HALF TERM

4

SUCCESS PACK Year 8

Big Ideas, Key Words, and What You *Really* Need to Know

NOTTINGHAM ACADEMY

HT 4

Your Sticky Knowledge Booklet

What is Sticky Knowledge?

Sticky knowledge is the essential information, facts, and vocabulary that you need to remember and use confidently across your subjects. It's the knowledge that will *stick* with you and help you build strong foundations for future learning.

Why Is It Important?

- It helps you make connections between different topics and subjects.
- It gives you the tools to be more confident in lessons.
- It prepares you for end-of-topic tests, assessments, and your journey to GCSEs.

How to Use This Booklet

1. **Read through each subject section carefully.** Highlight or underline key points.
2. **Use it for revision.** Test yourself regularly using flashcards, mind maps or quizzes.
3. **Bring it to school.** Teachers may refer to it in lessons or use it for quizzes and starters.
4. **Share it at home.** Ask family or carers to quiz you on your knowledge.

Top Tips to Make It Stick

- Revisit knowledge little and often – 10 minutes a day is enough!
- Use retrieval practice: cover up the facts and try to recall them.
- Talk about what you've learned with someone else – teaching helps remembering!

Let's Get Started!

Turn the page to begin your subject-by-subject journey into this half term's most important knowledge.

ART & DESIGN

Art

HT4 ASSESSMENT Year 8

Buildings and Architecture

This unit develops students' technical drawing skills through **one- and two-point perspective**, architectural drafting, blueprint-style sketching, and mixed-media outcomes. Students study artists such as **Ian Murphy** and **Ruth Allen**, exploring texture, urban architecture, and detailed fine-liner work. They apply **watercolour**, **mixed media**, **perspective**, and **evaluation skills** to produce an architecturally inspired final outcome.

How I'll be assessed...

- **Formative:** One Point Perspective
- **Summative:** Two Point Perspective

Key Spellings & Definitions

1. **Architectural** – relating to the design and structure of buildings.
2. **Facade** – the front face or exterior of a building.
3. **Fine Liner** – a pen used to add sharp, detailed lines in drawings.
4. **Horizon Line** – the eye-level line where the sky meets the ground in perspective drawings.
5. **Landmark** – a well-known or important building or structure.
6. **Mixed Media** – using more than one artistic material (e.g., tissue, PVA, watercolour).
7. **Perspective** – a technique that creates the illusion of depth and distance.
8. **Texture** – the surface quality of something (real or created visually).
9. **Two-Point Perspective** – a drawing method using two vanishing points to show depth.
10. **Urban** – relating to towns and cities, especially in architecture.

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*

What does **architectural** mean when drawing buildings?
How does the **horizon line** help create accurate **perspective**?
Why is a building's **facade** important in design? How can **texture** improve architectural drawings?
What defines a **landmark** building in an **urban** setting?
How is **two-point perspective** different from one-point perspective?
Why might an artist use **mixed media** for backgrounds?
How do **fine liners** help add detail to drawings? What features make artwork feel **urban**?
How do Murphy and Allen use **perspective** to create depth?

Key Processes *(Things You Should Be Able to Do)*

Use a **horizon line** to set up two-point drawings.
Draw buildings using **two-point perspective** and vanishing points.
Create textured **mixed media** backgrounds.
Add precise details with **fine liner** techniques.
Develop **urban**-style texture inspired by Ian Murphy.
Draw building **facades** with correct proportions.
Apply watercolour lightly to enhance **texture**.
Analyse **architectural** styles of Murphy and Allen.
Sketch and refine **landmark** building compositions.
Evaluate work using correct **perspective** vocabulary.

COMPUTING

COMPUTING
HT4 ASSESSMENT

Year 8

Multimedia Project Pt 2.

Continuing the "Sunbeat Summer Jam" project, students will create an interactive multimedia presentation detailing the festival's artists, dates, times, and event information. They will culminate the term by producing a 30-second teaser trailer using Microsoft Clip Champ for TV and social media promotion.

How I'll be assessed...

•**Summative:** Final Interactive Media Product

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*

1. **What is the purpose of an interactive multimedia presentation?**
   → *To provide information in an engaging and interactive format.*
2. **Why use hyperlinks and action buttons in PowerPoint?**
   → *They allow easy navigation and make the presentation interactive.*
3. **How do animations and transitions improve a presentation?**
   → *They add visual interest and help guide the viewer's attention.*
4. **What makes a teaser trailer effective?**
   → *It should be short, eye-catching, and create interest in the event.*
5. **Why is consistency important across multimedia elements?**
   → *It ensures a professional look and reinforces the brand identity.*

Key Processes *(Things You Should Be Able to Do)*

- **Create** an interactive **PowerPoint** using **hyperlinks**, **action buttons**, and **graphics**.
- Apply **animations** and **transitions** to enhance **visual appeal**.
- Include **event details** (line-up, dates, ticket info) clearly and accurately.
- Use **Clipchamp** to produce a **30-second teaser trailer** with provided assets.
- Export and prepare the presentation and video for **digital sharing**.

Key Spellings & Definitions

- **Animation** – A series of images shown quickly to create movement.
- **Audio** – Sound used in a project, such as music, voice, or effects.
- **Editing** – Changing or improving content by cutting, adding, or adjusting elements.
- **Effects** – Special changes added to audio or video to make it more interesting.
- **Export** – Saving a project in a format that can be shared or played elsewhere.
- **Graphics** – Visual elements like pictures, shapes, and text used in media.
- **Multimedia** – Combining text, images, audio, and video in one project.
- **Timeline** – The area in editing software where you arrange audio, video, and effects in order.
- **Transition** – A visual effect that smoothly moves from one scene or slide to another.
- **Video** – Moving images recorded or created for a project.

ENGLISH

ENGLISH

HT4 ASSESSMENT

Year 8

Gothic Literature

A study of the eerie, sinister, and supernatural. Students will delve into classic and contemporary works that exemplify the Gothic genre, exploring themes of horror, mystery, and the macabre. This unit will enhance their analytical skills as they examine the elements that create suspense and evoke fear, while also understanding the historical and cultural contexts of Gothic literature.

