Name:

Form:

Knowledge Organisers

Year 8 Term 1

Knowledge is Power

Knowledge Organiser Guide

Your Knowledge Organiser (KO) contains the most important facts, vocabulary, dates, formulas, and definitions you'll need for each subject this term. Learning this core knowledge is essential – it helps you:

- ✅ Do well in your assessments
- ✅ Make better progress in lessons
- ✅ Fill gaps if you miss a lesson
- ✅ Take part in Connect tasks with confidence
- ✅ Become a more independent learner

🔁 **The Look, Cover, Write, Check (LCWC) Method**

This is a daily 15–25 minute routine you can use:

LOOK
Choose a small section of the Knowledge Organiser – just one row or a few key facts. Read it carefully. Say it out loud to help it stick.

COVER
Cover the section with a book, your hand, or a piece of paper.

WRITE
From memory, write down what you remember in your exercise book or on paper. Try to get it as close to the original as possible.

CHECK
Uncover the section and check your answer. Tick what's correct and fix any mistakes using a different colour.

REPEAT
Move on to the next small section and repeat the process.

🧠 Other Great Techniques

Alongside Look. Cover, Write, Check, try these techniques to boost your memory and understanding:

1. Self-Quizzing
Make flashcards from the KO (question on one side, answer on the other) or ask someone at home to quiz you.

2. Mind Mapping
Create mind maps from sections of your KO – this helps you make connections between ideas.

3. Dual Coding
Draw simple diagrams or doodles next to facts – this helps visual learners remember better.

4. Teach It
Explain a topic from your KO to a family member or friend. Teaching helps you learn deeply.

5. Spaced Practice
Revisit the same facts over several weeks. Don't cram – return to older content regularly.

📚 Using Your KO in Class

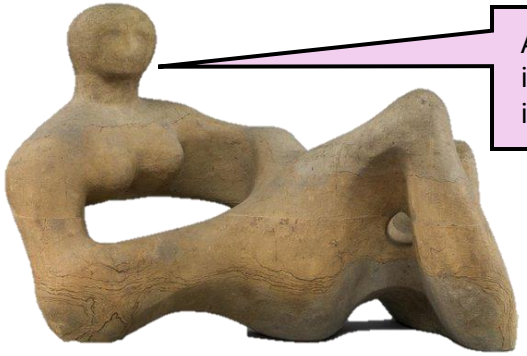
Connect – If your teacher allows, use your KO as part of the Connect activity at the start of your lesson.
Missed a Lesson? – Use the KO to catch up on key knowledge you've missed.
Homework & Revision – Use the KO as your go-to revision tool before assessments.

Art: Y8 Term 1

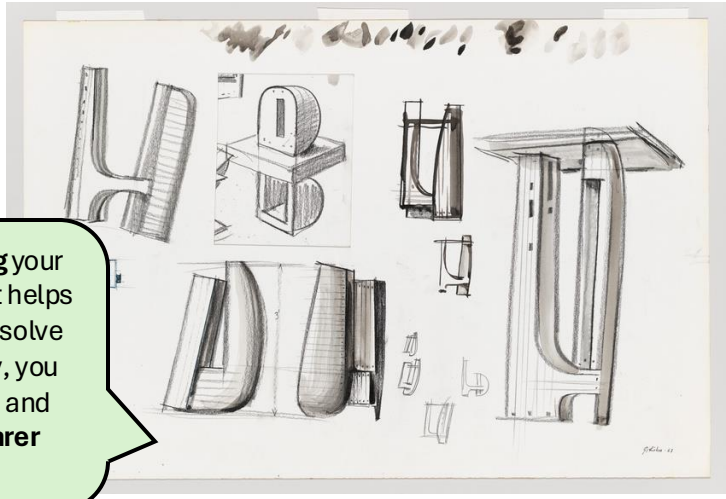
Art Knowledge Organiser: Year 8 3D Sculpture and Design – Term 1

Theoretical Knowledge

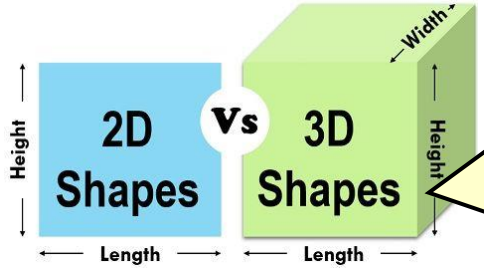
These are the **four steps** we follow when making a **clay sculpture.** You should **recall** following these steps for your **Year 7 Pop Art food sculpture.**



A **sculpture** is a piece of art that you can **see and touch** because it's made in **three dimensions**. Unlike a drawing or painting, which is flat, a sculpture has **height, width, and depth**.

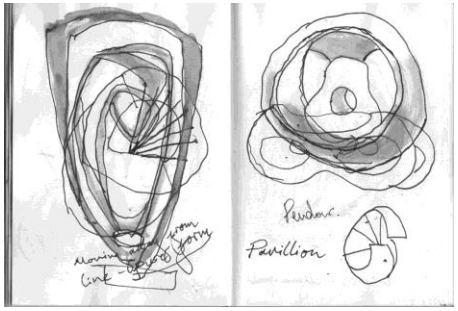


Sketching and designing your sculpture before making it helps you **plan your ideas** and solve problems early. This way, you save time and materials and create a **stronger, clearer sculpture.**



2D (two-dimensional) art is flat. It has only height and width, like a drawing or painting on paper or a screen. You can see the shape and colour, but it doesn't have depth, so you can't walk around it or see it from different sides.

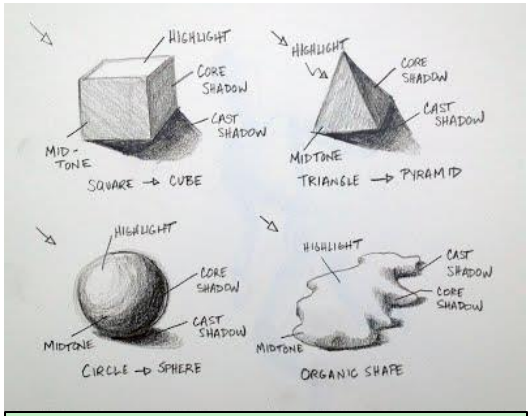
3D (three-dimensional) art has **height, width, *and* depth**. It's real and takes up space, like a sculpture or model. You can look at it from all sides and sometimes even touch or walk around it.



Art Knowledge Organiser: Year 8 3D Sculpture and Design – Term 1

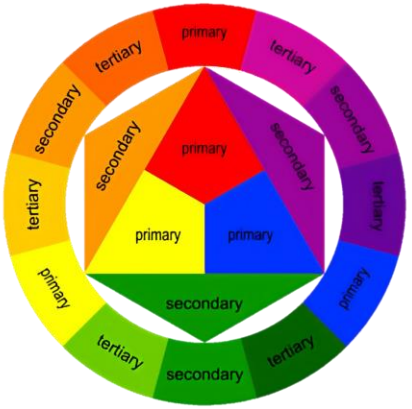
Theoretical Knowledge

Common materials used to create sculptures:
clay, plaster, wood, metal, wire, found objects, papier-mâché.
Basic tools:
carving tools, modelling tools, wire cutters, glue, sandpaper.



Harmonious colours are **next to each other** on the colour wheel, and they **blend** well together.
Example: Red, Orange and Yellow.

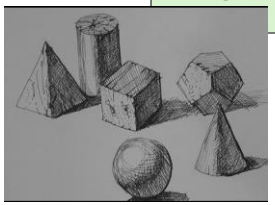
Complementary colours are **opposite** each other on the colour wheel, they make each other **stand out.**
Example: Purple and Yellow.



A **shape** can be **transformed** into a **form** by **adding tone**. **Highlights, mid-tones and shadows** can create a sense of **depth**. We use tone to make our designs look **three dimensional**.

Key Terms:
Shadows = dark tones
Mid-tones = grey tones
Highlights = white tones

Wax resist works by using a **waxy material**, like **oil pastel**, to draw on paper first. When you **paint** or **ink** over it, the wax stops the ink from sticking to those parts, so the waxy areas stay the original colour and **create patterns or shapes**.



Charcoal is a **drawing material** made by burning wood until it's black and soft. It's great for making **dark**, **bold lines** and shading because you can smudge it to create smooth **shadows** and **textures**. Artists like using charcoal because it's easy to blend and can make drawings look **dramatic** and **full of depth**.

Art Knowledge Organiser: Year 8 3D Sculpture and Design – Term 1

Theoretical Knowledge

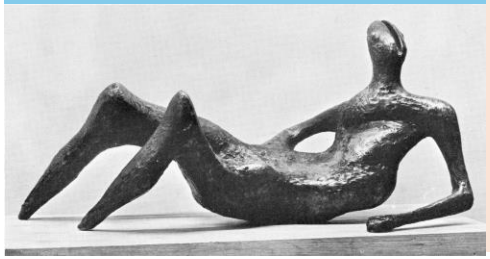
Courtney Mattinson

Courtney Mattison is an **American artist** born in 1985, known for her **large ceramic sculptures** that show the **delicate** beauty of **coral reefs** and the **environmental problems** they face. She studied marine ecology and environmental science, which inspires her to create detailed wall-mounted sculptures using stoneware and porcelain clay. Her artworks often show **bright, colourful coral turning white**, which represents **coral bleaching** caused by **climate change**. Through her art, Mattison wants to raise awareness and encourage people to care for and protect the oceans.

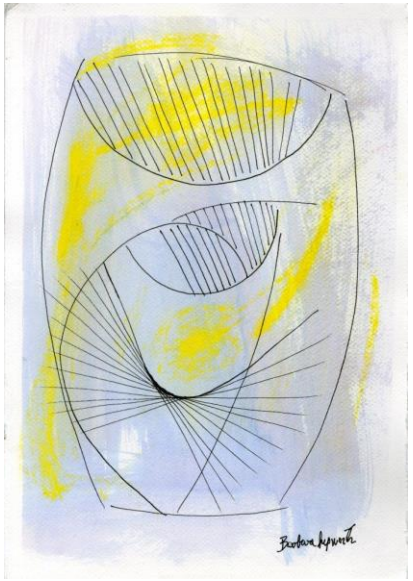
Barbara Hepworth was a famous **British sculptor** who lived in the **20th century.** She was inspired by **nature**, especially the **shapes** of rocks, trees, and the countryside around her home. Hepworth liked to explore how **space** worked in her sculptures, often **carving holes** and openings to let light pass through and create interesting shapes. She used materials like **stone, wood, and bronze**, carefully shaping them with tools to make smooth, simple, and powerful artworks. Her sculptures help people feel calm and **connected to the natural world.**

Barbara Hepworth

Henry Moore



Henry Moore was a famous **British sculptor** who lived from **1898 to 1986**. He is well known for his **large abstract sculptures**, often made from **stone or bronze**. Moore was inspired by **nature**, especially **human bodies** and **landscapes**, and he liked to create **smooth**, **rounded shapes**. He also often made holes in his sculptures to play with light and space. His work is powerful and helps people think about the connection between people and the world around them.



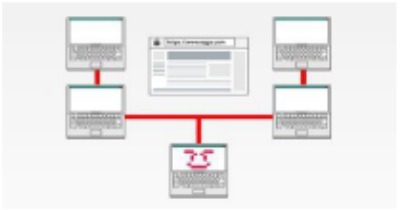
Computing: Y8 Term 1

KS3 Knowledge Organiser

Cyber Security

What is Cyber Security

Is protecting networks, computers, programs and data from attack, damage or unauthorised access through the use of technologies, processes and practices.



The difference between Data and Information

Data is raw facts and figures. For example, a lists of test results for a class. Without any context or analysis, the data may be of limited use on its own.

Information is created when that data has been processed and becomes meaningful: For example, these are scores from a test where the pass mark was 35.

Social Engineering

Manipulating individuals so they give away personal information (e.g. bank account).

Blagging - inventing a scenario to target someone into divulging info. Companies can give employees security training.

Phishing - fraudulently obtaining personal info (using e.g. email or SMS). Beware of links in emails!

Pharming - Cyber-attack to redirect a website's traffic to another, fake site. Check the http address has http's'

Shouldering - observing a person's private info over their shoulder (e.g. ATM)

Name Generator Attacks
These are attacks in which the victim is asked in an app or a social media post to combine a few pieces of information or complete a short quiz to ***produce a name.*** Attackers do this to find out key pieces of information that can help them to answer the security questions that protect people's accounts.

Protection methods

Measures can used to make it more difficult for attackers.

Firewalls
A firewall checks incoming and outgoing network traffic. It scans the data to make sure it doesn't contain anything malicious and that it follows the rules set by the network.

Anti-malware
The anti-malware will have a list of **definitions** of sequences of code that they are aware are malicious. If the code in your files matches the definitions, the files are quarantined.

Auto-Updates
Software that automatically

Malicious code and attacks

Malware - umbrella term to describe a variety of hostile or intrusive software. **Six categories: Virus, Trojans, Worms, Adware, Spyware and Ransomware.**

- **Computer virus** - installed on your computer without your permission with the intention to do harm. Viruses spread through email attachments or IM services OR through files/programs downloaded
- **Trojan** - pretends to have a legitimate purpose. Spread by email
- **Spyware** - gathers info without user knowing (e.g. bank account details).
- **Adware** - internet usage analysed and then advertising targeted.
- **Hacking** – Gaining unauthorised access of a computer.
- **Script kiddie** – Are hackers who use tools downloaded from the internet that allow them to hack with little technical knowledge.
- **Denial of Service Attack (Dos)** – Floods a targeted computer or website with lots of requests and internet traffic in an attempt to overload the system.
- **Distributed Denial of Serve Attack. (DDos)**– This uses the same concept as a DoS attack but this time it is multiple computers making the attack at the same time.
- **Brute Force Attack** – This makes multiple attempts to discover something, for example a password.

Key Vocabulary

Key Word	*Definition*
Botnet	A large collection of malware infected devices.
Hacking	This can be Ethical or Un-ethical hacking
User permissions	Users on a network can be put into groups, with each group having a unique set of privileges.
User Authentication	Secure passwords, maximum number of attempts, CAPTCHA, Biometrics, Two-factor identification.
Internet bot	Automated programs that perform tasks repeatedly. Bots ca have a malicious intent. .
Ransomware	Self-replicating virus – Locks a computer, encrypts files and demands a ransom paid before they decrypt the files and unlock the computer.
Viruses	Malicious from of self-replicating software.

Legislation

Data protection Act 2018

All organisations and people usingand storing personal data must abide by the following principles.

Your rights

As a **data subject**, you have the right to find out what information the government and other organisations store about you.

Computer Misuse Act 1990

Designed to make hacking into computer systems a criminal offence with a potential jail sentence of up to 10 years and an unlimited fine.

Year 8 Spreadsheet Knowledge Organiser

Spreadsheet an electronic document in which data is arranged in the rows and columns of a grid and can be used in calculations.	**Column Heading** is the grey coloured row containing the letters (A, B, C, etc.) used to identify each column in the worksheet.	**Cell** a box in which you can enter a single piece of data	**Cell Reference** is the name given to a cell to uniquely identify it. E.g. E4	**Absolute Cell Reference** A cell reference that does not change when the cell is moved, copied or filled
Autofill/Fill Handle a software function that automatically enters data in spreadsheets	**Data Validation** restrict data entry to certain cells, it displays an error message when a user enters invalid data.	**Formula** an expression which calculates the value of a cell	**Function** a predefined formula that performs calculations using specific values in a particular order.	**Formatting** To change the appearance, layout or organisation of a spreadsheet
Graphs/Charts a visual representation of data from a worksheet that can bring more understanding to the data than just looking at the numbers.	**Conditional Formatting** a feature of Excel which allows you to apply a format to a cell or a range of cells based on certain criteria.	**Sort** the arrangement of data into a specific sequence. E.g. A-Z, smallest to highest	**Filter** to allow only certain data to be displayed.	**Data types** a particular kind of data item, as defined by the values it can take, e.g. Numbers, text, date
Ascending arranged in a series that begins with the least or smallest and ends with the greatest or largest	**Descending** arranged in a series that begins with the greatest or largest and ends with the least or smallest	**Borders** form an edge along or beside (something)	**Columns** a vertical series of cells in a chart, table, or spreadsheet.	**Worksheet** a collection of cells organized in rows and columns
Rows the range of cells that go across (horizontal) the spreadsheet/ worksheet.	**VLookUp** 'Vertical Lookup'. It is a function that makes Excel search for a certain value in a column (the so called 'table array'), in order to return a value from a different column in the same row.	**Profit** a financial gain, especially the difference between the amount earned and the amount spent in buying, operating, or producing something.	**IF statement** The Excel IF Statement tests a given condition and returns one value for a TRUE result and another value for a FALSE result.	**Macro** an action or a set of actions that you can run as many times as you want. When you create a macro, you are recording your mouse clicks and keystrokes.

Why do we use Spreadsheets?

Spreadsheets are used to store information and data.

Once we have our information in a spreadsheet we can run powerful calculations, make graphs and charts and analyse patterns.

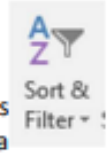
Uses of spreadsheets:

- Modelling and planning
- Wages / invoice
- Budget tracker
- Stock tracking of a business
- Money use in a business
- Teacher may use it to keep a record of student's grades.

Cell reference

A cell reference is the name given to a cell to uniquely identify it. E.g. E4. An absolute cell reference ensures that 1 cell always remains constant even when autofill is used. E.g. E4

Sort & Filter



Sorting data organises it in a specific way e.g. alphabetically filtering data makes it easy for us to find one specific piece of data without having to look through every piece of data

Formulas

Only use when creating a calculation between 2 cells. E.g.

= A1 + B1 (adds)

= A1 - B1 (subtracts)

= A1 * B1 (multiplies)

= A1 / B1 (divides)

Graphs

Click on the insert tab at the top of Excel

Pick the chart that you need:

Autofill

Click on the cell you want to duplicate, grab the black cross in the bottom right-hand corner and drag it down to the remaining cells.

Conditional Formatting

Click on this button to add conditional formatting

Then click on highlight cell rules, depending on what your rule is select the next option that matches the rule you want to create

DT: Y8 Term 1

Design Technology Knowledge Organiser: Y8 Tote Bag Term 1

Key Words and Definitions

A is for **Aesthetics**

Aesthetics means **what does the product look like?**
What is the: Colour? Shape? Texture? Pattern? Appearance? Feel? Weight? Style?

C is for **Cost**

Cost means **how much does the product cost to buy?**
How much does it: Cost to buy? Cost to make?
How much do the different materials cost? Is it good value?

C is for **Customer**

Customer means **who will buy or use your product?**
Who will buy your product? Who will use your product?
What is their: Age? Gender?
What are their: Likes? Dislikes? Needs? Preferences?

E is for **Environment**

Environment means **will the product affect the environment?**
Is the product: Recyclable? Reuseable? Repairable? Sustainable? Environmentally friendly? Bad for the environment?
6R's of Design: Recycle / Reuse / Repair / Rethink / Reduce / Refuse

S is for **Size**

Size means **how big or small is the product?**
What is the size of the product in millimeters (mm)? Is this the same size as similar products? Is it comfortable to use? Does it fit?
Would it be improved if it was bigger or smaller?

S is for **Safety**

Safety means **how safe is the product when it is used?**
Will it be safe for the customer to use? Could they hurt themselves?
What's the correct and safest way to use the product? What are the risks?

F is for **Function**

Function means **how does the product work?**
What is the products job and role? What is it needed for? How well does it work? How could it be improved? Why is it used this way?

M is for **Material**

Material means **what is the product made out of?**
What materials is the product made from? Why were these materials used? Would a different material be better? How was the product made? What manufacturing techniques were used?

Design Brief	What the project requires you to do to solve a problem or design for a need/client
Specification	What requirements the product you are designing needs to meet
Concept	A **concept** is defined as an abstract idea. An original idea.
Realisation	A design idea that is brought to life - made in 3D
Annotate	Explanations about your ideas, how to make them, materials, where you got your inspirations from
Evaluate	Objectively discuss what works well and what didn't when designing and making your products
Design Ideas	Your initial thoughts and sketches that solve the design brief
Development	Your chosen and best idea changed to make it better - using SCAMPER
Isometric Drawing	A final drawing that is in 3D, it shows 3 sides of your product
To scale	This means your drawing is at the actual size in mm's 1:1
Innovative	A brand new idea that nobody has thought of before

Design Technology Knowledge Organiser: Y8 Tote Bag Term 1

Theoretical Knowledge - Research

Product Life Cycles

Cradle to Grave in Product Design

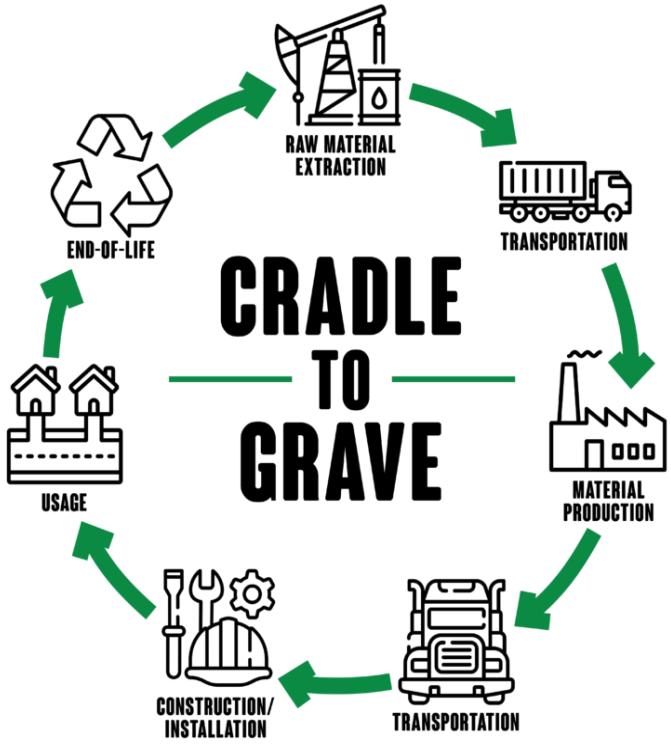
"Cradle to Grave" means looking at the entire life of a product — from the moment it's made to the moment it's thrown away. Think of it like the life story of a product!

