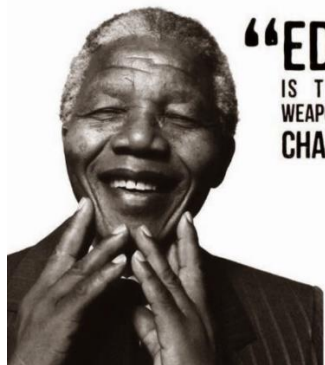




# Westhoughton High School

## Year 7 – Spring Term - Knowledge Organisers



**“EDUCATION**  
IS THE MOST POWERFUL  
WEAPON WHICH YOU CAN USE TO  
CHANGE THE WORLD.”

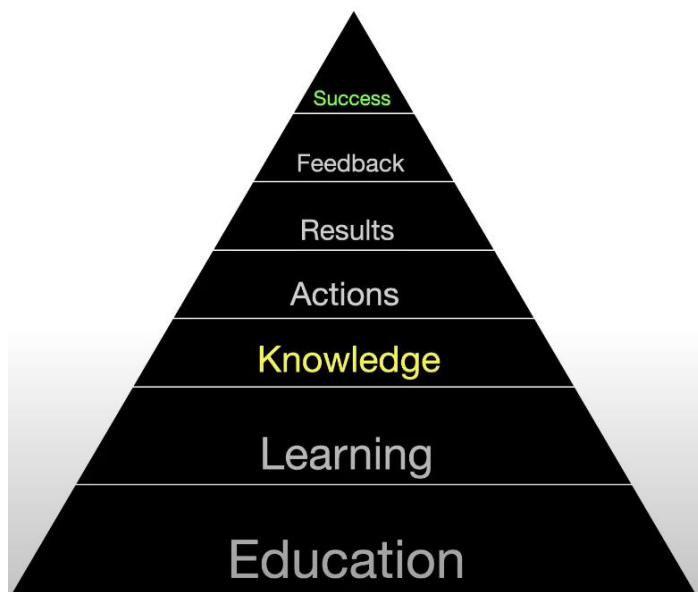
**NELSON  
MANDELA**

Name: .....

Form Group & Room: .....

Form Tutor: .....

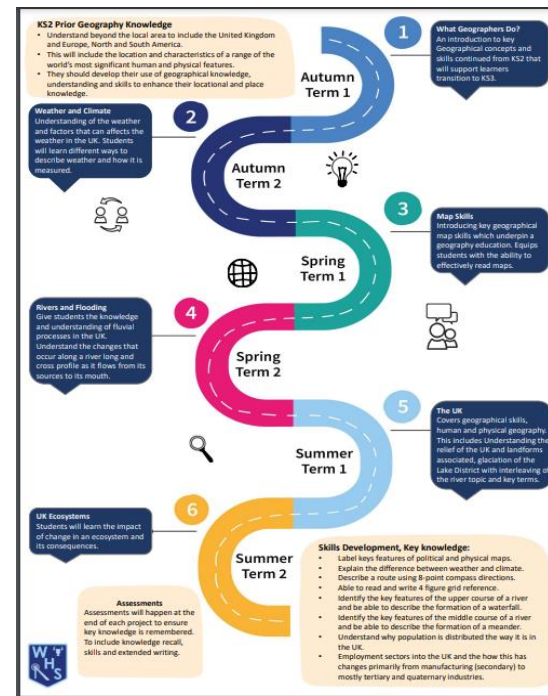
### the “Knowledge” pyramid



Topic	Page
Introduction to Knowledge Organisers (KOs)	2
Learning Techniques to use with KOs	3
How to make learning stick ...	4
Art	5-6
Computing	7-12
Design and Technology	13-17
Drama (Performing Arts)	18-19
English	20-22
Food Technology	23-24
Geography	25-28
History	29-32
Maths	33-47
French	48-49
Music	50-51
PE	52-58
PSHE	59-60
Science	61 - 63

## Introduction

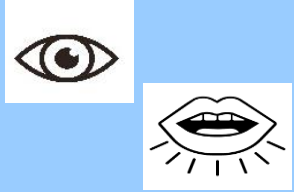


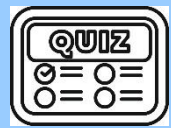











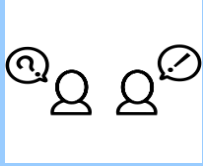


The curriculum in each of your subjects at WHS has been carefully planned to help you learn new things, building upon what you know and preparing you for learning in the future. This is mapped out as a learning journey which each teacher will share with you, so you understand how your learning fits together as a whole. Each subject's roadmap is here <https://www.westhoughton-high.org/subjects/>.









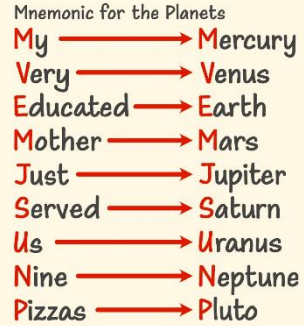

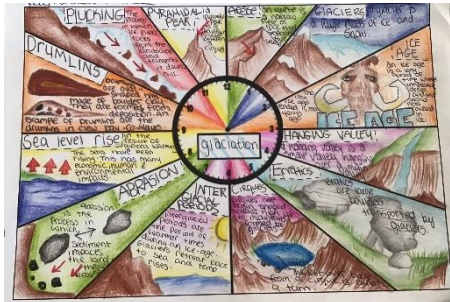

This booklet contains knowledge organisers for all the topics you will study in each subject this term. These give an overview of the essential knowledge that you MUST remember to be as successful as possible in Year 7 and as you move through each year of school. Your teachers will expect you to use them during lessons to find out about what you are going to be learning in a new topic, to retrieve information during a connect activity – connecting your brain to what you are going to learn that lesson and to test yourself or others to recall knowledge. You will also use them to complete home learning activities, to regularly revise from so that you begin to remember more knowledge over time, to discuss what you have been learning with family and friends and to catch up on any learning you might have missed due to absence. You must bring your booklet to school every day and keep it safe at the end of each term as you will continue to use it to support ongoing revision.

**Learning Techniques to use with KOs** – using them regularly is vital to make knowledge stick in your long-term memory (remember you need to revisit information at least 10 times before it is embedded in your memory).

Try using these ideas, choose different techniques to learn small sections of knowledge each day.

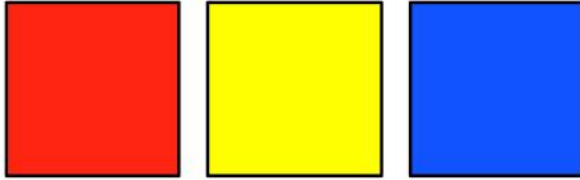
	Look, Say, Cover, Write, Check	Key Word Definitions	Flash Cards	Self Quizzing	Mind Maps	Paired Retrieval
STEP 1	<p>Look at and read aloud a specific area of your KO.</p> 	<p>Write down the key words and definitions in two columns.</p> 	<p>Use your KO to condense and write down key facts or information onto flash cards.</p> 	<p>Use your KO to create a mini quiz. Write down your questions relating to the information.</p> 	<p>Create a mind map with the information on your KO.</p> 	<p>Ask a partner, friend or family to use the KO or your flash cards.</p> 
STEP 2	<p>Cover or flip the KO over and write down everything you remember.</p> 	<p>Repeat the above but don't look at your KO</p> 	<p>Add pictures that might help you remember. Then self-quiz using the flash-cards.</p> 	<p>Answer the questions, remember to use full sentences.</p> 	<p>Check your KO to make sure there are no mistakes on your mind map.</p> 	<p>Make sure they test you on different sections of the KO and also on previous topics.</p> 
STEP 3	<p>Check what you have written down. Correct any mistakes and add anything you missed in purple pen.</p> 	<p>Use a purple pen to check and correct your work</p> 	<p>Ask a friend or family member to quiz you on your knowledge.</p> 	<p>Ask a friend or family member to quiz you using the questions.</p> 	<p>Try to make more connections, link the information together where you can.</p> 	<p>Repeat this regularly so that you are frequently looking at KOs past and present.</p> 

# How to make learning stick...

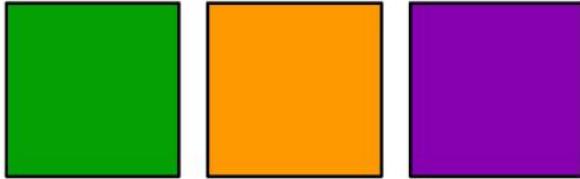
Mind Mapping	Flash Cards	Look, Say, Cover, Write, Check	Key Word Mnemonics	Revision Clocks
 <p>Mind mapping is a great way of representing key information from a topic in a visual way. Use colour and images to represent the knowledge you need to learn. Keep writing to a minimum; use only keywords/phrases.</p> <p>Watch the clip for more tips and advice.</p> 	 <p>Make flash cards using your KO. Write a question on one side and the answer on the other or record key- words and definitions. Test yourself frequently. For more advice scan the code.</p> 	 <p>This technique is one that has been well used from primary school upwards. It is useful for rehearsing keywords, definitions and spellings. Look at the information, read it aloud, cover it up, write it down and then check it is correct.</p> 	 <p>A mnemonic is a sentence you make up where each word begins with the same letter as the word you want to remember. It is a useful technique for remembering a group of facts/words in a certain order.</p> 	 <p>Draw a basic clock and break your KO down into 12 chunks. Make notes on each chunk in the 12 clock sections, use colour and images to make it memorable. Revise each section for 5 minutes, turn over and test how much you can recall.</p> <p>Watch the clip for more tips and advice.</p> 

# Year 7 Art Knowledge Organiser -Term 2

## PRIMARY COLORS



## SECONDARY COLORS



## Harmonious Colours



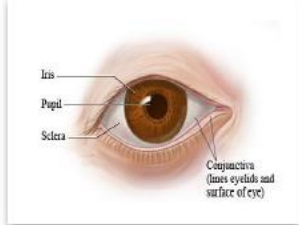
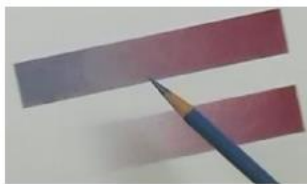
Harmonious colours sit next to each other on the colour wheel. These colours work well together and can be blended into each other.

Portraiture

## Year 7 keywords

Renaissance	Renaissance art was an art movement that came after the medieval art movement and before Baroque art, lasting from 1400 to 1525 approximately.
Post Impressionism	Post-Impressionism was a predominantly French art movement that developed roughly between 1886 and 1905.
Cubism	Cubism is a style of painting that was developed in the early 1900s. Cubist paintings show objects from many angles at once.
Harmonious colours	Colours that are next to each other on the colour wheel
Proportions	The measurements of the face
Continuous line	A continuous line drawing is one in which a single, unbroken line is used to develop the image.

## How to colour blend skillfully



## FORMAL ELEMENTS

LINE

tone

TEXTURE

SHAPE

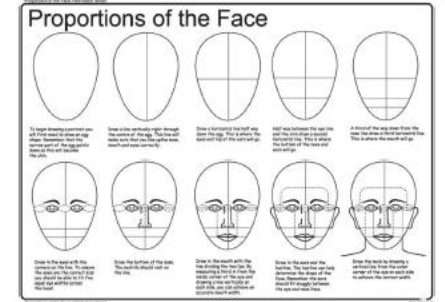
PATTERN

COLOUR

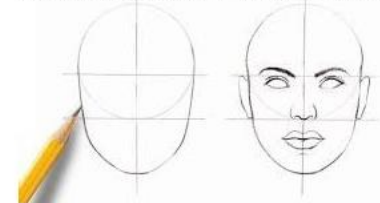
## Continuous line portrait



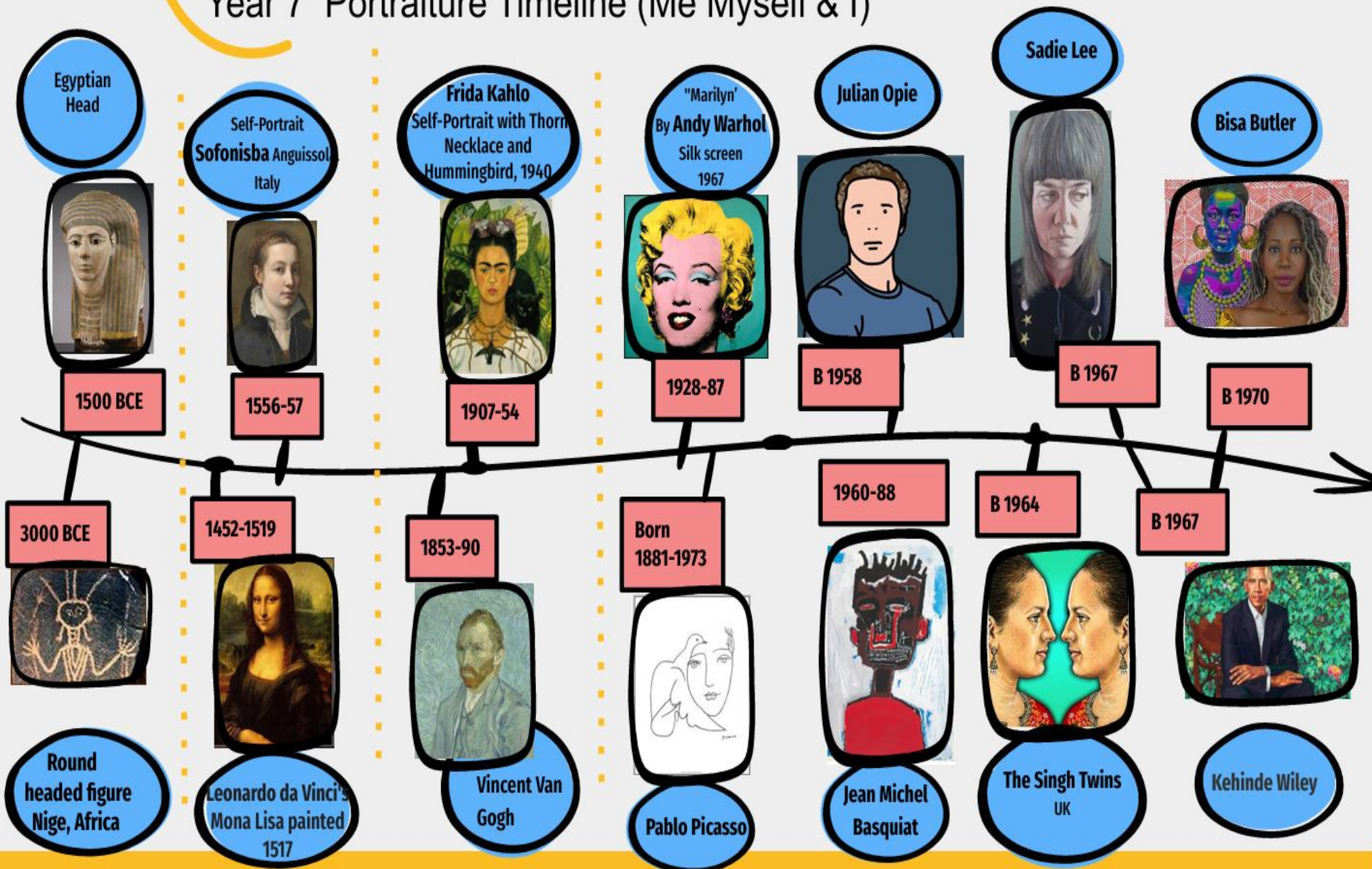
Proportions of the face



## HOW TO DRAW: FACE IN 10 MIN



# Year 7 Portraiture Timeline (Me Myself & I)



Prehistoric - Egyptian - Renaissance - Post impressionism - Symbolism - Cubism - Pop Art- Neo Expressionism - Contemporary Art

# COMPUTING — Digital Citizenship

## What are the hazards ?



## Rules of a computing lab

1	No Food
2	Drinks are allowed, as long as they are in no-spill containers
3	Keep your password safe
4	Computers and peripherals are not to be moved around
5	Do not install software on the computers
6	Do not display or print sexually explicit graphics
7	No Mobile Phones
8	Behaviour and activities that disrupt other users or disrupt the learning in the computer labs is not allowed
9	Remember to log out whenever you are done using your computer.
10	Each person may use one computer at a time, unless otherwise instructed.

## Key Terms

<b>Password</b>	A secret word or phrase which allows access to a computer system or service.
<b>Computing Lab</b>	A <b>computer lab</b> is a space which provides <b>computer</b> services to a <b>defined</b> community.
<b>Screen Time</b>	Time spent using a device such as a computer, television, or games console.
<b>Email</b>	Messages distributed by electronic means from one computer user to one or more recipients via a network.
<b>Email Recipient</b>	An <b>email recipient</b> is an individual who has opted-in to receive <b>email</b> from either an individual or a business
<b>Email Subject</b>	An <b>email subject</b> line is the first text recipients see after your sender name when an <b>email</b> reaches their inbox. It is important to keep an <b>email subject</b> line informative, catchy, and brief.
<b>CC / Carbon Copy</b>	(Carbon Copy) - Put the email address/es here if you are sending a copy for their information (and you want everyone to explicitly see this)
<b>BCC/ Blind Carbon copy</b>	(Blind Carbon Copy) - Put the email address here if you are sending them a copy and you <b>do not</b> want the other recipients to see that you sent it to this contact
<b>Etiquette</b>	The way you behave online
<b>Sexting</b>	To send (someone) sexually explicit photographs or messages via mobile phone.
<b>Cyber bullying</b>	The use of electronic communication to bully a person, typically by sending messages of an intimidating or threatening nature.
<b>Digital Footprint</b>	A <b>digital footprint</b> is a trail of data you create while using the Internet. It includes the websites you visit, emails you send, and information you submit to online services.
<b>Presentation Software</b>	A software application that is specifically designed to allow users to create a presentation of ideas
<b>Audience</b>	A group of people who your presentation would be aimed at

Year Term

## What are Online Activities

- Socialising online on a range of social apps
- Watching TV online through YouTube
- Gaming

## Reporting Online Abuse

- Report abuse on the CEOP site
- Child line
- Talk to a trusted adult, Tell a teacher
- Report behavior to the social media site



## Email Etiquette

- Include a clear subject matter
- Always use an appropriate greeting.
- Consider the purpose of your **email**.
- Do not use emojis

## What makes an effective presentation?

- Only Text Prompts are used (Keywords)
- Text is kept to a minimum
- All images used are relevant and appropriate to the subject

## Characteristics of a strong Password

- At least 8 characters - the more characters, the better. A mixture of both uppercase, lowercase letters,, numbers and symbols e.g., ! @ # ? ]

## Copyright Law

The Copyright, Designs and Patents Act 1988, is the current UK copyright law. It gives the creators of literary, dramatic, musical and artistic works the right to control the ways in which their material may be used.

