatre
Flashback
Narration



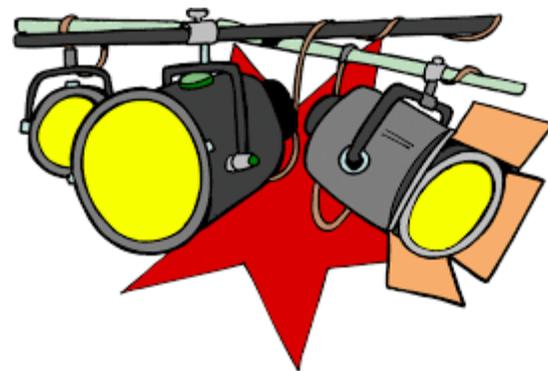
genre
style
rehearsal

KS3 Keywords
Spellings

naturalistic
character
Improvisation
techniques
tableau



Promenade stage
Monologue
Proscenium Arch
Realism



Year 7 – Design and Technology Knowledge Organiser



4. **Synthetic** plastics are made from oil, coal or gas. **Natural** plastics are made from materials such as amber and rubber. **Biopolymers** can be made from Starchy vegetables such as corn.



- 1. Key Words**
- Understand and be able to spell the words below.
- Polymer
 - Acrylic
 - High Impact Polystyrene (HIPS)
 - Finite
 - Sustainable
 - Biodegradable
 - Vacuum Forming
 - Laser Cutting
 - Safety
 - Thermoplastic
 - Thermosetting Plastics
 - Biopolymers
 - Computer Numerically Controlled (CNC)
 - Computer Aided Design (CAD)
 - Computer Aided Manufacture (CAM)
 - Engrave
 - Moulding
 - Sketch
 - Modelling
 - Isometric
 - Engineer's Steel Square
 - Steel Rule
 - Line Bender/Strip heater
 - Wet and Dry Paper File



2. Remember the Safety Rules: Tie back long hair to prevent entanglement. Wear an apron to protect your clothing.
Roll up long sleeves to prevent entanglement.
Stack Chairs to prevent tripping. Wear Goggles on Machines to protect your eyes. One at a time on machines.

Steel Rule: Used for measuring.

Engineers Square: Marking right angles to a straight edge.

Bench Drill: Used for drilling holes in various materials.

Machine Vice: Used for holding work when drilling.

Wet and Dry: Used for achieving a smooth surface finish.

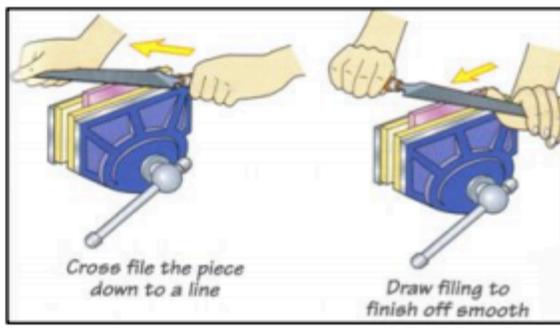
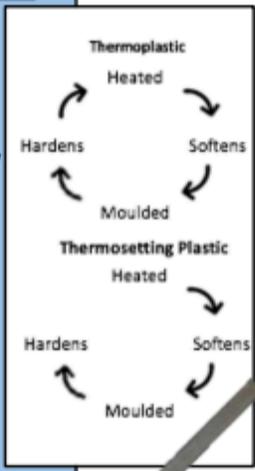
3. Thermoplastic and Thermosetting Plastics

Plastics can be split into two groups, these are **Thermoplastic and Thermosetting**.

Thermoplastics can be heated and shaped many times. They will soften when heated and can be shaped when hot. The plastic will harden when cooled.

Some common thermoplastics are ABS, Nylon, Acrylic, Polystyrene, Polypropylene.

Thermosetting plastics can only be heated and shaped once. If re-heated they cannot soften as the polymer chains are interlinked.

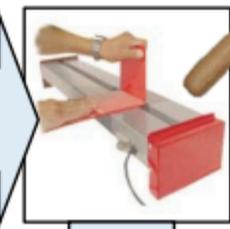


7. **Cross filing** – Is used to shape and remove material.
Draw Filing – Is used to remove the cross filing marks/smooth.