The Life Story of a Product:

1. Cradle (Beginning)
This is when the product is designed and made.
It includes choosing materials (like plastic, metal, or wood) and using energy to make it.

2. Use (Middle)
This is when someone buys and uses the product.
It might use electricity, water, or other resources while being used.

3. Grave (End)
This is when the product is thrown away or recycled.
Some products go to landfill, while others can be reused or turned into something new.



Why is it important?
Designers use "Cradle to Grave" thinking to:
- Reduce waste
- Use eco-friendly materials
- Make products last longer
- Help the environment

Design Technology Knowledge Organiser: Y8 Tote Bag 1

Theoretical Knowledge

Canvas Tote Bag and Sustainability Issues

Environmental Benefits

Reusable: Unlike plastic bags, canvas bags can be used **hundreds of times**, reducing waste.

Biodegradable: Made from natural materials like cotton, they break down more easily than plastic.

Reduces Plastic Pollution: Using canvas bags helps cut down on the number of plastic bags that end up in oceans and landfills.

Feature	Canvas Bag	Plastic Bag
Sustainability	Highly sustainable, reusable and made from biodegradable material	Not sustainable - generally single use and made from non-biodegradable material
Durability	Very durable, can be used many times	Not durable, can tear easily
Cost	Higher initial cost but cheaper in the long run compared to buying plastic bags repeatedly	Very cheap buit generally used once
Environmental Impact	Low impact, reduces plastic waste	High impact, pollutes land and can harm wildlife

Other benefits of using Tote Bags

Durability

- Canvas is strong and sturdy, so it can carry heavy items without tearing.
- They last a long time, which means fewer bags are needed over time.

Cost-Effective

- Even though they might cost more at first, they save money in the long run because you don't need to keep buying new bags.

Design Technology Knowledge Organiser: Y8 Tote Bag 1

Theoretical Knowledge

Lino Printing

What is Lino Printing?

Lino printing (short for linoleum printing) is a type of relief printing. That means you carve a design into a surface, roll ink onto it, and then press it onto paper to make a print.

1. Start with a Simple Design
- Use bold lines and simple shapes.
- Avoid tiny details — they're harder to carve and print clearly.

2. Transfer Your Design Carefully
- Draw directly on the lino with a soft pencil, or use tracing paper to transfer your design.
- Remember: your print will come out backwards, so reverse any text!

3. Use Carving Tools Safely
- Always carve away from your hands.
- Use a bench hook or non-slip mat to keep the lino steady.
- Start with shallow cuts and go slowly.

4. Apply Ink Evenly
- Use a brayer (roller) to roll out ink until it makes a soft "hiss" sound — that means it's ready!
- Roll ink onto the lino in thin, even layers.

5. Press Firmly and Evenly
- Use a baren, spoon, or your hands to press the paper onto the inked lino.
- Rub all over to make sure the ink transfers well.

6. Clean Up After Printing
- Wash your lino, tools, and roller with warm soapy water.
- Dry everything well so it lasts longer.

Designers and Artists

Sophie Munns is an Australian visual artist best known for her work exploring the **beauty, science, and cultural importance of seeds**. Her art is deeply connected to nature, especially the **life cycle of plants**, and she uses her creativity to raise awareness about **biodiversity and sustainability**.

Sophie Munns' art is not just beautiful — it's meaningful. It reminds us that:
- Seeds are the beginning of life.
- Protecting biodiversity is essential.
- Art can help us understand and care for the natural world.

Drama: Y8 Term 1

DRAMA Knowledge Organiser: Key Vocabulary Y8 HT1

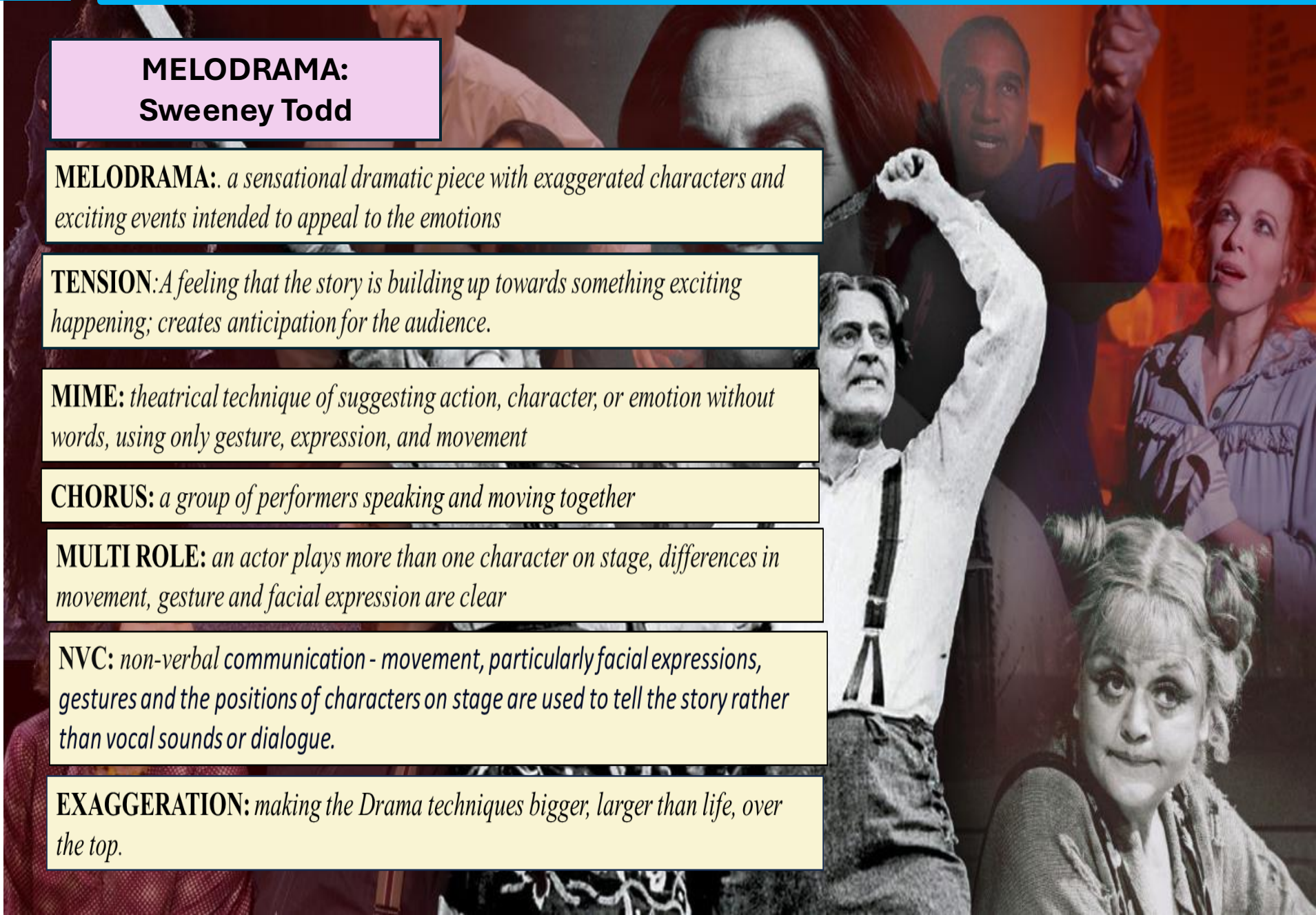
DRAMA TECHNIQUES
Strategies used to communicate meaning to an audience

VOCAL SKILLS
The way you use your voice to communicate your character's intention & emotions.

PHYSICAL SKILLS
Using your face, body, walk & stance to show emotion, age and character traits.

KEY WORD	DEFINITION	KEY WORD	DEFINITION	KEY WORD	DEFINITION
Still image	Creating a frozen picture to represent a moment	**Volume**	How loudly or quietly you speak.	**Facial Expression**	How you communicate your character's emotion using your face.
Mime	Acting without words	**Projection**	To speak loudly and clearly without shouting	**Body Language**	How you communicate your character's emotions using your body.
Thoughts Aloud	The character tells the audience their thoughts	**Articulation**	Clear and precise speech	**Eye Contact**	Used to reveal relationship or status between characters – can be fixed or withdrawn
Slow-motion	Choreography making it look like time is moving slowly. It is a great way of highlighting important or dramatic moments	**Emphasis**	The stress on a certain word(s) when speaking to indicate particular importance or meaning	**Gestures**	Movements of a particular body part, often the hand, to display meaning.
Hot seating	Actors are asked questions while in character to develop a deeper understanding of their characters personality and thoughts	**Pace**	The speed at which you talk e.g. rushing/ speaking quickly if your character is excited or scared.	**Proxemics**	The distance between actor & actor/ actor & audience or actor & object and what that communicates.

DRAMA Knowledge Organiser: Key Vocabulary Y8 HT2



MELODRAMA: Sweeney Todd

MELODRAMA:. *a sensational dramatic piece with exaggerated characters and exciting events intended to appeal to the emotions*

TENSION:*A feeling that the story is building up towards something exciting happening; creates anticipation for the audience.*

MIME: *theatrical technique of suggesting action, character, or emotion without words, using only gesture, expression, and movement*

CHORUS: *a group of performers speaking and moving together*

MULTI ROLE: *an actor plays more than one character on stage, differences in movement, gesture and facial expression are clear*

NVC: *non-verbal communication - movement, particularly facial expressions, gestures and the positions of characters on stage are used to tell the story rather than vocal sounds or dialogue.*

EXAGGERATION: *making the Drama techniques bigger, larger than life, over the top.*

English: Y8 Term 1

English Knowledge Organiser: Year 8 Political Poetry

Keywords and Definitions

Term	Definition
Injustice	A situation where unfair treatment or inequality is present
Oppression	Prolonged cruel or unjust treatment, often by those in power
Patriarchy	A system where men hold power and dominate in roles of leadership
Discrimination	Unjust treatment of different groups based on race, gender, etc.
Prejudice	Preconceived opinion not based on reason or experience
Exploitation	Taking unfair advantage of people or resources for personal gain
Suffering	The experience of pain, hardship, or distress
Domination	Control or power over others, often enforced by force or pressure

Knowledge

What is the context of each poem?

'England in 1819' – Percy Bysshe Shelley

Context: Inspired by the Peterloo Massacre (1819). Shelley was a radical poet and critical of the monarchy and government corruption.

'Aunt Jennifer's Tigers' – Adrienne Rich

Context: Written in 1950s America. Reflects early feminism and criticises patriarchy.

'The United Fruit Co.' – Pablo Neruda

Context: Critiques US corporate exploitation in Latin America.

'Thirteen' – Caleb Femi

Context: Inspired by racist policing, stop-and-search, and adultification of Black boys in the UK

'Still I Rise' – Maya Angelou

Context: Written during the Civil Rights Movement. Responds to racism, slavery, and sexism.

Poet's use language techniques to create meaning

- **Shelley uses alliteration** ('old, mad, blind, despised, and dying King' and 'dregs of their dull race') to **create a sense of anger towards the monarchy.**
- Rich's **tigers symbolise fierceness and boldness** - the qualities Aunt Jennifer does not and cannot embody as a woman in 1950s America.
- **Femi uses metaphor** ('supernovas') to highlight the potential bright futures of young people, but also to hint at a darker, less optimistic path for the future of the speaker.

Extension knowledge

The structure of a poem can support the main message:

- **Aunt Jennifer's Tigers -** the strict rhyme scheme symbolises Aunt Jennifer's entrapment.
- **Thirteen** – The use of free verse (e.g. makes the poem resemble the everyday speech of a child recounting an experience), emphasises the speaker's vulnerability.

Knowledge Organiser: Describing Gothic Settings

Tier 2 Vocabulary

Word	Definition	As a picture	In a sentence
Gothic (adj)	A style of writing that is typically gloomy, mysterious, and frightening		**Gothic** writing often involves isolated settings.
Desolate (adj)	(Of a place) uninhabited, bleak, lonely, abandoned		The house stood alone on the **desolate** moor.
Ominous (adj)	Giving a worrying impression that something bad is about to happen		An **ominous** chill set into the air.
Eerie (adj)	Strange in a frightening way		The moon cast an **eerie**, milky glow on the graveyard.
Sinister (adj)	Menacing, threatening, malign		The trees twisted in a **sinister** dance.

Gothic writing

- Gothic is a style of writing characterised by gloom, mystery, fear, and death. It often has supernatural elements (e.g. ghosts, witches, vampires, monstrous creatures).
- Unlike horror stories, Gothic stories tend to create an atmosphere of tension and suspense for the reader rather than relying on gore and violence to scare the reader.
- Typical Gothic settings are abandoned or isolated locations such as crumbling castles, eerie graveyards, dungeons, haunted houses, ruined mansions, dark forests, and desolate moors. Features such as secret passages and locked rooms in mansions add to the sense of mystery.
- Gothic stories often take place at night, and the weather is usually terrible – dark, gloomy, stormy, misty, etc.
- Animals associated with bad luck or thought to be sinister often feature (such as black cats, spiders, bats, crows), therefore adding to the ominous atmosphere.
- Gothic stories often use pathetic fallacy, sensory language and personification to create an eerie atmosphere.

Tier 3 Vocabulary

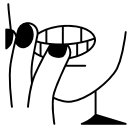
Setting
where and when something takes place

Atmosphere
the feeling or mood

Figurative language
similes, metaphors, and personification

Pathetic fallacy
when the weather reflects the emotions of a character, e.g. rain when someone is sad

Suspense
a state of feeling anxious or scared about what might happen next



Extension knowledge: you can enhance your writing by...

- Using colour imagery
- Using a semantic field (e.g. of death) to create a gothic atmosphere
- Using sentence structure to create suspense

Food & Nutrition: Y8 Term 1

Food & Nutrition Knowledge Organiser: Y8 Health, Safety & Hygiene

Keywords and Definitions

Cross contamination	the unintentional transfer of harmful bacteria from one person, object or place to another.
Hygiene	Cleanliness in washing hands, wearing aprons, tying hair back and washing up.

Knowledge

KNIFE SAFETY

- Never walk around with a knife.
- Hold by the handle and point it downwards.
- Use the correct <u>bridge</u> or <u>claw grip.</u>


Replace knives in the knife block when cleaned.

WEIGHING

1. Place the scales on a flat surface.
2. Turn the scales on.
3. Select 'g' for grams.
4. Place a bowl on the scales and press the on/off/zero button again so the display reads 0.
5. Add ingredients.

Store foods in the fridge at 5°C

CHOPPING BOARDS

RED - RAW MEAT/POULTRY

GREEN - SALAD AND FRUIT

WHITE - DAIRY AND BREAD

BROWN - VEGETABLES

BLUE - RAW FISH

YELLOW - COOKED MEAT/POULTRY

WASHING UP

Use hot, soapy water.

Use a dishcloth or brush to wash up.

Make sure everything is clean for the next person.

Tea towel to dry.

DO NOT PUT DIRTY EQUIPMENT ON THE DRAINING BOARD.

<u>WHITE DIALS - HOB CONTROLS</u>

<u>BLACK DIAL- GRILL/TOP OVEN CONTROLS</u>

<u>BLACK DIAL- OVEN CONTROLS</u>

ALWAYS PREHEAT YOUR OVEN

APRONS NEED TO BE WORN AND TIED.

Food & Nutrition Knowledge Organiser: Y8

Equipment


Measuring jug


Large mixing bowl


Sharp knife


Red chopping board (raw meat)


Black spoon


White spoon


Fish slice


Weighing Scales


Grater


Table knife


Fork


Colander


Whisk


Sieve


Frying pan


Saucepan


Muffin tin


Baking tray


Can opener

Food & Nutrition Knowledge Organiser: Y8 Nutrition

Keywords and Definitions

Carbohydrates (Starches and sugars)	Needed for energy	Starchy foods: bread, pasta, rice, cereals, oats
Protein	Needed for growth, repair and maintenance of body cells	Meat, fish, cheese, eggs, beans, pulses, nuts, tofu
Fats & Oils	Needed for warmth, insulation and fat soluble vitamins	Oils from vegetables, seeds and nuts. Butter.

Fibre – helps the body move food through the digestive system. It is not digested by the body.
Sources include wholemeal breads, rice, pasta, fruit and vegetables.

Knowledge

Vitamin	Function (what it does in the body)	Source (the foods we get it from)
Vitamin A	Helps against infection; eye health; keeps skin healthy	Yellow, red and green vegetables, eggs, cheese, oily fish
B vitamins	Nervous system; releases energy from food.	Breakfast cereals, eggs, milk, meat, fish, mushrooms, oats, bananas
Vitamin C	Protects cells and keeps them healthy; maintains healthy skin, blood vessels, bones and cartilage.	Citrus fruits, strawberries, broccoli, potatoes
Vitamin D	Keeps bones, teeth and muscles healthy.	Oily fish, red meat, egg yolks, breakfast cereals
Vitamin E	Healthy skin and eyes; immune system and protects against illness and infection.	Nuts and seeds, vegetable oil, sunflower oil
Vitamin K	Needed for blood clotting and helping wounds to heal. Keeps bones healthy.	Leafy green vegetables such as broccoli and spinach, vegetable oils and cereal grains.

Mineral	Function (what it does in the body)	Source (the foods we get it from)
Iron	Making red blood cells which carry oxygen around the body.	Red meat, beans, nuts, dried fruit, breakfast cereals.
Calcium	Builds bones and keeps teeth healthy. Blood clotting.	Milk, cheese and other dairy foods. Green leafy veg, soya drinks, fish.
Magnesium	Turns food into energy	Spinach, nuts, wholemeal bread
Potassium	Controls balance of fluids in the body; helps the heart work properly.	Bananas, nuts, seeds, beans and pulses, fish, beef, chicken
Salt	Keeps level of fluids balanced in the body.	Small amounts from cheese, bread, meat products.

Food & Nutrition Knowledge Organiser: Y8 Nutrition

Knowledge

Deficiency: not having enough of something that is needed by the body

Vitamin	Symptoms of deficiency
Vitamin A	Dry eyes, night blindness, infertility, acne, infections
Vitamin B complex	Sore tongue, depression, pins and needles, depression
Vitamin C	Dry skin, nosebleeds, wounds take a long time to heal, bleeding gums
Vitamin D	Tiredness, bone pain, muscle weakness, depression
Vitamin E	Frequent infections, muscle weakness, vision problems.
Vitamin K	Bruising, heavy periods, excessive bleeding from cuts and wounds

Mineral	Symptoms of deficiency
Iron	Anaemia - tiredness and lack of energy shortness of breath, noticeable heartbeats, paler than usual skin, headaches
Calcium	Rickets (weak and soft bones, not growing properly) Osteoporosis (soft bones that break easily) Tiredness and muscle aches.
Magnesium	Vomiting, feeling sick, muscle weakness, tiredness
Potassium	High blood pressure, tiredness, constipation, kidney problems, cramps, abnormal heart rhythm
Sodium	Nausea, vomiting, headaches, confusion, drowsiness, cramps

Food & Nutrition Knowledge Organiser: Y8

Skills

Pineapple Upside Down Cake

Ingredients

1 small can pineapple pieces/chunks
6 glace cherries
2tbs golden syrup
100g self raising flour
100g soft margarine
100g caster sugar
2 eggs

Method

1. Preheat oven to Gas 4,180°C,
2. Place muffin cases in muffin tin.
3. Put a small amount of golden syrup in each bun case with ½ a cherry.
4. Drain the pineapple and break into smaller pieces.
5. Place some pineapple in each bun case.
6. Place the margarine and sugar into a bowl and cream together until light and fluffy..
7. Add the eggs and flour and fold together gently, using a tablespoon.
8. Spread the mixture over the pineapple in each bun case.
9. Bake for about 20 minutes.