How I'll be assessed...

- **Formative1:** Writing Gothic Fiction
- **Formative2:** Writing Gothic Fiction

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*

1. What features make a text Gothic?
2. Why are Gothic settings often remote or decaying?
3. How do writers build suspense?
4. What is the role of the supernatural in Gothic literature?
5. How does pathetic fallacy help create atmosphere?
6. What are common Gothic character archetypes?
7. How does Gothic literature explore human fears?

Key Processes *(Things You Should Be Able to Do)*

Writing Gothic Fiction

Reading Skills

Identify Gothic features in extracts (setting, characters, themes, techniques).
Explain how writers create atmosphere and tension.
Analyse the effect of language techniques (e.g., imagery, foreshadowing).
Comment on how structure creates suspense (e.g., slow reveal, cliff-hanger).
Support ideas with short, accurate quotations.

Writing Skills

Craft a Gothic opening with clear mood and atmosphere.
Develop a character using Gothic archetypes (mysterious figure, feared creature).

Oracy

Explain ideas clearly in discussion.
Use subject terminology confidently.
Evaluate other students' interpretations respectfully.

Key Spellings & Definitions

Word	Definition
Gothic	A style of writing that uses mystery, fear, and the supernatural to create suspense.
Atmosphere	The mood or feeling created in a text (e.g., eerie, tense, unsettling).
Setting	Where and when a story takes place – Gothic settings are often dark, isolated, or decaying.
Supernatural	Things beyond the natural world, like ghosts, monsters, or unexplained events.
Tension	A feeling of anxiety or excitement as the reader waits to find out what will happen.
Foreshadowing	Hints the writer gives about what might happen later.
Pathetic Fallacy	When the weather or environment reflects the mood (e.g., storms to show danger).
Archetype	A typical character type, such as the villain, the victim, or the mad scientist.
Protagonist	The main character in a story.
Antagonist	The character or force that opposes the protagonist.
Suspense	When the writer makes the reader feel unsure or worried about what might happen next.
Imagery	Language that appeals to the senses, helping the reader picture a scene.
Isolation	Being completely alone — a common theme in Gothic texts.
Macabre	Something disturbing or linked to death.

DRAMA

Drama

HT4 ASSESSMENT

Year 8

Introduction to Epic Theatre and Brecht

Epic Theatre is a style of drama created by Bertolt Brecht to make audiences think about important issues, not just watch for fun. It uses techniques like breaking the fourth wall, direct address, and placards to remind the audience they are watching a play. In this unit, you will learn these features and create your own performance that makes people think about society.

How I'll be assessed...

Summative Applying Epic Features

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*

- Who was **Bertolt Brecht** and why is he an important theatre **practitioner**?
- What is **Epic Theatre** and how does it differ from traditional theatre?
- What is the purpose of **The V Effect**?
- How does **breaking the fourth wall** affect the audience?
- Why did Brecht want theatre to promote social change?
- What are the key features of **Epic Theatre**?
- How is **Direct Address** used in performance?
- What role do **Placards** play in Epic Theatre?
- How can **Flashbacks**, **Split Screens**, and **Non-linear Narratives** be used to tell a story?
- Why is **Multi-role** important in Epic Theatre?

Key Processes *(Things You Should Be Able to Do)*

- **Identify** the main features of **Epic Theatre** in a performance.
- **Explain** the purpose of **The V Effect** and how it works.
- **Demonstrate Direct Address** in a devised piece.
- **Create** a short performance using **Placards** to convey a message.
- **Apply Multi-role** effectively in a group piece.
- **Use Flashbacks**, **Split Screens**, and **Non-linear Narrative** to structure a performance.
- **Break the fourth wall** confidently during a scene.
- **Respond** to a stimulus by devising a piece that promotes social change.
- **Evaluate** how Epic Theatre techniques affect the audience's understanding.
- **Collaborate** with peers to produce a performance using Epic Theatre conventions.

NOTTINGHAM ACADEMY

Key Spellings & Definitions

- **Breaking the Fourth Wall** – When actors speak directly to the audience, removing the imaginary barrier between stage and audience.
- **Bertolt Brecht** – German playwright and theatre **practitioner** who developed Epic Theatre in the early 20th century.
- **Direct Address** – A technique where actors talk straight to the audience to involve them in the performance.
- **Epic Theatre** – A style of theatre designed to educate and provoke thought rather than simply entertain.
- **Flashback** – A scene that shows events from the past to add context or contrast.
- **Multi-role** – When one actor plays more than one character in a performance.
- **Non-linear Narrative** – A story structure that does not follow a straight chronological order.
- **Placards** – Signs or written text displayed on stage to give information or highlight a message.
- **Practitioner** – A theatre professional who develops and applies specific styles or techniques.
- **Split Screen** – A staging technique where two scenes happen at the same time on stage.
- **The V Effect (Verfremdungseffekt)** – Brecht's Alienation Effect, designed to stop the audience from becoming emotionally absorbed and encourage critical thinking.

GEOGRAPHY

Geography
HT4 ASSESSMENT

Year 8

Forests

The world's forests are increasingly under threatas are our soils. Nutrients is being leached fromthe soils and rainforests are being cut down. Thetopic covers the importance of deciduous forestsand rainforests as well as the climates andlocation needed for each to grow

How I'll be assessed...
- **Formative:** Spelling Test
- **Summative:** Exam Practice Quetion

Key Spellings & Definitions

Ecosystem- A community of organisms and their physical environment.

Rainforests- A forest with a warm, humid and wet climate, (on or around the equator) that receives a lot of rain.

Deforestation- Clearing trees.

Desertification- When fertile land becomes desert, due to drought, deforestation, or farming.

Soil erosion- When soil is blown or washed away, usually after deforestation.

Conservation- Took look after/protect something for the future.