**Types of work covered** - Literacy/Dramatic/Musical/Artistic / Magazines / Sound Recording /Films

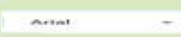


**“Copyright infringement can lead to substantial penalties.”**

Penalties can include: **A fine up to £50,000** and/or **a jail sentence of up to 6 months**

### Key Terms

<b>Credibility</b>	the quality of the source from where the information is gathered
<b>Source</b>	a place, person, or thing from which facts or information can be obtained.
<b>Audience</b>	A group of people of whom your project/work would be aimed at
<b>Plagiarism</b>	The process or practice of using another person’s ideas or work and pretending that it is your own
<b>Referencing</b>	When you provide (a book or article) with citations of sources of information.
<b>Citation</b>	A word or piece of writing taken from a written work
<b>Paraphrase</b>	To repeat something written or spoken using different words, often in a humorous form or in a simpler and shorter form that makes the original meaning clearer
<b>Blog</b>	A regularly updated website or web page

### Microsoft Word - Tools

Tool icon	Tool name	Brief description
	BOLD	Changes the text to be bold, i.e. thicker and more noticeable
	FONT	Allows you to change the style/appearance of the text
	CENTRE ALIGN	Moves the text so that it is in the middle of the page, rather than having a margin on the left- or right-hand side of the page
	TEXT COLOUR	Allows you to change the colour of the text
	BULLETED LIST	Allows you to create a bullet-pointed list







### Evaluating and recording the credibility of a source

**Check the author and the source / What’s the purpose of the article? / Check when the article was written / Check the facts**

<b>Article/website title</b>	WHY IS THE PLASTIC WASTE IN OUR WATERWAYS INCREASING?
<b>URL</b>	<a href="http://www.itsgettinghotinhere.org/go-green/why-is-the-plastic-waste-in-our-waterways-increasing/">http://www.itsgettinghotinhere.org/go-green/why-is-the-plastic-waste-in-our-waterways-increasing/</a>
<b>Notes/quotations/who to credit or cite</b>	“It is estimated that the current population has produced a 320 million tonnes of <a href="#">plastic waste</a> ! And if we carry on as we are and do not change, this figure could double by 2034”
<b>Evaluate the credibility of the source. How can you prove that this is a reliable source?</b>	<ul style="list-style-type: none"> <li>Written in June last year</li> <li>These facts also appear on other websites</li> </ul>



## Different Software and their uses

Icon	Software Name	Description
	Spreadsheet software	Made up of rows, columns and cells. Used mainly for holding formulas to automatically complete calculations. Real-world use: A building company would use this software to add in all of the materials and costs for a project in order to give their invoice/bill to the customer.
	Word processing software	A modern-day typewriter used for typing text and changing the appearance of the text (such as making text bold or changing the colour). Real-world use: A supermarket would use this software to write a letter to their customers to let them know of new offers that they have in store.
	Email software	Software that allows you to read and compose electronic messages that are sent between recipients across the network (usually the internet). You can send messages to multiple people at the same time and include attachments (such as files for people to open, read or edit). Real-world use: A teacher would use this software to send homework as an attachment to all members of the class. Each member of the class would then have their own copy of the worksheet.
	Image editing software	Software that allows you to create or edit images. It includes tools such as overlaying text, cropping and recolouring. Real-world use: A Publisher would use this software to create the front page of a magazine.
	Presentation software	Software that allows you to present information in the form of a slide show. The presenter would use this to provide a visual aid to support what they are saying. Real-world use: A history teacher would use this software to show examples of castles so that learners can understand the key parts of the castle that the teacher is discussing
	Web authoring software	Software that creates web pages/websites without you having to write code. You can write, edit and position text, add images and embed videos. The software will write the required code for it. Real-world use: A start-up business would use this software to build a website to promote their services and display their contact details.

## Binary

Binary is a number system that only uses two digits: 1 and 0. All information that is processed by a computer is in the form of a sequence of 1s and 0s. Therefore, all data that we want a computer to process needs to be converted into binary.

The binary system is known as a 'Base 2' system. This is because: There are only two digits to select from (1 and 0). When using the binary system, data is converted using the power of two.

128	64	32	16	8	4	2	1
-----	----	----	----	---	---	---	---

### Example Binary To Denary

### 8 BIT TABLE

Q: Convert 00011000 to denary

128	64	32	16	8	4	2	1
0	0	0	1	1	0	0	0
			16	8			

## Denary

Denary uses a 'Base 10' number system.

### Example Denary To Binary

Q: Convert 12 to binary A: 0000100

128	64	32	16	8	4	2	1
				8	4		
0	0	0	0	1	1	0	0

## Adding Binary

When two numbers are added together in denary, we take the first number, add the second number to it and get an answer. For example,  $1 + 2 = 3$ .

When we add two binary numbers together the process is different.

There are four rules that need to be followed when adding two binary numbers. These are:

- $0 + 0 = 0$ ,  $1 + 0 = 1$ ,  $1 + 1 = 10$  (said one zero and is binary for 2)
- $1 + 1 + 1 = 11$  (said one one and is binary for 3)

### Example

Let's try adding together two binary numbers: 0101 0011 and 0111 0110.

To get to the answer, use the following method:

```

0 1 0 1 0 0 1 1
+ 0 1 1 1 0 1 1 0
-----
1 1 0 0 1 0 0 1
1 1 1 1 1 0
    
```

## ASCII

ASCII (American Standard Code for Information Interchange) codes represent text in computers, communications equipment and other devices that use text.

Each character is represented by 8 digits. Last 5 = the number in the alphabet

First three decide whether it is lower, upper or a space

### ASCII

A	B	C	D	E	F	G	H
1	2	3	4	5	6	7	8
I	J	K	L	M	N	O	P
9	10	11	12	13	14	15	16
Q	R	S	T	U	V	W	X
17	18	19	20	21	22	23	24
Y	Z						
25	26						

e	10100011
.	00101110
'	00101100
k	00100110

SPACE	001 00000
CAPS	010 ??????
Lowercase	011 ??????

## Hexadecimal

This is a quick way to write down binary values in a more manageable way.

This uses a 'Base 16' number system.

### Conversion Table








Binary	Denary	Hexadecimal
0000	0	0
0001	1	1
0010	2	2
0011	3	3
0100	4	4
0101	5	5
0110	6	6
0111	7	7
1000	8	8
1001	9	9
1010	10	A
1011	11	B
1100	12	C
1101	13	D
1110	14	E
1111	15	F

# Computing— DTP KO Name \_\_\_\_\_

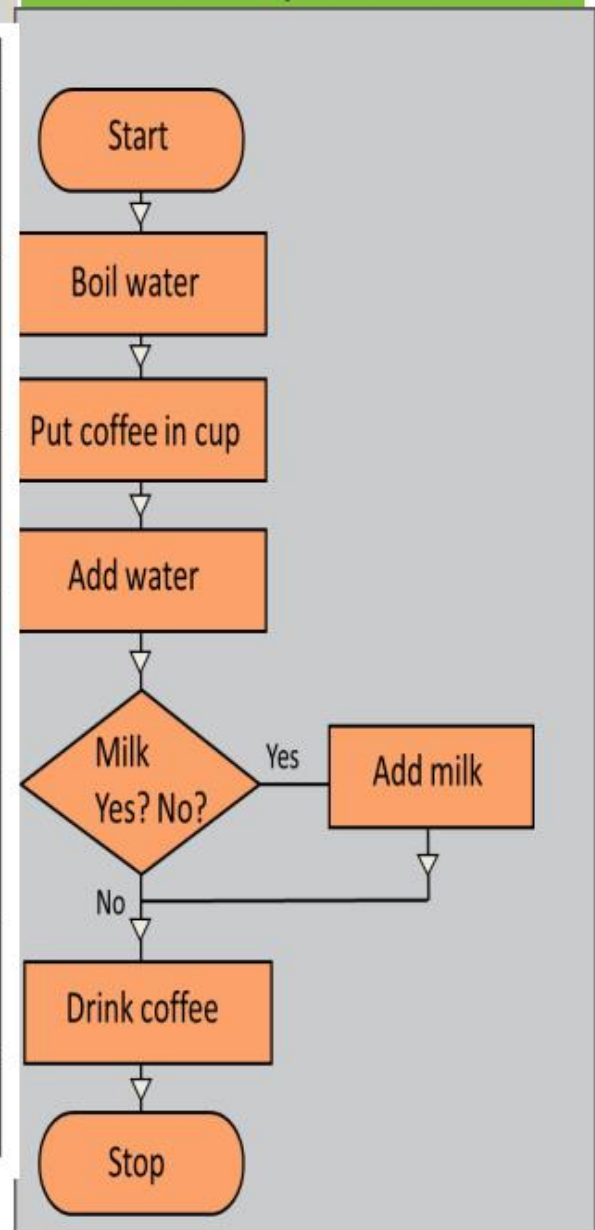
Tool	What it is used for ?
Desktop publishing Image Editing/Graphics Software	Software programs that allow you to manipulate digital images.
Business card	A card the size of a credit card (8.5cmx5.5cm) that displays contact information for an individual employed by a company
Letterhead	A letterhead is a printed heading that goes on to letters/documents sent from businesses.
Flyer	<p>A flyer is a form of paper advertisement intended for wide distribution and typically posted or distributed in a public place or through the mail.</p> <p>Flyers may be used by individuals, businesses, or organizations to:</p> <p>Advertise an event or a business as a whole such as a food/drink establishment.</p>
Text	This <i>tool</i> allows <i>text</i> to be typed onto the current layer using the Primary colour. The <i>Text Controls</i> in the <i>Tool Bar</i> can be used to change the font.
Logo	<b>Logos serve to represent a given organization or company through a visual image that can be easily understood and recognised.</b> A logo generally involves symbols, stylized text or both. Logos are often created by a graphic artist in consultation with a company and marketing experts.
Adjust white balance levels	White balance is <b>the adjustment of a digital photograph to make its colours appear more realistic</b>
File Formats for digital Graphics	PSD, TIFF, PNG, JPEG, GIF
Best file type for printing	TIFF
Best file type for online use	PNG/JPEG

# Computing—Flowol

## Flowchart Symbols

Symbol	Name	Function
	Process	Indicates any type of internal operation inside the Processor or Memory
	input/output	Used for any Input / Output (I/O) operation. Indicates that the computer is to obtain data or output results
	Decision	Used to ask a question that can be answered in a binary format (Yes/No, True/False)
	Connector	Allows the flowchart to be drawn without intersecting lines or without a reverse flow.
	Predefined Process	Used to invoke a subroutine or an Interrupt program.
	Terminal	Indicates the starting or ending of the program, process, or interrupt program
	Flow Lines	Shows direction of flow.

## Coffee Example



- To look at
- To examine in detail to explain and interpret



## ANALYSE

- In Year 7 you will be Analysing 2 different Design Movements.
- You will analyse both the Arts & Craft and Memphis Design movements.
- Your analysis will help you when you Design.

### Memphis 1980's Design

Gaudy ornamental and decorative products

#### Founder's Philosophy:

Ettore Sottsass, the movement's leader, aimed to break free from conventional design rules and encourage individuality and creativity.

#### Design History

- Art Nouveau; fluid, curves, floral
- Art Deco: geometry, streamlining, patterns

#### Inspiration

Memphis took its inspiration from Pop Art, Art Deco (patterns) and 1950's kitsch. Their main aim was to reinvigorate Design and develop a new creative approach to design.

#### Impact

Many people found the products tasteless, but others considered them groundbreaking in SCLPT. (Shape, Colour, Line, Pattern, Texture)

#### Legacy:

Memphis design remains influential and is often revisited in contemporary design, particularly in the postmodern and avant-garde design movements. It continues to inspire designers worldwide.

#### Key Products:

Iconic Memphis design products include the "Carlton" bookshelf by Ettore Sottsass, the "Super" lamp by Martine Bedin, and various furniture pieces characterized by bold patterns and eccentric forms.

#### Global Reach:

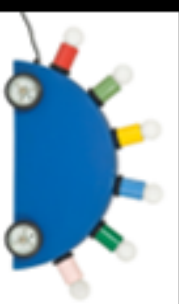
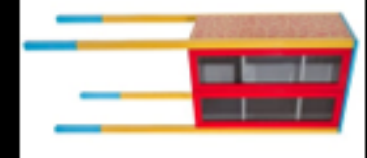
While it originated in Milan, the Memphis design movement quickly gained international recognition, shaping design trends worldwide.

#### Relevance Today:

Memphis design remains a symbol of rebellion against design norms and continues to captivate designers and collectors seeking unique and expressive creations.

### Design in the style of Memphis

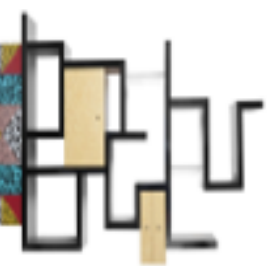
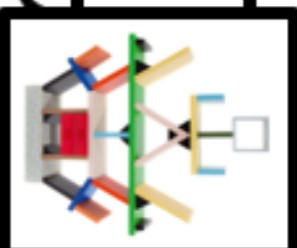
**Bold Colours:**  
Memphis designs often feature vibrant and contrasting colours, such as primary and neon hues.



**Geometric Patterns:**  
Use of geometric shapes and patterns, including triangles, circles, and zigzags.



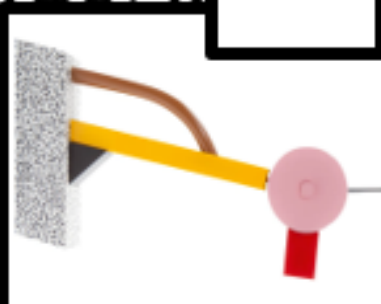
**High visual impact.**  
"Less is a bore."  
Visual impact with minimum regard to function.



**Asymmetry: Rejecting traditional symmetry,** Memphis designs embrace irregular and asymmetrical shapes.

**Playfulness:**  
Incorporates a sense of humour and whimsy into design elements.

**Kitsch**  
Decorative, tacky, without style or purpose but enjoyed as they are fun.



To put together  
Practical activity

1. Assemble
2. Build
3. Construct



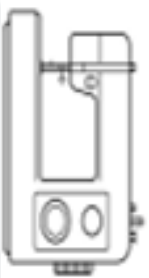
## MAKE

In Year 7 we will be making a Blockhead.

You will use tools to make the parts.

It will be made from pine.

Key Concepts		Standard of making	
<ul style="list-style-type: none"> <li>• Alignment</li> <li>• Aligned</li> <li>• Align</li> </ul>	<p>My features are aligned; this means they have been placed in a straight line.</p>		<p>High Quality</p> <ul style="list-style-type: none"> <li>• The very best</li> <li>• Highest standard</li> </ul>
<ul style="list-style-type: none"> <li>• Assembled</li> <li>• Assemble</li> <li>• Assembly</li> </ul>	<p>My body parts have been assembled; this means they have been joined together using a dowel joint.</p>		<p>Quality</p> <p>The grade of excellence</p> <ul style="list-style-type: none"> <li>• How good something is / looks</li> <li>• How well it is made</li> </ul>
<ul style="list-style-type: none"> <li>• Accuracy</li> <li>• Accurate</li> </ul>	<p>My parts are the same size and shape this means they have been made with no errors.</p>		<p>Skilful</p> <ul style="list-style-type: none"> <li>• Confident to undertake the task without support</li> <li>• Task completed correctly</li> </ul>
<p>Material = Pine</p> <ol style="list-style-type: none"> <li>1. Evergreen tree</li> <li>2. Softwood; easy to cut and shape</li> <li>3. Softwood; easily dented</li> <li>4. Wood grain can enhance appearance of a product</li> <li>5. The life rings within pine are closer together as it grows quickly</li> </ol>			
<p><b>Skill</b></p> <ul style="list-style-type: none"> <li>• An ability that comes from training</li> <li>• Something you can get better at</li> </ul>			
<p>When measuring use Steel Rule</p>	<ol style="list-style-type: none"> <li>1. Starts at 0mm</li> <li>2. Measures in millimetres. 10mm = 1cm</li> <li>3. Not used to project lines</li> </ol>		
<p>When measuring angles use a Try Square</p>	<ol style="list-style-type: none"> <li>1. Use to project a line at 90 degrees</li> <li>2. Align the edge flush against the wood</li> <li>3. Use a sharp pencil to project the 90 degree line</li> <li>4. Use to check the angle of cut parts</li> </ol>		
<p>When cutting use a Tenon Saw</p>	<ol style="list-style-type: none"> <li>1. Steel blade</li> <li>2. Teeth point away from the handle</li> <li>3. Cuts on the push</li> <li>4. Used to cut Pine and other Timbers</li> <li>5. Spine helps the blade to not bend when cutting</li> </ol>		
<p>When shaping use a Rasp then a flat file</p>	<ol style="list-style-type: none"> <li>1. The rasp is rough to remove materials</li> <li>2. The surface texture looks like a raspberry</li> <li>3. Use the face of the rasp to remove the material</li> <li>4. The flat file removes smaller finer amounts of material</li> </ol>		



## TEXTILES

A plan or drawing produced to show the look and function of a decorative pattern.

1. Pattern
2. Motif
3. Arrangement

## PATTERN



- In Year 7 we will DESIGN a Pattern for the front of the pencil wrap
- You will DESIGN a stencil to use as a repeat template

### Pattern

- Repeat: Is the amount of space from where a pattern begins, and then begins again.
- Types of pattern repeat: Block Repeat, Half Drop Pattern Repeat, Brick Pattern Repeat, Random Pattern Repeat.



Block Repeat



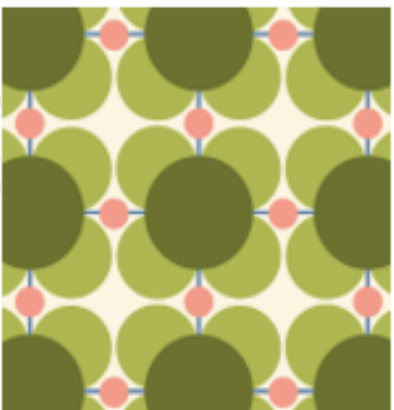
Half Drop Pattern Repeat



Brick Pattern Repeat



Random Pattern Repeat



Block Repeat



Block Repeat



### Quality

- The grade of excellence
- How good something is
- How good it looks
- How well the pattern repeats



### High Quality

- The very best
- Highest standard

### Skilful

- Confident to undertake the task without support
- Task completed correctly

### Skill

- An ability that comes from training
  - Something you can get better at
- The skills in this project are:  
Drawing 2D shapes, pattern repeats, applying colour.



### When Designing a pattern:

1. Extract 2D organic and geometric shapes
2. Create a template of the shape to be repeated
3. Consider how the pattern will repeat i.e. Block, 1/2 drop etc
4. Think about the type of product the pattern will be used on



## TEXTILES

- To look at
- To examine in detail to explain an interpret

1. Psychedelic intense colours
2. wiggling lines
3. blending of objects that appear to be melting and oozing into each other

## ANALYSE

- In Year 7 we will ANALYSE a the designer MILTON GLASER
- You will ANALYSE his designs to create a patten design of your own

Psychedelic design is an art form that tends to have intense colours, free-flowing lines, and kaleidoscopic patterns

### Milton Glaser Design

**Founder's Philosophy:**  
Milton Glaser, felt that as a designer he was in the business of persuasion and could bring about change. He aspired to put his skills towards a worthy cause, even if success was not guaranteed.

#### History

Milton was born in The Bronx, New York City. His parents, were Hungarian Jewish immigrants. The family resided in the South Bronx. His father owned a dry-cleaning and tailoring shop; his mother was a homemaker.

#### Inspiration

Italian painter Giorgio Morandi, influenced Glaser. "Morandi was one of those artists who, the longer you look at him, the more you grow in your appreciation, the more you understand," Glaser said

#### Impact

Milton Glaser is credited for the creation of the famous Push Pin movement which is characterized by strong outlines, bright colours, and slightly exaggerated forms.