6. Forming Thermo Plastics

Understand and be able to explain the processes of:

- Thermo Forming (Oven)
- Strip Heater/Line Bender
- Vacuum Forming
- Injection Moulding

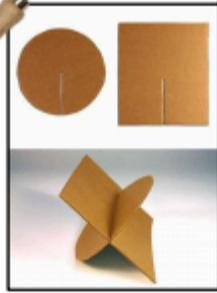


Line Bending

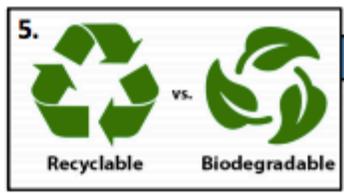
- Mark out
- Heat Plastic until soft.
- Bend to desired angle
- Hold until cool



Hand File: Used for removing material.



Prototype - A model of a design used for testing development and evaluation.



Sustainable - Products that provide environmental, social and economic benefits while protecting public health and environment over their **whole** life cycle, from the extraction of raw materials until the final disposal. The material will not run out

Biodegradable - It means a product or material that can break down/rot into natural materials in the **29** environment without causing harm.

Year 7 – Design and Technology - CAD

Knowledge Organiser



Forest Stewardship Council
Sustainable Timber

8. A net is a flat two dimensional shape that can be folded and glued to form a three dimensional object.

- Key Words**
- Understand and be able to spell the words below:
- Polymer
 - Acrylic
 - Coniferous
 - Sustainable
 - Recyclable
 - Laser Cutting
 - Safety
 - Thermoplastic
 - Computer Numerically Controlled (CNC)
 - Computer Aided Design (CAD)
 - Computer Aided Manufacture (CAM)
 - Engrave
 - Sketch
 - Modelling
 - Isometric
 - Modify
 - Vector
 - Bitmap
 - Dimensions
 - Scale
 - Render
 - Grid
 - Accuracy
 - Packaging
 - Cardboard
 - Surface Development (Net)
 - Tessellation

1. 2D Design is an example of CAD Software.

3. Be able to identify 2D Design Drawing icons. Line, arc, circle, rectangle, text and freeform curve.



1. Computer Aided Design (CAD) is the process of using specialist software to create designs for new products or components.

7. Red lines or fill areas engrave.
Black lines or fill areas cut.

2. The Laser Cutter is an example of a CNC machine.

2. Computer Aided Manufacture (CAM) uses saved CAD files to make new products or components as prototypes through the use of Computer Numerically Control (CNC) machinery.

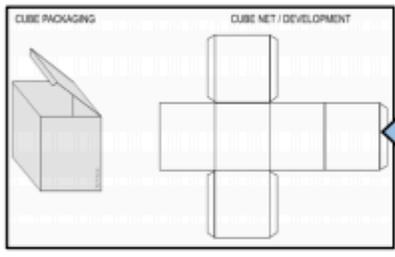
Understand and be able to explain the advantages of disadvantages of using CAD/CAM.

4. CAD Advantages. Can be more accurate than hand-drawn designs - it reduces human error. You can save and edit ideas, which makes it easier and cheaper to modify your design as you go along. You can modify existing ideas, which saves time.

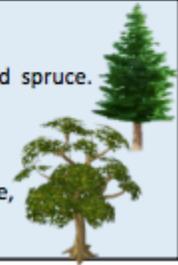
5. CAM Advantages. Is faster because machining speeds are higher. greater accuracy. greater consistency: every finished product is the same.

6. Disadvantages of CAD/CAM The software/equipment itself is expensive so initial costs are high. Need to be trained how to use the software and machinery.

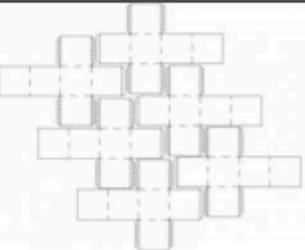
10. Papers and boards are made from natural fibres (cellulose), usually sourced from wood. Wood fibres are mostly sourced from faster growing softwoods rather than hardwoods. Paper is characterised by weight. The weight is measured in grams per square metre (GSM).