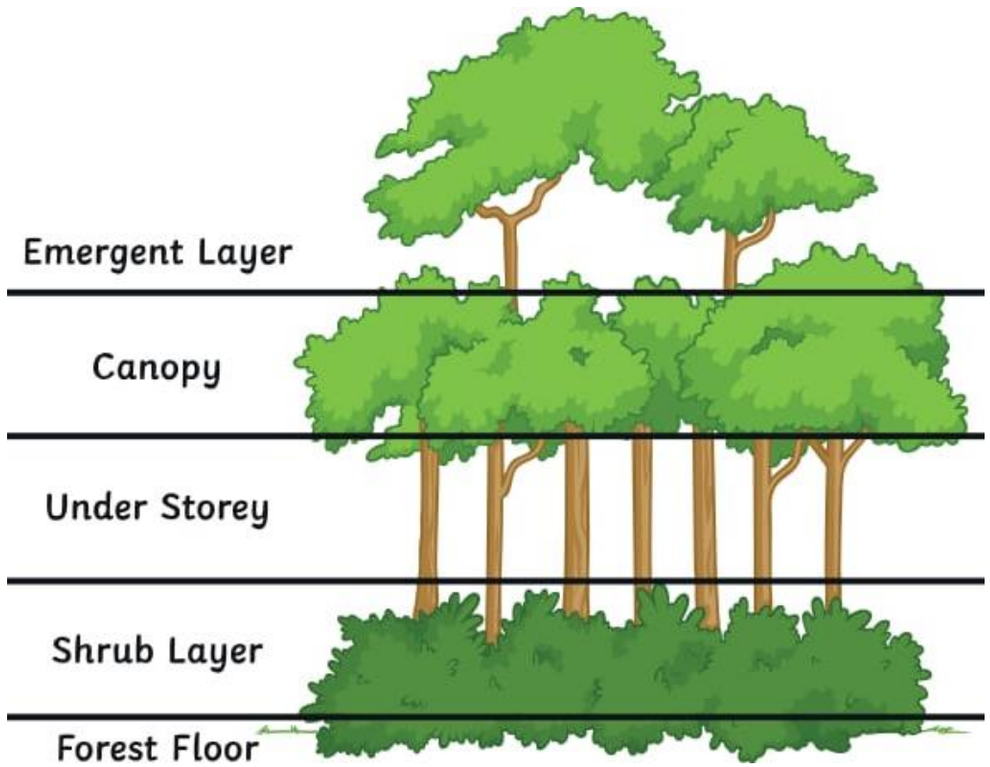
Sustainable- Using natural resources responsibly so that they can be used by both current and future generations.

Eco tourism- Tourism that is friendly to nature and tries to use as few resources as possible and cause as little pollution as possible.

Carbon store- Trees absorb and store carbon dioxide as part of photosynthesis.

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*	Key Processes *(Things You Should Be Able to Do)*
What are the different types of forests on Earth?	Describe the distribution of different types of forests on Earth.
What is conservation?	Why are forests important to Earth's climate?
Why is eco tourism sustainable?	What are nutrient cycles and why are trees important to nutrient cycles?
What is sustainability?	Why does deforestation cause desertification?
How can people damage forests?	How does energy move through food webs?
What is a food web?	What is soil erosion and why is it a problem?
What is a nutrient cycle?	What is a carbon store and why are these important?
How are plants and animals adapted to forests?	Why are forests important to people?



MATHEMATICS

MATHEMATICS
HT1 - ASSESSMENT

Year 8

Ratio & Scale

This unit looks at mastering ratio notation, simplifying equivalent ratios and solving problems using unit and non-unit ratios with tool such as bar models. You will then apply your understanding by dividing quantities in a ratio and comparing ratios and fractions, including expressing ratios in the form 1:n.

How I'll be assessed...
- **Formative:** White Rose Maths unit assessments
- **Summative:** White Rose Maths termly assessment

Key Spellings & Definitions

- **Ratio notation** - A way to compare two quantities using the ":" sign, such as 3 : 2, meaning "for every 3 of one, there are 2 of the other."
- **Simplify ratio** - To find an equivalent ratio in its smallest whole-number form (e.g., 12 : 4 becomes 3 : 1 by dividing both parts by 4).
- **Part-to-part ratio** - A ratio that compares one part directly to another part, such as the ratio of boys to girls in a class. Reddit
- **Part-to-whole ratio** - A way to compare one part with the entire amount—expressing how much of the total is made up by one part.
- **Unit ratio** - A ratio written with "1" as one of the parts, like 1 : n (for example, 1 : 5 means one of something to every five of something else).
- **Unitary method** - A technique where you find the amount for one unit first, then multiply to find the total (e.g., £4.50 for 1 gallon, so £4.50 × 3 for 3 gallons).
- **Scale factor** - The number you multiply all lengths by to enlarge or reduce a shape proportionally (e.g., scale factor 2 doubles every length).
- **Direct proportion** - When two quantities change at the same rate: if one doubles, the other doubles too (e.g., more apples cost more money directly).
- **Inverse proportion** - When one quantity increases and another decreases so that their product stays the same (e.g., going faster means shorter travel time).
- **Gradient (as a ratio)** - The steepness of a line on a graph, calculated as "rise/run" – how much y changes for each change in x.

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*

What does a ratio represent, and why is the order of terms important?
Understand that a ratio compares quantities and that the order (e.g. 2:3 or 3:2) changes the meaning.

How can we use bar models and double number lines to represent and solve ratio problems?
Visual tools help students grasp part-to-part and part-to-whole relationships, especially when dividing quantities or scaling.

How do we simplify ratios and express them in different forms (e.g., 1:x or x:1)?
Simplify ratio and converting them to unit form is essential for comparison and understanding scale.