#### Legacy:

One of Glaser's most recognizable works is his 'I Love New York' logo. Its aim was to increase tourism as New York was seen to be a dangerous place to visit.

#### Key Products:

In 1966, Glaser designed a poster for *Bob Dylan's Greatest Hits*. It was one of Glaser's first posters. The poster shows the profile of Dylan's face with psychedelic, swirly hair, with "Dylan" written at the bottom in Baby Teeth, one of Glaser's typefaces.

#### Global Reach:

Throughout his career, Glaser has been a creator of posters and prints. His artwork has been featured in exhibits worldwide, including one-man shows at both the Centre Georges Pompidou in Paris and the Museum of Modern Art in New York.

#### Relevance Today:

Again and again, he stressed the importance of continuing to learn. "We are all born with genius," he said. "It's like our fairy godmother. But what happens in life is that we stop listening to our inner voices, and we no longer have access to this extraordinary ability to create."



**Bold Colours:**  
Milton often used vibrant and contrasting colours.

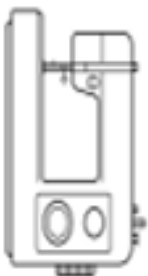


**Organic Patterns:**  
Use of Organic shapes and patterns, including wavy and curved lines.





To put together  
Practical activity



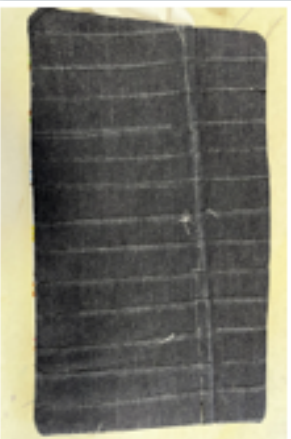
- In Year 7 we will be making a Pencil Wrap
- You will use tools to make the parts
- It will be made from Cotton

1. Assemble
2. Build
3. Construct

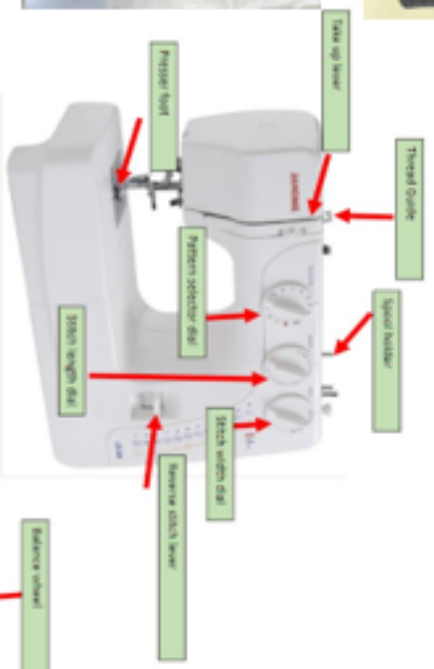
## TEXTILES

### MAKE

- Cotton**
- Natural
  - Grows on a plant
  - Absorbent; will soak up liquid
  - Can be dyed lots of different colours



- Pencil wrap**
- Parallel: My pouches are parallel; this means the sewn lines are the same distance apart
  - Seam allowance: The main parts have been sewn using a seam allowance of 1.5cm; this means they are strong and won't come apart



- High Quality**
- The very best
  - Highest standard



- Quality**  
The grade of excellence
- How good something is
  - How good it looks
  - How well it is made

- Skilful**
- Confident to undertake the task without support
  - Task completed correctly



- Skill**
- An ability that comes from training
  - Something you can get better at
- The skills in this project are:  
Measuring / Sewing in a straight line, sewing 90-degree corners, Hand sewing

- When sewing use a;  
**Sewing Machine**
1. Sharp needle
  2. Take-up lever pulls the thread through the machine
  3. Different types of stitch patterns
  4. Used to sew lots of different types of fabrics
  5. Balance wheel can move the position of the needle



## Year 7 Knowledge Organiser – Cluedo

### Cluedo

You will be exploring making a piece of drama based in a different time. We will be using the characters of Cluedo as we explore a murder mystery.

Tasks for this topic:

- Create information for each character to help you play them more successfully
- Highlight key moments in a scene to an audience
- Use performance skills to act as characters from different time periods



Performance Techniques	
Role on the Wall	A collaborative activity for developing thoughts and ideas about a character
Marking the Moment	A freeze in the middle of a scene that highlights an important moment
Hot Seating	Asking question to an actor who must answer in role
Flashback	Showing the audience an important moment in a story that happened in the past

## Year 7 Knowledge Organiser – Greek Theatre

### Greek Theatre

You will be exploring where modern-day drama began, in Ancient Greece. You will explore how the Greek's told their stories to large audiences and the skills needed to be able to do this successfully

#### Tasks for this topic:

- Exploring a historical form of acting that had included drama today.
- Looking at the difference between comedies and tragedies
- Performing both vocally and physically as a Greek Chorus



Performance Techniques	
Choral Speaking	Ensemble speaking by a group often using various voice combinations
Choral Movement	Movement that is performed in unison.
Comedy	A play characterized by its humorous or satirical tone and its depiction of amusing people or incidents
Tragedy	A play dealing with tragic events and having an unhappy ending

YEAR 7 SPRING TERM KNOWLEDGE ORGANISER:  
FINDING MYSELF  
POETRY AND NON-FICTION

Understanding Poetry

Stanza

A group of lines in a poem.

THE WRITER OF THIS POEM

By Roger McGough

The writer of this poem  
Is taller than a tree  
As keen as the North Wind  
As handsome as can be

As bold as a boxing-glove  
As sharp as a nib  
As strong as scaffolding  
As tricky as a fib

As smooth as lolly-ice  
As quick as a lick  
As clean as a chemist-shop  
As clever as a tick

The writer of this poem  
Never ceases to amaze  
He's one in a million billion  
(or so the poem says!)

Rhyme Scheme

The pattern / order  
of rhyming words in  
a poem. This  
example follows  
ABAB

Other Types of Poetry

Acrostic

Stars up in the sky  
They sparkle with love  
All so glorious  
Radiant above

Haiku

An Old Pond

old pond.....  
a frog leaps in  
water's sound

Understanding Letters

Your Address

Date

Their Address

Dear ...,

Introduction: A Hellish World

Main Body: Our Reality

Conclusion: A Heavenly World

Yours faithfully, ...  
OR  
Yours sincerely, ...

YEAR 7 SPRING TERM KNOWLEDGE ORGANISER:  
FINDING MYSELF  
POETRY AND NON-FICTION

Universal Themes

Love



Hope



Compassion



Big Ideas

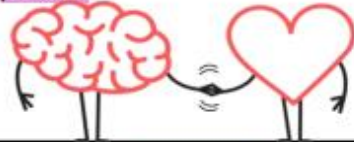
Pride

Dignity or self-respect AND a feeling of deep pleasure or satisfaction when you have done something well.



Empathy

To be able to understand and share in the feelings of another person.



Inclusivity

Providing equal access to opportunities and resources for everyone, especially those who might be excluded.



Prejudice

An unfavourable opinion or dislike formed without examining the facts fairly.



Tolerance

Willing to accept other people's behaviour and opinions even if you do not agree with them.



Self-Esteem

Having confidence in your own worth or abilities; self-respect.



Context – We must understand the influences of the world we live in when examining texts.

Understanding what we are Studying

- These writers are from different times and places. They use poetry and language to present experiences and explore meaningful issues.
- The natural world is an incredible wonder that inspires us all.
- It is important to be proud of what we achieve for yourself and what we can do to help others.

Roger McGough

He is an English poet, performance poet, broadcaster, children's author and playwright.



His poems have a brilliant knack for taking things we recognise – places, people, situations – and giving them a spin so that we see them in new ways.

In his poem, *The Writer of this Poem*, he uses a series wild and wonderful similes to describe himself.

Emily Dickinson

She was an American poet. She is regarded as one of the most important figures in American poetry.



Dickinson was born in Amherst, Massachusetts, into a prominent family with strong ties to its community.

In her poem, *Hope is the Thing with Feathers*, she compares hope to a bird; it is always present in the soul, perched and singing. Although hope fights for us, it never asks anything in return.

Benjamin Zephaniah

He was a British poet, actor, musician and professor of poetry and creative writing.



In his work, he drew on his lived experiences of racism and his Jamaican heritage.

In his poem, *We Refugees*, he reflects on the process of becoming a refugee, stating that it can happen to anyone.

John Agard

He is a Guyanese poet, playwright and children's writer.



He worked for the Commonwealth Institute promoting Caribbean culture.

In his poem, *Windrush Child*, a young boy is waving goodbye to all he's ever known. He and his parents are stepping into an adventure across the ocean in search of something new.

# YEAR 7 SPRING TERM KNOWLEDGE ORGANISER: FINDING MYSELF

## TECHNICAL ACCURACY & KEY DEVICES

'WORLD' – OUR PERSUASIVE WRITING STRUCTURE		Device / Feature				
Part	Key Features	Device / Feature				
<b>INTRODUCTION: A HELLISH WORLD</b> 	<ul style="list-style-type: none"> <li>Your introduction begins your persuasive piece</li> <li>Use an 'imagine' sentence to put your reader in a hellish world</li> <li>Include pathos: emotive language and rhetorical questions</li> <li>Finish with your opinion on the topic</li> </ul>	<b>Imagery</b> Metaphors, similes, symbols 	<b>Alliteration</b> Repeated sounds at the beginning of successive words  <b>CUDDLING CATS</b>			
<b>MAIN BODY: OUR REALITY</b> 	<ul style="list-style-type: none"> <li>Your main paragraphs should include a problem, example and a solution</li> <li>You are aiming for three main paragraphs</li> <li>Begin with a topic sentence to establish the problem</li> <li>Include ethos, logos and pathos</li> <li>Use real-world examples</li> <li>End with a concluding sentence that gives a solution</li> </ul>	<b>Metaphor</b> Describing something by stating it is something else  <b>You Are My Sunshine</b>	<b>Personification</b> Giving living qualities to something non-human 			
<b>CONCLUSION: A HEAVENLY WORLD</b> 	<ul style="list-style-type: none"> <li>Your conclusion ends your persuasive piece</li> <li>Use a 'now imagine' sentence to put your reader into a heavenly world</li> <li>Include pathos</li> <li>Finish with your final opinion on the topic</li> </ul>	<b>Simile</b> Comparing something to something else: 'as', 'like'  <b>YOU'RE AS SWEET AS Honey</b>	<b>Direct Address</b> Speaking directly to the audience / reader 'you' 			
		Punctuation		<b>Common Homophones</b>		
		Apostrophes	Commas			There  The They're
		To show that letters are missing in a word To show possession 	- Separating three or more items in a list - After a fronted adverbial - Before and after a subordinate clause (like brackets) - After subordinate clauses and phrases that begin a sentence 	Your  You're		
Word Classes						
<b>Adjective</b> Describes a noun or pronoun. Blue / young / powerful 	<b>Adverb</b> How, when or where something happens. Furiously / yesterday / here 	<b>Preposition</b> Where something is; the time, direction or cause of something. On / under / above 	<b>Pronoun</b> Words that replace nouns or noun phrases. She / he / they 	<b>Noun</b> Person, place, thing, idea or state of being. Manchester / cat / love 	<b>Verb</b> An action or state of being. Jump / write / be 	Its It's
				Which  Witch		

To put together  
Practical activity

1. Assemble
2. Mix
3. Stir



**FOOD  
&  
NUTRITION**

**MAKE**

In Year 7 we will be making a dough.  
You will use equipment to make.  
It will be made following a recipe.

**Knife Skills and Techniques**



**Claw Method:** Make a claw with your hand by curling your fingers and then place the knife near your claw sliding it away from the knife as you slice each piece

**Bridge Method:** Make a bridge with your fingers and thumb, place the knife underneath and cut downwards, repeat to cut ingredients to size.



**Hygiene rules in the food room**  
Wash your hands with anti-bacterial soap  
Wear a clean apron  
Tie hair up  
Make sure your nails are clean and nail varnish  
Cover cuts and sores with a blue plaster  
Clean work surfaces with sanitiser  
Use clean dishcloths and tea towels  
Make sure all equipment has been cleaned thoroughly in hot soapy water



Key Terms	Description	
<b>Gluten</b>	A protein found in wheat flours, that make doughs elastic.	
<b>Yeast</b>	A microorganism that can spoil food but is used as a raising agent in baking. Requires food, warmth, time and moisture to release carbon dioxide.	
<b>Kneading</b>	Stretching the dough to develop the gluten and create an elastic dough.	
<b>Proving</b>	The dough is left to rise to allow the yeast to ferment.	
<b>Fermentation</b>	The process of fermentation is where yeast is given food, time, warmth and moisture to grow and produce carbon dioxide gas.	
<b>Baking</b>	During baking the heat sets the gluten and stops the yeast from working which allows the bread to set and hold its shape.	
<b>Knocking back</b>	When you knock back a dough you are creating a evenly textured dough by releasing some gas before leaving to prove again.	

**Vegetable cuts**



**batons** – 5-6.5cm long x 1 cm square



**julienne/match stick** – 5-6.5cm long x 3 mm square



**dice** – 1cm square



**fine julienne** – 5-6.5cm long x 1.5mm square

To review  
To look back at

1. Discuss
2. Compare
3. Judge



**FOOD  
&  
NUTRITION**

**EVALUATE**

In Year 7 we will be **evaluating**  
your cooking skills  
You will **evaluate** the nutritional  
information linked to your dishes



#### The Eatwell Guide

- Comprises 5 main food groups.
- Is suitable for most people over 2 years of age.
- Shows the proportions in which different groups of foods are needed in order to have a well-balanced and healthy diet.
- Shows proportions representative of food eaten over a day or more.

#### 8 tips for healthier eating

- These eight practical tips cover the basics of healthy eating, and can help you make healthier choices.
1. Base your meals on starchy carbohydrates.
  2. Eat lots of fruit and veg.
  3. Eat more fish – including a portion of oily fish.
  4. Cut down on saturated fat and sugar.
  5. Eat less salt (max. 6g a day for adults).
  6. Get active and be a healthy weight.
  7. Don't get thirsty.
  8. Don't skip breakfast.

#### Fruit and vegetables

- This group should make up just over a third of the food eaten each day.
- Aim to eat at least five portions of a variety each day.
- Choose from fresh, frozen, canned, dried or juiced.
- A portion is around 80g (3 heaped tbs).
- 30g of dried fruit or 150ml glass of fruit juice or smoothie count as a max of 1 portion each day.

#### Beans, pulses, fish, eggs, meat and other protein

- Sources of protein, vitamins and minerals.
- Recommendations include to aim for at least two portions of fish a week, one oily, and; people who eat more than 90g/day of red or processed meat, should cut down to no more than 70g/day.

#### Hydration

- Aim to drink 6-8 glasses of fluid every day.
- Water, lower fat milk and sugar-free drinks including tea and coffee all count.
- Fruit juice and smoothies also count but should be limited to no more than a combined total of 150ml per day.

#### Potatoes, bread, rice, pasta or other starchy carbohydrates

- Base meals around starchy carbohydrate food.
- This group should make up just over a third of the diet.
- Choose higher-fibre, wholegrain varieties.

#### Oil and spreads

- Unsaturated fats are healthier fats that are usually from plant sources and in liquid form as oil, e.g. olive oil.
- Generally, people are eating too much saturated fat and need to reduce consumption.

#### Fibre

- Dietary fibre is a type of carbohydrate found in plant foods.
- Food examples include wholegrain cereals and cereal products; oats; beans; lentils; fruit; vegetables; nuts; and; seeds.
- Dietary fibre helps to: reduce the risk of heart disease; diabetes and some cancers; help weight control; bulk up stools; prevent constipation; improve gut health.
- The recommended average intake for dietary fibre is 30g per day for adults.

#### Dairy and alternatives

- Good sources of protein and vitamins.
- An important source of calcium, which helps to keep bones strong.
- Should go for lower fat and lower sugar products where possible.

#### Foods high fat, salt and sugar

- Includes products such as chocolate, cakes, biscuits, full-sugar soft drinks, butter and ice cream.
- Are high in fat, sugar and energy and are not needed in the diet.
- If included, should be had infrequently and in small amounts.

To find out more, go to:

<https://bit.ly/2QzUMfe>



# Map Skills

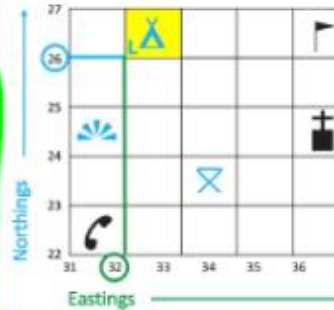
## MAP SYMBOLS

Symbols are useful for lots of reasons including, space saving on a map, multi-lingual (all languages can understand them), saves time, clear.



## 4 FIGURE GRID REFERENCES

Along the edges of each map there are numbers. These numbers help you work out where a location is on a map. Northings are numbers that go from bottom to top, Eastings go from left to right.



The first two numbers give the eastings.

32 26

The second two numbers give the northings.

Remember... eastings then northings!

Along the corridor and up the stairs!

## 6 FIGURE GRID REFERENCES

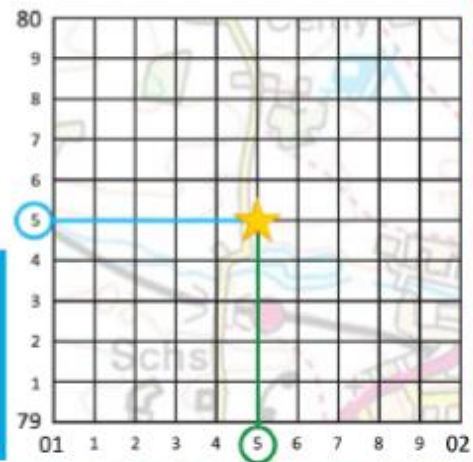
We can use six-figure grid references to find an exact location within a grid square, so they are much more accurate. The grid square is divided into tenths.

Example:

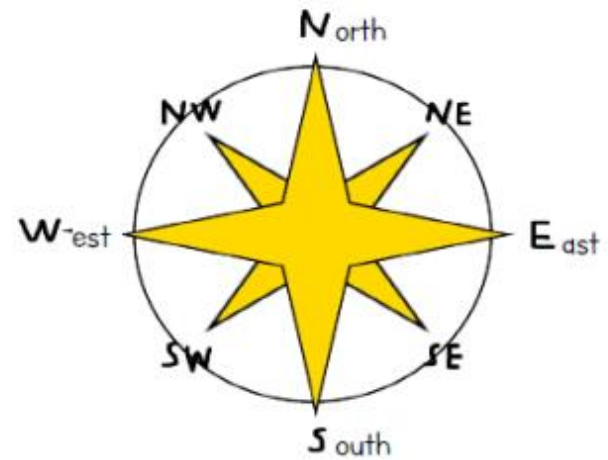
015 795

The first three numbers give the easting which includes the number of tenths.

The last three numbers give the northing which includes the number of tenths.