Bread Rolls

Ingredients

250g Strong White Flour
7g Dried Yeast
½ tsp sugar
½ tsp salt

Method

1.Preheat Oven 220°C, GM7
2.Place flour in a bowl
3.At one edge of bowl add sugar and yeast
4.At the other edge add salt
5.Make a well in the centre of the flour and add approx. 100ml of warm water.
6.Mix with a knife adding more water until the mixture forms a dough.
7.Knead the dough for 5 mins
8.Let the dough rest for 5 mins
9."Knock" the dough back and divide into 3 to 4 pieces
10.Shape your bread rolls
11.Place on tray in oven. Place another tray with 2cm of hot water on the bottom of the oven.
12.Bake for 20 mins until golden and "hollow" sounding

Focaccia

Ingredients

225g of strong bread flou
1tsp salt
½ sachet of yeast
2 ½ tsp olive oil
100ml warm water

Pepper, onion, tomato, rosemary to decorate

Method

1. Make the dough, as per the bread roll recipe, adding the oil to the water.
2. Shape the dough into a flat rectangle, or your desired shape.
3. Using your index finger, make holes in the dough, all over.
4. Brush the dough with a little olive oil and a sprinkle of salt.
5. Using the vegetables to create your desired pattern on your dough.
6. Cook the focaccia for 15 to 20 mins until browned.

Food & Nutrition Knowledge Organiser: Y8

Skills

Samosas

Ingredients

1 pack pre-made filo pastry
1 medium potato
1 small carrot (diced)
50g frozen peas
1 small onion (sliced)
1 clove garlic
1 tsp spice mix (2 teaspoons turmeric, 1 teaspoon cumin, 1/2 teaspoon garam marsala, 1/2 teaspoon chilli flakes, ½ tsp cinnamon)
lemon juice

Method

1.Preheat oven to 200C GM 6.
2.Peel and dice the potato (1cm cubes)
3.In a pan boil the carrot and potato for 8 mins
Add the peas and cook for 2 mins. Drain and set the veg aside.
4.In a frying pan, fry the onion for 3 minutes then stir in the garlic, and spice mix and cook for a further minute. The remove from the heat.
5.Add the cooked veg to the pan and mix. Layout the filo pastry and cut into approx. 10cm wide strips
6.Brush the pastry with oil. Add a spoon of mixture. Fold the strip over the filling in triangles. Repeat for all strips.
7.Bake for 25 mins

Mince Pies

Ingredients

150g plain flour
75g butter
Cold water

1 jar mincemeat

Method

1.Preheat oven to 190C GM 5.
2.Rub fat into flour until it looks like breadcrumbs.
3.Add a teaspoon of cold water and form into a dough (add another teaspoon if needed).
4.Roll out dough and cut discs and any other shapes required.
5.Line tray with pastry discs
6.Spoon a tablespoon of mincemeat into each mince pie
7.Add pastry shape on top and seal the edges
8.Bake for 15mins until golden.

Mayonnaise

Ingredients

1 egg yolk
125ml vegetable oil
1 tsp Dijon mustard
1 tsp white wine vinegar or lemon juice

Method

1. Tip the egg yolk and mustard into a bowl, season with salt and pepper and whisk together until completely combined.
2. Whisking constantly, add a small drop of oil and whisk until completely combined, then add another drop and continue a drop at a time until the yolks and oil combine and start to thicken.
3. Once the oil and eggs are coming together add the oil a bit more at a time, but be patient, as adding the oil too quickly will cause the mayonnaise to split and curdle.

Food & Nutrition Knowledge Organiser: Y8

Skills

Pizza Whirls

Ingredients
Ingredients
250g Strong White Flour
7g Dried Yeast
½ tsp sugar
½ tsp salt

50g pizza sauce/tomato puree
100g grated cheese
Pizza toppings as desired

Method
1. Preheat Oven 220°C, GM7
2. Make the bread dough as per the bread roll recipe.
3. Roll out to a rectangle.
4. Spread the pizza sauce/tomato puree across the dough. Add the toppings.
5. Sprinkle the cheese on top.
6. Starting from the short edge, roll the dough up. Cut the dough into 8 pieces.
7. Place on a baking tray, leaving room between each for the dough to spread.
8. Bake for 20 –25 mins until risen and golden brown..

Brownies

Ingredients
100g butter
225g caster sugar
70g dark chocolate, broken into pieces
2 large eggs
50g plain flour
25g cocoa powder

Method
1.Heat the oven to 190C/170C Fan/Gas 5.
2.Place the muffin cases into the muffin tin.
3.Gently melt the butter and the sugar together in a large pan. Once melted, take off the heat and add the chocolate. Stir until melted.
4.Beat in the eggs, then stir in the flour and the cocoa powder.
5.Pour the brownie batter into the muffin cases and bake for 20 – 30 minutes, or until the edges of the brownie are just firm but there is still a gentle wobble in the middle.
6.Take out of the oven and leave to cool in the tin.

CHEF CHALLENGE - PASTA

Ingredients
Method
100g plain flour
1 egg

Method
1. Place the flour on the work surface and make a hole in the middle (so it looks like a volcano.)
2. Break the egg into the hole and mix the egge into the flour with your fingers.
3. Work the dough until it comes together as a ball
4. Use the pasta machine to roll the pasta as thin as possible (go down the settings to make it thinner OR use a rolling pin to roll out the dough on a floured surface.
5. Cut into shapes or use the cutter on the pasta machine to make tagliatelle or linguini.
6. Cook in boiling water for a few minutes until the pasta rises to the top.

Food & Nutrition Knowledge Organiser: Y8

Skills

Burritos

Ingredients
125g minced beef
4 tortillas
1 garlic clove
1 onion
1tsp seasoning
½ can chopped tomatoes
½ can black beans or kidney beans
100g rice (or precooked rice)

Method
1. Place rice in a saucepan. Add just enough cold water to cover it. Place on the hob to boil. Cook for 15 minutes.
2. Peel and chop the garlic and dice the onion.
3. Heat a tablespoon of oil in a frying pan. Add the garlic and seasoning. Crumble the mince and fry until browned.
4. Add the chopped tomatoes, simmer for 5 minutes. Add the beans, then simmer for 15 minutes.
5. Drain the rice.
6. Place the beef sauce and the rice along the middle of the tortilla. Add any other toppings.
7. Fold over the ends and roll up to seal. Secure by wrapping with foil.

Chilli

Ingredients
1 large onion
1 red pepper
2 cloves garlic
250g mince
1 can kidney beans
½ to 1 tsp of chilli powder
1 tsp paprika
1 beef/vegetable stock cube
1 tin chopped tomatoes
1 rounded tbs of tomato puree

Method
1. Chop onion and pepper into small pieces.
2. Peel and finely chop 2 garlic cloves.
3. Put 1 tbsp oil into your pan and leave it for 1-2 minutes until hot (a little longer for an electric hob).
4. Add the onion and cook, stirring frequently, for about 5 minutes. Tip in the garlic, red pepper, 1 heaped tsp hot chilli powder or 1 level tbsp mild chilli powder, 1 tsp paprika.
5. Give it a good stir, then leave it to cook for another 5 minutes, stirring occasionally.
6. Add the mince. Keep stirring for 5 minutes.
7. Crumble 1 beef stock cube into the pan. Add tomatoes and tomato puree..
8. Bring the whole thing to the boil, give it a good stir and put a lid on the pan. Turn down the heat until it is gently bubbling and leave it for 20 minutes.
9. Drain kidney beans, then add to the chilli. Stir.

Sweet and Sour Chicken

Ingredients
1 Chicken breast or Quorn Fillets
1 onion
1 can pineapple chunks
2 tablespoons sugar
2 tablespoons vinegar
1 tablespoon tomato puree
1 tablespoon soy sauce
1 tablespoon cornflour
2 tablespoons oil
Red/Yellow/Green Pepper

Method
1. Peel and chop the onion and pepper (optional). Cut the chicken into small pieces.
2. Heat the oil in a large pan or wok and fry the onion and pepper.
3. Add the chicken pieces and fry over a high heat for five mins, stirring occasionally.
4. Drain the juice from a the pineapple into a measuring jug and add water to make 250ml.
5. Add the pineapple chunks to the chicken.
6. Mix the rest of the ingredients into the measuring jug.
7. Pour the liquid into the pan and simmer for 10 mins, stirring occasionally.

Food & Nutrition Knowledge Organiser: Y8

Skills

Savoury Rice

Ingredients

1 onion
3 mushrooms
½ red pepper
150g long grain rice
1 stock cube
50g peas
2 x tsp curry powder

Method

1. Dissolve the stock cube in boiling water in a saucepan.
2. Add the rice.
3. Prepare all the vegetables – dice the pepper, slice the mushroom, dice the onion.
4. Add the vegetables to the pan of rice along with the curry powder.
5. Turn the heat down and simmer for 15 minutes.
6. Serve.

Chow Mein

Ingredients

150g medium egg noodles
dash toasted sesame oil
2 skinless chicken breast fillet
2 tbsp light soy sauce
1 tsp five-spice powder
1 tsp chilli sauce (optional)
1 tbsp cornflour
1 red pepper, seeds removed and thinly sliced
150g beansprouts
1 spring onion, sliced lengthways

Method

1. Cook the noodles in a pan of boiling water for 2–3 minutes, until al dente, or according to packet instructions. Drain, then rinse under cold running water and drain again. Drizzle with a dash of sesame oil and toss through to prevent the noodles from sticking to each other.
2. Put the chicken strips in a bowl and season with a dash of light soy sauce, the five-spice powder and chilli sauce, if using. Mix well, then lightly dust the chicken strips with the cornflour.
3. Heat a wok until smoking and add the groundnut oil, then add the chicken and stir fry for 3–4 minutes, or until the chicken is golden-brown and cooked through.
4. Add the red pepper and stir fry for 1 minute, then add the bean sprouts and spring onion and stir fry for 30 seconds. Stir in the cooked noodles and season with the soy sauce, a dash of sesame oil and freshly ground black pepper.
5. Pile the noodles onto a serving plate and serve immediately.

Lemon Curd

Ingredients:

2 lemons, washed
100g sugar
50g butter
2 eggs

Method

1. Zest the lemon – do not remove more than the yellow zest.
2. Cut the lemons in half and remove the juice.
3. Break the eggs in a saucepan and whisk gently.
4. Add the butter, sugar, lemon zest and lemon juice to the saucepan.
5. Place over a gentle heat and whisk continually.
6. Continue whisking until the mixture thickens (about 7 to 10 mins.) Pour into the warmed jar. When cooled, place in the fridge to set.

Food & Nutrition Knowledge Organiser: Y8

Skills

Fruit Tart

Ingredients

180g crumbled digestive biscuits
40g butter or margarine
200g cream cheese
120g lemon curd
Berries to decorate

Method

1. Melt the butter, then add the crushed biscuits. Press the mixture into the sides and bottom of a round tin or foil dish. Place in the freezer for about 10–15 minutes.
2. Mix the cream cheese and lemon curd and spread into the bottom of the chilled tart tin, covering the base evenly.
3. Arrange the fruit gently (so it doesn't sink in too much) on top of the cream cheese/lemon mixture in a decorative pattern.
4. Place the tart in the fridge. It does need to get properly cold in order to set enough for the tart to be unsprung and sliced

Fish Cakes

Ingredients

100g white fish/tin of mackerel, tuna or salmon
250g potatoes, cooked and mashed
15gmargarine
1 egg
Breadcrumbs
2 tbs flour

Method

1. Place the cold mashed potato and drained/flaked fish into a bowl. REMEMBER TO REMOVE ANY SKIN OR BONES. Season with salt and pepper.
2. Using a fork, mash the mixture together.
3. Divide the mixture into 6 pieces and shape into fish cakes. Coat each one in flour, then beaten egg and then breadcrumbs.
4. Heat a small amount of oil in a frying pan. Fry the fish cakes very gently, turning over once.
5. Drain on kitchen paper.

Low Fat Korma

Ingredients

1 chicken breast, skinless and boneless
OR cauliflower florets, red pepper, green beans, tin of chick peas etc
40g (1 1/2oz) natural yoghurt
1 medium onion, finely chopped
2 garlic cloves, finely chopped
2.5cm (1in) piece root ginger, peeled and grated
1 ½ tbsp korma curry paste
2 tbsp double cream
1 tsp soft brown sugar

Method

1. **Cut the chicken breasts/or the vegetables into bite-sized pieces, season well.**
2. **Heat the oil in a frying pan or wok over a medium heat. Add the onions, garlic and ginger and cook, stirring frequently, for 5 mins. Add the chicken and cook through until white.**
3. **Turn the heat down.**
4. **Add the curry paste and cook for another 2-3 mins. Add 100ml water and bring to the boil. Turn down the heat and simmer, uncovered, for 10-12 mins or until the liquid has reduced by half.**
5. **Stir in the yogurt, cream and sugar and cook for another 10 mins or until the chicken is tender** and cooked through, stirring all the while.

Geography: Y8 Term 1

GEOGRAPHY Knowledge Organiser: Y8 WEATHER & CLIMATE

Lesson	Core knowledge
1 - What is the atmosphere?	• The **atmosphere** is the layer of gases that surrounds the Earth. It is up to 10,000km thick and contains a mixture of gases - mostly nitrogen and oxygen. • The Earth's atmosphere can be divided into **five layers** – troposphere, stratosphere, mesosphere, thermosphere and exosphere. • The **troposphere** (the layer closest to the surface) is where all the worlds weather happens. As you move away from the surface, temperatures in the troposphere decreases.
2- What are clouds?	• **Weather** is the day-to-day conditions in the atmosphere (such as temperature, rainfall, wind speed, air pressure). • Clouds are made up of tiny **water droplets**. • **Stratus clouds** are blanket clouds that cover the sky. **Nimbostratus** clouds are darker and bring rain. • **Cirrus clouds** are made of ice (not water droplets) and appear as wispy clouds high in the sky. • **Cumulus clouds** are fluffy clouds (the type you would draw in a cartoon picture). **Cumulonimbus clouds** are the tall and dark storm clouds that bring thunder and lightning.
3- What is convectional rainfall?	• All clouds form when air is forced to rise. • **Convectional rain** happens when heat from the sun warms the ground. The warm air, above the ground, rises and the water vapour cools. The water vapour **condenses** to form cloud droplets. • Rain droplets form when the tiny water droplets in the cloud **coalesce (stick)** together to form larger rain droplets. These are too heavy and fall out of the cloud.
4 - What is relief rainfall?	• **Relief rainfall** happens when air is forced to rise over a mountain. • As the warm air rises, it cools, and water vapour **condenses** to form water droplets and cloud. • Rain droplets form when the tiny water droplets in the cloud **coalesce** together to form larger rain droplets. These are too heavy and fall out of the cloud. • A **rain shadow** happens on the other side of the mountain as the air descends and warms back up.
5 - How do air masses affect the UK's weather?	• An **air mass** is a large volume of air that has the same temperature and humidity. • The **tropical maritime air mass** brings warm, wet weather to the UK. • **The polar and Arctic Maritime air mass** brings cold and wet, and sometimes snowy weather to the UK. • The **polar continental air mass** brings cold and dry weather to the UK. • The **tropical continental air mass** brings hot and dry weather to the UK. This air mass is responsible for heatwaves.
6 - How do you draw and interpret a climate graph?	• **Climate** is the average weather conditions in an area. • **Climate graphs** show the average **temperature** for each month of the year. • **Climate graphs** also show the total **precipitation** for each month of the year. • The bars always show precipitation, whilst the line shows temperature.
7 - What factors impact the climate of Europe?	• **Latitude** refers to the distance from the **equator**. The sun's energy is **concentrated** at the equator making it hotter. • Close to the north and south pole, the **curvature** of the Earth causes the sun's energy to spread out over a larger area, decreasing the temperature. • **Altitude** refers to the height above sea level. The higher you go, the colder it becomes. • In summer, areas closest to the sea are cooler. This is because the sea absorbs heat from the sun slowly, whilst land absorbs heat quickly making it hotter. • In winter, the opposite happens as the sea releases heat slowly making areas closer to the sea warmer.
8 - How do heatwaves impact the UK?	• A **heatwave** is an **extended period** of **hotter than average** weather for the area at that time of year. • **Social impacts** include health issues linked to dehydration and sun burn, school closures • **Economic impacts** include loss of crops, cancelled trains due to railway tracks melting, road closures. • There are some positive **economic** impacts such as increased profits for some businesses e.g. tourism. • **Environmental impacts** include drought, dried up rivers and increased chance of forest fires.

GEOGRAPHY Knowledge Organiser: Y8 UNEQUAL WORLD

Lesson	Core knowledge
1 - How are the world's countries classified?	• **High-Income Countries (HICs)** – These are countries with high levels of income, and strong economies and its people have a good quality of life, such as the UK, USA, and Germany. • **Low-Income Countries (LICs)** – These countries have lower levels of income, often relying on farming, with its people having a poorer quality of life. Examples include Chad and Afghanistan. • **Newly Emerging Economies (NEEs)** – These are countries experiencing rapid industrial and economic growth, often moving from an LIC to an HIC status. Examples include India, Brazil, and China. • Most HICs are in Europe, Oceania and North America. NEEs are found in South America and Asia, whilst LICs are in Central Africa.
2 - What is life like in HICs, LICs and NEEs?	• **Quality of Life**– People in **HICs** generally have high wages, good healthcare, and access to education, while **LICs** often face poverty, poor healthcare, and low literacy rates. **NEEs** are improving but still have inequalities between rich and poor areas. • **Employment**– **HICs** have diverse economies with many jobs in services (e.g., banking, technology). **LICs** rely on agriculture and raw materials, often with lower wages. **NEEs** are shifting towards manufacturing and industry, creating new job opportunities. • **Infrastructure and Services** – **HICs** have advanced transport networks, modern hospitals, and reliable electricity. **LICs** often struggle with poor roads, limited healthcare, frequent power shortages and unclean water. **NEEs** are rapidly improving infrastructure but may still have overcrowding and pollution.
3 - What are development indicators?	• Development indicators are statistics that help measure the level of development of a country: 1. **Birth Rate** – The number of live births per 1,000 people per year. **LICs tend to have high birth rates** due to lack of contraception and the need for more children to work on farms, while **HICs have lower birth rates** due to family planning and career-focused lifestyles. 2. **Infant Mortality Rate** – The number of babies who die before their first birthday per 1,000 live births. **A high infant mortality rate** suggests poor healthcare, malnutrition, and sanitation, which is more common in **LICs**, whereas **HICs** have much lower rates due to better medical care. 3. **Calorie Intake** – The average number of calories eaten per person per day. **HICs have high calorie intake**, often leading to health issues like obesity, while **LICs may have lower calorie intake**, leading to malnutrition. 4. **Literacy rate** (percentage of adults who can read and write) is higher in **HICs** due to good education systems, whereas **LICs** may have lower rates due to poverty and lack of schools. 5. **Life expectancy** (average number of years a person is expected to live) is also higher in **HICs** because of better healthcare, whereas **LICs** may have shorter life expectancies due to disease and not eating enough food.
4 - Why do LICs exist in the world today?	• **Colonialism** – Many **LICs** were once ruled by richer countries (colonies). These powerful countries took **natural resources** and used the land for their own benefit. When the LICs became independent, they were left with **weak economies and little money** to develop. • **Natural Disasters** – Some **LICs** experience frequent **earthquakes, floods, and droughts**, which destroy homes, farmland, and businesses. With little money to rebuild, development is slow, and people struggle to escape poverty. • **Climate** – Some LICs have **very hot or very wet climates**, which make farming difficult. If crops fail due to **droughts or heavy rains**, people may go hungry, and the country earns less money from selling food. • **War and Conflict** – Many LICs have had **wars or ongoing fighting**, which **destroys towns, schools, and hospitals**. This means that the government must pay money to repair the damage rather than improving the country. • **Corruption** – In some LICs, **leaders may keep money for themselves** instead of spending it on healthcare, schools, and roads. This stops the country from developing, and people continue to live in **poor conditions**.

History: Y8 Term 1

History Knowledge Organiser: Y8 HT1 – The Slave Trade

Keywords and Definitions

Slavery - System where people are treated as property – they are bought and sold. They have no rights or freedoms.

Transatlantic slave trade – Enslavement of African people brought over to the Americas to work on plantations.

Empire - A group of countries owned by one country.

Colony – A country owned by another country.

Triangular Trade - Trade system consisting of Europe, Africa and the Americas.

Middle passage: Transporting enslaved Africans to the Americas.

Slave Ship – Ship carrying enslaved Africans on the middle passage. Ships could be packed *tightly* or *loosely*.

Tight Pack – As many slaves packed on as possible but more died.

Loose Pack – Less slaves packed on but more survived

Americas - Countries of North and South America e.g. the Caribbean and Southern States of America.

Slave Auction - Where Slaves were sold

Plantation – Huge farm where slaves cultivated crops for their masters.

Knowledge

Slavery has existed for thousands of years however between the 16th century and 19th century around 12-15 million Africans were captured, kidnapped and transported to the Americas. The legacy of the transatlantic slave trade is profound, contributing to enduring racial inequalities and demographic changes in the Americas, and leaving a lasting impact on African societies.