What is the connection between ratios and fractions?
Convert between ratios and fractions, understanding how each part relates to the whole

How is the concept of ratio used in real-world contexts like gradients, scale drawing, and π (pi)?
Apply ratio to gradients (rise/run), scale factors, and the circumference-to-diameter relationship in circles deepens understanding

Key Processes *(Things You Should Be Able to Do)*

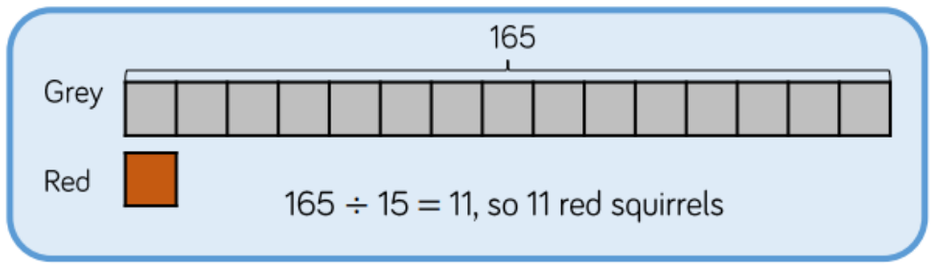
Represent ratios using bar models and double number lines – *Visually model ratios to understand part-to-part and part-to-whole relationships*

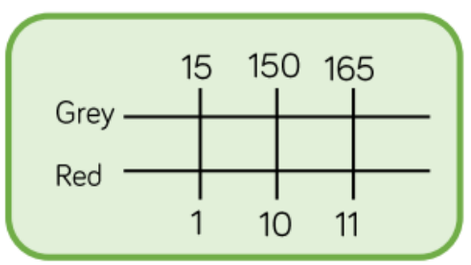
Divide a quantity into a given ratio– *Whether given the total or one part, calculate how to split amounts proportionally using mathematical reasoning or visual aids.*

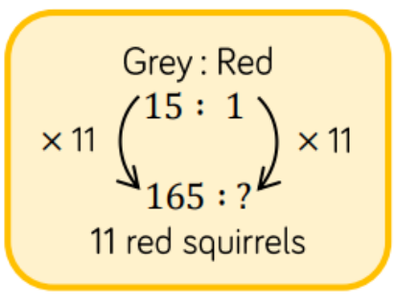
Simplify ratios – *Identify common factors and use division to reduce ratios to their simplest or unit form.*

Convert between ratios and fractions – *Understanding how each part of a ratio relates to the whole and expressing it as a fraction.*

Apply ratio reasoning to real-world contexts – *Use ratio to solve problems involving maps, similar shapes, circle measurements, and gradients of lines.*







MATHEMATICS
HT1 - ASSESSMENT
Year 8

NOTTINGHAM ACADEMY

1:1

Multiplicative Change

This unit focuses on developing an understanding of multiplicative relationships through context such as direct proportion currency, and scale diagrams. You will learn to interpret and draw conversion graphs, apply scale factors to similar shapes, and solve problems involving proportional reasoning.

How I'll be assessed...
- **Formative:** White Rose Maths unit assessments
- **Summative:** White Rose Maths termly assessment

Key Spellings & Definitions

- **Ratio** – A way to compare two or more quantities.
- **Proportion** – A relationship where two ratios or fractions are equal.
- **Scale Factor** – A number used to multiply all parts of a shape or object to make it bigger or smaller.
- **Direct Proportion** – When one quantity increases, the other increase at the same rate.
- **Conversion Graph** – A graph that helps you change one unit into another.
- **Currency** – The type of money used in a country, like pounds (£) or dollars ($).
- **Similar Shapes** – Shapes that have the same shape but different sizes. Their angles are the same, and their sides are in proportion.
- **Linear** – A relationship that makes a straight line on a graph. It means the change is steady or constant.
- **Approximation** – A value that is close to the exact answer.

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*

What happens to the other value if two things are in direct proportion and one of them doubles?
Understand the concept of proportional relationships

How can you use a scale factor to find the missing length in a similar shape?
Apply ratio and scale to geometry

How would you convert between currencies?
Understand currency conversion through multiplication and division.

Why do all direct proportion graphs go through the origin (0, 0)?
Understand graphical representations of proportional relationships.

How can you tell if two shapes are similar just by looking at their sides and angles?
Reason with similarity and proportionality in shapes.

Key Processes *(Things You Should Be Able to Do)*

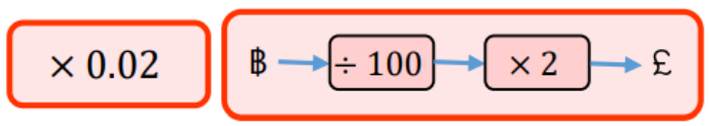
Solve problems involving direct proportion
Use multiplication or division to find missing values when two quantities increase or decrease at the same time.

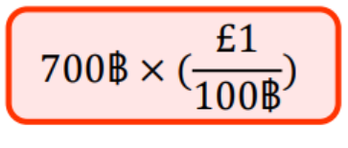
Interpret and draw conversion graphs
Accurately plot and read graphs that convert between units.

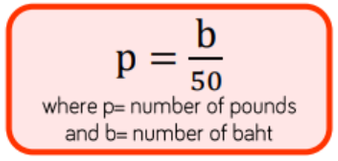
Convert between currencies using exchange rates
Apply multiplication or division to convert amounts using a given exchange rate.

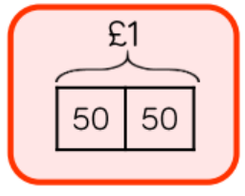
Use scale factors to work with similar shapes
Identify corresponding sides and use scale factors to find missing lengths.

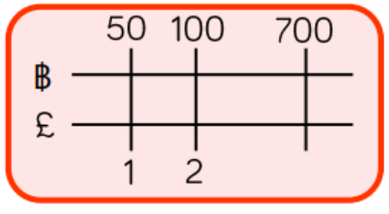
Draw and interpret scale diagrams and maps
Use a given scale to create and interpret diagrams.

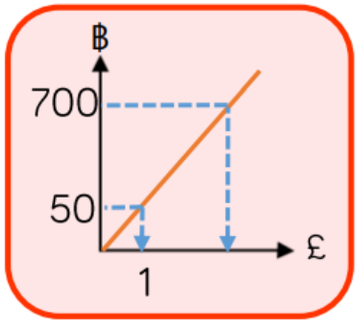












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MATHEMATICS

HT1 - ASSESSMENT

Year 8

1:1

Multiplying and Dividing Fractions

This unit focuses on building a deep understanding of multiplying and dividing factions using visual models, repeated addition and reasoning strategies. You will learn to multiply and divide fractions, including unit, non-unit, improper, mixed and algebraic fractions, and explore the concept of reciprocals.

How I'll be assessed...