## COMPASS POINTS

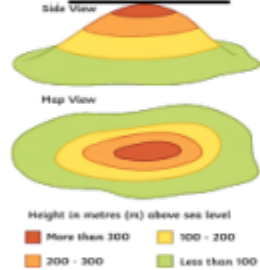


## HEIGHT AND RELIEF

**RELIEF** the difference between the highest and lowest heights of an area

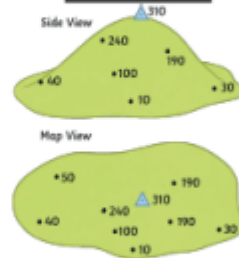
**TOPOGRAPHY** the surface features of the earth like hills, mountains, valleys etc.

### LAYER SHADING



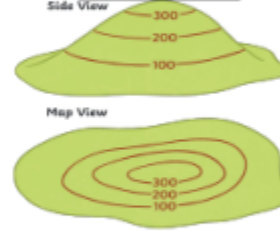
Areas of different heights are shown using different colours. A key is used to show how high the land is.

### SPOT HEIGHTS



The exact height of a place above the ground is measured and written onto a map.

### CONTOUR LINES

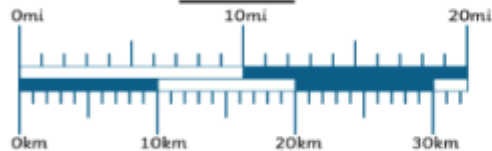


Contour lines are lines on a map which join up places of the same height. Everywhere along a contour line is the same height.

## SCALE AND DISTANCE

OS maps have a scale. On some smaller maps, 1cm on the map equals 250m in real life. On some larger maps, 1cm on the map equals 500m. Different maps might have different scales, so check on your map to find its scale.

### LINE SCALE



Using a line scale on a map is as easy as using a ruler. The important thing to remember is that a line scale shows measurements in km and the measurements on a ruler are in cm.

### WORD SCALE

**One centimeter on the map represents 3 kilometers on the ground. (1cm = 3 km)**

Using the scale above, if we measure the distance on a map between two places with our ruler. The measurement is 4cm. We then have to multiply that measurement by 3 to calculate that the real distance between the two places is 12km.

## Key Terms

**Ordnance Survey** – The official government organisation responsible for producing maps in the UK.

**Topography** – This is about the height and shape of the land.

**Grid Reference** - A grid reference is a location on a map, which is found using the northing and easting numbered lines.

**Scale** – shows how much bigger the real world is than the map. If the scale is 1:50,000 it means that the map is 50,000 times smaller than the real world.

**Relief** – is the term geographers use to describe the shape of the land, including the height and steepness

**Contour Line** – A line drawn on a map which joins places of the same height.

[BBC Bitesize Revision Clickable Link](#)

[GeoBytes Revision Clickable Link](#)

# RIVERS

## RIVER PROCESSES

**EROSION** where rocks are worn away and the land changes shape.

**TRANSPORTATION** where eroded material is carried by the river downstream.

**DEPOSITION** where transported material is dropped when the river loses energy, such as when it enters the sea.

## DRAINAGE BASIN

### SOURCE

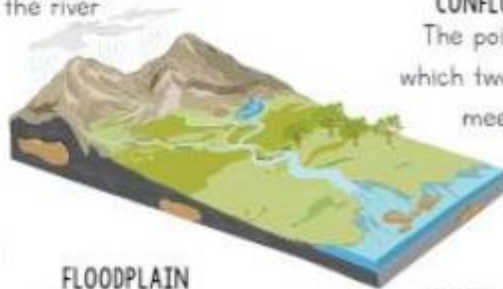
The origin of the river

### CONFLUENCE

The point at which two rivers meet.

### TRIBUTARY

Smaller streams/ rivers that flow into a larger one.



### FLOODPLAIN

Flat land along the river that is prone to flooding

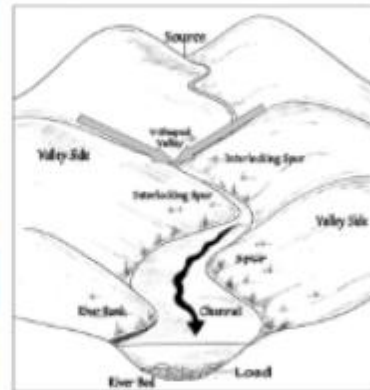
### MOUTH

The end where the river meets the sea.

## THE UPPER COURSE

### FEATURES

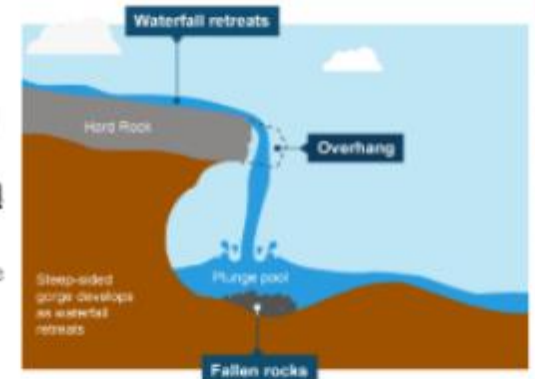
Steep-sided V-shaped valleys, interlocking spurs, rapids, waterfalls and gorges.



When a river is near its source, it often develops a V-shaped valley as the river erodes down (this is called **vertical erosion**).

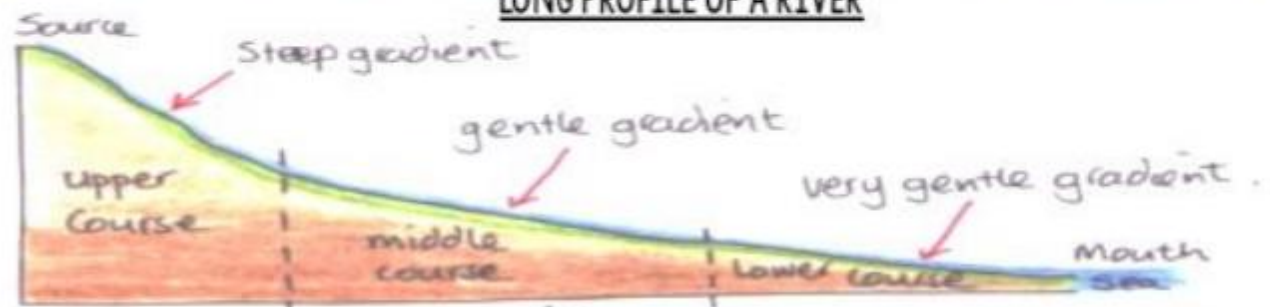
At the same time, weathering breaks up material on the valley slopes. Weathered material from the valley sides gets deposited in the river.

1. The soft rock erodes more quickly, **undercutting** the hard rock.
2. The hard rock is left **overhanging** and eventually collapses.
3. The fallen rocks crash into the **plunge pool**. They swirl around, causing more erosion.
4. Over time, this process is **repeated** and the waterfall moves upstream.
5. A steep-sided **gorge** is formed as the waterfall retreats.



## LONG PROFILE OF A RIVER

There are **3 courses** to the river. The **upper, middle and lower**. The start of the river is called the **SOURCE** and the end is called the **MOUTH**.

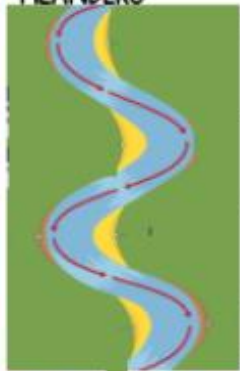


## THE MIDDLE COURSE

### FEATURES

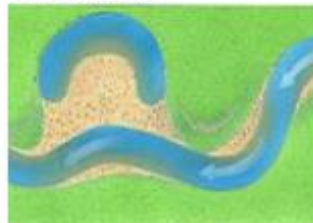
Wider, shallower valleys, meanders, and oxbow lakes

### MEANDERS



1. The formation of meanders is due to both **deposition** and erosion and meanders gradually move downstream.
2. The force of the water **erodes** and undercuts the river bank on the outside of the bend where water flow has most energy.
3. On the inside of the bend, where the river flow is slower, material is **deposited**, as there is more friction.
4. Over time the horseshoe become tighter, until the ends become very close together. As the river breaks through the ends join, the loop is cut-off from the main channel.
5. The cut-off loop is called an **oxbow lake**.

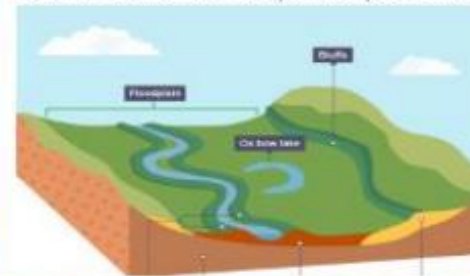
### OXBOW LAKE



## THE LOWER COURSE

### FEATURES

Wide flat-bottomed valleys, floodplains and deltas



A floodplain is the area around a river that is covered in times of flood. It is a very fertile area. This makes floodplains a good place for agriculture. A build-up of alluvium on the banks of a river can create levees, which raise the riverbank.

## FLOODING

A flood occurs whenever a river overflows its banks (exceeds its 'bankfull' discharge). However, a flood becomes a problem when the water rises to a level where it threatens property and/or life. Rivers usually flood due to a range of physical factors. These physical factors can be divided into **climatic factors** and **drainage basin characteristics**. **Human intervention** can also make flooding worse.

### HUMAN CAUSES OF FLOODING



### PHYSICAL CAUSES OF FLOODING



## BOSCASTLE



### CAUSES

There was a spell of heavy localised rainfall - 89 mm of rain fell in an hour on saturated ground from previous rainfall. Topography of the land. The landscape upstream of Boscastle, a steep-sided valley, acted as a funnel directing vast volumes of water into the village.

### WHAT HAS BEEN DONE?

- £45 million has been spent on a flood defence scheme.
- The scheme incorporates drainage, sewerage systems and land re-grading.
- Boscastle car park has been raised in height, which will stop the river from bursting its banks so easily.
- New drains allow water to run into the lower section of the river quickly.
- The river channel has been made deeper and wider so that it can accommodate more water.

### Flood Management

- **When a river floods it can cause damage and destruction to both the environment and the economy.**
- There are **2 types** of management, **HARD** and **SOFT engineering**.
- **Hard engineering** is man-made, used to control the river, can be expensive and less sustainable. E.g. dams and reservoirs and river straightening.
- **Soft engineering** involves adapting to a river, more natural, cheaper, more sustainable. E.g. Afforestation and floodplain zoning.

Key things I need to know	
✓	How important was religion in the Middle Ages?
✓	Why were medieval monarchs challenged?
✓	Where did our Parliament come from?

Key Concepts 	
1. Cause	The reason something happens
2. Rights	A moral or legal entitlement to something
3. Interpretation	One person's opinion of an event or person
4. Church	The word used to describe the Christian religion all over the world. In medieval times this meant the Roman Catholic Church.
5. Parliament	Controls the country and is made up of the monarch, Lords and Commons.
6. Crusade	A holy war

**What did Europeans get from the Crusades?**

Technology & weapons	New castle designs, a huge catapult called the trebuchet, Greek fire balls and more archers. An improved focus on education, mirrors, surgical tools and compasses.
Knowledge	The numbers system (rather than Roman numerals) making maths easier, chess and new medical treatments.
Products	Foods such as lemons and apricots. Cotton, silk and slippers which became a sign of wealth and power in Europe.

**Why was religion so important to people?**

During this time, "the Church" is referring to the Roman Catholic Church.

The Church was a focal point for people in Medieval England, people lived and acted in accordance to the Church because of the beliefs around the impact of not doing so.

People believed that most bad things that happened in the country was because God was unhappy with England and how people were living. For example, if the country had a bad harvest or people came down with an illness, people believed that this was sent by God.

In addition, the use of 'Doom paintings' caused people to become very scared of the idea of going to hell as the paintings showed what horrible things happen to those in hell.



**What was the structure of the Church?**

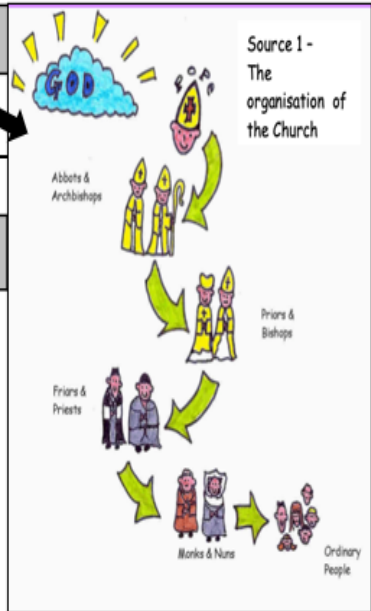
The Church had a strict structure, and the head of the Church was the Pope who lived in Rome.

**The Crusades**

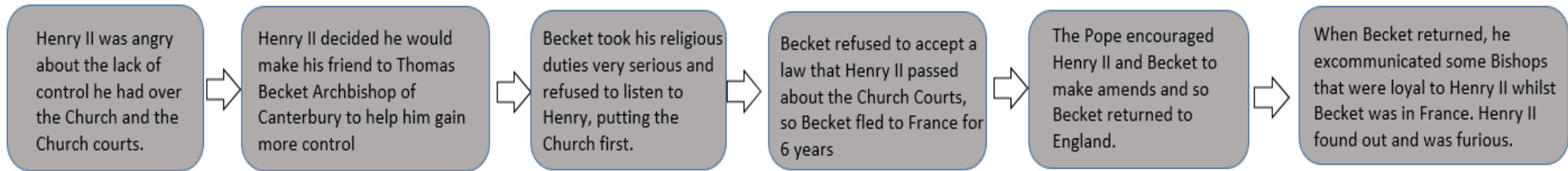
The Crusades were a number of holy wars. Christians from Europe travelled to the Jerusalem to take back the Holy Land from Muslims.

**Why did people go?**

- The Pope told people it was their Christian duty to take back the Holy Land.
- People thought it would help them to get into Heaven.
- The Pope promised that the sins of Crusaders would be forgiven.
- People wanted to gain wealth and land in the Holy Land.



## Thomas Becket and King Henry II



### Why did the Barons rebel against King John?

King John is often called 'the worst of all our kings.' He did a lot of things to make his barons unhappy including:

- He lost land in France including Normandy, Maine and Anjou.
- He demanded money and soldiers from his barons to regain the land he had lost.
- He imposed taxes more often than other kings and he punished barons with heavy fines as a way of making money.
- He argued with the Pope leading the Pope to close all churches in England, putting his people's souls in danger.

### Magna Carta 1215

As a result of King John being so unpopular he was forced to sign a document called the Magna Carta in an attempt to make him a better king.

At the time, some **people thought that the Magna Carta was not significant** because:

- It did not really limit the power of medieval kings very much.
- It only applied to rich men like barons. It did not apply to peasants.

**BUT Magna Carta was significant** in some ways:

- The Magna Carta introduced the idea that there are laws that the king must accept.
- The Magna Carta meant that the king had to ask for the advice of the barons and the bishops.
- The clause which says we cannot be punished without a fair trial still applies today.



### The Siege of Rochester Castle

- Rochester is an important strategic spot for defense and communication.
- With its great keep, square and massive and one of the tallest in the country, made of stone, measuring 35m high, the tallest in England, and is 22m square.
- The walls of the Castle are between 3.5-4m thick.

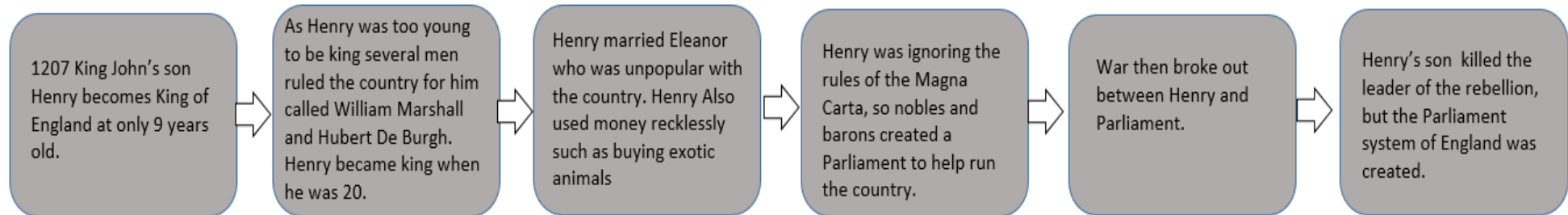
#### What happened?

- In October 1215, some Barons who were extremely unhappy with King John due to him frequently requesting higher taxes to pay for his unsuccessful wars decided to capture Rochester Castle along with 100 well armed knights.
- Rochester Castle was one of King John's favourite castles. Due to the thick and tall walls John could not break through.
- John then decided to dig a tunnel underneath the castle and put 40 pigs in there.
- As pig fat is extremely flammable, he set fire to the pigs and due to the heat it brought down one of the towers of Rochester Castle.
- Knowing that King John had now broken through the castle the Barons surrendered.






### Where did our Parliament come from?


The British parliament consists of the King and two houses, the House of Commons and the House of Lords. The purpose of the parliament are to pass laws, to provide taxes and to control the actions of the government.



### Why did the Peasants' Revolt happen in 1381

Category	Changes
Black Death & jobs 	<ul style="list-style-type: none"> <li>• After the Black Death peasants got better wages, but Then the lords tried to lower wages again. They even created a new law called the Statute of Labourers to force wages down to what they had been before the Black Death.</li> </ul>
Poll Tax 	<ul style="list-style-type: none"> <li>• England had been at war since 1369, so the Poll Tax kept going up to pay for the war. Poll Tax is a tax everyone <u>has to</u> pay, even the poorest people.</li> <li>• Many peasants could not afford to pay it. In March 1381, the government demanded the third Poll Tax in four years and appointed commissioners to make everyone pay.</li> <li>• In May 1381, peasants' attacked tax collectors in Essex when they tried to collect the poll tax. These attacks soon spread.</li> </ul>
John Ball 	<ul style="list-style-type: none"> <li>• John Ball was a radical preacher who spoke out against the Feudal System and the Church.</li> <li>• He had been excommunicated in 1366, for suggested that society should not be organised by a class system and instead people should be equal.</li> <li>• Medieval society regarded the monarchy and nobility as more important than the peasants, yet Ball preached that God saw everyone as equal, and that peasants were unfairly treated.</li> <li>• His ideas encouraged peasants to demand changes.</li> </ul>

Key things I need to know	
✓	Who were the Tudors?
✓	Why did Henry VIII want to break with Rome?
✓	Why did Henry VIII dissolve the monasteries?

Key Concepts 	
<b>1. The Break with Rome</b>	When the English Church broke away from the authority of the Catholic Church and the Pope.
<b>2. Pope</b>	The leader of the Roman Catholic Church
<b>3. Protestant</b>	A Christian Church created by Henry VIII meaning that the Pope no longer controlled religion in England.
<b>4. Church</b>	The word used to describe the Christian religion all over the world. In medieval times this meant the Roman Catholic Church.
<b>5. Church of England</b>	A Christian Church created by Henry VIII meaning that the Pope no longer controlled religion in England.
<b>6. Monastery</b>	Religious buildings where communities of religious men known as monks live.



**Who were the Tudors and Stuarts?**


*House of Tudor*  
1485-1603

*House of Stewart*

\*Please note that the house of Stuart can be spelt two different ways; Stuart or Stewart.