Softwoods come from coniferous trees which are evergreen, needle-leaved, cone-bearing trees. Examples include pine and spruce.
Hardwoods come from broad-leaved, deciduous trees which tend to lose their leaves in autumn/winter. Examples include, oak and beech.



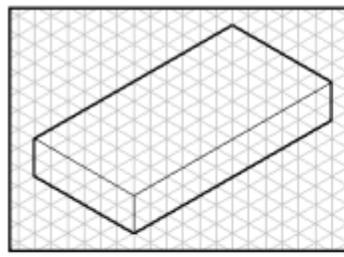
9. Tessellation An arrangement of shapes closely fitted together, in a repeated pattern without gaps or overlapping.



Try Square Used for marking and measuring.



Band Facer: Used for sanding wood.



12. Isometric projection is a method for visually representing three-dimensional objects in two dimensions.

Glass Paper: An abrasive paper used for smoothing rough surfaces on wood.

Pillar Drill: Used for drilling holes in various materials.



Remember the Safety Rules:

- Tie back long hair to prevent entanglement.
- Wear an apron to protect your clothing.
- Roll up long sleeves to prevent entanglement.
- Stack chairs to prevent tripping.
- Wear Goggles on machines to protect your eyes.
- One at a time on machines.

A Blind Hole does not go through the material.

PPE – Personal Protective Equipment. Safety Glasses/Goggles. Used to protect the eyes when preparing materials and when operating machinery.

11. Scales of Production

One off ▶ Batch ▶ Mass ▶ Continuous

Year 7 – Food Technology Knowledge Organiser

1.) Key Words

Understand and be able to spell the words below:

Nutrition
Heathy Eating
Eatwell Guide
Balanced Diet
Cooking
Baking
Chopping
Slicing,
Health and Safety
Food Hygiene
Oven
Hob
Designing
Sensory Analysis
Seasonality
Ingredients
Vegetables
Savory
Food Provenance
Portion Size
Method
Nutrition
Protein
Carbohydrates
Vitamins
Minerals
Evaluation

3.) Basic Nutrition

Food is essential—it provides vital **nutrients** for survival, and helps the body function and stay healthy.

Protein: The nutrient that helps build and repair the body and we get from Meat and Fish

Carbohydrates: The Nutrient that's give use energy and we get from grains (pasta, rice, bread potatoes)

Fats: The Nutrient that gives energy, soluble vitamins and helps us keep warm.

Vitamins: These help keep the bodies systems in working order.

Minerals: These help the body process different nutrients and keep us healthy.

2.) Glossary of Terms -Understand and be able to explain the following:

- **Ingredients** - Parts that make up a food product
- **Savoury Food Product** -The opposite to a sweet product
- **Health** - The state of being ill from injury or sickness
- **Seasonality** -Refers to the times of year when a given type food is at its peak.



Eat at least 5 portions of a variety of fruit and vegetables a day

3.) The Eatwell Guide
The Eatwell Guide is based on the main food groups that together provide a healthy diet.



Base meals on potatoes, bread, rice, pasta or other starchy carbohydrates

Eat some beans, pulses, fish, eggs, meat and other protein

Have some dairy or dairy alternatives (such as soya drinks and yoghurts)

Choose unsaturated oils and spreads, and eat in small amounts

5) Health and Safety

- Wear a clean apron
- Wash your hands
- Tie back long hair
- Keep food preparation surfaces clean
- Remove nail varnish
- Do not run
- Wipe up food spills immediately.
- Handle knives and other sharp equipment with care.
- Turn handles of saucepans away from the front of the stove when cooking.
- Wash kitchen and eating utensils after use in hot soapy water.
- Put away equipment
- Use oven gloves when removing items from the oven

6.) Knife Handling skills/ Grip Techniques



Claw Grip

Bridge Grip

7.) Seasonal Foods



4.) 8 Steps to Healthy Eating

1. Base your meals on starchy foods.
2. Eat lots of fruit and veg.
3. Eat more fish.
4. Cut down on saturated fat and sugar.
5. Try to eat less salt –not more than 6g a day.
6. Get active and try to be a healthy weight.
7. Drink plenty of water.
8. Don't skip breakfast.

8.)



9.) Sensory Analysis

The scientific way of analysing and measuring human responses to food and drink.