The Slave Trade Triangle:

1. European ships took cloth, guns, iron pots, swords and other manufactured goods to Africa and exchanged them for African slaves.
2. Ships loaded with slaves crossed the Atlantic to the Americas where they were sold.
3. Ships loaded with sugar, cotton, tobacco, returned to Europe.

Middle Passage

The **middle passage** lasted roughly 6-8 weeks and many slaves did not survive due to horrifying conditions on ships. Men were kept below deck, separate from women and children who were above.

- **Conditions -** Slaves would be chained together in unsanitary conditions that led to disease outbreaks and many deaths
- **Exercise –** Slaves were forced to dance for entertainment
- **Resistance –** Some slaves tried to resist by jumping overboard, attacking capturers or refusing food.

Slave Auctions

After surviving the middle passage, slaves would be prepared for sale by being made to look healthy. Slaves could be sold by *auction* or *scramble*. Auctions were often advertised in newspapers.

- **Preparation** – Slaves were rubbed with oil and wounds would be filled with tar.
- **Auction** – Sold to the highest bidder.
- **Families** – They were often split up and would never see each other again. Slaves would then be transported to their owners plantation.

History Knowledge Organiser: Y8 HT2 – Slavery and Abolition

Key Dates

Key Dates –

1807 -The British Parliament passed the *Abolition of the Slave Trade Act*, making the transatlantic slave trade illegal for British subjects and ships.

1831 – *Nat Turner's Rebellion* – Significant uprising in Virginia, resulted in 60 white deaths.

1833 – *Slavery Abolition Act* passed in British Empire, freeing all slaves.

1791-1804 – *Haitian Revolution* – Only successful Slave rebellion that ended slavery in Haiti and established the first independent Black republic.

1861-1865 – *American Civil War.* This was a conflict between the Northern states (Union) and Southern states (Confederacy).

1863 - *Emancipation Proclamation* issued by Lincoln that declared all slaves in the USA free.

1865 – The Thirteenth Amendment to the U.S. Constitution abolished slavery in U.S after the civil war.

Knowledge

Plantation life was cruel and gruelling, slaves worked long hours, had poor diets and lived in cramped cabins. If a woman was pregnant then her child would become property of the plantation owner once born. Slaves were subject to brutal punishments at the discretion of their masters and overseer – leading to forms of resistance. The Abolitionist Movement began to gain momentum in the 1780s in Britain and continued throughout the 1800s where slavery was eventually ended in the United States and British Empire.

Abolitionists

Abraham Lincoln (1809 – 1856) – US President who banned slavery.

William Wilberforce (1759 – 1833) – A British MP and a leader of the abolition movement in British Parliament.

Olaudah Equiano (1745-1797) – Former slave who wrote and published his horrific experiences as a slave.

Toussaint Louverture (1743 – 1803) - Leader of Haitian Revolution.

Punishments for slaves:

- Enforced discipline and maintained control.
- Included whipping, shackling, mutilation, and branding.
- Used to instil fear and suppress any resistance or rebellion.
- Punishment was a key element in the oppressive structure of slavery, perpetuating the dehumanization of the enslaved.

Passive Resistance

This was often hidden and took place day to day. It included thinks such as maintaining cultural practice e.g. African names, language and music. Other things include working slowly, breaking tools/stealing and feigning illness.

Active Resistance

This form of resistance was less frequent. It included revolts, murder and attempts to escape the plantation e.g. Maroon communities.

Key Words

Planation – A huge farm where slaves would cultivate crops e.g. cotton, sugar and tobacco.

Slave Punishment - Punishments to instil fear and obedience included whipping, branding and beating.

Overseer – Directed the daily work of slaves.

Slave Resistance – Slaves fought against their servitude in many different ways e.g. running away

Active Resistance *(Would be noticed)* **–** running away, forming rebellions or violent uprisings.

Passive Resistance *(Would not likely be noticed)* **-** Working slowly, pretending to be ill, or sabotaging and stealing equipment.

Rebellion – the violent action or process of resisting authority, control.

Abolition – The Movement to end slavery

Abolitionist – Someone aiming to help end slavery

American Constitution – Laws that govern U.S.A.

Parliament – Where MPs discuss Britain's laws and pass new ones.

Maroon Communities – A group of former slaves who escaped and lived outside of plantations.

Mathematics: Y8 Term 1

Mathematics

Year 8 HALF TERM 1:

R2 Ratio
In this chapter, students develop a strong understanding of ratio as a way of comparing quantities and solving problems involving proportional reasoning. The chapter begins with understanding the concept of ratio and interpreting it in a variety of contexts. Students then apply this understanding to a range of ratio problems, including situations where the whole, a part, or the difference is given. These steps help students to reason flexibly and apply logical thinking to break down problems step by step. The chapter continues with simplifying ratios, an essential skill for comparing values, and moves on to expressing ratios in the forms 1:n and n:1, which are commonly used in real-life contexts such as scale models and maps. Students also learn to compare ratios and fractions, reinforcing links between different representations of proportional relationships. The chapter concludes with multi-step ratio problems, encouraging students to choose appropriate methods and apply their knowledge with confidence

R3 Proportion and scale
In this chapter, students explore proportional reasoning and its applications in scale and measurement. The chapter begins with understanding direct proportion, where one quantity increases in relation to another, and moves on to using conversion graphs to solve real-life problems. Students apply proportional reasoning to convert between currencies, reinforcing their understanding of scaling up and down. They then learn to interpret and draw direct proportion graphs, connecting graphical representations to equations and tables. The focus then shifts to similar shapes, where students use scale factors to find missing lengths and understand geometric enlargement. They also practise converting metric units, preparing them for solving practical problems with mixed units of measure. The chapter concludes with scale diagrams and interpreting maps using scale and ratios, helping students apply their knowledge in real-world contexts such as design, architecture, and geography. This chapter strengthens both mathematical fluency and spatial awareness.

A4 Algebraic manipulation
In this chapter, students build fluency and confidence in working with algebraic expressions and develop essential manipulation skills that underpin much of secondary mathematics. The chapter begins with learning how to form algebraic expressions from words and situations, followed by distinguishing between formulae, expressions, identities, and equations—a key step in developing algebraic reasoning. Students then practise simplifying expressions, including working with directed numbers in both general manipulation and substitution. They develop skills in expanding and factorising single brackets and then combine techniques to expand and simplify expressions involving multiple terms. As students progress, they explore more advanced algebraic techniques, including expanding double brackets of the form $(x\pm a)(x\pm b)(x\pm a)(x\pm b)$, and factorising quadratic expressions, setting the groundwork for solving equations and working with functions in later years. Throughout the chapter, students focus on accuracy, structure, and flexibility in their methods, allowing them to approach algebraic problems with confidence

Mathematics

Knowledge Organisers : Year 8 HT1

R2 Ratio

What do I need to be able to do?

Step 1 Understand ratio
Step 2 Ratio problems (whole given)
Step 3 Ratio problems (part given)
Step 4 Ratio problems (difference given)
Step 5 Simplify ratios
Step 6 Express ratios in the form 1:n and n:1 (E)
Step 7 Compare ratios and fractions
Step 8 Solve problems with ratio

Keywords

Ratio: a statement of how two numbers compare
Equal Parts: all parts in the same proportion, or a whole shared equally
Proportion: a statement that links two ratios
Order: to place a number in a determined sequence
Part: a section of a whole
Equivalent: of equal value
Factors: integers that multiply together to get the original value
Scale: the comparison of something drawn to its actual size

Representing a ratio

"For every 5 boys there are 3 girls"

5:3

This is the "whole" – boys and girls together

This represents the 5 boys | This represents the 3 girls

Double Number Line

This represents the 5 boys

This represents the 3 girls

This is the "whole" – boys and girls together

Order is Important

"For every dog there are 2 cats"

Dogs : Cats

1:2

The ratio has to be written in the same order as the information is given.
e.g. 2:1 would represent 2 dogs for every 1 cat ✗

Simplifying a ratio

Cancel down the ratio to its lowest form

"For every 6 days of rain there are 4 days of sun"

6:4

÷ by 2

3:2

rain | sun

Find the biggest common factor that goes into all parts of the ratio

For 6 and 4 the biggest factor (number that multiplies into them is 2)

"For every 3 days of rain there are 2 days of sun" – when this happens twice the ratio becomes 6:4

Ratio 1:n (or n:1)

This is asking you to cancel down until the part indicated represents 1

Show the ratio 4:20 in the ratio of 1:n

The question states that **this part has to be** 1 unit. Therefore **Divide by 4**

4 : 20

1 : 5

This side has to be divided by 4 too – to keep in **proportion**

*If the n part does not have to be an integer for this type of question

Units are important:

When using a ratio – all parts should be in the same units

Useful Conversions

mm ⇄ cm ⇄ m ⇄ km (×10, ×100, ×1000 / ÷10, ÷100, ÷1000)

g ⇄ kg (×1000 / ÷1000)

ml ⇄ L (×1000 / ÷1000)

Sharing a whole into a given ratio

James and Lucy share £350 in the ratio 3:4
Work out how much each person earns

Model the Question

James : Lucy

3 : 4

James | Lucy | £350

Find the value of one part

Whole: £350
7 parts to share between
(3 James, 4 Lucy)

£350 ÷ 7 = £50

□ = one part = £50

Put back into the question

James : Lucy

3 : 4 (×50 / ×50)

£150 : £200

James = 3 x £50 = £150

Lucy = 4 x £50 = £200

Finding a value given 1:n (or n:1)

Inside a box are blue and red pens in the ratio 5:1
If there are 10 red pens how many blue pens are there?

Model the Question

Blue : Red

5 : 1

□ = one part = 10 pens

Blue pens | Red pens | One unit = 10 pens

Put back into the question

Blue : Red

5 : 1 (×10 / ×10)

50 : 10

Blue pens = 5 x 10 = 50 pens

Red pens = 1 x 10 = 10 pens

There are 50 Blue Pens

Ratio as a fraction

Trees : Flowers

3 : 7

Trees | Flowers | Ratio

There are 3 parts for trees

Fraction of trees

Number of parts of in group / Total number of parts = 3/10

Tree parts 3 + Flower parts 7 = 10

Fraction

Pi π

Circumference | Diameter

The ratio of a circles circumference to its diameter

Mathematics

Knowledge Organisers : Year 8 HT1

R2 Ratio

R2 - RATIO

Retrieval Practice

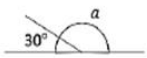
1) Which of the numbers are prime?

2, 4, 5, 9, 21

2) What is the Highest Common Factor of 12 and 18?

3) A bag contains 3 red and 4 blue counters.
A counter is taken at random.
What is the probability the counter is red?

4) Work out the value of a.



Vocabulary check: Regular

Sparx Maths

Extension work

Codes for related Independent Learning tasks on SPARX maths:

Click on 'Independent Learning' on home page then enter code in search box

Understand ratio – M885, M801
Ratio problems (whole given) – M801, M525
Ratio problems (part given) – M801, U753
Ratio problems (difference given) – U753, U865
Simplify ratios – M885, U687
Express ratios in the form 1:n and n:1 (E) – M543
Compare ratios and fractions – M267, U176
Solve problems with ratio – M801, U577, U676

Career Focus - Where could this take you?

I'm a baker. I adjust ingredient ratios to create recipes and bake goods with the right taste and texture.

Topic Links

This topic links to:

- Similar shapes, enlargements, vector geometry.

Additional Resources

Corbettmaths

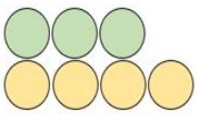
To further practise and develop your knowledge see:

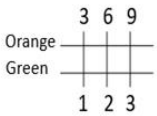
- Videos: 269-271

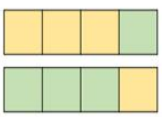
Self quizzing

Match each ratio card to its corresponding representation.

3 : 1 | 3 : 4 | 1 : 3







Challenge Activities

Which of these ratios are the same?

$8a : 10a$

$\frac{28}{45} : \frac{35}{45}$

$16 : 20$

$4 : 5$

$0.8 : 1$

$4 \times 10^3 : 5 \times 10^2$

Mathematics — Knowledge Organisers : Year 8 HT1 — R3 Proportion & Scale

What do I need to be able to do?

Step 1 Direct proportion
Step 2 Conversion graphs
Step 3 Convert between currencies
Step 4 Direct proportion graphs
Step 5 Similar shapes
Step 6 Convert metric units
Step 7 Scale diagrams
Step 8 Interpret maps using scale and ratios

Keywords

Ratio: a statement of how two numbers compare
Equal Parts: all parts in the same proportion, or a whole shared equally
Proportion: a statement that links two ratios
Order: to place a number in a determined sequence
Part: a section of a whole
Equivalent: of equal value
Factors: integers that multiply together to get the original value
Scale: the comparison of something drawn to its actual size

Direct Proportion

As one variable changes the other changes at the same rate.

4 cans of pop = £2.40

This is a multiplicative change

4 cans of pop = £2.40 → (x 0.5) → 2 cans of pop = £1.20

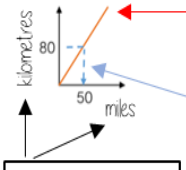
4 cans of pop = £2.40 → (x 3) → 12 cans of pop = £7.20

This multiplier is the same in the same way that this would be for ratio

Sometimes this is easiest if you work out how much one unit is worth first
e.g. 1 can of pop = £0.60

Conversion Graphs

Compare two variables



This is always a straight line because as one variable increases so does the other at the same rate

To make conversions between units you need to find the point to compare – then find the associated point by using your graph
Using a ruler helps for accuracy
Showing your conversion lines help as a "check" for solutions

Labelling of both axes is vital

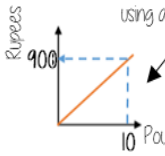
Conversion between currencies

£1 = 90 Rupees ← Currency is directly proportional

For every £1 I have 90 Rupees

£1 = 90 Rupees → (x 10) → £10 = 900 Rupees

Currency can be converted using a conversion graph



Convert 630 Rupees into Pounds

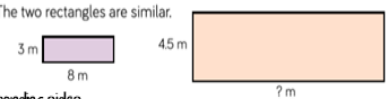
630 ÷ 90 = 7

£1 = 90 Rupees → (x 7) → £7 = 630 Rupees

Ratio between similar shapes

Angles in similar shapes do not change.
e.g. if a triangle gets bigger the angles can not go above 180°

The two rectangles are similar.



Corresponding sides

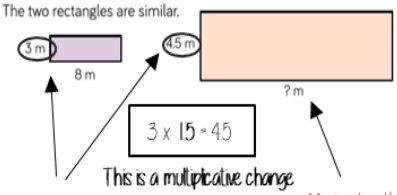
3m : 4.5m → (x 3) → 1m : 1.5 m

8m : 12m → (x 8) → 1m : 1.5 m

Note
Simplify to the same ratio

Understand Scale Factor

The two rectangles are similar.



3 x 1.5 = 4.5

This is a multiplicative change

Missing length
8 x 1.5 = 12m

Use **corresponding** sides to calculate a scale factor

Scale factor can also be calculated by

Bigger corresponding side
Smaller corresponding side

Small corresponding side → (x SF) → Big corresponding side

Big corresponding side → (÷ SF) → Small corresponding side

Draw and interpret scale diagrams

A picture of a car is drawn with a scale of 1:30

For every 1cm on my image is 30cm in real life

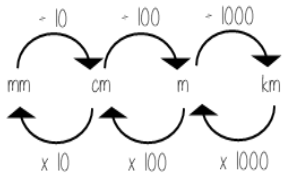
The car image is 10cm

Image : Real life
1cm : 30cm
10cm : 300cm (x 10)

The car in real life is 210cm

Image : Real life
1cm : 30cm
7cm : 210 cm (x 7)

Interpret maps with scale factors



1 cm : 250 m

Ratios need to be in the same units

1 cm : 250m
250 x 100 = 25000
1 cm : 25000cm

For every 1cm on my map is 25000cm in real life

Mathematics Knowledge Organisers : Year 8 HT1 R3 Proportion & Scale

R3 - PROPORTION AND SCALE

Retrieval Practice

1) What is the ratio of green to red?

2) Work out $2 \times 2 \times 2 \times 3$

3) A bag contains 3 red and 4 blue counters.
A counter is taken at random.
What is the probability the counter is blue?

4) What is $\frac{3}{5}$ of 20?

Vocabulary check: Commutative

Sparx Maths

Extension work

Codes for related Independent Learning tasks on SPARX maths:

Click on 'Independent Learning' on home page then enter code in search box

Direct proportion – U721, U640
Conversion graphs – U652, U741
Convert between currencies – U610
Direct proportion graphs – U721, U238
Similar shapes – U551, U578, U630
Convert metric units – M774, U388
Scale diagrams – M1121
Interpret maps using scale and ratios – M1112, M801, U577

Career Focus - Where could this take you?

I am a manufacturing engineer: I determine production rates and resource requirements by analysing conversion graphs.

Topic Links

This topic links to:

- Best Value, Recipes, Equivalent ratios and fractions

Additional Resources

Corbettmaths

To further practise and develop your knowledge see:

- Videos:151, 152, 254, 255, 349

Self quizzing

The two rectangles are similar.

The height has gone up by 1.5 m, so the width of the orange rectangle is 9.5 m.

The ratio of the height of the purple to orange rectangle is 2 : 3

Do you agree with Rosie or Tommy?
Explain your answer.

Challenge Activities

A toy train costs three times as much as a rocket.

The total cost of the train and rocket is £52

How much does the train cost?

Mathematics Knowledge Organisers : Year 8 HT1

A4 Algebraic manipulation

What do I need to be able to do?

Step 1 Form algebraic expressions
Step 2 Identify and use formulae, expressions, identities and equations
Step 3 Simplify expressions
Step 4 Use directed number with algebra
Step 5 Substitution with directed number
Step 6 Expand a single bracket
Step 7 Factorise into a single bracket
Step 8 Expand single brackets and simplify
Step 9 Expand double brackets of the form $(x+a)(x+b)$ (E)
Step 10 Factorise quadratic expressions (E)
Step 11 Expand double brackets (E)

Keywords

Expression – A combination of numbers, variables, and operations without an equal sign
Equation – A mathematical statement showing two expressions are equal, often solved to find unknown values
Formula – A rule or relationship written using symbols, often used to calculate values
Identity – An equation that is always true for all values of the variables
Simplify – To reduce an expression to its simplest form by combining like terms or performing operations
Substitution – Replacing a variable with a number to evaluate an expression or solve an equation
Expand – Removing brackets by multiplying terms
Factorise – Writing an expression as a product of its factors
Directed Number – A number with a sign (positive or negative), used in algebra to handle operations with negatives

Form expressions

For unknown variables, a letter is normally used in its place

More than – ADD
Less than/ difference – SUBTRACT

e.g 4 more than t → t + 4
8 less than k → k - 8

Only similar terms can be grouped together

e.g Find the perimeter of this shape
(Perimeter = length around outside of shape)

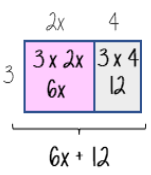
t + 2t + 1 + t + 2t + 1 → 6t + 2

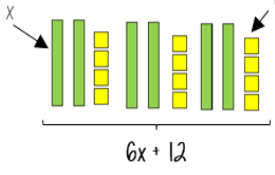
Directed numbers

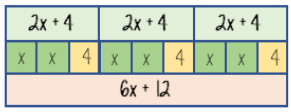
+ + → +
- - → +
+ - → -
- + → -

e.g a = -5 and b = 2
$a^2 = a \times a = -5 \times -5 = 25$
b + a = 2 + - 5 = -3

Multiply single brackets 3 (2x + 4)

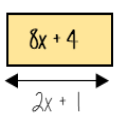






Different representations of 3(2x+4) = 6x + 12

Factorise into a single bracket 8x + 4



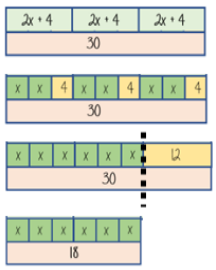
Try and make this the **highest common factor**

The two values **multiply** together (also the area) of the rectangle

$8x + 4 \equiv 4(2x + 1)$

Note.
$8x + 4 \equiv 2(4x + 2)$
This is factorised but the HCF has not been used

Solve equations with brackets 3 (2x + 4) = 30



3 (2x + 4) = 30 — Expand the brackets
6x + 12 = 30
-12 -12
6x = 18
- 6 - 6
x = 3

Substitute to check your answer. This could be negative or a fraction or decimal

Substituting known variables

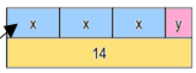
A line has the equation 3x + y = 14

Two different variables, two solutions

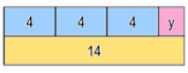
Stephanie knows the point x = 4 lies on that line. Find the value for y

$x = 4$

$3x + y = 14$



$3(4) + y = 14$



$12 + y = 14$
-12 -12
$y = 2$

Algebraic constructs

Expression A sentence with a minimum of two numbers and one maths operation
Equation A statement that two things are equal
Identity An equation where both sides have variables that cause the same answer includes ≡
Formula A rule written with all mathematical symbols
e.g. area of a rectangle A = b x h

Expanding double brackets

Double: Where each term in the first bracket is multiplied by all terms in the second bracket. A double bracket will be a quadratic equation.