**Why did Henry Break with Rome?**

<p><u>Son</u> </p> <p>Henry was in desperate need for a son to be his heir. His first wife Catherine of Aragon had only managed to produce a daughter (Mary). He also feared that Catherine was too old to have any more children. He therefore wanted a divorce from Catherine for the chance of having a son, but the Pope would not allow this.</p>	<p><u>Divorce</u> </p> <p>Henry VIII realised that he in fact loved Anne Boleyn and not his current wife Catherine. However, Anne said she would not be with Henry whilst he was still married and the Pope would not allow Henry to divorce Catherine.</p>
---	--

Dissolution of the monasteries 

Henry wanted to make sure he had control of England and closed or sold over 800 monasteries. Henry's income doubled from 120,000 to 250,000 per year from the income he gained from churches. He also introduced the Act for First Fruits and Tenths in 1534 where all taxes that would usually go to the Pope now went to Henry.

Investigators such as Thomas Cromwell discovered that monks were not living the life that monks were supposed to live as some had wives and children.

Also, many monks were loyal to people outside of England and not to Henry so he created the Act of Treason in 1534 which meant that people could not go against when the King or Queen was saying about God.

Henry thought that the monasteries were a barrier to him having power over religion as lots of the monks that lived there were still loyal to the Pope and not Henry.





# Cancellation to simplify

## Component Knowledge

- To be able to simplify fractions using highest common factors

## Key Vocabulary

Fraction	A fraction is made up of a numerator (top) and a denominator (bottom).
Equivalence	Two fractions are equivalent if one is a multiple of the other.
Simplify	Cancel a fraction down to give the smallest numbers possible.

## labelling="Cancelling to simplify" data-bbox="709 376 726 531">Cancelling to simplify

If a numerator and denominator share a multiplication factor they can be cancelled

### Example

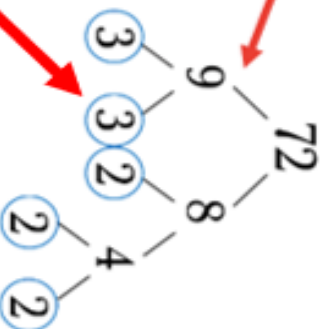
$$\frac{2 \times \cancel{3} \times \cancel{3}}{3 \times \cancel{3} \times \cancel{3}} = \frac{2}{3}$$

### Prime Factors

To be able to cancel the factors it helps to write your numerator as a product of its prime factors

Reminder:

Write 72 as a product of its prime factors



We need to find pairs of numbers that multiply to give the number

When you get a prime number circle it.

Online clips

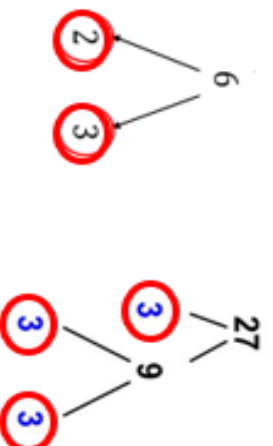
M823, M108

### Example

Simplify

$$\frac{6}{27}$$

First write the numerator and denominator as a product of their prime factors



$$\frac{6}{27} = \frac{2 \times \cancel{3}}{\cancel{3} \times 3 \times 3} = \frac{2}{3 \times 3} = \frac{2}{9}$$

# Fractions of Amounts



## Amounts

### Component Knowledge

- To calculate fractions of amounts

### Key Vocabulary

Fraction	A way of writing a part of an integer (whole number).
Numerator	The top number in a fraction - the number of parts of the whole we have/want.
Denominator	The number of equal parts the whole has been divided into equally.
Of	Means parts of or multiply.

### Fractions of Amounts - non-calculator

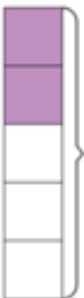
Find  $\frac{2}{5}$  of 120

120



Draw a bar model

120



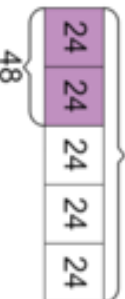
Shade  $\frac{2}{5}$  of the bar

120



Divide 120 (amount) by 5 (number of parts) = 24

120



Two parts equal  $2 \times 24 = 48$

### Fractions of Amounts - Money

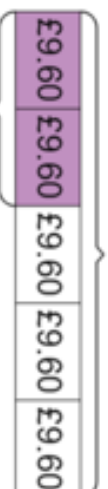
Find  $\frac{2}{5}$  of £48

$$48 \div 5 = 9.6$$

**Remember money is shown to 2dp**

$$\text{so, } 9.6 = \text{£}9.60$$

£48



### Fractions of Amounts - calculator

Find  $\frac{3}{8}$  of £250

Type  $\frac{3}{8} \times \text{£}250$  into your calculator



Answer = £93.75

Online clips

M695, M684

# Equivalent fractions



## Component Knowledge

- To understand fractions are part of a whole.
- To be able to calculate equivalent fractions
- To use equivalent fractions to compare the size of fractions.

## Key Vocabulary

Fraction	A way of writing a part of an integer(whole number).
Numerator	The top number in a fraction- the number of parts of the whole we have/want.
Denominator	The number of equal parts the whole has been divided into equally.
Equivalent	Means equal to.

**Fractions** - can be written numerically or as diagrams.



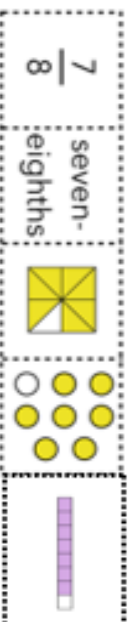
$\frac{1}{2}$  means 1 part out of 2 parts of the whole

Number of parts you have/want

numerator

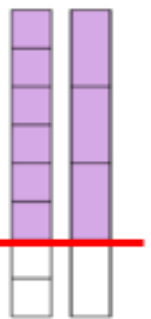
denominator

Number of equal parts in total



$\frac{7}{8}$  means 7 parts out of 8 parts

**Equivalence** - some fractions are equal in size, even when they look different.



The bars show  $\frac{3}{4} = \frac{6}{8}$ . You can see they have the same size, even though the parts in the bars are different sizes.

To calculate equivalent fractions, we need to multiply or divide by a common number.

**Find**  $\frac{2}{5} = \frac{\quad}{20}$

We need to find the number we multiply 5 by to get the answer of 20. This is 4 ( $5 \times 4 = 20$ ).

$\frac{2}{5} \times \frac{4}{4} = \frac{8}{20}$  So,  $\frac{2}{5} = \frac{8}{20}$ .

**Comparing** - to compare fractions, we need all fractions to have the same denominator.

Same denominator—compare the numerators

$$\frac{2}{8} < \frac{5}{8}$$

Change the denominator of one to match the other

$$\frac{2}{5} \text{ and } \frac{3}{10} \quad \frac{2}{5} \times \frac{2}{2} = \frac{4}{10} \quad \frac{2}{5} > \frac{3}{10}$$

Change both denominators to a common denominator

$$\frac{7}{8} \text{ and } \frac{5}{6} \quad \frac{7}{8} \times \frac{3}{3} = \frac{21}{24} \quad \frac{5}{6} \times \frac{4}{4} = \frac{20}{24} \quad \frac{7}{8} > \frac{5}{6}$$

# Four operations

## With fractions



### Component Knowledge

- To be able to convert between mixed numbers and improper fractions
- To be able to use equivalent fractions
- To be able to add and subtract fractions including mixed numbers
- To be able to multiply fractions
- To be able to divide fractions.

### Key Vocabulary

Numerator	The top part of a fraction – how many parts are represented.
Denominator	The bottom part of a fraction – This tells us how many parts there are in the whole.
Equivalent	Two fractions are equivalent if one is a multiple of the other. They have equal value.
Mixed number	Are made up of a whole number (integer) and a fraction.
Improper fraction	A fraction where the numerator is larger than the denominator.
Reciprocal	The reciprocal of a number is 1 divided by the number. When we multiply a number by its reciprocal, we get 1. This is why it is called the multiplicative inverse. E.g. the reciprocal of $2/3$ is $3/2$ .
Simplify	To cancel down a fraction to give the smallest possible numbers. We do this by dividing the numerator and the denominator by the highest common factor.

### Improper fraction to mixed number

$$3 \frac{4}{5} = \frac{4 \times 5 + 3}{5} = \frac{23}{5}$$

Multiply the denominator by the whole number then add the numerator

### Add/Subtract unit fractions

Same denominator

$$\frac{1}{12} + \frac{1}{12} - \frac{1}{12} = \frac{2}{12}$$

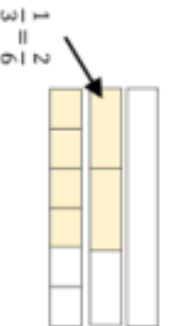
$$\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$$

With the same denominator ONLY the numerator is added or subtracted

### Equivalent fractions

Numerator and denominator have the same multiplier

$$\frac{2}{3} = \frac{4}{6}$$



### Adding Fractions

Example:  $\frac{3}{5} + \frac{2}{7}$

$$\frac{21}{35} + \frac{10}{35} = \frac{31}{35}$$

To add fractions the denominators must be the same. First choose the lowest common multiple of both denominators to be the new denominator. Then use equivalent fractions to keep the sum the same. Then add the numerators as with unit fractions.

### Adding mixed numbers

Add the following fraction, give your answer in its simplest form:

$$5 \frac{1}{8} + 3 \frac{5}{6} = 5 \frac{3}{24} + 3 \frac{20}{24}$$

$$= 8 + \frac{23}{24}$$

$$= 8 \frac{23}{24}$$

Find a common denominator.

Add the integers, and then add the fractions.

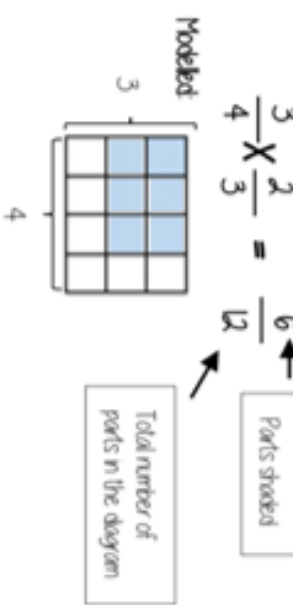
Add.

### Subtracting Fractions

$$\frac{4}{5} - \frac{2}{3} = \frac{12}{15} - \frac{10}{15} = \frac{2}{15}$$

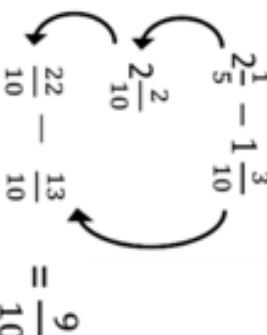

Use equivalent fractions to find a common multiple for both denominators

### Multiplying Fractions

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


To multiply two fractions: Multiply the numerators. Multiply the denominators. If using mixed numbers convert to improper fractions first.

### Subtracting mixed numbers

$$2\frac{1}{5} - 1\frac{3}{10} = 1\frac{2}{10} - 1\frac{3}{10} = \frac{9}{10}$$


- Use equivalent fractions to find common denominators.
- Change to improper fractions
- Subtract the numerators.
- If needed simplify

### Dividing Fractions

When dividing fractions we use reciprocals. To find the reciprocal we 'flip' the fraction. (It is the multiplicative inverse of the fraction).

E.g. the reciprocal of  $\frac{1}{3}$  is  $\frac{3}{1}$ , the reciprocal of  $\frac{1}{6}$  is 6 etc, the reciprocal of  $\frac{3}{4}$  is  $\frac{4}{3}$  etc

We multiply by the reciprocal of the second fraction.

$$\frac{2}{5} \div \frac{3}{4} = \frac{2}{5} \times \frac{4}{3}$$

Multiply by a reciprocal gives the same outcome

- We can use KFC to help us remember the method.
- Keep the first fraction the same
  - Flip the second fraction (convert to its reciprocal)
  - Change the divide to a multiply (as we are using the multiplicative inverse).

Remember to convert to improper fractions when using mixed numbers.

### Online clips

M410, M671, M835, M931, M157, M197,

M216, M110, M265, M645, M619



# Algebraic

## Vocabulary

### Component Knowledge

- Understand the difference between the various algebraic words
- Understand how each previous word builds on to the next

### Key Vocabulary

Variable	A quantity that can take on many values denoted by a symbol or a letter
Term	Is a single variable or number or variables and numbers multiplied together.
Expression	A group of numbers, letters and operational symbols, e.g. $2x + 3y - 8$
Equation	A number statement with an equals sign (=). Expressions on either side of the equals sign are of equal value, e.g. $a + 14 = 20$ or $2(x + 12) = 44$ or $x + 5 = 2x + 3$
Formula	A special type of equation that shows the relationship between different variables. They tend to describe real-world situations. Plural is formulae.
Identity	An equation where both sides are identical whatever the value of the variable

A **variable** is a symbol (often a letter) that is used to represent an unknown.

E.g.  $x$  or  $y$  or  $a$  etc.

Variables can also have exponents (can be raised to a certain power.

E.g.  $x^2$

An **algebraic term** is either a single number or a variable.

e.g. '3' or 'x' or 'h'

A term can also be a number and a variable multiplied together.

e.g.  $2a$  or  $6y$  or  $4xy$

When 2 or more algebraic terms are added (or subtracted) they form an expression.

A **coefficient** is the value that is before a variable. It tells us how many lots of the variable there is.

E.g.  $X + X + X + X + X = 5 \times X = 5X$

The coefficient here is 5.

### Formula/Formulae

A formula is a special type of equation that shows the relationship between different substituted variables. Formulae are often used in geometry to find area and volume.



**Algebraic identities** use the '=' symbol. It is like an equal's sign, but it means identical to. No matter what the value of the variable this will always be true.  
e.g.  $2x = x + x$

An **algebraic expression** is a single term or a set of terms that are combined using addition (+), subtraction (-), multiplication (x) and division (÷)

*Examples*

$$3x$$

$$2x + 3y$$

$$2 - 5y^2$$

$$2x + 3y - 5$$

An expression that contains two terms is called a binomial.

**Equations** are mathematical expressions which contain one or more variables and an equals sign.

*Examples*  $3x - 5 = 7$       $\frac{4(x-2)}{5} = 8$       $x^2 = 9$       $2x^2 - 3x - 5 = 0$

We can solve an equation to find the value of the variable(s).

*Example* Solve  $4x + 3 = 23$

$$4x + 3 = 23$$

$$\quad -3 \quad -3$$

$$4x = 20$$

$$\quad \div 4 \quad \div 4$$

$$x = 5$$

Online clips

M813, M830



# Collecting

## Like terms

### Component Knowledge

- Recognise terms in algebra
- Use of positive and negative directed numbers

### Key Vocabulary

Variable	A <b>Variable</b> is a symbol for a number we don't know yet. It is usually a letter like $x$ or $y$
Term	A <b>Term</b> is either a single number or a variable ( $x$ ), or numbers and variables multiplied together ( $5y$ ).
Expression	An <b>Expression</b> is a group of terms (the terms are separated by + or - signs) (eg, $5y + 6x - 8y$ )
Simplify	reducing the expression/fraction/problem in a simpler form.

**Collecting like terms** : We collect like terms to simplify an expression. We look at terms which

share the same variable

Like terms

$$3y + 2x + 4x - y = 2y + 6x$$

Like terms

In this example:

We collect all the  $x$  variables:  $2x + 4x = 6x$

AND

Collect all the  $y$  variables:  $3y - y = 2y$

### Collecting like terms - example 2

When collecting like terms, it is important to find the same terms and combine them to simplify the algebraic expression. We need to be able to recognise that  $x$  is different to  $x^2$

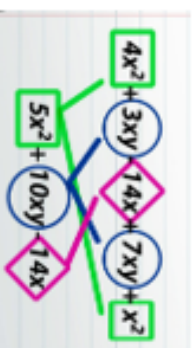
Like Terms

$$4x^2 + 2x + 3x^2 = 7x^2 + 2x$$

Like Term

### Handy Hint:

It helps if you can visually see the different terms before you collect them. Using a different coloured pen, highlighter or shape works!



### Online Clips

M795, M531, M949





# Simplifying Expressions



- Component Knowledge**
- Law of indices
  - Collecting like terms
  - Recognise Algebraic terms and expressions

## Key Vocabulary

Terms	In Algebra a term is either a single number or variable
Expression	Numbers, symbols and operators grouped together to show the value of something
Simplify	Reducing the expression/fraction to a simpler form.

### Simplifying Terms - Multiplying:

Algebraic terms can be multiplied to give a simplified term. We focus on the number first, and then the variable (*x or y*), often using laws of indices.

**Important – we always write terms in alphabetical order**

Example	Answer
$2x \times 3 =$	$6x$
$4a \times 5b =$	$20ab$
$y^2 \times y^3 =$	$y \times y \times y \times y \times y = y^5$
$2ab \times 8cd =$	$2 \times 8 \times a \times b \times c \times d = 16abcd$
$a^5 b^3 \times a^4 b c^2 =$	$a^9 b^4 c^2$

Remember, any number to the power 0 is always 1

### Simplifying Terms - Dividing:

Algebraic terms can be divided to give a simplified term. We focus on the number first, and then the variable (*x or y*), often using laws of indices.

**Important – we should always write the division as a fraction,**  
e.g.  $12a \div 6 = \frac{12a}{6}$

Example	Answer
$\frac{12a}{6} =$	$2a$
$\frac{18x}{24} =$	$\frac{3x}{4}$
$y^5 \div y^3 =$	$\frac{y \times y \times y \times y \times y}{y \times y \times y} = y^2$
$15a^4 \div 3a^2 =$	$\frac{15 \times a \times a \times a \times a}{3 \times a \times a} = 5a^2$
$a^3 \div a^3 =$	$1$

## Online Clips

M795, M531, M120



# Forming Expressions and Equations

## Key Vocabulary

Expression	A mathematical statement written using symbols, numbers or letters
Equation	A statement showing that two expressions are equal.
Variable	A symbol representing an unknown value
Substitute	To replace a variable with a given value
Simplify	To write an expression in its most efficient way without changing the value of the expression.
Solve	Find the of the unknown that makes the equation true
Form	Bring together parts or combine to create something

- Component Knowledge**
- To be able to form expressions and equations from worded problems.

## Writing Expressions

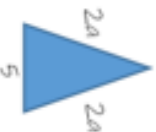
We can use algebra to express values which are unknown to us

e.g. 2 more than  $w$  would be  $w + 2$

3 lots of  $w$  would be  $3w$

5 fewer than  $w$  would be  $w - 5$

We can also use it to write formulas or expressions for shapes e.g. the perimeter of this triangle is  $4a + 5$



## Set up equations from word problems

Jenny, Kenny, and Penny together have 51 marbles. Kenny has double as many marbles as Jenny has, and Penny has 12. How many does Jenny have?

**Set up an equation then solve**

$$\begin{aligned} \text{Jenny's} + \text{Kenny's} + \text{Penny's} &= 51 \\ n + 2n + 12 &= 51 \end{aligned}$$

$$3n + 12 = 51$$

$$3n = 39$$

$$n = 13$$

Start by writing your first unknown value as a variable e.g.  $n$

## Creating Expressions using Function Machines

Input	Operation	Output
$x$	$\times 2$	$2x$
$x$	$+ 6$	$\frac{x}{6}$
$e$	$+ 5$	$e + 5$
$x$	$- 7$	$x - 7$

$x$	$\times 2$	$\times 5$	$2x + 5$
$x$	$\times 3$	$\times 7$	$\frac{x}{3} + 7$
$x$	$\times 2$	$\times 4$	$\frac{x - 2}{4}$
$x$	$\times 5$	$\times 2$	$x + 3$
$x$	$\times 2$	$\times 3$	$6x$

## Expressions from Worded Problems

Cindy has 2 bags of sweets and 6 loose sweets. How many sweets does she have?