- **Formative:** White Rose Maths unit assessments
- **Summative:** White Rose Maths termly assessment

Key Spellings & Definitions

- **Fraction** – A way to show part of a whole.
- **Numerator** – The top number in a fraction. It tells how many parts you have.
- **Denominator** -The bottom number in a fraction. It tells how many equal parts the whole is divided into.
- **Unit Fraction** – A fraction where the numerator is 1, like $\frac{1}{4}$ or $\frac{1}{6}$.
- **Product** – The answer you get when you multiply two numbers or fractions.
- **Reciprocal** – A number you multiply by another number to get 1.
- **Quotient** – The answer you get when you divide one number or fraction by another.
- **Improper Fraction** – A fraction where the numerator is bigger than the denominator, like $\frac{7}{4}$.
- **Mixed Number** – A number that has a whole part and a fraction part, like $2\frac{1}{3}$.
- **Algebraic Fraction** – A fraction that includes letter (like x or y) as well as numbers.

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*

How is multiplying a fraction by a whole number the same as repeated addition?
Connect multiplication to the concept of addition.

Why is dividing by a fraction the same as multiplying by its reciprocal?
Understand to relationship between division and multiplication.

Does multiplying two fractions always make the number smaller? Why and why not?
Reason about the size of products when working with fractions.

What is the difference between an improper fraction and a mixed number, and when is it easier to use each?
Chose the most efficient form for calculations.

How can you use a diagram or model to show the result of dividing a whole number by a fraction?
Understand the importance of visual understanding in a fraction

Key Processes *(Things You Should Be Able to Do)*

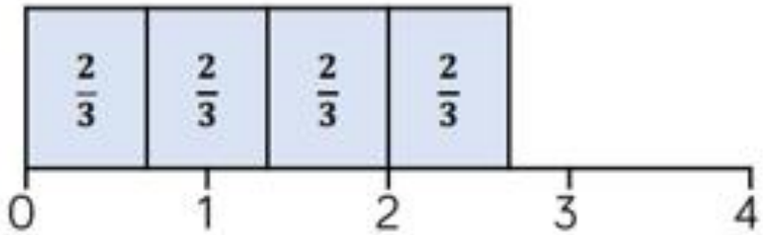
Multiply fractions by whole numbers and other fractions – *Multiply a fraction by an integer and multiply two fractions together, including unit and non-unit fractions.*

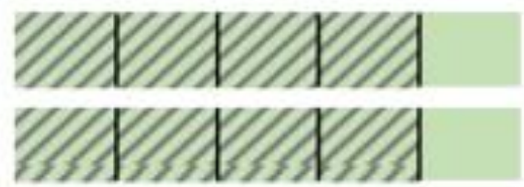
Divide whole numbers and factions by fractions – *Divide an integer by a fraction and divide one fractions by another using the concept of reciprocals.*

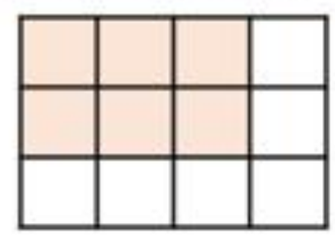
Use visual models to represent fraction operations – *Use bar models, grids, and number lines to represent and explain multiplication and division of fractions.*

Convert between mixed number and improper fractions – *Switch between mixed numbers and improper fractions to simplify calculations and understand results.*

Apply the concept of reciprocals in division – *Use that dividing by a fraction is the same as multiplying by its reciprocal and be able to apply this in calculations.*







MATHEMATICS
HT2- ASSESSMENT

Year 8

1:1

Working in the Cartesian Plane

Build confidence working with coordinates in all four quadrants. Plot and understand straight-line graphs using equations like y = x, y = kx, and y = mx + c.

How I'll be assessed...

- **Formative:** White Rose Maths unit assessments
- **Summative:** White Rose Maths termly assessment

STICKY KNOWLEDGE

Key Questions (Things You Should Know)	Key Processes (Things You Should Be Able to Do)
Why do the order if the numbers in a coordinate matter? What is the same and what is different about the lines y = x and y = -x? How can you recognise a line of the form y = kx? What does the gradient of a line represent? How can you work out a midpoint?	Place points on a grid using positive and negative numbers for both x and y values. Draw and recognise lines like y = x, y=kx, y = x +a, x = a, and y = a. Explore how steep a line is by calculating the gradient. Connect number patterns to graphs and equations to understand how algebra and graphs are related. Find the exact middle between two points using averages of the x and y values.

Key Spellings & Definitions

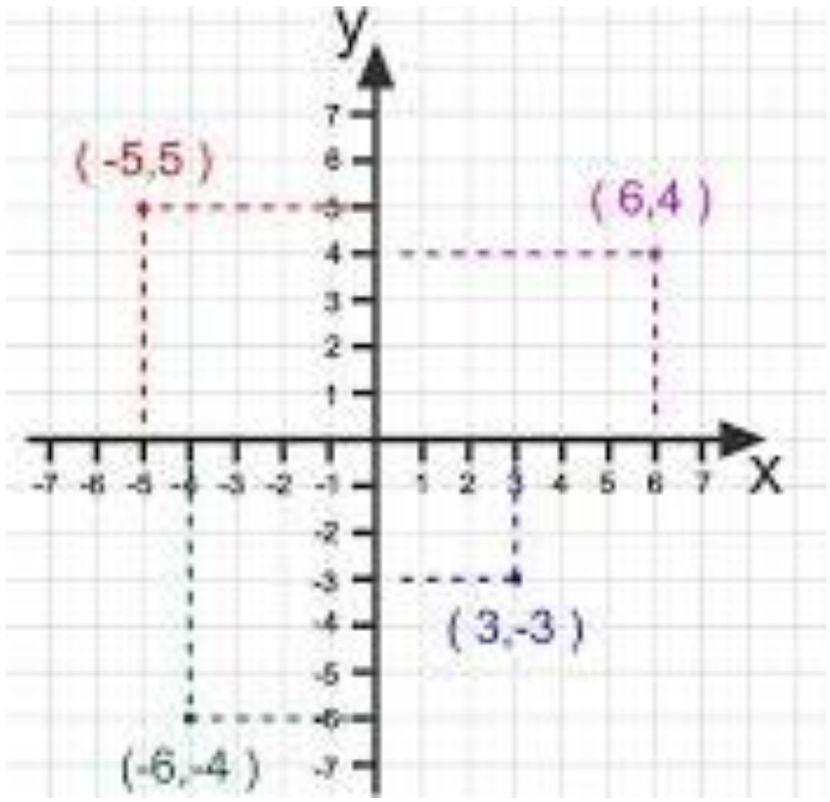
Coordinate – A pair of number that tells you exactly where a point is on a grid

Axis – Two number lines that cross to make the grid

Gradient - The gradient tells you how steep a line is. It shows how much the line goes up or down as you move across

Linear – An equation that makes a straight line when you draw it on a graph. It usually looks like $y = mx + c$

Midpoint - The exact middle between two points on a line.