$(p + 2)(2p - 1)$
$= 2p^2 + 4p - p - 2$
$= 2p^2 + 3p - 2$

$(p + 2)^2 = (p + 2)(p + 2)$
$= p^2 + 2p + 2p + 4$
$= p^2 + 4p + 4$

Factorising Quadratics

Putting an expression back into brackets. To "factorise fully" means take out the HCF.

Factorise.

Add to find the middle term 2+4

$x^2 + 6x + 8$
$= (x + 2)(x + 4)$

Multiply to find the end term
1 x 8 (2 x 4)

Add to find the middle term
-3 + 1

$x^2 - 2x - 3$
$= (x - 3)(x + 1)$

Multiply to find the end term (1 x 3)

Mathematics Knowledge Organisers : Year 8 HT1

A4 Algebraic manipulation

A4 - ALGEBRAIC MANIPULATION

Retrieval Practice

1) List the possible outcomes from flipping two coins.

2) Is "height in cm" discrete or continuous data?

3) Does (4, 5) lie on the line $y = x$?

4) Share £80 in the ratio 7 : 3

Sparx Maths

Extension work

Codes for related Independent Learning tasks on SPARX maths:

Click on 'Independent Learning' on home page then enter code in search box

Form algebraic expressions – M813, M830
Simplify expressions – M795, M531, M949
Identify and use formulae, expressions, identities and equations – M813, M208, M521, M957
Use directed number with algebra – M106, M288
Substitution with directed number – M417, M327, M208
Expand a single bracket – M237 Factorise into a single bracket – M100
Expand single brackets and simplify – M792
Expand double brackets of the form (x+a)(x+b) (E) – U768
Factorise quadratic expressions (E) – U178, U858, U960
Expand double brackets (E) – U768, U606

Career Focus - Where could this take you?

Mathematics plays a crucial role in many criminal investigations.

Topic Link

This topic links to:
Solving Linear Equations and Basic Inequalities

Additional Resources

To further practice and develop your knowledge see Sparx clips above or Videos 111, 111a
https://corbettmaths.com/contents/

Anagrams

ftcnfeceiio

veaeinlutq

tocudrp

Self quizzing

Simplify the expressions on the cards.

$3p + 4p - 8p$

$-3p - 4p - 8p$

$-3p + 4p - 8p$

$3 \times -4p$

$-3 \times -4p$

$-3 \times 4p$

$-3 \times -4p \times -2$

Expand these brackets.

$3(x + 5)$

$3(x - 5)$

$-3(x - 5)$

$3(5 - x)$

$-3(x + 5)$

$x(x + 5)$

$3(5 + x)$

$2x(5 - x + y)$

Challenge Activities

Dora and Amir are both given the same starting number.

Dora: I triple the number and add on seven

Amir: I add two to the number and then multiply by 4

Dora's answer is less than Amir's.
Is it possible that the starting number was negative?
If so, give an example.

Mathematics

Year 8 HALF TERM 2:

A5 Coordinates and graphs

In this chapter, students explore coordinate geometry by plotting and interpreting graphs in all four quadrants. The chapter begins with reading and plotting coordinates in all four quadrants, and identifying lines parallel to the axes, laying the groundwork for understanding linear relationships. Students then learn to construct and interpret a table of values, using it to draw straight-line graphs. They explore familiar graphs such as y=xy=x and extend this to lines of the form y=mxy=mx, introducing the concept of gradient and linking it to direct proportion. As they progress, students consider negative gradients and graph lines in the form y=x+cy=x+c and y=mx+cy=mx+c, gaining fluency in identifying and describing linear equations. Later in the chapter, students learn to find the midpoint of a line segment and apply coordinate methods to solve problems involving geometry and algebra. The chapter concludes with an introduction to quadratic graphs, helping students recognise curved graphs and understand how they differ from linear relationships. This progression prepares students for more advanced graph work involving functions and transformations.

N8 Multiplying & Dividing Fractions

In this chapter, students extend their understanding of fractions by focusing on multiplication and division, including applications with mixed numbers and algebraic expressions. The chapter begins with dividing and multiplying fractions by integers, helping students connect fraction operations to familiar number work. Students then move on to multiplying fractions, using visual models and numerical methods to build fluency. The concept of a reciprocal is introduced as a key idea in fraction division, supporting students as they learn todivide integers and fractions by unit fractions, and eventually progress to dividing any pair of fractions. With these foundations in place, students tackle more complex tasks involving the multiplication and division of mixed numbers, applying conversion techniques and accurate calculations. Finally, they apply their understanding to algebraic fractions, multiplying and dividing expressions that involve variables. Throughout the chapter, emphasis is placed on method selection, reasoning, and working systematically, preparing students for further work with rational numbers and algebraic manipulation.

G3 Symmetry and reflections

In this chapter, students deepen their understanding of symmetry, beginning with identifying line symmetry in a range of 2D shapes. They then explore rotational symmetry, recognising patterns and determining the order of rotation for regular and irregular figures.Students learn to reflect shapes in horizontal and vertical lines, developing spatial reasoning and accuracy in drawing. This skill is then extended to include reflections in diagonal lines, reinforcing students' understanding of geometric transformations. Later in the chapter, students work with reflections in lines given by an equation, such as y = x or x = -2, connecting coordinate geometry with transformation skills. Finally, students practise how to describe reflections using mathematical language, supporting clear communication and reasoning. This chapter strengthens students' grasp of symmetry and transformations, laying a foundation for more advanced geometry involving congruence, transformations, and coordinate work.

Mathematics

Knowledge Organisers : Year 8 HT2

A5 Coordinates and graphs

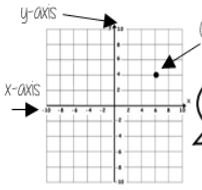
What do I need to be able to do?

Step 1 Coordinates in all four quadrants
Step 2 Lines parallel to the axes
Step 3 Table of values
Step 4 Recognise and use the line y=x
Step 5 Lines of the form y=mx
Step 6 Link y=mx to direct proportion (E)
Step 7 Introduce gradient (y=mx)
Step 8 Lines with a negative gradient
Step 9 Lines of the form y=x+c
Step 10 Lines of the form y=mx+c
Step 11 Find the midpoint of a line segment (E)
Step 12 Solve problems with coordinates and graphs
Step 13 Quadratic graphs (E)

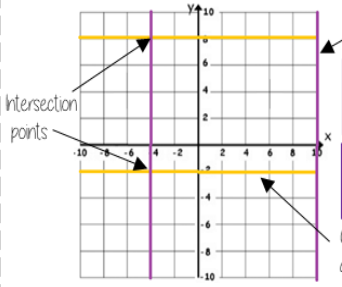
Keywords

Gradient: the steepness of a line
Intercept: where two lines cross. The y-intercept: where the line meets the y-axis.
Parallel: two lines that never meet with the same gradient
Co-ordinate: a set of values that show an exact position on a graph
Linear: linear graphs (straight line) – linear common difference by addition/ subtraction
Asymptote: a straight line that a graph will never meet
Reciprocal: a pair of numbers that multiply together to give 1
Perpendicular: two lines that meet at a right angle

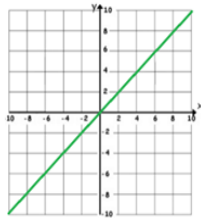
Coordinates in four quadrants



Lines parallel to the axes

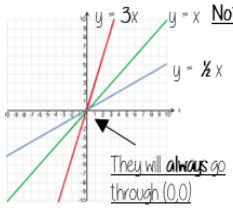


Recognise and use the line y=x

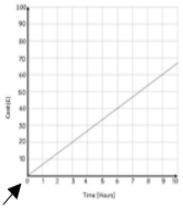


Recognise and use the lines y=kx

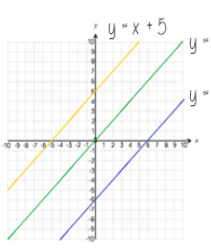
The value of k changes the steepness of the line



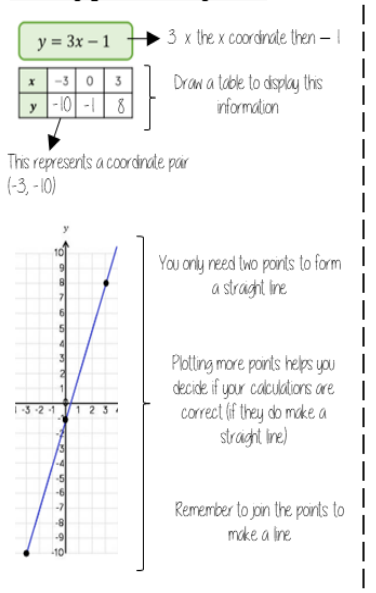
Direct Proportion using y=kx



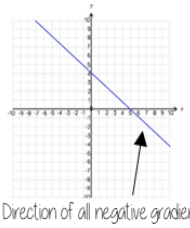
Lines in the form y = x + a



Plotting y = mx + c graphs



Lines with negative gradients



A5 Coordinates and graphs

Mathematics Knowledge Organisers : Year 8 HT2

A5 - COORDINATES AND GRAPHS

Retrieval Practice

1) Work out $\frac{1}{2} \div \frac{1}{8}$

2) Find the product of 7 and $\frac{2}{3}$

3) A rectangle is 20 cm long and 8 cm wide.
The rectangle is enlarged by scale factor 2
Write down the dimensions of the enlarged rectangle.

4) What is the highest common factor of 60 and 84?

Sparx Maths

Extension work

Codes for related Independent Learning tasks on SPARX maths:
Click on 'Independent Learning' on home page then enter code in search box

Coordinates in all four quadrants – M618, U789
Lines parallel to the axes – M797
Table of values – M932, U741
Recognise and use the line $y = x$ – M932, U741
Lines of the form $y = mx$ – U741, U315
Link $y = mx$ to direct proportion (E) – U721, U640
Introduce gradient ($y = mx$) – U315, U477
Lines with a negative gradient – U741, U315
Lines of the form $y = x + c$ – U741, U315
Lines of the form $y = mx + c$ – U315, U669
Find the midpoint of a line segment (E) – M622, M311
Solve problems with coordinates and graphs (E) – U741, U315
Quadratic graphs (E) – U989, U667, U601

Career Focus - Where could this take you?

I need to be able to read graphs and plans when I build.

Topic Links

This topic links to:

- Drawing conversion graphs, scatter graphs and correlation.

Additional Resources

Corbettmaths

To further practise and develop your knowledge see:

- Videos: 84 - 88

Self quizzing

On the same axes, draw the graphs of the following equations by completing the table of values.
Discuss key features of each graph.

$y = 3x - 1$

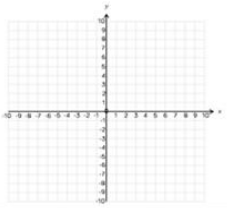
x	−3	0	3
y			

$y = \frac{1}{2}x + 3$

x	−6	0	6
y			

$y = -2x + 6$

x	−2	0	2
y			

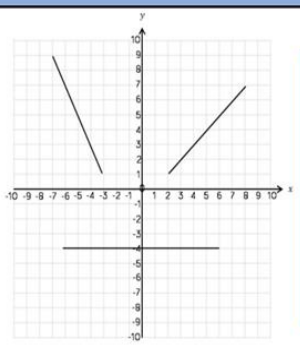


Plotting the graphs can help identify any errors in your table.

Alex

Comment on Alex's statement. What does she mean?

Challenge Activities



Work out the midpoint of the following line segments.

Using the same coordinate grid, draw a line with a midpoint of (0, 1)

What are the end points? How many different pairs of end points could there be?

Mathematics Knowledge Organisers : Year 8 HT2

N8 Multiplying & Dividing Fractions

What do I need to be able to do?

Step 1 Divide a fraction by an integer
Step 2 Multiply a fraction by an integer
Step 3 Multiply fractions
Step 4 Understand reciprocals
Step 5 Divide an integer by a fraction
Step 6 Divide a fraction by a unit fraction
Step 7 Divide fractions
Step 8 Multiply and divide mixed numbers
Step 9 Multiply and divide algebraic fractions (E)

Keywords

Numerator: the number above the line on a fraction. The top number. Represents how many parts are taken.
Denominator: the number below the line on a fraction. The number represent the total number of parts.
Whole: a positive number including zero without any decimal or fractional parts.
Commutative: an operation is commutative if changing the order does not change the result.
Unit Fraction: a fraction where the numerator is one and denominator a positive integer.
Non-unit Fraction: a fraction where the numerator is larger than one.
Dividend: the amount you want to divide up.
Divisor: the number that divides another number.
Quotient: the answer after we divide one number by another. e.g. dividend÷ divisor = quotient
Reciprocal: a pair of numbers that multiply together to give 1.

Representing a fraction

Numerator
Denominator

$\frac{3}{5}$

Number of parts represented
Numerator

Number of parts to make up the whole
Denominator

ALL PARTS of a fraction are of equal size

Repeated addition = multiplication by an integer

$4 \times \frac{2}{5} \rightarrow \frac{2}{5} + \frac{2}{5} + \frac{2}{5} + \frac{2}{5}$

Integer (Whole number)

Each part represents $\frac{1}{5}$

How many parts are shaded?
What each part represents

$= \frac{8}{5} = 1\frac{3}{5}$

Each whole is split into the same number of parts as the denominator

Revisit
When adding fractions with the same denominator - add the numerators

Multiplying unit fractions

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

Parts shaded

Total number of parts in the diagram

Modelled

3

4

Multiplying non-unit fractions

$\frac{3}{4} \times \frac{2}{3}$

Shade in 3 parts

Repeat it on this many rows

This many columns

This many rows

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

Parts shaded

Total number of parts in the diagram

Modelled

3

4

Quick Multiplying and Cancelling down

$\frac{\cancel{3}^{1}}{5} \times \frac{4}{\cancel{9}_{3}}$

The 3 and the 9 have a common factor and can be simplified

Quick Solving
Multiply the numerators
Multiply the denominators

$\frac{1 \times 4}{5 \times 3} = \frac{4}{15}$

The reciprocal *When you multiply a number by its reciprocal the answer is always 1*

$3 \times \frac{1}{3} = 1$

$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$

The reciprocal of 3 is $\frac{1}{3}$ and vice versa

Reciprocals for division

e.g. $5 \div \frac{1}{4} = 20$

$5 \times 4 = 20$

Multiplying by a reciprocal gives the same outcome

Dividing an integer by an unit fraction

$1 \div \frac{1}{4} = 4$

How many quarters are in 1?

"There are 4 quarters in 1 whole
Therefore, there are 20 quarters in 5 wholes"

$5 \div \frac{1}{4} = 20$

Dividing any fractions *Remember to use reciprocals*

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

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

Multiplying by a reciprocal gives the same outcome

Represented

$= \frac{8}{15}$

Mathematics Knowledge Organisers : Year 8 HT2

N8 Multiplying & Dividing Fractions

N8 - MULTIPLYING & DIVIDING FRACTIONS

Retrieval Practice

1) A map is drawn to a scale of 1 : 200
What distance is represented by 4 cm on the map?

2) Shapes A and B are similar.
What is the scale factor of the enlargement from A to B?

3) Write the ratio 120 : 200 in its simplest form.

4) Solve the equation $3a + 7 = 82$

Sparx Maths

Extension work

Codes for related Independent Learning tasks on SPARX maths:

Click on 'Independent Learning' on home page then enter code in search box

Divide a fraction by an integer – M110
Multiply a fraction by an integer – M157
Multiply fractions – M157, U475
Understand reciprocals – M216
Divide an integer by a fraction – M110
Divide a fraction by a unit fraction – M110
Divide fractions – M110, U544
Multiply and divide mixed numbers – M197, M265, U224, U538
Multiply and divide algebraic fractions (E) – U457, U824

Career Focus - Where could this take you?

I also adjust recipe quantities by multiplying or dividing fractions for accurate ingredient measurements.

Topic Links

This topic links to:

- Finding fractions of an amount, algebraic fractions, percentages

Additional Resources

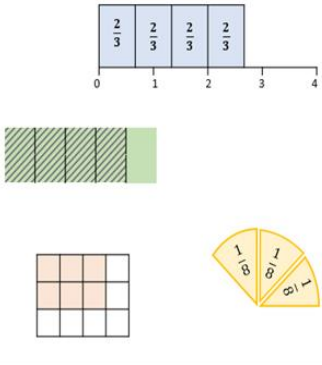
Corbettmaths

To further practise and develop your knowledge see:

- Videos: 22, 23

Self quizzing

What multiplication do each of the diagrams show?



Challenge Activities

Eva and Rosie are playing a game with 4 dice arranged in a calculation. If the answer is a whole number you win a point.

What numbers could Eva roll to score a point?

Here is Rosie's roll. Can she score a point?

Mathematics

Knowledge Organisers : Year 8 HT2

G3 Symmetry and reflections

What do I need to be able to do?

Step 1 Line symmetry
Step 2 Rotational symmetry
Step 3 Reflect a shape in a horizontal or vertical line
Step 4 Reflect a shape in a diagonal line
Step 5 Reflect a shape given equation of a line (E)
Step 6 Describe a reflection (E)

Keywords

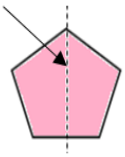
Mirror line: a line that passes through the center of a shape with a mirror image on either side of the line
Line of symmetry: same definition as the mirror line
Reflect: mapping of one object from one position to another of equal distance from a given line
Vertex: a point where two or more line segments meet
Perpendicular: lines that cross at 90°
Horizontal: a straight line from left to right (parallel to the x axis)
Vertical: a straight line from top to bottom (parallel to the y axis)

Rotational Symmetry – A shape has rotational symmetry if it looks the same after being rotated around a central point.

Describing Transformations – Clearly stating the type of transformation, the line of reflection, and the direction or position of the image.

Lines of symmetry

Mirror line (line of reflection)



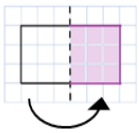
Shapes can have more than one line of symmetry.... This regular polygon (a regular pentagon has 5 lines of symmetry)

Rhombus
two lines of symmetry

Parallelogram
No lines of symmetry

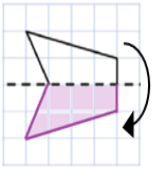
A circle has an infinite amount of lines of symmetry

Reflect horizontally/ vertically (1)



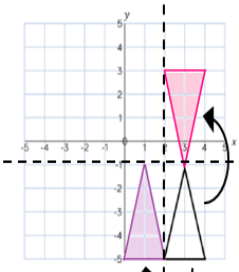
Note: a reflection doubles the area of the original shape

Reflection in a vertical line



Reflection in a horizontal line

Reflection on an axis grid

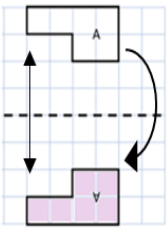


Reflection in the line y=-2

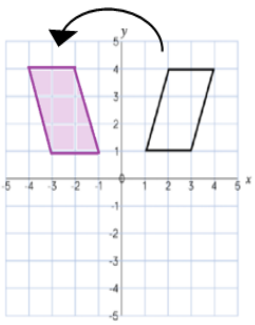
Reflection in the line x=2

Reflect horizontally/ vertically (2)

All points need to be the same distance away from the line of reflection



Reflection in the line y axis – this is also a reflection in the line x=0

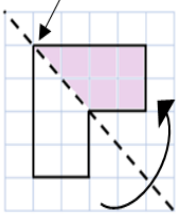


Lines parallel to the x and y axis

REMEMBER
Lines parallel to the x-axis are y = ____
Lines parallel to the y-axis are x = ____

Reflect Diagonally (1)

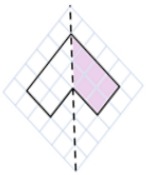
Points on the mirror line don't change position

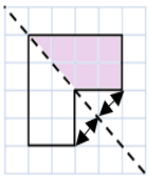


Fold along the line of symmetry to check the direction of the reflection

Turn your image

If you turn your image it becomes a vertical/ horizontal reflection (also good to check your answer this way)



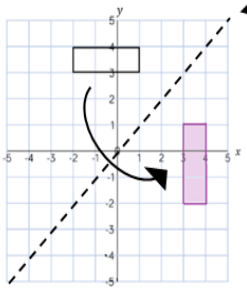


Drawing perpendicular lines

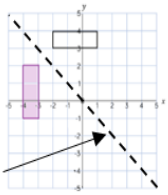
Perpendicular lines to and from the mirror line can help you to plot diagonal reflections

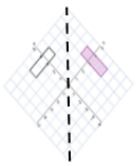
Reflect Diagonally (2)

This is the line **y = x** (every y coordinate is the same as the x coordinate along this line)



This is the line **y = - x**
The x and y coordinate have the same value but opposite sign





Turn your image

If you turn your image it becomes a vertical/ horizontal reflection (also good to check your answer this way)

Mathematics Knowledge Organisers : Year 8 HT2

G3 Symmetry and reflections

G3 - SYMMETRY AND REFLECTIONS

Retrieval Practice

1) Find the shaded area.
Give your answer terms of π.

2) Estimate the area of a circle with a radius of 6 m.