We don't know how many sweets are in a bag. So we will **express** is using a **letter** instead.

$b$  = the number of sweets in a bag.

$$2b + 6$$

Online clip

M957

# Expanding single

## brackets



### Component Knowledge

To be able to expand a single bracket, including problems with powers.

### Key Vocabulary

Expression	A mathematical statement written using symbols, numbers or letters.
Simplify	In general, an expression is in simplest form when it is easiest to use
Expand	Expand is when we multiply to remove the ( )

**Expanding brackets** means multiplying everything inside the bracket by the letter or number outside the bracket.

For example, in the expression  $3(m+7)$  both  $m$  and  $7$  must be multiplied by  $3$ :

$$\begin{aligned}3(m+7) \\ = 3 \times m + 3 \times 7 \\ = 3m + 21\end{aligned}$$

Expanding brackets involves using the skills of simplifying algebra. Remember that  $2 \times a = 2a$

### Example

$$\begin{aligned}\text{Expand } 4(3n+y). \\ = 4 \times 3n + 4 \times y \\ = 12n + 4y\end{aligned}$$

### Using arrows

Expand:

$$7(3+a) = 21 + 7a$$

$$3x(5x+2) = 15x^2 + 6x$$

### Using grid method

Expand:  $3(a+5)$

$$3 \times (a+5)$$



$$3 \times a = 3a$$

$$3 \times 5 = 15$$

$$3a + 15$$

### Expanding and simplifying

To expand and simplify more than one bracket, first expand each bracket then collect like terms.

$$2(5+a) + 3(2+a) = 10 + 2a + 6 + 3a = 5a + 16$$

Note – collect like terms to simplify

$$4(x+2) - 2(x+2) = 4x + 8 - 2x - 4 = 2x + 4$$

Note: Remember the rules when multiplying negatives,  $-2$  multiplied by  $x = -2x$

### Online clips

M237, M792

# Factorise single

## brackets



### Component Knowledge

- To be able to factorise into a single bracket with a numerical common factor.
- To be able to factorise into a single bracket with a variable as a common factor.
- To be able to factorise expressions involving powers into a single bracket.

### Key Vocabulary

Factorise	Putting an expression back into brackets
Brackets	Symbols used in pairs to group things together
Term	A single number, variable or numbers and variable multiplied together
HCF	Highest common factor

### Factorise a single bracket numerical factor

**Factorising to a single bracket** means that we take out the **highest common factor** from each term in an algebraic expression, and then write the expression as a **product** of the HCF and a single bracket.

*Example*

$$3x + 6 = 3(x + 2)$$

3 is the HCF of  $3x$  and 6, so this is written outside the single bracket.

*Example*

$$14x - 21 = 7(2x - 3)$$

7 is the HCF of 14x and 21, so is written outside the bracket.  
 $7 \times 2x = 14x$ ,  
 $7 \times -3 = -21$

### Factorise a single bracket with variables as factors

In this example there are no numerical factors but  $x$  is a factor (as  $x^2 = x \times x$ )

$$\text{Factorise } x^2 + 4x.$$

Find the HCF of the terms  $x^2 + 4x$

$$\text{HCF} = x$$

Write the HCF and 'open' the brackets  $= x( \quad )$

Divide each term by the HCF to find the values inside the bracket.  
 $= x(x + 4)$

This example has numbers and variables as factors.

$$\text{Factorise } 6x + 3x^2.$$

Find the HCF of the terms  $6x + 3x^2$

$$\text{HCF} = 3x$$

Write the HCF and 'open' the brackets  $= 3x( \quad )$

Divide each term by the HCF to find the values inside the bracket.  
 $= 3x(2 + x)$

[Online clip](#)

M100



# Substitution

## Component Knowledge

- To substitute positive and negative numbers into expressions with one, or more, variables.

## Key Vocabulary

Expression	A maths sentence that includes a minimum of 2 variables, including an algebraic term and at least one operation.
Term	Either a single number or variable, or the product of several numbers or variables.
Substitute	To exchange an unknown variable for a number in an expression/equation/formula.

## Substitution-formula

For example: The time in minutes to cook a chicken is given by the formula:

Time = 40 minutes per kilogram plus 20 minutes

Find how long it takes to cook a 5kg chicken.

**Here we substitute 5kg into the formula.**

**So, Time =  $40 \times 5 + 20 = 220$  minutes**

The formula for speed is shown:  $Speed = \frac{Distance}{Time}$

Find the average speed when travelling 150 miles in 4 hours.

**Here we substitute Distance = 150 and Time = 4 into the formula.  $Speed = \frac{150}{4} = 37.5$  mph**

## Substitution-expressions

<p>Example 1</p> <p><math>f = p + 4</math>, find the value of <math>f</math> when <math>p = 6</math>.</p> <p>We substitute 6 for <math>p</math> in the formula.</p> <p><math>f = (6) + 4</math></p> <p><b><math>f = 10</math></b></p>	<p>Example 2</p> <p><math>f = 2p + 4</math>, find the value of <math>f</math> when <math>p = -6</math>.</p> <p>We substitute -6 for <math>p</math> in the formula.</p> <p><math>f = 2(-6) + 4</math></p> <p><b><math>f = -8</math></b></p>	<p>Example 3</p> <p><math>f = t^2</math>, find the value of <math>f</math> when <math>t = -6</math>.</p> <p>We substitute -6 for <math>t</math> in the formula.</p> <p><math>f = (-6)^2</math></p> <p><b><math>f = 36</math></b></p>	<p>Example 4</p> <p><math>f = \frac{t^2}{5y}</math>, find the value of <math>f</math> when <math>t = -6</math>, <math>y = 4.2</math>.</p> <p>We substitute -6 for <math>t</math> and 4.2 for <math>y</math> in the formula.</p> <p><math>f = \frac{(-6)^2}{5(2.4)}</math></p> <p><b><math>f = \frac{36}{12}</math></b></p>
---	--	--	--

When substitute negative numbers, we must put brackets around them to ensure the correct order of operations occurs. **This very important when we use calculators.** (We can also do this with positive numbers)

From example 4,  $-6^2 = -(6)^2 = -36$  is not equal to  $(-6)^2 = -6 \times -6 = 36$ .

**Online clips:** M417, M327, M208, M979

# Function machines and solving 1 and 2 step equations



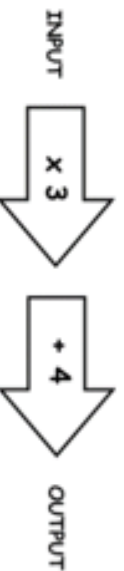
## Component Knowledge

- To be able to use function machines to find the input and output value.
- To be able to solve one-step equations.
- To be able to solve two-step equations.

## Key Vocabulary

Function Machine	Takes an input value, performs some operations and produces an output value.
Operation	Common operations are addition, subtraction, multiplication and division.
Inverse	The operation of another function.
Equation	a mathematical statement that shows that two mathematical expressions are equal
Solve	To find the solution

### Function Machines



If the input is 5 the calculation is

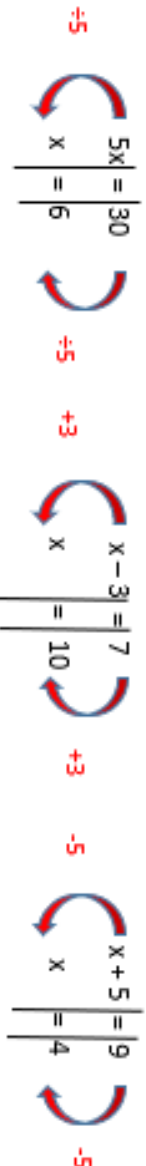
$$5 \times 3 = 15$$

$$15 + 4 = 19$$

To find the input, start with the input and work backwards doing the inverse operations of the function machine.

### One-step equations

To solve a one-step equation, you need to do the inverse operation.



The inverse of multiplying is

dividing.

We divide 30 by 5.

The inverse of subtracting is

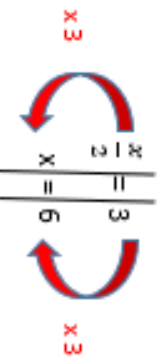
addition.

We add 3 to 7.

The inverse of addition is

subtraction.

We subtract 4 from 9.



The inverse of dividing is

multiplying.


We multiply 2 by 3.


## Two-step equations

To solve a one-step equation, you need to do the inverse operation.


To solve a two-step equation or inequality we need to complete 2 inverse calculations in a specific order.


$$\begin{array}{r} 6x + 3 = 32 \\ 6x = 30 \\ x = 5 \end{array}$$

 -3      **The inverse of adding 3 is subtracting 3**


 ÷ 6      **The inverse of multiplying 6 is dividing by 6**


$$\begin{array}{r} 4x - 3 = 13 \\ 4x = 16 \\ x = 4 \end{array}$$

 +3      **The inverse of subtracting 3 is adding 3**

 ÷ 4      **The inverse of multiplying 4 is dividing by 4**

$$\begin{array}{r} \frac{x-5}{3} = 4 \\ x-5 = 12 \\ x = 17 \end{array}$$

 ÷ 3      **The inverse of dividing by 3 is multiplying by 3**

 + 5      **The inverse of subtracting 5 is adding 5**

Online clips

M175, M428, M707, M634, M647, M855, M401

### Eating in the canteen

Qu'est-ce que tu manges aujourd'hui à la cantine?

- What are you eating today in the canteen?

Je mange du fromage – I eat cheese/ I am eating cheese

Je mange du poisson – I eat fish/ I am eating fish

Je mange du poulet – I eat chicken/ I am eating chicken

Je mange du steak haché – I eat beefburger/ I am eating beefburger

Je mange du yaourt – I eat yoghurt/ I am eating yoghurt

Je mange de la pizza – I eat pizza/ I am eating pizza

Je mange de la glace à la fraise

- I eat strawberry ice-cream/ I am eating strawberry ice-cream

Je mange de la mousse au chocolat

- I eat chocolate mousse/ I am eating chocolate mousse

Je mange des frites – I eat chips/ I am eating chips

Je mange des sandwichs

- I eat sandwiches/ I am eating sandwiches

## Year 7 Topic 3: Mon Collège – My School



### Comparatives

Le français est plus *intéressant* que le théâtre. – French is more *interesting* than drama.

La géographie est plus *intéressante* que l'histoire. – Geography is more interesting than history.

### Opinions

On a *beaucoup de devoirs* – We have *a lot of* homework

Le/ la prof est *sympa* – The teacher is nice

Le/ la prof est *trop sévère* – The teacher is too strict

Using a range of language improves the quality of our speaking and writing and allows us to access more challenging texts!

### Key ideas

School subjects

Opinions

Time

The school day

Eating in the dining room



### The school day

On a cours le lundi – We have lessons on Mondays

On commence les cours à... – We start lessons at...

Les cours commencent à... – Lessons start at...

On a *trois* cours le matin

- We have *3* lessons in the morning

On étudie *neuf* matières – We study *9* subjects

On finit les cours à... – We finish lessons at...

Les cours finissent à... – Lessons finish at...

### School subjects

Qu'est-ce que tu étudies au collège ?

- What do you study at school?

Au collège... - At school...

J'étudie le français – I study French

J'étudie le théâtre – I study drama

J'étudie la géographie – I study geography

J'étudie la musique – I study music

J'étudie la technologie – I study technology

J'étudie l'anglais – I study English

J'étudie l'EPS – I study PE

J'étudie l'histoire – I study history

J'étudie l'informatique – I study computing

J'étudie les arts plastiques – I study art

J'étudie les maths – I study maths

J'étudie les sciences – I study science

### Talking about the time

Quelle heure est-il ? – What time is it?

Il est une heure – It is one o'clock

Il est huit heures – It is eight o'clock

Il est huit heures *cinq* – It is *five past* eight

Il est huit heures *dix* – It is *ten past* eight

Il est huit heures *et quart* – It is *quarter past* eight

Il est huit heures *vingt* – It is *twenty past* eight

Il est huit heures *vingt-cinq* – It is *twenty-five past* eight

Il est huit heures *et demie* – It is *half past* eight

Il est neuf heures *moins vingt-cinq* – It is *twenty-five to* nine

Il est neuf heures *moins vingt* – It is *twenty to* nine

Il est neuf heures *moins le quart* – It is *quarter to* nine

Il est neuf heures *moins dix* – It is *ten to* nine

Il est neuf heures *moins cinq* – It is *five to* nine

Il est midi – It is midday

Il est minuit – It is midnight



## Opinions

Tu aimes ...? – Do you like...?

Qu'est-ce que tu aimes...?

– What do you like...?

J'aime... – I like...

J'aime beaucoup... - I like... a lot

J'adore... - I love...

Je n'aime pas... - I don't like...

Je déteste... - I hate...

C'est ma matière préférée

– It's my favourite subject

Mon copain aime... - My friend (m) likes...

Pourquoi ? – Why?

parce que... - because...

c'est intéressant – It is interesting

c'est ennuyeux – It is boring

c'est facile – It is easy

c'est difficile – It is difficult

c'est génial – It is great

c'est nul – It is rubbish

c'est marrant – It is fun/ funny

Avant / Dans le passé... - Before / In the past...

J'adorais... - I used to love...

J'aimais... - I used to like...

Je n'aimais pas... - I didn't used to like...

Je détestais... - I used to hate...

c'était... - it was...

Je voudrais étudier... - I would like to study...



## Year 7 Topic 3: Transferable Knowledge



### Time Expressions

(Le) lundi – (On) Mondays

(Le) mardi - (On) Tuesdays

(Le) mercredi - (On) Wednesdays

(Le) jeudi - (On) Thursdays

(Le) vendredi - (On) Fridays

Le matin - (In) the morning

L'après-midi – (In) the afternoon

Le soir – (In) the evening

La récréation – Break time

Le déjeuner – Lunch time

Tous les jours – Every day

Aujourd'hui – Today

### Intensifiers

très – very

assez – quite

vraiment – truly

réellement – really

un peu – a bit

peu – little

trop – too

extrêmement –

extremely

tellement – so

### Definite Article – The

le – masculine

la – feminine

les – plural

l' – starts with a vowel sound

### Partitive Article – Some

de + le = du (masc.)

de + la = de la (fem.)

de + les = des (plural)

de + l' = de l' (starts with a vowel sound)

### Connectives

et – and

mais – but

aussi – also

parce que – because

car – because

puisque – since

cependant – however

### Sequencers

D'abord – First of all

Puis – Then

Ensuite – Next

Finalemment – Finally

### Key verb in the present tense

Étudier – to study

J'étudie – I study

Tu étudies – You study (sing. / informal)

Il étudie – He studies

Elle étudie – She studies

On étudie – We study

Nous étudions – We study

Vous étudiez – You study (plural / polite)

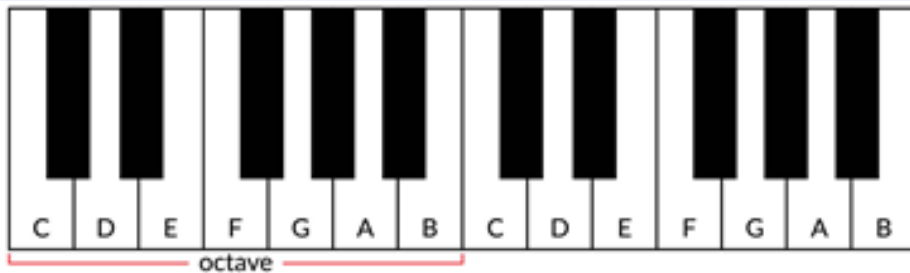
Ils étudient – They study (m / m+f)

Elles étudient – They study (f)



# Keyboard Skills

## A. Layout of a Keyboard/Piano



A piano or keyboard is laid out with **WHITE KEYS** and **Black Keys** (see section G). C is to the left of the two Black Keys and the notes continue to G then they go back to A again. Notes with the same letter name/pitch are said to be an **OCTAVE** apart. **MIDDLE C** is normally in the centre of a piano keyboard.

## D. Keyboard Functions



## E. Left Hand/Right Hand (1-5)



## Exploring Treble Clef Reading and Notation

### B. Treble Clef & Treble Clef Notation

A **STAVE** or **STAFF** is the name given to the five lines where musical notes are written. The position of notes on the stave or staff shows their **PITCH** (how high or low a note is). The **TREBLE CLEF** is a symbol used to show high-pitched notes on the stave and is usually used for the right hand on a piano or keyboard to play the **MELODY** and also used by high pitched instruments such as the flute and violin. The stave or staff is made up of 5 **LINES** and 4 **SPACES**.



Every Green Bus Drives Fast. Notes in the **SPACES** spell "FACE"



Notes from **MIDDLE C** going up in pitch (all of the white notes) are called a **SCALE**.



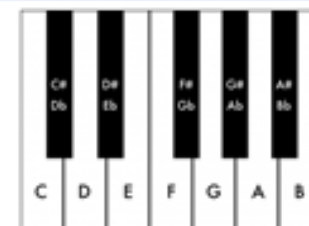
### C. Keyboard Chords



Play one - Miss one - play one - miss one - play one

### F. Black Keys and Sharps and Flats

There are five different black notes or keys on a piano or keyboard. They occur in groups of two and three right up the keyboard in different pitches. Each one can be a **SHARP** or a **FLAT**. The # symbol means a **SHARP** which raises the pitch by a semitone (e.g. C# is higher in pitch (to the right) than C). The b symbol means a **FLAT** which lowers the pitch by a semitone (e.g. Bb is lower in pitch (to the left) than B). Each black key has 2 names - C# is the same as Db - there's just two different ways of looking at it! Remember, black notes or keys that are to the **RIGHT** of a white note are called **SHARPS** and black notes to the **LEFT** of a white note are called **FLATS**.



# SAMBABA

Samba is a musical genre and dance style with its roots in Africa via the West African slave trade and African religious traditions. Samba is an expression of Brazilian cultural expression and is a symbol of carnival. Samba schools formed and compete bringing people together.