MATHEMATICS
HT2- ASSESSMENT

Year 8

1:1

Representing Data

Learn how to represent and interpret different types of data using scatter graphs, frequency tables, and two-way tables. Look at key concepts such as correlation, line of best fit, and the difference between discrete and continuous data.

How I'll be assessed...

- **Formative:** White Rose Maths unit assessments
- **Summative:** White Rose Maths termly assessment

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*	Key Processes *(Things You Should Be Able to Do)*
How can you tell if correlation is positive or negative? Why might it be a risk to make an estimate outside of the range of your data? What does the word frequency mean? How can we recognise discrete, continuous and qualitative data? Why do we use columns and rows in a two-way table?	Plot data points on a graph and read patterns to understand relationships between two variables. Explore how variables relate to each other – whether they increase together, one increases while the other decreases, or show no clear pattern. Find a line of best fit by drawing a straight line through data points to make predictions and estimates, and learn how to judge its accuracy. Count and organise data into tables, both grouped and ungrouped, and use these to answer questions. Identify whether data is discrete, continuous, or qualitative, and choose the correct way to

Key Spellings & Definitions

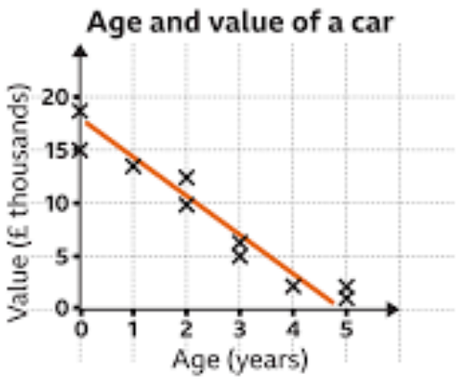
Correlation – How two things change together. It can be positive, negative or no

Frequency – How often something happens

Continuous – Numerical data that can be measured

Discrete – Numerical data that can be counted

Outlier – A piece of data that doesn't fit with the rest



score	tally	frequency (f)
1	𝍸	4
2	𝍸 𝍸	9
3	𝍸 |	6
4	𝍸 ||	7
5	|||	3
6	||	2

	Baseball	Basketball	Football	Total
Male	13	15	20	48
Female	23	16	13	52
Total	36	31	33	100

NOTTINGHAM ACADEMY

MATHEMATICS
HT2- ASSESSMENT
Year 8

1:1

Tables and Probability

Learn about the key ideas in probability, including how to list all possible outcomes using samples, and how to calculate probabilities using tables and Venn diagrams.

How I'll be assessed...
- **Formative:** White Rose Maths unit assessments
- **Summative:** White Rose Maths termly assessment

Key Spellings & Definitions

Probability – The chance that something will happen

Venn – A diagram that uses circled to show what things have in common and what is different

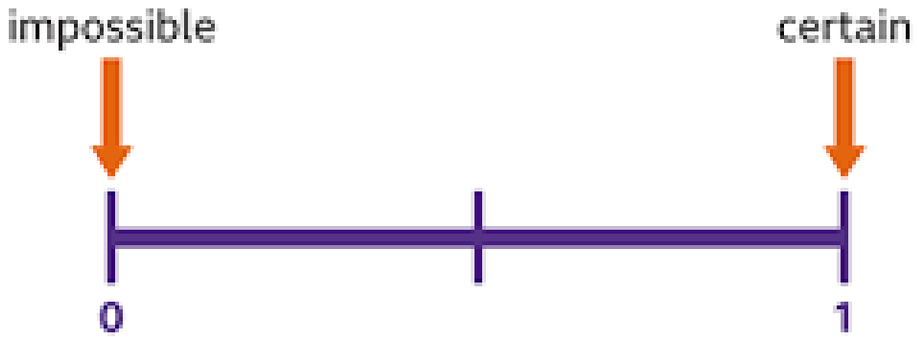
Event – Something that can happen in a probability experiment

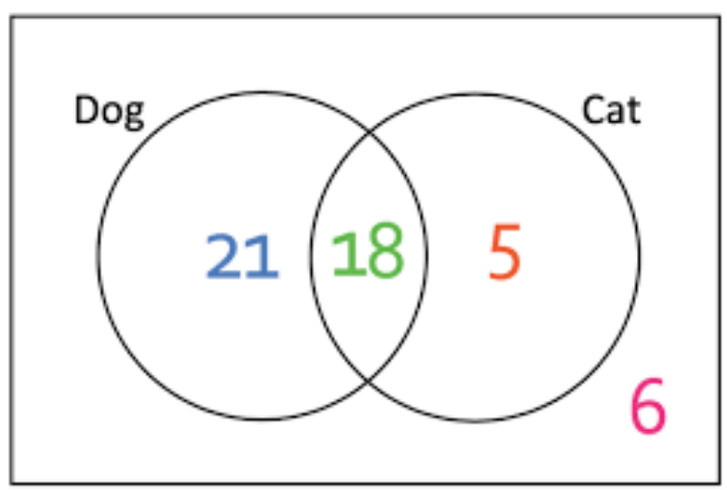
Outcome – The result of an experiment

Intersection – the part where two circles overlap in a Venn diagram

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*	Key Processes *(Things You Should Be Able to Do)*
What is a sample space and how can you ensure you have listed all possible outcomes? What does P(event) mean? How can a two-way table be used to calculate a probability? How do the words "and/or" relate to set notation and regions on a Venn diagram? How can you find the total number of arrangements without listing each one?	List all possible outcomes of an experiment in a clear and organised way. Calculate the chance of events happening by counting outcomes in the sample space using probability notation like P(event). Organise data in tables to compare categories and calculate probabilities based on totals and specific groups. Use Venn diagrams to understand overlapping groups and calculate probabilities for combined or separated events. Multiply the number of choices in difference categories to find the total number of possible combinations or arrangements.