3) What is the height of a triangle with an area of 32 cm^2 and a base of 8 cm?

4) Round 85 678 to the nearest hundred.

Sparx Maths

Extension work

Codes for related Independent Learning tasks on SPARX maths:

Click on 'Independent Learning' on home page then enter code in search box

Line symmetry – M523
Reflect a shape in a horizontal or vertical line – M290
Reflect a shape in a diagonal line – M290
Reflect a shape given equation of a line (E) – U799
Describe a reflection (E) – U799

Career Focus - Where could this take you?

I am an architect who builds design plans for offices, buildings and homes. My key responsibilities include using the client's preferences, needs and ideas to create well-designed structures, providing clients with cost estimates, designing construction plans using specifications and scaled drawings

Topic Link

This topic links to Properties of shapes, Cartesian grid, draw and measure lines and angles.

Additional Resources

To further practice and develop your knowledge see Sparx clips above or https://corbettmaths.com/contents/

Anagrams

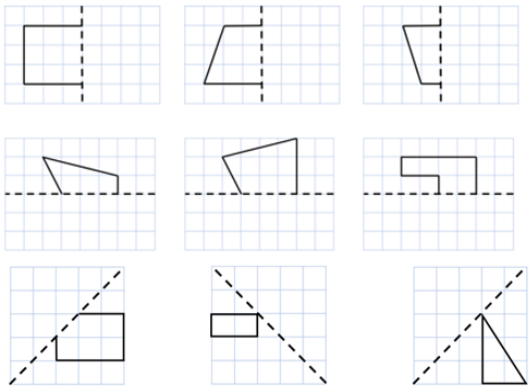
exertv

felrtce

syrtemmy

Self quizzing

Reflect the shapes in the given lines.



Challenge Activities

Draw a pair of axes and draw a square whose opposite corners are at the points (−3, 3) and (5, −1).

What are the equations of the vertical and horizontal lines of symmetry of the square?
Can you generalise?

MFL: Y8 Term 1

French Knowledge Organiser : Year 8 Topic 1 — My Town

Il y a…

il y a…	- there is/are…
il n'y a pas de…	- there isn't/aren't…
un café	- a café
un centre commercial	- a shopping centre
un château	- a castle
un cinéma	- a cinema
une église	- a church
un hôtel	- a hotel
un marché	- a market
un parc	- a park
un restaurant	- a restaurant
un stade	- a stadium
une piscine	- a swimming pool
une boulangerie	- a bakery
une mosquée	- a mosque
des magasins	- some shops
des musées	- some museums

Opinions

je pense que	- I think that
à mon avis	- in my opinion
c'est	- it is
bien	- good
super	- super
joli	- pretty
intéressant	- interesting
ennuyeux	- boring
industriel	- industrial
historique	- historical
vraiment nul	- really rubbish
assez grand	- quite big
trop petit	- too small
j'aime ça	- I like that
j'adore ça	- I love that
je déteste ça	- I hate that
je n'aime pas ça	- I don't like that

Activities in Town

aller au concert	- to go to a concert
faire du bowling	- to go bowling
faire les magasins	- to go shopping
faire du vélo	- to go bike riding
faire une promenade	- to go on a walk
manger au café	- to eat at a café
jouer au foot	- to play football
visiter les jardins	- to visit the gardens
visiter les monuments	- to visit the monuments
visiter les musées	- to visit the museums
regarder un film	- to watch a film
faire de la natation	- to go swimming

Directions

excusez-moi/excuse-moi	- excuse me
où est...?	- where is…?
où sont…?	- where are…?
c'est	- it is
à gauche	- left
à droite	- right
tout droit	- straight ahead
entre	- between
derrière	- behind
devant	- in front of

Time Phrases

d'habitude	- usually
normalement	- normally
souvent	- often
tous les week-ends	- every weekend
parfois	- sometimes
tous les jours	- every day
tous les soirs	- every evening
de temps en temps	- from time to time
rarement	- rarely
régulièrement	- regularly
toujours	- always
après le collège	- after school

Stretch & Challenge

sale	- dirty
bruyant	- loud
mal entretenu	- poorly maintained
barbant	- boring
charmant	- charming
vivant	- lively
pittoresque	- picturesque

GRAMMAR

	aller (to go)	faire (to do)	vouloir (to want to)	pouvoir (to be able to)
je (I)	vais	fais	veux	peux
tu (you)	vas	fais	veux	peux
il (he)/elle (she)/on (we)	va	fait	veut	peut
nous (we)	allons	faisons	voulons	pouvons
vous (you all)	allez	faites	voulez	pouvez
ils/elles	vont	font	veulent	peuvent

	masc.	fem.	pl.
to the	au	à la	aux

French Knowledge Organiser : Year 8 Topic 2 — Holidays

Countries and Continents

en Angleterre	- to England
en France	- to France
en Belgique	- to Belgium
en Espagne	- to Spain
en Suisse	- to Switzerland
en Afrique	- to Africa
en Asie	- to Asia
en Europe	- to Europe
en Tunisie	- to Tunisia
à la Réunion	- to Reunion Island
au Maroc	- to Morrocco
au Canada	- to Canada
au Sénégal	- to Senegal

Accommodation

rester	- to stay
dans un hôtel	- in a hotel
dans un appartement	- in an apartment
dans une auberge de jeunesse	- in a youth hostel
chez ma famille	- at my family's house
en centre-ville	- in the city centre
au bord de la mer	- at the seaside
à la campagne	- in the countryside
aux montagnes	- in the mountains

Accommodation Opinions

ennuyeux	- boring
intéressant	- interesting
nul	- rubbish
tranquille	- quiet
propre	- clean
sale	- dirty
vif	- lively
cher	- expensive
affreux	- awful
étonnant	- amazing
amusant	- fun
moderne	- modern

Transport

en train	- by train
en car	- by coach
en voiture	- by car
en métro	- by underground
en autobus/bus	- by bus
en taxi	- by taxi
en avion	- by plane
à vélo	- by bike
aler	- to go
arriver	- to arrive

Activities on Holiday

aller au restaurant	- to go to a restaurant
visiter des musées	- to visit museums
faire du camping	- to go camping
faire de la natation	- to go swimming
faire des activités sportives	- to do sports activities
rester au lit	- to stay in bed
acheter des souvenirs	- to buy souvenirs
manger une glace	- to eat an ice cream
aller à la plage	- to go to the beach
nager dans la mer	- to swim in the sea
faire des promenades	- to go for walks
prendre le soleil	- to sunbathe

GRAMMAR

	masc.	fem.	pl.
some	du	de la	des

The Near Future

Je vais – I am going to
tu vas – you are going to
il va – he is going to
elle va – he is going to
on va – we are going to
nous allons – were are going to
vous allez – you (all) are going to
lis/elles vont – they are going to

Food and Drink

boire	- to drink
je bois	- I drink
tu bois	- you drink
il/elle boit	- he/she drinks
nous buvons	- we drink
vous buvez	- you(all) drink
ils/elles boivent	- they drink
manger	- to eat
la glace	- ice cream
la viande	- meat
le café	- coffee
le fruit	- fruit
le sandwich au fromage	- cheese sandwich
les légumes	- vegetables
le pain	- bread
le poisson	- fish
le poulet	- chicken
le thé	- tea
l'eau	- water
les frites	- chips

Dream Holiday

je voudrais	- I would like
aller à Londres	- to go to London
habiter en France	- to live in France
habiter dans une grande maison	- to live in a big house
avoir une voiture très cool	- to have a cool car
faire le tour du monde	- to travel around the world
rencontrer mon acteur préféré	- to meet my favourite actor
rencontrer ma actrice préferée	- to meet my favourite actress
faire un sport extreme	- to do an extreme sport
voyager à l'étranger	- to travel abroad
être influenceur/influenceuse voyage	- to be a travel influencer

Stretch & Challenge

Je voudrais = I would like
il voudrais = he would like
elle voudrait = she would like
on voudrait = we would like

German Knowledge Organiser : Year 8 Topic 1 — My Town

Types of Houses & Town

ich wohne in	- I live in
einem Haus	- a house
einer Wohnung	- a flat
einem Hochhaus	- a high-rise building
einem Bauernhaus	- a farmhouse
einem Schloss	- a castle
einer Stadt	- a town
einer Großstadt	- a city
einer Hauptstadt	- a capital city
einem Dorf	- a village

Giving Opinions

Ich denke, dass	- I think that
Ich finde, dass	- I find that
es...ist	- it is
gut	- good
super	- super
schön	- pretty
interessant	- interesting
langweilig	- boring
historisch	- historical
gefährlich	- dangerous
sicher	- safe
klein	- small
groß	- big

Time Phrases

jeden Tag	- every day
jeden Morgen	- every morning
jeden Abend	- every evening
am Wochenende	- at the weekend
oft	- often
immer	- always
manchmal	- sometimes
selten	- rarely
ab und zu	- from time to time
regelmäßig	- regularly

GRAMMAR

wohnen = to live

ich wohne = I live

du wohnst = you live

er wohnt = he lives

sie wohnt = she lives

wir wohnen = we live

ihr wohnt = you(all) live

sie wohnen = they live

Places in town

ein Einkaufszentrum	- a shopping centre
eine Kirche	- a church
einen Bahnhof	- a train station
eine Moschee	- a mosque
einen Supermarkt	- a supermarket
einen Markt	- a market
einen Park	- a park
ein Restaurant	- a restaurant
ein Geschäft	- a shop
ein Museum	- a museum
ein Kino	- a cinema
ein Schloss	- a castle
ein Stadion	- a stadium
ein Fitness-Studio	- a gym
einen Schwimmbad	- a swimming pool

Activities in town

einkaufen gehen	- to go shopping
ins Kino gehen	- to go to the cinema
Freunde treffen	- to meet friends
spazieren gehen	- to go for a walk
Fahrrad fahren	- to ride a bike
auf ein Konzert gehen	- to go to a concert
TikToks drehen	- to film TikToks
schwimmen gehen	- to go swimming
Museen besuchen	- to visit museums
in einem Café essen	- to eat in a café

	-en	fahren	wollen	können
ich (I)	-e	fahre	will	kann
du (you)	-st	fährst	willst	können
er (he)	-t	fährt	will	kann
sie (she)	-t	fährt	will	kann
wir	-en	fahren	wollen	können
ihr	-t	fahrt	-	-
sie	-en	fahren	wollen	können

Stretch & Challenge

Fotos machen	- to take photos
im Park chillen	- to chill in the park
ein Picknick machen	- to have a picknick
in der Bibliothek lessen	- to read in the library
Kleidung kaufen	- to buy clothes

Directions

Wo ist/sind...?	- Where is/are...?
Entschuldigung	- excuse me
es ist...	- It is ...
links	- left
rechts	- right
geradeaus	- straight ahead
vor	- in front of
zwischen	- between
hinter	- behind

Word Order:

Verb-Second-Rule: after your time phrase, your verb comes next

Ich fahre Fahrrad BUT: Jeden Tag fahre ich Fahrrad

Dass: after dass (that) your verb goes last

Ich denke, dass es interessant ist

Preposition:

Prepositions change after vor, hinter and zwischen

der → dem

die → der

das → dem

Music: Y8 Term 1

Musical Patterns

Exploring Repeated Musical Patterns

Key Words

OSTINATO – A repeated musical pattern. Used in 'classical', 'film' and some 'World' music.

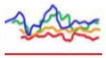
RIFF – A repeated musical pattern. Used in the introduction and instrumental breaks in a song or piece of music.

LOOP- A repeated musical pattern in music technology

GROUND BASS- a pattern played in the bass, which is constantly repeated as the other parts of the music vary. Popular in the Baroque period.

MELODY – The main "tune" of a piece of music.

TEXTURE- how sound is layered:

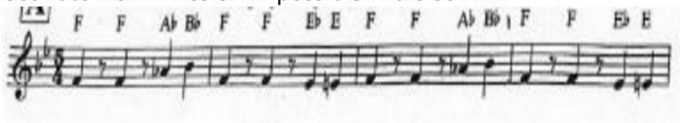
POLYPHONIC many layers playing at once 

HOMOPHONIC layers moving at the same time (playing different pitches)  .

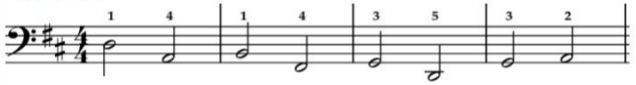
PITCH – The highness or lowness of musical note.
TEMPO- the speed of music (largo-slow, andante-walking pace, allegro-fast)
DYNAMICS- the volume of music (piano- quiet, forte-loud, crescendo-gradually getting louder

Famous Hooks, Riffs and Ostinatos

Ostinato from 'Mission Impossible'- Lalo Schifrin



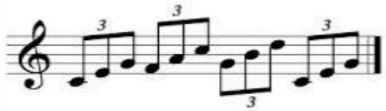
Ground bass from 'Canon in D'- Johann Pachelbel



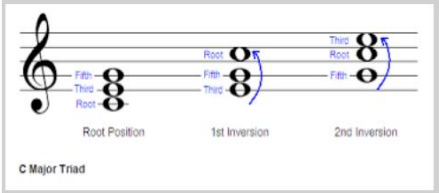
Chords

Triad- a three note chord
How to make a chord? Use the *'Play one, miss one'* pattern
Block chords- notes are played at the same time:

Broken Chords- notes are played one at a time:



Chord inversions- the rearrangement of the top-to-bottom notes in a **chord**



Music Theory

TREBLE CLEF – shows that notes are to be performed at a higher pitch. .

BASS CLEF – shows that notes are to be performed at a lower pitch.

The Baroque Period (1600-1750)

Great composers: JS Bach, Handel, Vivaldi, Pachelbel
Instruments: Harpsichord

Musical features: ornamentation (decoration), terraced dynamics, ground bass, polyphonic texture.

The Classical Period (1750-1820)

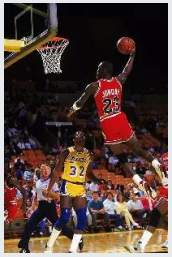
Great composers: Mozart, Haydn, Beethoven
Instruments: development of the pianoforte (much more like a modern day piano than the harpsichord) and a larger orchestra
Musical features: larger orchestra, clear balanced phrases, more

PE: Y8 Term 1

Methods of Fitness Training

Training Method	Definition	Advantages	Disadvantages	Sports
Continuous Training	Is sub-maximal aerobic exercise that has no breaks or rest. It lasts for a minimum of 20 minutes and can improve aerobic endurance.	No equipment or facilities needed (cheap). Can be done on your own.	Boring. No change of pace. Can cause impact injuries.	Marathon running. Cycling. Swimming. 
Fartlek Training	Form of continuous training which varies in pace and terrain. It is used in aerobic endurance and can improve anaerobic fitness at higher intensities.	No equipment or facilities needed (cheap). More interesting. Can be done on your own.	High intensity can lead to injury if not avoided. A safe route needs to be planned out.	Football Rugby Netball 
Circuit Training	Consists stations organized in a circuit usually to work on different fitness-based aerobic or anaerobic exercises at each station. Intensity is measured by time at each station; the number of circuits completed; the rest time between stations; the number of repetitions performed at each station.	Variety of stations prevents boredom. Can be skill based as well as fitness-based exercises adapted for any sport.	Equipment can be costly if not available already set up early to get maximum use out of it	Can be adopted to suit all sports 

Methods of Fitness Training

Training Method	Definition	Advantages	Disadvantages	Sports
Interval Training	High-intensity exercise followed by periods of rest usually anaerobic exercise but can also improve speed but can also work aerobically improves speed but an advantage is that it allows recovery during session	Can be used to improve health (aerobic) and fitness (anaerobic) no equipment needed	Repetitive boring need planning keep track time intervals	Usually for speed an adopted other sports 
Plyometric Training	Maximal intensity involving jumping bounding exercises eccentric contraction immediately followed concentric contraction involves powerful explosive movements improves power speed strength	Develops power quickly no equipment	Cause injury	Basketball Long jump Hurdles 
Weight Training	Involves lifting weights to improve muscular strength and endurance.	Can target specific muscle groups. Improves overall strength.	Requires equipment. Risk of injury if not done correctly.	Bodybuilding, Weightlifting, Powerlifting. 
Static Stretching	Involves holding a stretch for a period of time to improve flexibility.	Improves flexibility. Can be done anywhere without equipment.	Can be boring. Risk of overstretching and injury.	Gymnastics, Dance, Yoga. 

PE Knowledge Organiser: Y8 - Badminton Overview

WHAT IS BADMINTON

General – Badminton is a **net and wall** game in which players use a **racquet** to hit a **shuttlecock** over a net. Players aim to land the shuttlecock in their opponent's court or force an error. It is played in **singles** or **doubles**.

Scoring – A point is awarded after every rally regardless of who served (rally point system). Games are played to **21 points** and matches are the best of **three sets**.

Objective – To outwit your opponent using a combination of technical skills, strategy, and movement. Players aim to force errors or place the shuttlecock where the opponent cannot return it.

Rules and Regulations

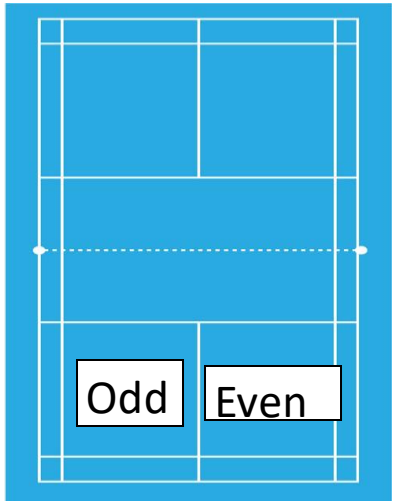
1. A game can take place with either two (singles) or four (doubles) players
2. The aim is to score points by landing the shuttle within the parameters of the opponent's side of the court
3. A point is scored every rally, regardless of who served
4. Games are played to 21 points; Matches are played best of three sets
5. If the shuttle lands on the line, it is deemed as in.

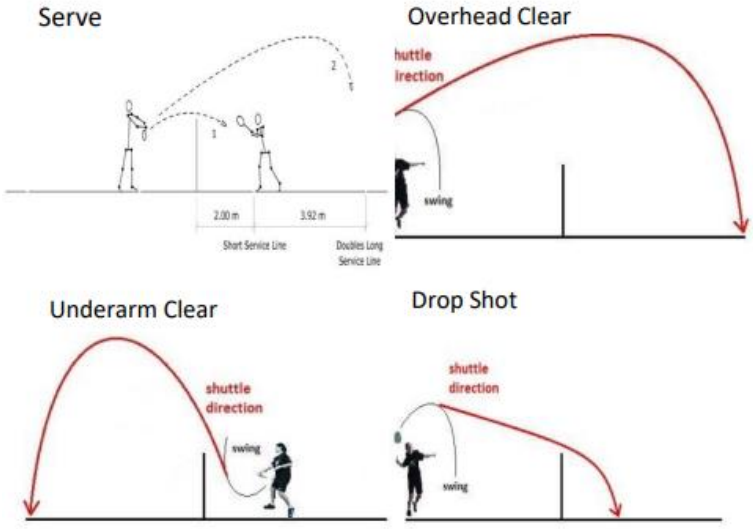
Court Marking and Serving

At the beginning of the game (0-0) and when the servers score is even, they serve from the right hand service box
- If servers score is odd, they serve from the left service box
- In doubles, the same player continues to serve until the point is lost. When service is won back, the other player serves

Key Terms/Vocabulary

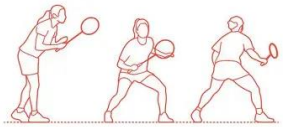
- Ready position
- Forehand and backhand serve
- Overhead clear
- Drop shot
- Net shot
- Underarm clear
- Court markings
- Outwitting opponents
- Shuttlecock
- Tactics
- Consistency
- Agility
- Footwork
- Scoring system
- Rotation
- Recovery





PE Knowledge Organiser: Y8 - Badminton Techniques

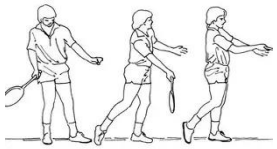
1. Introduction & Ready Position



Key Teaching Points (KTP's)
- Shake hands grip (forehand)-
- Backhand grip (thumb grip)-
- Ready position: feet shoulder-width, knees bent, racket in front

When would I need to be able to use this skill?
To prepare for any shot and move quickly across the court- To return to a neutral position after each shot

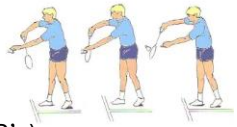
2. Forehand Serve



Key Teaching Points (KTP's)
- Forehand grip-
- Racket below waist-
- Non-racket foot forward-
- Contact shuttle diagonally to service box

When would I need to be able to use this skill?
To start a point legally in singles and doubles- To serve deep and push opponent to the backcourt

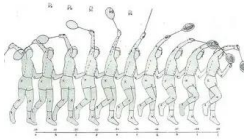
3. Backhand serve



Key Teaching Points (KTP's)
- Thumb on flat side of grip
- Shuttle held near racket face
- Short, controlled flick below waist
- Contact in front of body

When would I need to be able to use this skill?
To serve short in singles or doubles
To vary serve placement and catch opponent off guard

4. Overhead Clear



Key Teaching Points (KTP's)
- Forehand grip
- Sideways stance, non-racket foot forward
- Contact shuttle high and in front
- Full follow-through above head

When would I need to be able to use this skill?
To move opponent to the back of their court-
When defending and needing time to recover.