## A. Key Words and Terms in Samba Music

- CALL AND RESPONSE** – one person plays or sings a musical phrase, then another person/group responds with a different phrase or copies the first one.
- CYCLIC RHYTHM** – a rhythm that is repeated over and over again.
- IMPROVISATION** – making up music as you go along, without preparation.
- OSTINATO** – a repeated pattern. Can be rhythmic or melodic; usually short.
- PERCUSSION** – instruments that are mostly hit, scraped or shaken to produce sound. Samba uses many percussion instruments which together are called a **BATERIA**.
- POLYRHYTHM** – the use of several rhythms performed simultaneously, often overlapping each other to create a thick texture.
- PULSE** – a regular beat that is felt throughout music
- RHYTHM** – a series of notes of different lengths that create a pattern. Usually fits with a regular beat or pulse.
- SYNCOPIATION** – accenting or emphasising the weaker beats of the bar (often a half beat (quaver) followed by a full beat (crotchet)) giving the rhythm an **OFFBEAT** feel.
- SAMBISTA** – the leader of a Samba band or ensemble, often signalling cues to the rest of the band of when to change sections within the music with an **APITO** (Samba whistle)

## B. Form and Structure of Samba

Samba music often starts with an **INTRODUCTION** often featuring **CALL AND RESPONSE RHYTHMS** between the Samba Leader and ensemble. The main Ostinato rhythm of Samba is called the **GROOVE** when all the instruments of the Samba Band play their respective rhythms over and over again (**CYCLIC RHYTHMS**) forming the main body of the piece. The **GROOVE** is broken up by **BREAKS** - 4 or 8 beat rhythms providing contrast and **MID SECTIONS** – one or two instruments change the rhythm of their ostinato and the others stay the same or stop. Sometimes **BREAKS** and **MID SECTIONS** feature a **SOLOIST** who “shows off” their rhythms. The **SAMBISTA** must signal to the group when to change to a different section which is normally done with an **APITO** (Samba Whistle – loud!). A piece of Samba can end (this section is called the **CODA**) with either a **CALL AND RESPONSE** pattern or a pre-rehearsed ending phrase of rhythm. The **FORM AND STRUCTURE** of a piece of Samba may look like the following:



## C. Texture of Samba Music

Texture varies in Samba music, often **MONOPHONIC** where a single rhythm is heard as in **CALL AND RESPONSE** sections, sometimes **POLYPHONIC** where sections of the Samba band play different rhythms (**OSTINATOS**) creating **CROSS-RHYTHMS** (when two rhythmic patterns that “conflict” with each other occur simultaneously) creating a thick texture of interweaving and interlocking rhythms – a **POLYRHYTHM** or a **POLYRHYTHMIC TEXTURE**.

## D. Dynamics of Samba Music

The dynamics of Samba music are normally **VERY LOUD** – it is music designed to be performed outdoors at carnivals and is played by large numbers of instrumentalists and to accompany dancers and processions with large audiences watching and listening. Sometimes, a **CRESCENDO** is used at the end of a piece of Samba music for dramatic effect.

## E. Tempo of Samba Music

Samba music is generally **FAST** at around 104 bpm and keeps a constant tempo to assist the dancers or processional nature of the music. Sometimes the **SAMBISTA** (Samba leader) uses (**TEMPO**) **RUBATO** – tiny fluctuations in tempo for expressive effect.

**SURDO**



**TAMBOURIN**



**AGOGO**



**GANZA**



**APITO**



**REPENIQUE**



**CAIXA**



# Westhoughton High School KS3 PE KNOWLEDGE ORGANISER – ACTIVITY:

## Skills and Techniques:

- **Clear:** Shot played high to the back of the opponent's court, a defensive shot.
- **Drop shot:** Delicate shot played just over the net into the space. Gets your opposition out of position to attempt a smash or clear.
- **Grip:** V shape down the handle. (Shake its hand)
- **Smash:** Most attacking shot. Hitting the shuttlecock at its highest point with power, trying to get the shuttlecock to hit the floor on the opponent's side as quickly as possible
- **Flick Serve:** Short serve which is played typically in doubles. Aim is to get the shuttlecock to stay low over the net and land just over the service line.
- **Underarm serve:** Serve typically played in singles. Aim is to get the shuttles as high as you can towards the backline. Gets you opposition to the back of the court

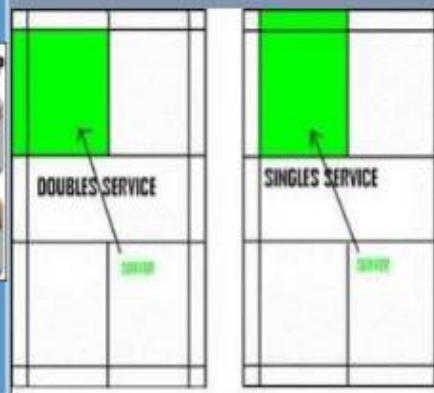
## Scoring:

- Serve Diagonal and land across the service line.
- Play to 21 points (2 clear points to win).
- Whoever wins the point, their team serve.
- Serve on the right when the score is even, on the left when it is odd.
- Long and thin for doubles, short and fat for singles.
- You cannot touch the net  
Serve must be at waist height or below.



## Rules:

- The aim of badminton is to hit the shuttle with your racket so that it passes over the net and lands inside your opponent's half of the court.
- Whenever you do this, you have won a rally; win enough rallies, and you win the match. Your opponent has the same goal.
- They will try to reach the shuttle and send it back into your half of the court. You can also win rallies from your opponent's mistakes: if they hit the shuttle into or under the net, or out of court, then you win the rally.
- If you think your opponent's shot is going to land out, then you should let it fall to the floor. If you hit the shuttle instead, then the rally continues. Once the shuttle touches the ground, the rally is over.



## Key Words:

- Ready position
- Forehand and backhand serve.
- Defensive clears Forehand drop shot
- Basic backhand Outwitting opponents Leadership skills
- Scoring system
- Rules and regulation
- Court lines dimensions
- Equipment familiarisation
- Movement

## Tactics:

- Doubles – front/back or side to side.
- Hitting into space.
- Targeting opponents weakness-Shot selection.

# Westhoughton High School – ACTIVITY: RUGBY

## Passing:

- Hold the ball in two hands with your fingers spread across the seam, with your chest facing forward.
- Draw the ball back across one hip, keeping your elbows slightly bent, as you turn your chest away from the target.
- Sweep the ball off your hip as you swing your hands through an arc, keeping your elbows close to your body.
- Release the ball with a flick of the wrists and fingers.
- Follow through with your fingers pointing to the target - chest high in front of the receiver.



## Catching

- Call for the ball
- Keep eyes on the ball
- Hands up and make W shape
- Reach over the side of the body
- Catch with ten points of contact (both hands)
- Continue running with ball in both hands



## Tackling

- Position your body to the opponent's right-hand side (safe side).
- Position your left foot forward into a slight opposition.
- Make contact by putting your right shoulder into the opponent's mid-right thigh.
- Make sure your head is on the other side of the ball carrier so their body is between your shoulder and head.
- Bring your arms up and wrap them around the ball carrier, just above their knees (
- Squeeze your arms and pull the ball carrier into your body.
- Push your shoulder into the ball carrier, as though you are trying to push him away with your head.
- Continue pushing until both you and the ball carrier fall to the ground.



## Playing the Ball (Rugby League)

- After the tackle, lift the ball clear of the ground, face their opponent's goal line and roll it under their foot to the player behind them, the acting half back.
- The ball has to always travel backwards.
- A player can play the ball to themselves by heeling it backwards, stepping over the ball and then picking it up to run with it or to pass to another player.

## Presenting the ball (Rugby Union)

- 'Eyes up' to keep head and neck inline
- Enter the ruck from behind the player (through the gate)
- Keep head and shoulders above hips at all times
- Make contact by binding on a player using the whole arm



## Rugby League

### Rules

- Game starts and restarts with a kick off.
- Three officials- Referee and two touch judges.
- Passing from the hand must travel level or backwards to the receiver.
- Tackling must be below shoulder
- If a player knocks on (drops the ball forward) the opposing side will gain possession via a scrum.
- When referee calls that the tackle is complete you must stand up and play ball between your legs to a player behind
- You must be behind the kicker when the ball is kicked to be onside

### Positions

- 1 Full back
- 2 Right wing
- 3 Right centre
- 4 Left centre
- 5 Left wing
- 6 Stand-off half
- 7 Half-back
- 8 Prop
- 9 Hooker
- 10 Prop
- 11 Second Row
- 12 Second Row
- 13 Loose Forward

### Points System:

- 4 points = TRY
- 2 Points = Penalty/Conversion
- 1 Point = Drop goal

### Tactics in possession:

- 6 tackles (or chances to score), kick on 5th.
- If the ball goes out of play after such a kick, play restarts with a six player scrum.

## Rugby Union

### Positions

- 1 Loosehead Prop
- 2 Hooker
- 3 Tighthead Prop
- 4 Second Row
- 5 Second Row
- 6 Blindside Flanker
- 7 Openside Flanker
- 8 Number 8
- 9 Scrum Half
- 10 Fly Half
- 11 Left Wing
- 12 Inside Centre
- 13 Outside Centre
- 14 Right Wing
- 15 Fullback

### Points System:

- 5 points = TRY
- 3 Points = Penalty and Drop goal
- 2 Point = Conversion

### Tactics in possession:

- Unlimited tackles
- Attacking side continue until they lose ball or concede penalty
- If the ball is kicked out of play restarted with a lineout Scrum used for knock-ons, forward pass restarts

### Rules

- Game starts and restarts with a kick off.
- Three officials- Referee and two touch judges.
- Passing from the hand must travel level or backwards to the receiver.
- Tackling must be below waist (sternum)
- If a player knocks on (drops the ball forward) the opposing side will gain possession via a scrum.
- You may not tackle a player in the air. You must enter a ruck from the back foot of your side of the ruck.
- Any player in front of a player kicking must wait for the kicker to pass or they will be offside.

### Key Words:

- Pass Run
- Tackle Ruck
- Maul Scrum
- Penalty
- Free-kick
- Knock-on
- Forward pass
- High tackle
- Defensive line
- Scissor
- Loop





**Skills and Techniques:  
Back Crawl**

→ **Body position**

Horizontal  
Streamlined  
Head still  
Eyes looking upward  
Hips close to surface

→ **Leg Action**

Continuous up and down motion  
Legs close together  
Relaxed ankles

→ **Arm Action**

Thumbs leave the water first  
Little finger entry

**Skills and Techniques:  
Front Crawl**

→ **Body position**

Flat and streamlined  
Eyes looking forwards and downwards

→ **Leg Action**

Continuous and alternating  
Starts from the hip  
Ankles relaxed

→ **Arm Action**

Thumb enter the water first  
Enter between the headline and  
shoulder line  
Elbow exits first

→ **Breathing**

Head rolls to the side to breath  
Bilateral breathing

**Skills and Techniques:  
Breaststroke**

→ **Body position**

As horizontal as possible  
Shoulders horizontal

→ **Leg Action**

Starts in glide position  
Heels drawn towards the seat  
Feet turned out  
Kick backwards with  
a circular whipping action

→ **Arm Action**

From glide position, hands turn  
outwards  
Pull downwards and outwards to  
in line with shoulders  
Arms meet in the centre of the body  
and drive out to glide position

**Skills and Techniques:  
Butterfly**

→ **Body position**

Horizontal, with a wave like movement  
from head-to-toe  
Shoulders kept level

→ **Leg Action**

Legs close together  
Ankles relaxed toes pointed  
Action starts from the hips  
Kick up and down with a bend at the knee

→ **Arm Action**

Thumb first entry  
Entry shoulder width apart  
Pull downwards, with bent elbows  
Hands leave the water little finger first  
Arms clear the water just above the  
surface

→ **Breathing**

Lift head and push chin forwards  
Head lowered quickly but smoothly



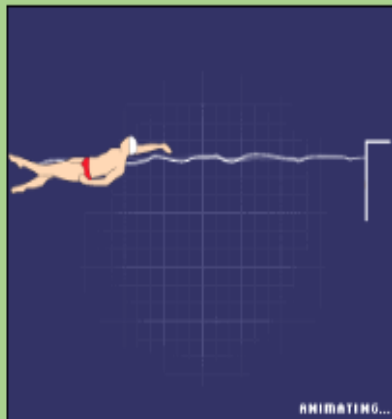


**Back Crawl**

→ Start -Back crawl start

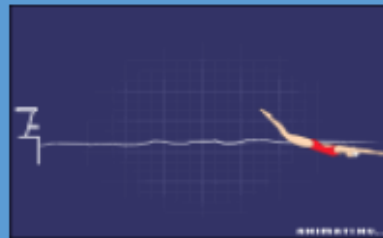


→ Turn -Tumble

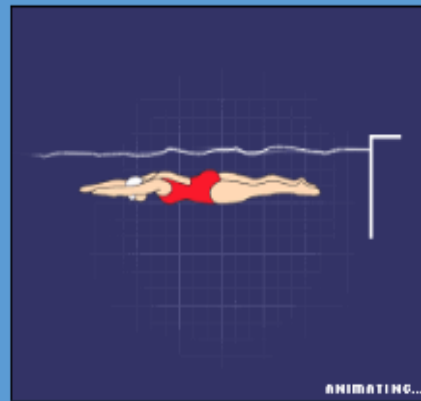


**Front Crawl**

→ Start -Racing Dive

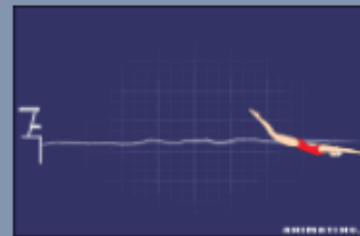


→ Turn-Tumble

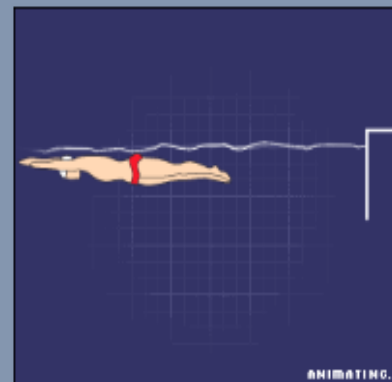


**Breaststroke and Butterfly**

Start -Racing Dive



Turns-Two handed turn



**Tumble turns**

**Stage one**

- Swim toward the turning wall.
- Ensure you breathe on the last stroke before turning.
- On the last stroke, bring both arms down and next to the hips.
- Keeping the body straight, hold feet approximately 20 cm under the water surface.

**Stage two**

- Bring the arms up and swing over the head whilst brushing the upper arms against the ears.
- Tuck chin into chest and begin rotating body forward.
- On complete rotation, push against the wall with the balls of the feet and kick a minimum of four times to generate pace.
- Complete one full stroke before returning to breathing pattern.

**Racing start-Front crawl, breaststroke and butterfly**

- 1: Chin and chest
- 2: Arm above head, squeeze ears
- 3: Tip forward
- 4: Hips high
- 5: Stretch out

**Key words**

Splits, Pacing,  
Negative split, positive  
split, Even split, False start,  
Technical official,



### Scoring

Success in swimming is judged on times and places.

### Start of the race

Races are started with electronic pistols and are only sounded again if an athlete makes a false start.

### Finish the race

In all races swimmers must strike a pressure pad at the end of their lane to stop the clock.

### Officials

#### Starter

**Clerk of course** - these people line up competitors in correct order, ready for starting.

**Timekeepers, Inspectors of turns, Judges of stroke, Finish judges**

### Disqualifications are also a result of technical rules

violations. These include:

- **freestyle** - stepping or walking on the bottom of the pool, pulling on the lane rope, not touching the wall on a turn, or not completing the distance
- **backstroke** - not remaining on the back throughout the swim except when turning, pulling or kicking into the wall once turning past the vertical onto the breast, turning onto the breast before touching the wall with the hand at the finish of the race
- **breaststroke** - not swimming on the breast, an illegal kick such as flutter, dolphin, or scissors, non-simultaneous movements of the arms, taking two arm strokes or two leg kicks while the head is underwater, or touching with only one hand at the turns or finish instead of two
- **butterfly** - non-simultaneous movements of the arms or legs, pushing the arms forward under the water instead of over the water surface, using a breaststroke-style kick, or touching with only one hand at the turns or at the finish instead of two



## USER GROUPS in Sport/Fitness

- Young children
- Teenagers
- People with disabilities
- Parents (singles or couples)
- People who work
- Unemployed/economically disadvantaged people
- Gender
- People from different ethnic groups
- Retired people/people over 60
- Families with children
- Carers
- People with family commitments

## WATER SAFETY

- 1. Floating:** The ability to float on your back helps conserve energy and breathe more easily while waiting for rescue.
- 2. Treading Water:** This skill involves moving your arms and legs to keep your head above water, allowing you to stay in one place without sinking.
- 3. Swimming for Distance:** Knowing how to swim at least 25 meters can help you reach safety or a shore if needed.
- 4. Controlled Breathing:** Practicing proper breath control allows you to stay calm, conserve energy, and avoid panic in emergency situations.

## Year 7

### Term 2: Health Knowledge Organiser

#### TRAINING METHODS:

**1. Circuit Training:** A form of exercise where participants cycle through a series of exercises, targeting different muscle groups, with minimal rest between each station.

**2. Continuous Training:** Involves sustained, steady-state activity, like running or cycling, for an extended period without rest, designed to build cardiovascular endurance.

**3. Weight Training:** A form of strength training using weights (dumbbells, barbells, or machines) to build muscle strength and endurance.

**4. Fartlek Training:** A type of running workout that blends continuous and interval training by varying pace and intensity over different terrains or set times.

**5. Interval Training:** Alternates between periods of high-intensity effort and low-intensity recovery, improving speed and cardiovascular fitness.

**6. Plyometric Training:** Focuses on explosive movements, like jumps or bounds, to increase power and strength in muscles, particularly useful for athletes.

## CARDIOVASCULAR SYSTEM

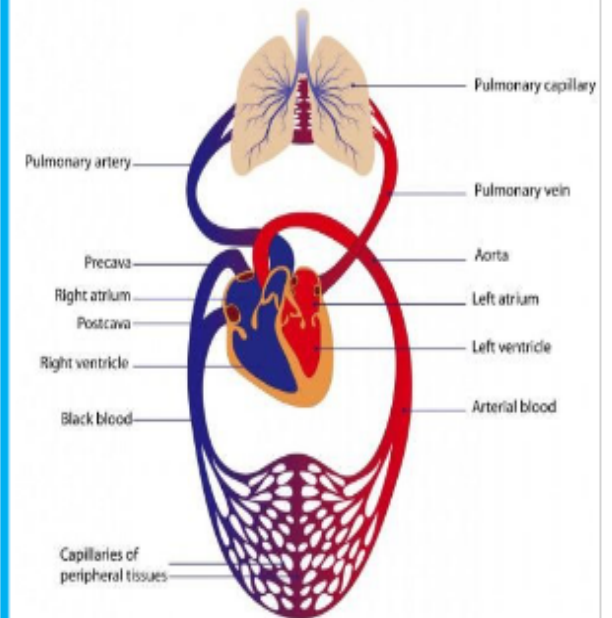
### Veins

- Veins are blood vessels that return deoxygenated blood from various parts of the body back to the heart, where it can be reoxygenated.

### Arteries


- Arteries are blood vessels that carry oxygen-rich blood away from the heart to tissues and organs throughout the body, ensuring they receive the oxygen and nutrients needed for proper function.