NOTTINGHAM ACADEMY

Mathematics

HT3- ASSESSMENT

Year 8

Brackets, Equations and Inequalities

Build algebra skills step by step: starting with forming expressions and using brackets, then moving on to expanding, factorising, and solving equations and inequalities. It also includes understanding key concepts like formulas, identities, and direct numbers to apply algebra in different situations.

How I'll be assessed...

- **Formative:** White Rose Maths unit assessments
- **Summative:** White Rose Maths termly assessment

Key Spellings & Definitions

Coefficient – The number in front of a letter.

Equation – A maths sentence that shows two things are equal.

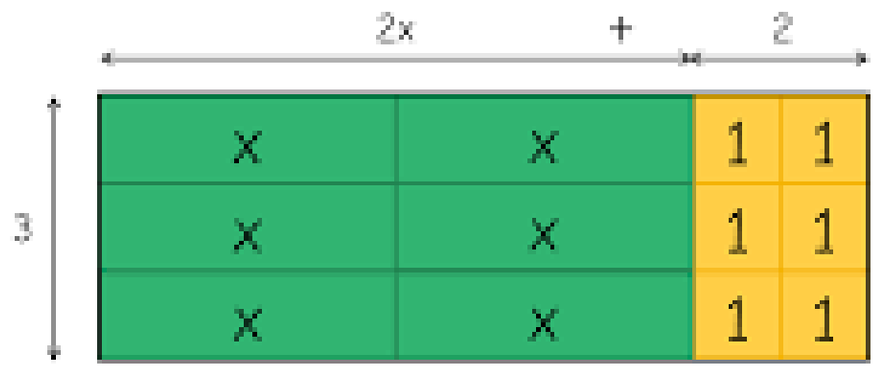
Expand – Take brackets away by multiplying.

Expression – A maths phrase made up of numbers. Letter and operations but doesn't have an equals sign.

Variable – A letter that stands for a number we don't know yet.

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*	Key Processes *(Things You Should Be Able to Do)*
How do you write an algebraic expression for "three more than twice a number"? What happens when you expand the brackets in 3(x+4)? How can you factorise x+x+x+6 into a single bracket? Solve this equation: 2(x+5)=18. What is the value of x? What does the inequality x+3>7 mean, and what numbers make it true?	Write algebraic expressions from words or situations. Multiply out brackets to remove them. Put terms back into brackets (the opposite of expanding). Find the value(s) of unknowns that make the statement true. Apply known rules and relationships to work out answers.



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

Mathematics

HT3- ASSESSMENT

Year 8

NOTTINGHAM ACADEMY

Sequences

Learn how to create sequence using rules written in words or algebra, including simple and complex patterns. Learn how to find the rule (nth term) that describes a give sequence.

How I'll be assessed...

- **Formative:** White Rose Maths unit assessments
- **Summative:** White Rose Maths termly assessment

Key Spellings & Definitions

Generate – Create the numbers in a sequence.

Geometric – A sequence where you multiply by the same number each time.

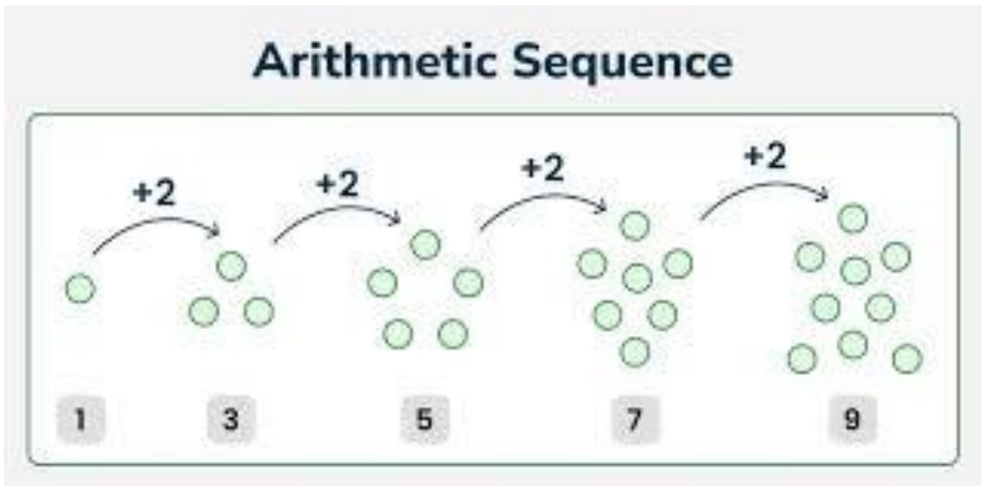
Linear – A sequence where the numbers go up or down by the same amount each time.

Sequence – A list of numbers that follow a pattern.

Term – Each number in the sequence.

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*	Key Processes *(Things You Should Be Able to Do)*
What is a sequence? What do we call each number in a sequence? What is the difference between a linear sequence and a geometric sequence? How can you generate a sequence if you are given a rule in words or algebra? How do you find the rule (nth term) for a given sequence?	Identify a sequence and its terms. Generate a sequence from a rule in words. Generate a sequence from an algebraic rule. Find the pattern or rule for a given sequence Explain the difference between types of sequences.



Mathematics

HT3- ASSESSMENT

Year 8

Indices

Learn how to work with indices. This involves understanding what indices are, and following the rules when multiplying, dividing or raising powers.

How I'll be assessed...

- **Formative:** White Rose Maths unit assessments
- **Summative:** White Rose Maths termly assessment

Key Spellings & Definitions

Base – The big number that you multiply by.

Coefficient – A number that is multiplied by a letter in a maths expression.