5. Drop Shot

Key Teaching Points (KTP's)
- Similar setup to overhead clear
- Minimal follow-through
- Light push/tap- Shuttle drops just over net

When would I need to be able to use this skill?
Minimal follow-through- Light push/tap
Shuttle drops just over net
To draw opponent to the front of the court
To change the pace and exploit space in front of the court

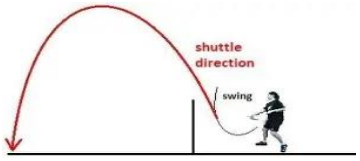
6. Net Shot

Key Teaching P[illegible]
- Light grip
- Contact shuttle in front of body
- Soft push or tap
- Keep racket up and ready

When would I need to be able to use this skill?
To win points near the net
When opponent has played a short shot and left the front court open

7. Underarm Clear

Key Teaching Points (KTP's)
- - Forehand grip
- Racket starts low, swing low to high
- Step forward with racket foot
- Use wrist for height and depth



8. Game Play

Key Teaching Points (KTP's)
- Serve correctly based on score
- (odd = left, even = right)
- Apply correct court markings-
- Use varied shot selection strategically

PE Knowledge Organiser: Y8 – Basketball Overview

Scoring system

A shot into your opponent's basket can be worth one, two or three points:

- A successful free throw is worth one point. The free throw is taken from behind the free throw line with five other players (3 defenders and 2 attackers) lining up along the side of the free throw line in spaces marked on the floor
- A basket scored from within the three-point line (the large semi-circle on the floor) is worth two points
- A basket scored from behind the three-point line is worth is worth three points. For the shot to count the shooter must have both feet behind the three-point line at the moment of release

Timing regulations

The Game: A game of basketball lasts 40 minutes split into four 10-minute quarters with 2 minutes between quarters. The clock is stopped every time the referee blows the whistle, so in real terms a game will last longer.

3 Second Rule: No attacking player must remain for more than 3 seconds inside the opponents restricted area (Key) when their team is in possession of the ball. To do so is a violation.

5 Second rule: A closely guarded player must pass, shoot or dribble the ball within 5 seconds, else a violation occurs and the opposition obtain possession of the ball at the nearest point on the sideline

8 Second rule: Once a player gains control of the ball in their backcourt their team must within 8 seconds transfer the ball into the frontcourt

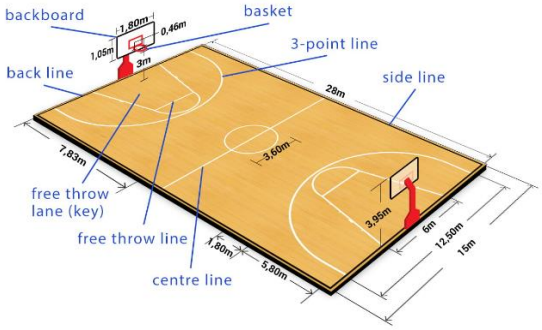
24 Second Rule: Whenever a team gains control of the ball they must attempt for a basket within 24 seconds

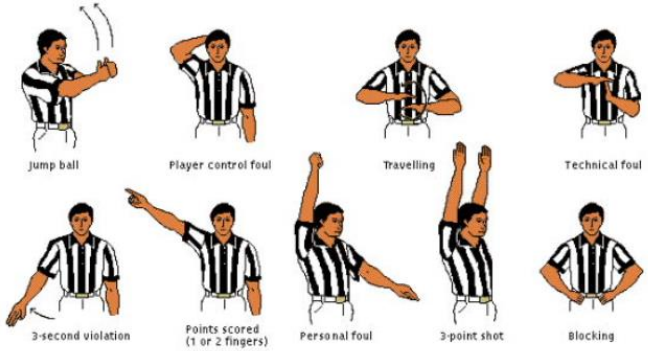
Basic Rules

- Basketball is a team passing game played with the hands.
- Each team tries to throw the ball into a target that is above head height.
- It is played with three main rules concerned with:-
  - Contact
  - Dribbling
  - Footwork while holding the ball

Key Terms/Vocabulary

- Ball control
- Catching
- Set/Form shot
- Bank shot
- Lay up
- Passing
- Dribbling
- Offense
- Defence
- Grip
- Handling
- 'BEEF'
- Angles
- Rebound
- Chest
- Bounce
- Double dribble
- Attacking
- Stance
- Triple threat
- Man to man
- Jump shot
- Pass and cut
- Violation
- Javelin
- Pivot
- Crossover
- Hesitation
- Spin





PE Knowledge Organiser: Y8 – Basketball Techniques

1. Shooting: Recap Lay-up and introduction to weak hand lay-ups

Key Teaching Points (KTP's)
- Run / Jump up and towards the target and reach up
- Player takes ball in 2 hands with feet on floor
- Jump up towards the basket from left foot (or alternatively right foot)
- As jump made ball taken up to position above head and moved into right hand (left)
- Release ball when shooting arm and hand at full stretch

When would I need to be able to use this skill?
Remember, a Lay-up shot is used near the basket while a player is on the move. Lay-ups should be practiced off both feet to allow you to approach the basket from either side to maximise the chances of scoring.
Top tip: Use the backboard to your advantage.

2. Develop Passing: Javelin and Overhead

Key Teaching Points (KTP's)
- One hand pass starting with bent arm and turning the body
- As pass is made the weight is shifted forward
- Ball released with quick snap of elbow, wrist and fingers
- Keep two hands on the ball as long as possible

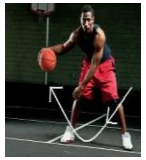
When would I need to be able to use this skill?
A javelin pass is used over long distances. Alternatively, the Overhead pass is made with the ball held above head height. This pass is useful for tall players or for all players passing over smaller or close marking opponents.

3. Develop Pivoting/Stop and Triple Threat

Key Teaching Points (KTP's)
- Balanced stance with Weight on ball of pivot foot
- Chest leads (front turn) or Back leads on (reverse turn)
- Pivot on ball of foot
- Step forwards (front turn) or Drop other foot back (reverse turn)

When would I need to be able to use this skill?
When in possession of the ball, the rules allow you to take as many steps as you need in any direction with one foot while *pivoting* (turning) on your other foot. The foot that you pivot with, or turn on, is called the *pivot foot*. A pivot is used to either improve position without violating the rules or protect the ball from defensive player.

4. Develop Dribbling: Crossover, hesitation and spin techniques

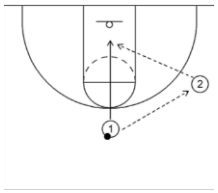


Key Teaching Points (KTP's)
- Head up, see basket
- Cross ball in front at backwards angle (close to body)
- Switch hands
- Control dribble at knee level
- Body and non-dribbling hand protect ball

When would I need to be able to use this skill?
The crossover dribble is important in the open court on a fast break, to get open on your drive to the basket, and create an opening for your shot. Your success is based on how sharply you change your dribble from one direction to another.

5. Offensive skills (attacking): Outwitting an opponent - Give and Go

Key Teaching Points (KTP's)
- Player passes to team-mate (chest/bounce/overhead)
- Player makes a step to move away from the direction of the pass
- Player then changes direction and cuts to basket
- Lead hand up and catch ball with two hands



When would I need to be able to use this skill?
A Give and Go or otherwise know as a 'pass and cut' is an attacking manoeuvre in which a player passes the ball to a team-mate and cuts towards basket for a return pass. By performing this Team play it helps to get a player free by two team-mates working together.

6. Defensive skills: Man to man marking

Key Teaching Points (KTP's)
- Desire to defend well is key to success
- Stay in a balanced stance (head over waist, your back is straight, chest is out)
- Force player sideline or baseline (away from middle of court)
- Keep an arm's length distance at all times
- Keep eyes on the opponent's chest (easy for offensive player to fake with their head, eyes, or body whereas most difficult to fake with their chest)

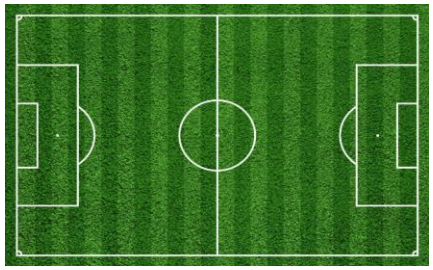
When would I need to be able to use this skill?
One on one defence – a style of defence where each player is assigned to guard a specific opponent regardless of where they go in the attack.

7. Additional shooting: Jump shot

Key Teaching Points (KTP's)
- Place feet shoulder width apart, toes pointing straight head, knees bent
- Hold ball chest height.
- Extend the legs/ankles by jumping straight up
- While in flight, extend back, shoulders and elbow
- Flex the wrist and fingers forwards and release the ball (Highest point)

When would I need to be able to use this skill?
A jump shot is similar to shooting a one-hand set shot except for two basic adjustments. In a jump shot you align the ball higher and shoot after jumping. The purpose of the jump shot is to rise above the defensive players reach when shooting.

PE Knowledge Organiser: Y8 – Football Overview



Football Basics

Football (Soccer) is one of the oldest sports in the world. The pinnacle of the international game comes in the form the Football World Cup. There are also tournament such as the Euro Championships, Copa America and the African Cup of Nations. Domestically the strongest leagues come from England (English Premier League), Spain (La Liga), Italy (Serie A) and Germany (Bundesliga).

- Each team consists of 11 players. These are made up of one goalkeeper and ten outfield players (defenders, midfielders and forwards).
- On each pitch you will have a 6 yard box next to the goal mouth, an 18 yard box surrounding the 6 yard box and a centre circle. Each half of the pitch must be a mirror image of the other in terms of dimensions.
- Essentially the equipment that is needed for a match is pitch and a football.
- Players can be found wearing studded football boots, shin pads and matching strips. The goalkeepers will additionally wear padded gloves as they are the only players allowed to handle the ball.
- Each team will have a designated captain.

The Offside Rule in Football

•The **offside rule in football** can be explained as follows:
Simply put, the offside rule mandates that during a move, an attacking player, when in the opposition half, must have at least two opposition players, including the goalkeeper, between him and the opposition goal when a pass is being played to him.

Winning the Game

To win you have to score more goals than that of your opponents. If the scores are level after 90 minutes then the game will end as a draw apart from in cup games where the game can go to extra time and even a penalty shootout to decide the winner.

To score the ball must go into your opponent's goal. The whole ball needs to be over the line for it to be a goal. A goal can be scored with any part of the body apart from the hand or arm up to the shoulder.

Key Terms/Vocabulary

- Ball control
- Passing
- Dribbling
- Running with the ball
- Turning
- Shooting
- Tackling
- Goalkeeping
- Attacking
- Defending
- Touch
- Short/push pass
- Instep
- Hook
- Laces
- Block
- Body position
- Aerial control
- Long pass
- Driven
- Lofted
- Chip
- Space
- Volley/half volley
- Distribution
- Foul
- Direct/ Indirect
- Goal-kick
- Offside
- Opposition
- Awareness
- Penalty

PE Knowledge Organiser: Y8 – Football Techniques

1. Ball control and familiarity: Aerial control

Key Teaching Points (KTP's)
- Players must judge the flight of the ball
- Players need to read the depth and speed of an incoming ball
- Move into the right position and use the ideal part of the body to take control

When would I need to be able to use this skill?

Different techniques, such as heading, chest control, or volleying, can be used to control the ball in the air. Aerial control is crucial for winning aerial duels, receiving long passes or redirecting the ball to teammates.Tip: Practice a variety of techniques to master this skill!

2. Range of Passing: Long pass – lofted/driven and chip pass

Key Teaching Points (KTP's)
- Approach
- Body shape
- Contact. Part of ball and foot
- Weight, accuracy and follow through

When would I need to be able to use this skill?

Passing is the ability to pass the ball to another teammate. It is important that you are able to pass accurately over short and long distances. Tip: Remember the ball travels far quicker by passing than attempting to dribble/run with the ball!

3. Running with the ball: How and when

Key Teaching Points (KTP's)
- Using a good first touch to get the ball out from under your feet
- Head up
- Bigger touches and longer strides *(than dribbling)*
- Using the laces (front of the foot) to keep the ball in front

When would I need to be able to use this skill?

Running with the ball is when a player travels through (or into) space at speed, with the ball at their feet. It is a great way of gaining territory or exploiting space opened up by a disorganised defence. It's an effective way of changing the possibilities of the attack. Every situation is unique and down to the quickness of thought from a player!

4. Turning with the ball: Into space, when and when not to turn

Key Teaching Points (KTP's)
- Scanning
- Timing
- Movement
- Positioning
- Deception
- Technique (Type of turn)

When would I need to be able to use this skill?

Players need to work on all six KTP's (above) to be efficient at turning. Tip: Develop as many different turns as possible, practicing against opposition whenever you can!

5. Shooting: Moving ball, half volley and volley

Key Teaching Points (KTP's)
- Watch the flight of the ball
- Position themselves accordingly
- Adjust their body orientation
- Choose the ideal time to make a connection with the ball

When would I need to be able to use this skill?

A volley is when a player strikes the ball first-time as it's dropping out of the air. If it bounces before the player connects with it, or they hit on the bounce, it's classed a s a half volley. Volleys are a highly technical finish and require lots and lots of practice!

6. Tackling: Defending 1v1, 2v2, 1v2

Key Teaching Points (KTP's)
- Close down space (1-2 steps away from attacker)
- Jockey, be patient and don't dive in
- Force attacker onto their weak foot
- Be on your toes
- Keep eye on the ball
- Win the ball with confidence when the time is right

When would I need to be able to use this skill?

Defending is not about being big, fast and strong. The best defenders are the smartest and don't just rely on their athleticism to win tackles; they use their minds.

7. Goalkeeping: Distribution and Supporting defence

Teaching Points (KTP's)
- Ball handling
- Decision making
- Release the ball quickly (if you can)
- Spatial awareness
- Positioning and movement

When would I need to be able to use this skill?

Distribution is the term used to cover all methods with which a goalkeeper can deliver the ball to one of their teammates. These include a GK being able to roll, throw, side-volley, half-volley, drive, clip, pass, and often with both feet.

PE Knowledge Organiser: Y8 – Gymnastics Overview

Tips for building your sequence

- Consider your sequence to be a sentence.
- You need a clear start and end position.
- Include all the actions you have learnt from Y7 and 8
- Use locomotion to travel to and from different equipment.
- Communicate with your partner
- Enhance each others skills
- Plan transitions for entry and exit into different actions
- Don't forget your shape, can you refine it?
- Which dynamics do you use?
- When you have planned it REHEARSE REHEARSE REHEARSE

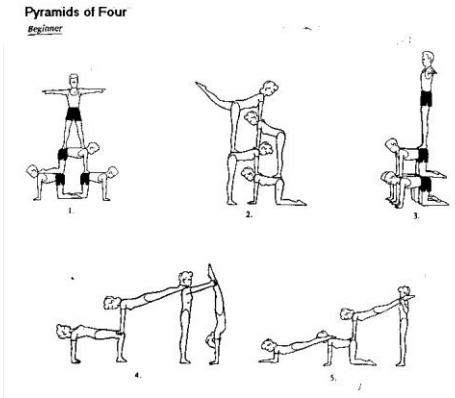
Performance and Assessment

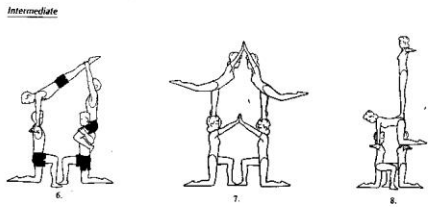
As an audience you must be respectful of others, performing can be nerve racking, so let's celebrate everyone's success.

- Don't talk or giggle - you've worked too hard to ruin it!
- If you do make a small error, pause and pick it back up
- Hold your head up – be proud of your work!
- Point those toes and finish those shapes

Safety in Gymnastics

Listen to instructions and ensure you that you progress through the KTPs rather than attempting the skill from the top. Make sure equipment is set up correctly and ask a teacher to check any concerns you have. Make sure you are working in a space. Always make a plan with your partner abput what you aim to do and communicate to each other throughout. Do not just move away and leave them without support, If you need to back out, talk and do that controlled together.





Key Terms/Vocabulary

- Abduction
- Turn out
- Dynamics
- Flexion
- Levels
- Base
- Landing
- Take off
- Assisted
- Obstacle
- Counter
- Tension
- Aesthetics
- Symmetric
- Asymmetric
- Mirror
- Match
- Vault
- Compliment
- Contrast
- Flight
- Trust
- Communication

PE Knowledge Organiser: Y8 – Gymnastics Techniques

Shape: Match, mirror, compliment and contrast, symmetric and asymmetric

Key Teaching Points (KTP's)
- Matching shapes are performed in unison (same action at the same time)
- Mirroring – mirror image of each other (Developed – mirror down the middle and performed side by side)
- Compliment – similar actions might be on different levels
- Contrast – opposite in levels, size, dynamics

When would I need to be able to use this skill?
When holding a balance or inversion or rolling shape can make the skill more aesthetically pleasing. Shape can make a routine look more refined. These make partner work more interesting.

Balance: Counter balance and counter tension

Key Teaching Points (KTP's)
- Counter balance – POC may be further apart but the COG is leaning towards each other. If one was removed the other would fall. More equal spread of weight.
- Counter tension – POC may be closer together and partners COG pull away from each other. Creates tension in the hold.
- COMMUNICATE the action and plan together before starting and throughout

When would I need to be able to use this skill?
With a partner in a sequence , demonstrating strength and teamwork as well as balance

Partner weight bearing: Partner obstacle, assisted balance and lift

Key Teaching Points (KTP's) - Lift – flying angel
- Base lying on back, feet raised and knees bent
- Feet at 10 and 2 (turned out) on partners hips
- Hands togather –palms facing
- Take partners weight and hold
- Lower them safely to their feet.

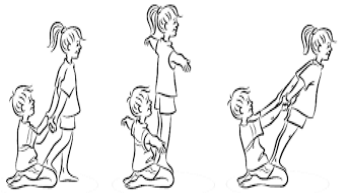
When would I need to be able to use this skill?
This is one of many lifts you can try, if the flying angels is not a comfortable option for you then perhaps try 'bunk beds' or if you want a challenge a small group pyramid. Obstacles can be a leapfrog and don't forget you can create your own!

Intro to flight: Landing and take off

Key Teaching Points (KTP's)
Landing
- The feet should be shoulder width apart and turned out at 10 to 2. In order to form a large support base.
- The knees should be flexed in the direction of the toes.
- The back should be flat and upright, head in neutral position.
- Arms should be brought down to absorb the force of the landing.

Take off:
- Three-step run up. The last being a hurdle step.
- Double footed take off, feet in front of the body on the springboard.
- legs slightly bent.
- Trunk vertical.
- Arms swung backwards
- arms event thrown forwards with a dynamic straightening of the legs.

Sequence: Partner work assessment



Key Teaching Points (KTP's)
Routine should include:
- Rolls
- Jumps
- Inversion
- CB CT Balance
- Weight bearing (obstacle, assisted or full lift)
- Locomotion
- Shapes that match mirror, compliment and contrast

For each action you should consider shape and dynamics (how it is performed).

Low level vaults: On and off equipment

Squat on and off
- 2 footed take off (KTPs of take off)
- 2 hands down onto the apparatus
- Tuck position with knees flexed land 2 feet onto the apparatus.
- Extend the legs and remove hands to jump upwards and forwards off.
- Landing KTPs

You will also experiment with the gate fault and straddle vault on lower level equipment. This is the beginning of flight

PE Knowledge Organiser: Y8 - Rugby Overview

What is Rugby?

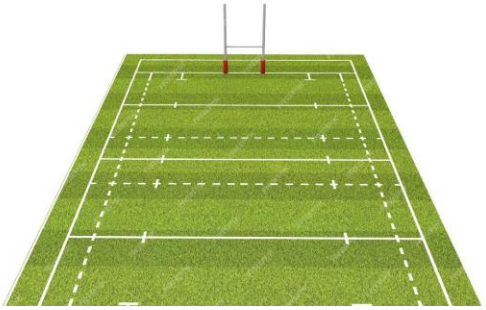
General – Rugby is a team sport. This means that you will work with other players on your team to attack and defend.

Scoring – To score in Rugby you can score in multiple ways, they are as follows: By placing the ball securely over the try line, by conversion (kicking the ball between the posts after a try has been scored or from a penalty), and by drop-goal.

Skills and Techniques – Rugby is a sport which requires a lot of body control and strength. Tackling is one of if not the most important skill when playing Rugby. You must be able to tackle safely and also effectively so that you stop your opponents from advancing up the pitch and scoring. Passing the ball whilst running at speed is also a very important skill to have when attacking.