### Circulation



Key Vocabulary: Veins Arteries Circuit Plyometric Interval Continuous Weight Fartlek Water Safety User Groups

# KS3 Knowledge Organiser – Relationships and Sex Education

Healthy Relationships		Consent	
<b>Key words:</b>		<b>Key words:</b>	
<ol style="list-style-type: none"> <li><b>Platonic relationship</b> - A friendship or relationship where there is no romantic, intimate or sexual feelings. E.g. friends and colleagues.</li> <li><b>Intimate relationship</b> – A relationship which can include a sexual attraction and sexual activity. E.g. boyfriend, girlfriend, married couples.</li> <li><b>Familial relationship</b> - A relationships with someone who has a blood or legal tie to you. E.g. parents, siblings, cousins, grandparents, uncles, aunts, etc.</li> <li><b>Toxic relationship</b> - A relationship that has a negative impact on your mental health and self-esteem.</li> </ol>		<ol style="list-style-type: none"> <li><b>Sexual consent:</b> the giving of permission by a person to engage in any form of sexual activity including penetrative and oral sex.</li> <li><b>Affirmative consent:</b> Consent is only given when a person agrees verbally to engage in sexual activities including penetrative and oral sex.</li> <li><b>Coercion:</b> The action or practice of persuading someone to do something they wouldn't normally do or something they don't want to do by using force or threats.</li> <li><b>Minor:</b> A person who is under the age of 18 and legally considered a child.</li> </ol>	
<b>Good Relationship</b>	<b>Toxic Relationship</b>	<b>Consent is...</b>	<b>Consent cannot be given if...</b>
<ul style="list-style-type: none"> <li>They make you feel good.</li> <li>They listen.</li> <li>They support you.</li> <li>They are trustworthy.</li> <li>They handle conflict respectfully and respect boundaries.</li> <li>Friends not followers.</li> </ul>	<ul style="list-style-type: none"> <li>Might say "brutally honest" things to you which are hurtful.</li> <li>Put pressure on you to do things you don't want to do.</li> <li>Be manipulative.</li> <li>Put you down.</li> <li>Laugh at you or encourage others to laugh at you.</li> <li>Talk about you behind your back.</li> <li>Deliberately exclude you.</li> <li>Take the 'banter' too far.</li> <li>Share things about you online.</li> </ul>	<ul style="list-style-type: none"> <li><b>Freely given.</b> It's not okay to pressure, trick, or threaten someone into saying yes.</li> <li><b>Reversible.</b> It's okay to say yes and then change your mind – at any time!</li> <li><b>Informed.</b> You can only consent to something if you have all the facts.</li> <li><b>Enthusiastic.</b> You should do stuff you WANT to do, not things people expect you to do. If someone doesn't seem enthusiastic stop and check in.</li> <li><b>Specific.</b> Saying yes to one thing (going to the bedroom to make out) doesn't mean you're saying yes to other things (having sex).</li> </ul>	<ul style="list-style-type: none"> <li><b>When a person is drunk or high,</b> to the point that they are unable to speak or look after themselves.</li> <li><b>Asleep or Passed Out</b> – if they are not conscious, they are unable to agree to any sexual activity. If someone passes out whilst engaging in sexual activity –STOP!</li> <li><b>They are Underage</b> – Legally a person under the age of 16 cannot give consent to any sexual activity.</li> <li><b>Mental disability or learning difficulties</b> which mean they are unable to fully understand what they are consenting to.</li> </ul>
			
<b>Types of Abuse</b>	<b>Physical Abuse:</b> Hitting slapping, shoving, grabbing, pinching, biting, hair pulling, etc. are types of physical abuse. This type of abuse also includes denying a partner medical care or forcing alcohol and/or drugs upon them.		
	<b>Sexual Abuse:</b> Coercing or attempting to coerce any sexual contact or behaviour without consent. Sexual abuse includes, but is certainly not limited to rape, rape, non-consensual touching of sexual parts of the body, treating one in a sexually demeaning manner.		
	<b>Emotional Abuse:</b> Undermining an individual's sense of self-worth and/or self-esteem is abusive. This may include, but is not limited to constant criticism, diminishing one's abilities, name-calling, or damaging one's relationships with others (e.g. friends, family)		
	<b>Psychological Abuse:</b> Elements of psychological abuse include - but are not limited to - causing fear by intimidation; threatening physical harm to self, partner, children, or partner's family or friends; destruction of pets and property; and forcing isolation from family, friends, or school and/or work.		
	<b>Economic Abuse:</b> is defined as making or attempting to make an individual financially dependent by maintaining total control over financial resources, withholding one's access to money, or forbidding one's attendance at school or employment.		
<b>Where to get more help and support:</b>			
<ul style="list-style-type: none"> <li>Parents and trusted family School Staff and Wellbeing Team</li> <li>NSPCC - Helpline: 0808 800 5000 (24 hours, every day), <a href="http://www.nspcc.org.uk">www.nspcc.org.uk</a></li> <li>Childline - Helpline: 0800 1111(24 hours, every day) <a href="http://www.childline.org.uk">www.childline.org.uk</a></li> <li>Women's Aid - Helpline: 0808 2000 247 24hr <a href="http://www.womensaid.org.uk">www.womensaid.org.uk</a></li> <li>Men's Advice Line - Helpline: 0808 801 0327 Mon- Fri 9-5 <a href="http://www.mensadviceline.org.uk">www.mensadviceline.org.uk</a></li> <li>National Bullying - Helpline <a href="http://www.nationalbullyinghelpline.co.uk">www.nationalbullyinghelpline.co.uk</a></li> </ul>			
		<b>Act</b>	<b>Definition</b>
		<b>Rape</b>	<b>Legal Consequences</b>
		A rape is when a person uses their penis without consent to penetrate the vagina, mouth, or anus of another person.	Maximum of fifteen years in prison. Aggravated Rape is punished by a maximum of twenty years in prison. Both offences would result in placement on the sex offenders register.
		<b>Sexual assault</b>	Up to 10 years in prison and placement on the sex offenders register.
		When a person is coerced or forced to engage against their will, or when a person, touches another person sexually without their consent. Touching can be done with any part of the body or with an object.	If two 13 – 15 year olds engage in consensual sexual activity and both know that the other is under 16, they could both be found guilty of an offence with a penalty of up to 5 year's imprisonment. If one party is under 13 and the other under 18 it is statutory rape punishable by up to life imprisonment.
		<b>Sex between minors</b>	<ul style="list-style-type: none"> <li>Rape Crisis Helpline: 0808 802 9999 (12-2:30 and 7-9:30) <a href="http://www.rapecrisis.org.uk">www.rapecrisis.org.uk</a></li> <li>Survivors UK – Male Rape and Sexual Abuse Support <a href="http://www.survivorsuk.org">www.survivorsuk.org</a></li> <li>RASAC (Rape and Sexual Abuse Support Centre) National Helpline: 0808 802 9999 (12-2.30 &amp; 7-9.30) <a href="http://www.rasasc.org.uk">www.rasasc.org.uk</a></li> </ul>

# KS3 Knowledge Organiser – Relationships and Sex Education

## Online Safety

### Strategies for staying safe online:

1. **Don't post any personal information online** e.g. address, phone number, email address.
2. **Think carefully before you post** – once you post it you lose control of it.
3. **Keep your privacy settings as high as possible.**
4. **Never give out passwords.**
5. **Not everyone is who they say they are online.** Don't befriend people you don't know in real life. Don't meet up with people you've met online. Tell a parent/carer if someone you've met online is pressuring you to meet.
6. **Respect other people's views,** even if you don't agree with it. There is never a reason to be rude.
7. **If you see something that makes you uncomfortable or unsafe tell a trusted adult immediately.**

### Appropriate online behaviour:

A person's digital footprint cannot be deleted and can be accessed at any time by others. To promote a positive digital footprint there are **5 simple rules**:

1. **Would you want your grandmother to see it?** Is that photo/video/comment appropriate for the wider public audience? Would you want a future partner or employer to see it? Once something is online it stays forever.
2. **Do you really think that is private?** Just because your privacy settings are high doesn't mean that someone else can't repost or screenshot what you have posted.
3. **Would you say it to someone's face?** If you wouldn't say it to someone face, don't say it online. Portray yourself in a positive way as this may be seen by future friends, partners or employers.
4. **Is this your work to publish/use?** Reposting or using someone else's work is fine if you credit the original owner creator. If you don't it is plagiarism.
5. **Would you want someone to do it to you?** How would you feel if someone posted a picture of you or made a comments about you that you didn't like or want online?

### Taking, sending, and receiving sexual images...

- It is a criminal offence to create or share explicit images of a child, even if the person doing it is a child. The law applies to anyone under the age of 18.
- 'Cyberflashing' is where someone sends sexual image or pornography to an unsuspecting person. It became a criminal offence in 2022. People convicted of 'cyberflashing' could face up to two years in prison.
- **Sextortion:** when a victim is blackmailed after sending explicit images of themselves. 2 in 3 sextortion victims are girls below the age of 16.

### Ways in which pornography can distort views of relationships and sex

- Sex ends when a man ejaculates
- Women orgasm every time they have sex
- Everyone wants to have sex all the time
- Sex is an aggressive act of dominance
- People want to have sex with more than one person at a time.
- Sex is loud.
- External ejaculation is expected and common.
- Anal sex is common amongst heterosexual couples.
- Sex is good every time.
- Penises are large (over 6inches)
- Women are expected to dress up and wear make up for sex.

### Where to get more help and support:

- Parents and trusted family member, school staff and wellbeing team
- Childline - Helpline: 0800 1111(24 hours) [www.childline.org.uk](http://www.childline.org.uk)
- CEOPS - [www.ceop.police.uk/safety-centre](http://www.ceop.police.uk/safety-centre)

## Contraception

### Things to remember

- Contraception refers to the methods that are used to prevent pregnancy from occurring during sexual activity.
- Contraception is a personal choice.
- You may need to try more than one to find out what works best for you.
- You will need to consult your Doctor for most contraceptive methods.
- Contraception is the responsibility of both parties!

METHOD	What is the risk for pregnancy?*	How do you use this method?	How often is this used?	What are menstrual side effects?	Other possible side effects?	Other things to consider?
<b>FEMALE STERILIZATION</b>	.5 out of 100	Surgical procedure	Once	No menstrual side effects	Pain, bleeding, risk of infection	Permanent
<b>MALE STERILIZATION</b>	.15 out of 100					
<b>LNG IUD</b>	.2 out of 100	Placed inside uterus	Up to 8 years	Spotting, lighter or no periods	Some discomfort with placement	No estrogen May reduce cramps
<b>COPPER IUD</b>	.8 out of 100		Up to 10 years	May cause heavier, longer periods		No hormones May cause cramps
<b>IMPLANT</b>	.05 out of 100	Placed in upper arm	Up to 3 years	Spotting, lighter or no periods		No estrogen May reduce cramps
<b>INJECTABLES</b>	4 out of 100	Shot in arm, hip, or under the skin	Every 3 months	Spotting, lighter or no periods	May cause weight gain	No estrogen May reduce cramps
<b>PILL</b>	8 out of 100	Take by mouth	Every day at the same time	Can cause spotting for the first few months Periods may become lighter	Nausea, breast tenderness Risk for blood clots	May improve acne May reduce menstrual cramps Lowers ovarian and uterine cancer risk
<b>PATCH</b>	9 out of 100	Put on skin	Weekly			
<b>RING</b>	9 out of 100	Put in vagina	Monthly			
<b>DIAPHRAGM</b>	12 out of 100	Put in vagina with spermicide	Every time you have sex	No menstrual side effects	Allergic reaction, irritation	No hormones
<b>EXTERNAL CONDOM</b>	13 out of 100	Put over penis	Every time you have sex	No menstrual side effects	Allergic reaction, irritation	No hormones No prescription
<b>VAGINAL GEL</b>	14 out of 100	Put in vagina			Allergic reaction, irritation	No hormones
<b>WITHDRAWAL</b>	20 out of 100	Pull penis out of vagina before ejaculation	Every time you have sex	No menstrual side effects	No side effects	No hormones Nothing to buy
<b>INTERNAL CONDOM</b>	21 out of 100	Put in vagina			Allergic reaction, irritation	No hormones No prescription
<b>SPONGE</b>	24 out of 100	Put in vagina	Every day	No menstrual side effects	No side effects	No hormones Increased awareness of fertility signs
<b>FERTILITY AWARENESS-BASED METHODS</b>	24 out of 100	Monitor fertility signs and abstain or use condoms on fertile days				
<b>SPERMICIDES</b>	28 out of 100	Put in vagina	Every time you have sex		Allergic reaction, irritation	No hormones No prescription

### Where to get more help and support:

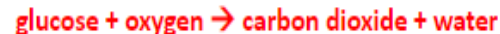
- Your Doctor, community nurse, or school nurse,
- NHS Online
- [www.helathforteensco.uk](http://www.helathforteensco.uk)
- [www.brook.co.uk](http://www.brook.co.uk)

# KS3 Cellular Respiration

**Respiration** is a series of chemical reactions, in cells, that breaks down glucose to provide energy and form new molecules.

There are two types:

- **Aerobic respiration:** breaks down glucose with oxygen to release energy and producing carbon dioxide and water. It occurs in the mitochondria. The word equation for this reaction is:



- **Anaerobic respiration** in animals breaks down glucose without oxygen to release energy, producing lactic acid. It occurs in the cytoplasm. The word equation for this reaction is:



- Anaerobic respiration in plants and microorganisms (known as **fermentation**): breaks down glucose without oxygen to release energy, producing ethanol and carbon dioxide. Yeast and other microorganisms expire anaerobically (fermentation). The word equation for this reaction is:



- **Aerobic means with oxygen, anaerobic is without oxygen.**
- Most living things use aerobic respiration but switch to anaerobic respiration, which provides less energy, when oxygen is unavailable.
- Aerobic occurs in the **mitochondria** of the cell, anaerobic occurs in the **cytoplasm** of the cell.
- In animals, the glucose in respiration comes from the food we eat (glucose has a store of chemical energy).
- In animals, the oxygen in aerobic respiration comes from the atmosphere around us that we breathe in.
- Substances that aren't needed in the body, such as the carbon dioxide produced in aerobic respiration, are breathed out.
- The **energy** released by respiration is used for all living processes, such as movement, respiration, sensitivity, growth, reproduction, excretion and nutrition.
- Plants produce their own glucose from photosynthesis that they then use for respiration. Plants are called 'producers' for this reason.
- All food chains start with plants (producers) and therefore we rely on them for us to be able to carry out essential life processes.
- The ethanol and carbon dioxide produced in anaerobic respiration in plants and microorganism (fermentation) is used for brewing and baking.

## Keywords

- Respiration/Respire
- Aerobic respiration
- Anaerobic respiration
- Mitochondria
- Cytoplasm
- Energy
- Molecules
- Glucose
- Oxygen
- Atmosphere
- Fermentation
- Microorganism
- Asthma
- Smoking
- Nicotine
- Tobacco
- Gas exchange
- Drug
- Recreational
- Stimulant
- Depressant

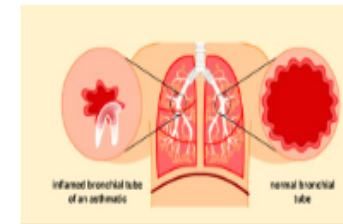
# KS3 Cellular Respiration

**Smoking:** cigarette smoke contains over 4,000 chemicals, including approximately 69 known cancer-causing chemicals as well as over 400 other poisons.

- Smoking is very harmful to health and causes or can lead to many types of cancer including – lung, mouth, throat, voice box, bladder, bowel, cervix, kidney, liver, stomach, leukaemia, heart disease, blood pressure problems, stroke, fertility problems, serious breathing conditions and weak bones.
- The harmful substances in cigarette smoke include tar, smoke, nicotine and carbon monoxide.

- **Tar** and **smoke** causes cancer of the lungs, mouth and throat. They coat the inside of the lungs, including the alveoli, causing coughing. They damage the alveoli, making it more difficult for gas exchange to happen, which negatively impacts respiration as there is less oxygen available.
- **Nicotine** is addictive it causes a smoker to want more cigarettes. It increases the heart rate and blood pressure. It makes blood vessels narrower than normal which can lead to heart disease.
- **Carbon monoxide** takes the place of oxygen in red blood cells. This reduces the amount of oxygen that the blood can carry, again, negatively impacts respiration.
- It is illegal to smoke inside public buildings, in the workplace, on public transport such as buses, trains and planes, and in a car while carrying somebody aged 18 or under.
- An electronic, or E-cigarette is a battery-operated device that emits a vapour to inhale, which usually contains nicotine. The aim is to provide the sensation of inhaling tobacco smoke, without the smoke. When the user inhales, a small amount of liquid is heated until it becomes a vapour. People who use E-cigarettes are therefore not smoking but “Vaping”.

**Asthma** is a common non-infectious disease that can cause breathing difficulties. During an asthma attack, the breathing (bronchial) tubes narrow.



Symptoms of **asthma** include wheezing and shortness of breath and can be treated using medication taken using an inhaler. Risk factors for asthma include air pollution, smoking, low birth weight, having an allergy, and family history.

**Drugs** can be both legal and illegal.

- Medicines are drugs that people take when they are ill.
- People consume other drugs recreationally (for fun), including caffeine, nicotine and alcohol.
- Recreational drugs can be classified as depressants or stimulants.

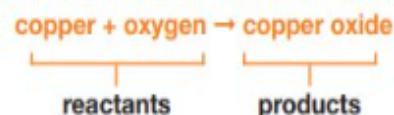
**Drugs** can be categorized as depressants or stimulants. Depressants slow down thinking and reaction times. Stimulants make you feel more alert and can give you quicker thinking and reaction times.

- **Alcohol** is a legal depressant, but long-term alcohol use can damage the brain and liver.
- **Caffeine** is a legal stimulant present in some foods and drinks.
- **Cocaine** and **ecstasy** are examples of illegal stimulants used as recreational drugs.

Substance abuse can cause physical and mental health issues.

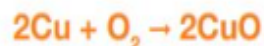
# KS3 Chemical reactions

- The substances you start with in a chemical reaction are called **reactants**.
- During a chemical **reaction**, the reactant atoms have their chemical bonds broken, then re-arranged into new substances called **products**
- A **word equation** is a way of representing these changes



- Any reactants are to the left of the arrow and any products are to the right of the arrow.
- The arrow shows that the reaction is not reversible
- The number of atoms at the start of a chemical reaction is the same as the number of atoms at the end.
- This is called '**conservation of mass**'

- A **balanced symbol equation** uses chemical symbols to represent a reaction.

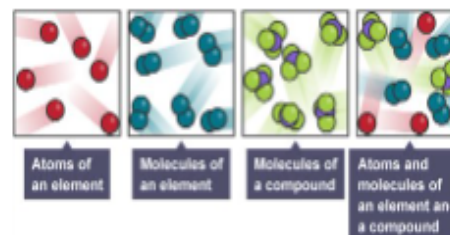


- A balanced symbol equation shows:
  - The formula of each substance in the reaction
  - How the atoms are rearranged
  - The relative number of atoms of each substance.

## Types of reaction

- A **decomposition** reaction is when a substance breaks down into simpler substances. Most decomposition reactions need extra heat to be applied to the reactants to occur – this is called thermal decomposition.
- Combustion** is a type of reaction where oxygen from the air is reacted with a **fuel**.
  - The Carbon and Hydrogen atoms in the fuel are both **oxidised** to form Carbon dioxide and Water molecules.
  - Burning fossil fuels causes the release of extra Carbon dioxide into the atmosphere. This contributes to global warming and climate change

- Element**: A pure substance made of only one kind of atom.
- Molecule**: Two or more atoms bonded together.
- Compound**: A substance made of two or more **different** elements chemically bonded together.



There are 4 signs that a chemical reaction is occurring:

- A gas is released (fizzing or bubbling)
- The temperature of the reaction changes
- The substances change colour
- A solid appears from a solution (precipitate)

Changes of physical state are not chemical reactions, but they are reversible this is called a **physical change**. This is because no new substances are made.

## Keywords

- Atom
- Chemical bond
- Chemical change
- Combustion
- Compound
- Conserved
- Decomposition
- Element
- Fuel
- Molecule
- Oxidation
- Physical change
- Product
- Reactant
- Reaction
- Reduction
- State symbol