Key Terms/Vocabulary

- Agile
- Anticipate
- Coordinate
- Defend
- Invasion
- Formation
- Intensity
- Opposition
- React
- Resilience
- Strategy
- Support
- Tactics
- Technique
- Transition
- Dummy half
- Forward pass
- Play-the-ball
- Tackle count
- Touchline
- Tryline
- Dummy runner
- Knock-on
- Line break
- Offload



Rules and Regulations

1.Depending on which version (League or Union) you play depends on which rules are applied.
2.Points are awarded to teams via a try, conversation or drop goal.

3.Foul play happens in multiple ways, such as: when a player obstructs an opponent, when a player kicks, tramples or trips an opponent, when a player tackles too early, too late or above the shoulders, tackling a player in the air or general unfair or dangerous behaviour.

4.An offside happens when a defending player is too far ahead of the defensive line (not back 10 yards). The defensive line is an imaginary line which runs across the pitch when the ball is being 'played' via ruck or play of the ball (often after a tackle has just happened).

5.If a player loses control of the ball and the ball goes forward (towards the opponents try line) this is called a knock on. A knock on means your team loses the ball and must give it to the opposition who will restart where the player knocked on.

6.Passes must go backwards (behind you / towards your try line). If a pass goes forward a penalty will be awarded to the opposition where the pass took place. Penalties can be used to kick at goal (conversion), kick for touch (advance up the field) or restart play via scrum or play of the ball.

7.A try is scored by placing the ball on the ground securely over the try line.

PE Knowledge Organiser: Y8 - Rugby Techniques

1. Ball familiarisation: Grip and handling skills

Key Teaching Points (KTP's)
- Spread fingers wide in a "W" shape
- Fingers on seams, thumbs at the side
- Ball ideally in the fingertips, not the palm
- Ball carried with two hands before contact

When would I need to be able to use this skill?
Rugby league players need a secure grip on the ball to maintain control while running, passing, and scoring—especially in wet or muddy conditions. Strong grip and handling reduce errors like fumbles and allow accurate passing under pressure.

2. Offload during a tackle

Key Teaching Points (KTP's)
- Strong grip on the ball
- Keep the ball close to the chest in contact
- Only offload when it's safe and effective
- Maintain balance and stay on feet during contact

When would I need to be able to use this skill?
Offloading during contact allows players to keep the play alive and support attacking moves without needing to stop or reset. It's a powerful skill for breaking through tight defences

3. Upright Tackling

Key Teaching Points (KTP's)
- Place lead foot between attacker's legs
- Wrap arms around the attacker (ball-side and opposite side)
- Stay upright to restrict the opponent's passing options

When would I need to be able to use this skill?
Upright tackles stop the ball carrier while limiting their ability to pass. This helps slow down play, organise the defensive line, and create opportunities to force a turnover.

4. Playing the ball

Key Teaching Points (KTP's)
- Snap knees in, roll back smoothly with foot
- Return to feet quickly
- Dummy half collects and distributes ball

When would I need to be able to use this skill?
After being tackled, players must get up and "play the ball" to continue the game. This skill restarts attack quickly and gives the team a chance to advance.

5. Protective Falling & Side Tackle

Key Teaching Points (KTP's)
- Shorten steps on approach
- Hands up, target thighs, head to the side
- Chin to chest when falling, round shoulders
- Hold ball tight to chest when hitting ground

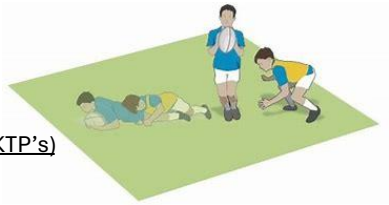
When would I need to be able to use this skill?
Falling correctly reduces injury risk and keeps possession. Side tackles are key to stopping an opponent's progress and creating chances to regain control of the ball.

6. Kicking: Grubber and Punt

Key Teaching Points (KTP's)
- KTP Grubber: Lean forward, toe pointed down
- Kick top half of the ball into the ground
- Punt: Drop ball onto foot
- Contact lower half of ball
- Follow through toward target

When would I need to be able to use this skill?
Kicks are used to gain territory, restart play, or attempt to score. Choosing the correct type of kick helps create scoring chances or push the opponent back.

7. Side Tackle



Key Teaching Points (KTP's)
- Shorten steps,
- target thigh,
- head behind,
- arms around thigh area squeeze player toward you.
- Finish on top

When would I need to be able to use this skill?
In rugby league, players need to be able to tackle to stop the opposing team from advancing down the field and scoring. Effective tackling helps regain control of the game, forces turnovers, and creates opportunities for their own team to go on the attack.

Religious Studies: Y8 Term 1

RELIGIOUS STUDIES Knowledge Organiser: Y8 BUDDHISM

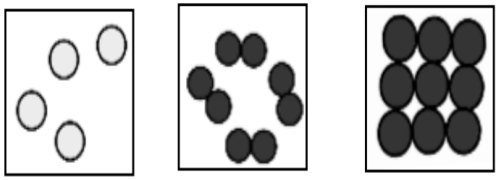
Lesson	Core knowledge
Lesson 1 – What are the key beliefs in Buddhism?	• Buddhism was founded (began) roughly 2,500 years ago in northeast India, modern day Nepal. • Buddhism was founded by Prince Gautama • Buddhists are nontheistic – they do not worship a God. • Buddhists believe in reincarnation.
Lesson 2 – Who is Siddhartha Gautama?	• Prince Siddhartha Gautama saw four sights – an old man, sick man, ill mean, and dead man. • Siddhartha decided to leave his life of luxury in the palace. • He sat beneath a bodhi tree and began meditating. • Siddhartha became known as the Buddha.
Lesson 3 – What does it mean to be enlightened?	• Enlightenment is when a Buddhist finds the truth about life and stops being reborn. • Once you get to Nirvana you are not born again into samsara(the cycle of life and death). • Buddhists believe a person can become enlightened by following the Middle Way. • The Middle Way (often called the Eightfold Path) means a person shouldn't live an extremely luxurious life of ease and enjoyment or an extremely harsh life.
Lesson 4 – What are the four noble truths?	• Under the Bodhi tree Siddhartha finally realised several facts about the world. • The three poisons are greed, hatred, and ignorance. • These became known as the FOUR NOBLE TRUTHS. • They help Buddhists understand suffering and how it affects their lives.
Lesson 5 – What is the eightfold path?	• Eight spoke wheel represents the path to wisdom. • Eightfold path are eight steps Buddhists must follow. • The eight steps allow Buddhists to reach enlightenment. • Following the eightfold path will relieve Buddhists of suffering.
Lesson 6 – What is Karma and reincarnation?	• Karma is a person's actions. • Karma can result in either happiness(skilful) or suffering(unskilful). • Reincarnation is the repeating cycle of birth, life, death and rebirth. This is known as the cycle of Samsara. • Buddhists can break the cycle of samsara by not being reborn and entering a state of Nirvana.
Lesson 7 – What are the five moral precepts?	• The five moral precepts are rules Buddhists must follow. • Morals are right/wrong how Buddhists must be ethical. • Precepts are guidelines. • The five moral precepts allow Buddhists live in an ethical manner.
Lesson 8 – What is the Sangha?	• A Sangha is a community of ordained Buddhist monks or nuns. • A monk or nun is a person who has given up their normal life to commit themselves to their religion. • Charit, or giving alms is important in Buddhism – giving back to the community. • A lay Buddhist is an ordinary person following the religion of Buddhism.
Lesson 9 – How is Buddhism practiced in the UK?	• Buddhism is practiced across the UK - there are many Buddhist communities in the UK. • Buddhism first found its way into Britain in the 19th century. • Karuna Trust is a charity inspired by Buddhist values. • They work in third world countries to help the poor and needy.

Science: Y8 Term 1

SCIENCE Y8 MATTER KNOWLEDGE ORGANISER

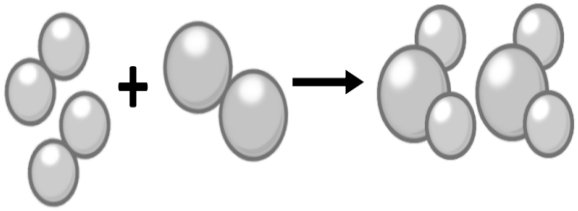
1. Elements

- Substances with only <u>one</u> type of **atom** are called elements.
- The atoms may be **separate** or **molecules.**



2. Compounds

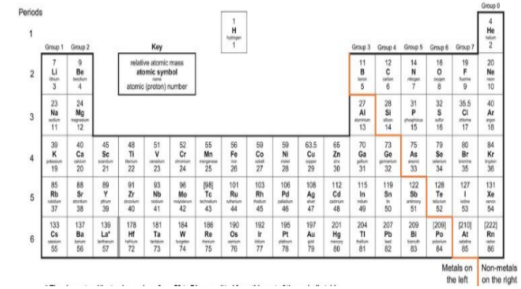
- Atoms of different elements can **chemically join together** to form a very large number of compounds.
- Water and sodium chloride are examples of compounds, they are NOT found in the periodic table.



Elements **Compounds**

3. The Periodic Table

- All elements are listed on the **Periodic table**
- The scientist who arranged the elements was **Dmitri Mendeleev** in 1869.
- He **left gaps** in his original table for elements that had not been **discovered** yet
- They are ordered in **groups** according to their **reactions.**
- The **columns** are called **groups** and the **rows** are called **periods.**
- The elements are arranged in order of **atomic number.**
- Groups of elements have lots of similar **chemical properties.**
- Elements are represented by a **symbol**; a short-hand form of their name.



4. Formulae

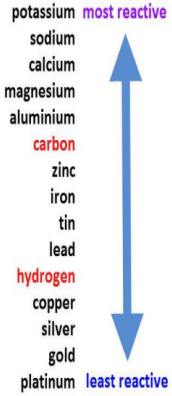
- A **formula** is a short-hand version of a compound using the **symbols** of the elements.
- If there is more than 1 atom of an element in a compound there will be a subscript number on its right-hand side.
- A formula tells you **which elements** are present and **how many atoms** of each.
- e.g. H_2O = 2 atoms of hydrogen and 1 atom of oxygen.

5. Metals

- **Metals** are on the **left-hand side** and **middle** of the Periodic table; **non-metals** are on the **right.**
- Metals are **shiny, malleable, ductile, sonorous** and good **conductors** of heat and electricity.
- Non-metals have the opposite properties.

6. Reactivity of Metals

- Elements in the same **group** have similar chemical properties; they react **similarly** with different substances.
- Some elements are **more** reactive than others and some elements **do not** appear to react at all.
- Observations of reactions allows scientists to put the elements in a **reactivity series.**



7. Group 1 Metals

- Different groups of the periodic table have **patterns** in their properties and reactivity.
- Group 1 are the **most reactive** metals and the **reactivity increases down** the group.
- In Group 7 the **reactivity decreases** down the group.

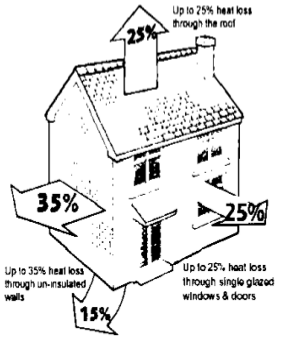
SCIENCE Y8 ENERGY KNOWLEDGE ORGANISER

1. Heat and Temperature

- **Heat** is an **energy store** whereas **temperature** is a measure of how hot something is.
- An object at higher temperature transfers **thermal energy** to the surroundings until they are at the same temperature.
- How quickly this happens depends on the **thermal conductivity** of the materials.

2. Energy in the Home

- Reducing heat loss by conduction, convection and radiation can save money and help the environment.
- Double glazing, loft insulation, wall insulation and draught excluders can help with this



3. Heat Energy Transfer

- **Thermal energy** can be transferred by particles, using **conduction** and **convection**. It can also be transferred by **radiation**.
- **Internal energy** is the energy stored in a system by the particles. When heat is added the internal energy of the particles increases.

4. Conduction

- When energy is transferred by vibrating particles in a substance
- The energy is transferred from a hotter region to a colder region
- Materials which transfer energy easily in this way are called conductors.

5. Convection

- Liquids and gases are fluids because they can flow
- Particles in a fluid can move from one place to another.
- When particles in a fluid are heated, they move around faster and spread further apart, this makes them less dense. Hot fluid rises and the denser colder fluid sinks.

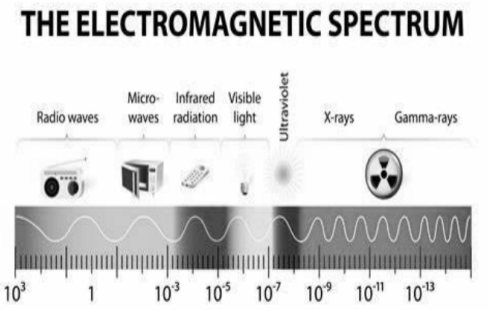
6. Radiation

- All objects transfer infra-red radiation to their surroundings.
- The hotter the object, the more infra-red radiation it emits.
- There are no particles involved in radiation, infra-red radiation is a type of electromagnetic wave.

6. Electromagnetic Spectrum (EMS)

Electromagnetic waves carry energy, those waves that carry heat energy are called infra red radiation. Heat energy transferred by radiation does not involve particles which means it can travel through space (a vacuum). There are a whole range of waves that can carry energy, and these can be found in the electromagnetic spectrum.

The electromagnetic spectrum ranges from long wavelength, low frequency waves (like **radio waves** which can be used for communication) to short wavelength, high frequency waves (like **gamma rays** which can be used for medical treatment). Visible light is also found on the electromagnetic spectrum.



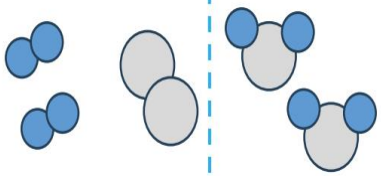
SCIENCE Y8 REACTIONS KNOWLEDGE ORGANISER

1. Balancing Equations

- The number of atoms of the reactants needs to be the same as the number of atoms of the products

$$\underbrace{Hydrogen + Oxygen}_{\text{Reactants}} \rightarrow \underbrace{Water}_{\text{Product}}$$

$$2H_2 + O_2 \rightarrow 2H_2O$$



2. Displacement Reactions

When a more reactive element displaces a less reactive element in a compound.

Zinc is more reactive than copper

Zinc (Zn) + Copper Sulphate ($CuSO_4$) → Zinc Sulphate ($ZnSO_4$) + Copper (Cu)

3. Metal and Acid Reactions

Metal + acid → salt + hydrogen

magnesium + hydrochloric acid → magnesium chloride + hydrogen

$Mg(s) + 2HCl(aq) \rightarrow MgCl_2(aq) + H_2(g)$

1. calcium + hydrochloric acid → calcium chloride + hydrogen
2. calcium + nitric acid → calcium nitrate + hydrogen
3. calcium + sulfuric acid → calcium sulfate + hydrogen

3. Thermal Decomposition

- Thermal decomposition is a chemical reaction that happens when a compound breaks down when heated.

iron (II) carbonate $\xrightarrow{\text{heat}}$ iron oxide + carbon dioxide

$FeCO_3(s) \rightarrow FeO(s) + CO_2(g)$

5. Carbon Extraction

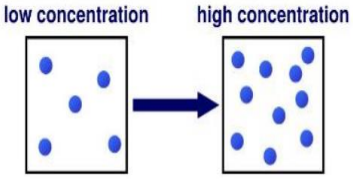
- The extraction of a metal from its ore depends on the metal's position in the reactivity series.

IRON OXIDE + CARBON → CARBON DIOXIDE + IRON

$2FeO + C \rightarrow CO_2 + 2Fe$

6. Concentration

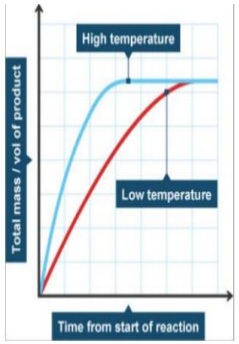
- The amount of a substance in a given volume.
- The higher the concentration, the faster the rate of a reaction.
- In higher concentrations there are more collisions between reactants.



7. Temperature

- Increasing the temperature a reaction takes place at increases the rate of reaction.

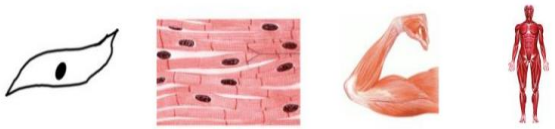
At higher temperatures, particles can collide more often and with more energy, which makes the reaction take place more quickly.



SCIENCE Y8 ORGANISMS KNOWLEDGE ORGANISER

1. Organisation

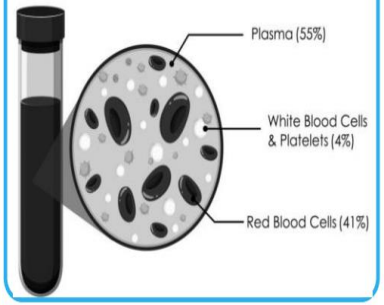
- The cell is the basic structural/functional unit – all organisms are made from cells.
- Cells with a similar structure and function (job) form tissues.
- One or more tissues forms and organ. One or more organs forms an organ system.



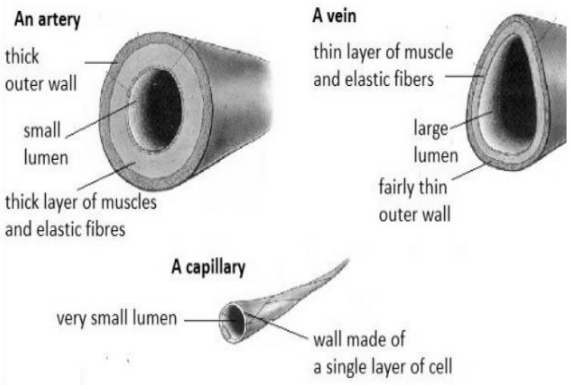
Cell → Tissue → Organ → Organ System

2. Blood

Blood transfers substances like glucose, oxygen, carbon dioxide and urea around the body.

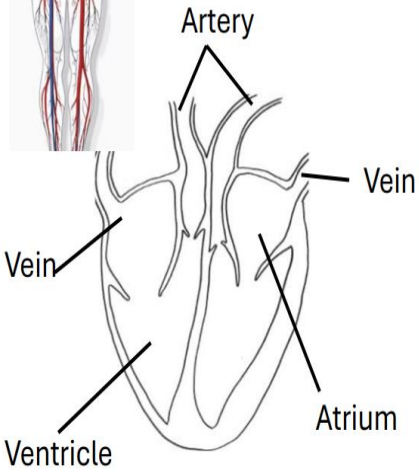


2. Blood Vessels

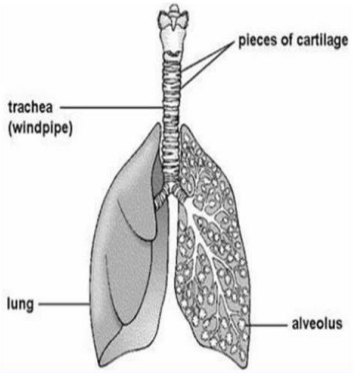


3. Circulatory System

The circulatory system is made of the heart and blood vessels. It carries blood and substances like oxygen and glucose around the body.

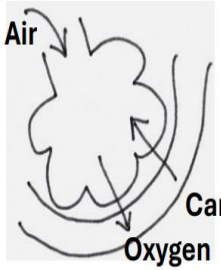


4. Respiratory System

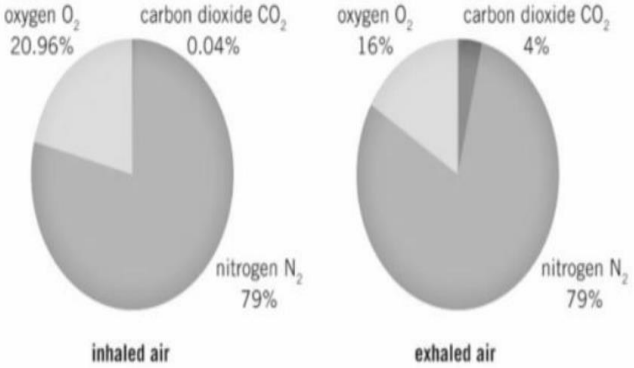


5. Exchanging Gases

When air is breathed in, oxygen diffuses **into** the blood. Carbon dioxide diffuses **out** of the blood and then is breathed out.

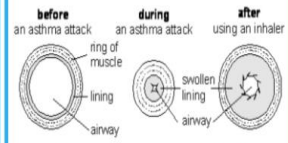


6. Breathing



Breathing in	Breathing out
Ribs move up and out	Ribs move down and in
Intercostal muscles contract	Intercostal muscles relax
Diaphragm contracts and flattens	Diaphragm relaxes
There is more space in the thorax	There is less space in thorax
Air rushes in	Air forced out

7. Asthma



During an asthma attack the airway narrows and less oxygen can get in. An inhaler relaxes the muscles, to open the air way to let in more oxygen.

8. Smoking

Tar	Causes lung cancer
Nicotine	Makes smoking addictive
Carbon Monoxide	Stops the red blood cells from carrying oxygen