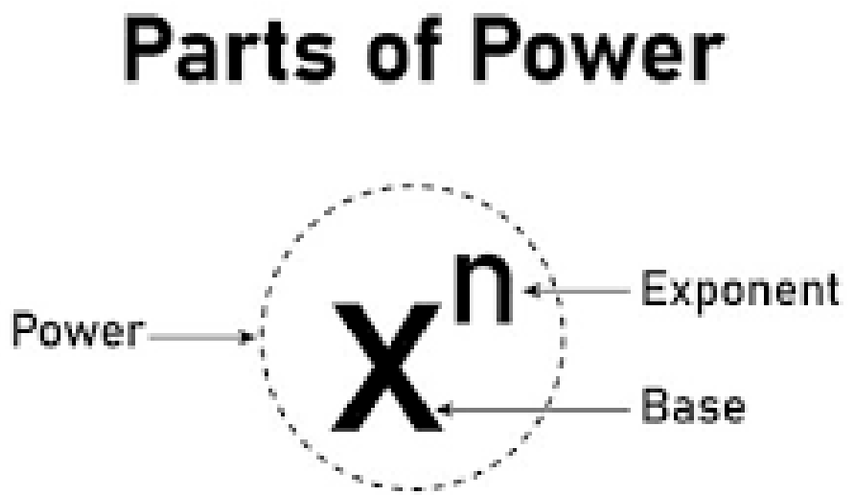
Exponent – The small number that shows how many times to multiply the big number.

Expression – A way of showing numbers, letters, and symbols together to make a maths problem.

Simplify – To make a maths problem easier.

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*	Key Processes *(Things You Should Be Able to Do)*
What does an index (or exponent) tell you in a number like 3^4? What do you do with the indices when you multiply numbers with the same base? What do you do with the indices when you divide numbers with the same base? What happens to the indices when you raise a power to another power? Why do we simplify expressions with indices instead of writing all the multiplications?	Write a number as a power. Multiply powers with the same base by adding the indices. Divide powers with the same base by subtracting the indices. Simplify powers of powers by multiplying the indices. Simplify expressions with mixed operations using the index rules correctly.



Mathematics

HT4 ASSESSMENT

Year 8

Fractions and Percentages

Convert fluently between fractions, decimals, and percentages, and apply these conversions to solve problems both with and without a calculator. Develop skills in percentage change, including using multipliers, finding original amounts and selecting appropriate methods for more complex percentage problems.

How I'll be assessed...

- **Formative:** White Rose Maths unit assessments
- **Summative:** White Rose Maths termly assessment

Key Spellings & Definitions

Decrease – To make something smaller.

Increase - To make something bigger.

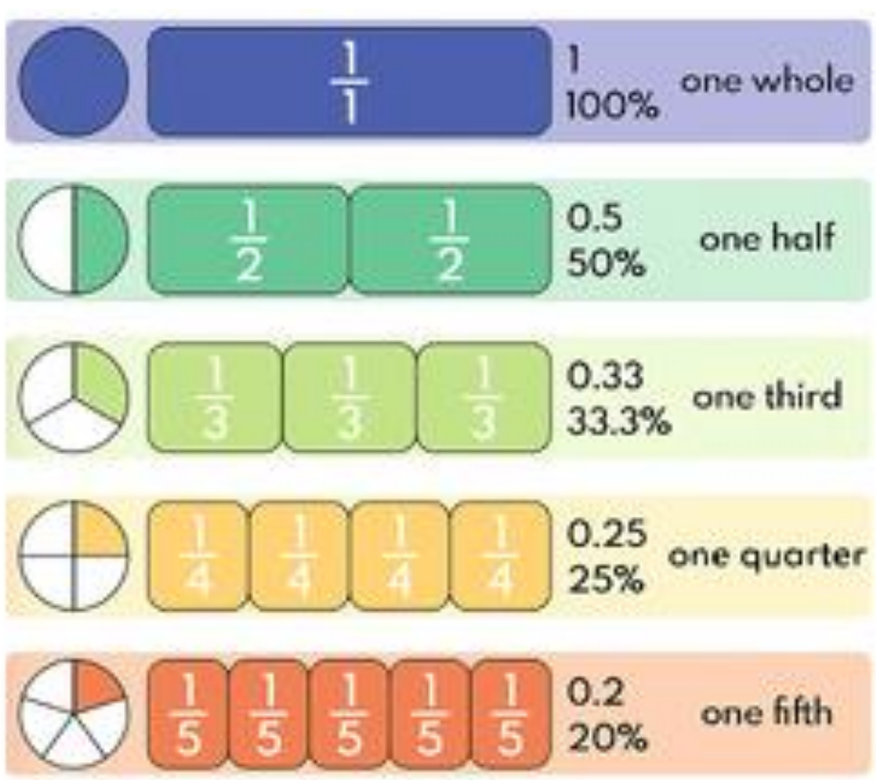
Loss – The money you lose when you spend more than you earn.

Original – The number or amount you started with before anything changed.

Profit – The money you make after selling something, when you earn more than you spent.

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*	Key Processes *(Things You Should Be Able to Do)*
How can you convert a fraction into a decimal and a percentage?	Convert between fraction, decimals and percentages.
How do you calculate a percentage of an amount?	Use multipliers for percentage increase or decrease.
How do you find the multiplier for an increase percentage?	Calculate a percentage of amount.
How do you work backwards to find an original amount before a percentage change?	Express one number as a fraction or percentage of another.
How can you decide whether to use a calculator, a multiplier, or a written method when solving a percentage problem?	Find the original amount (reverse percentage).



Mathematics

HT4 ASSESSMENT

Year 8

Standard Index Form

Learn how powers of 10 work and used this understanding to write very large and very small numbers in standard form, compare them, calculate with them. Also build confidence using index laws, including negative and fractional indices, to simplify and understand powers.

How I'll be assessed...

- **Formative:** White Rose Maths unit assessments
- **Summative:** White Rose Maths termly assessment

Key Spellings & Definitions

Base – The main number that you multiply by itself.

Commutative – A rule which means you can swap numbers around and get the same answer.

Exponent – Tells you how many times to multiply the base by itself.

Ordinary – A normal number written normally – not in powers or as a multiple of a power of ten.

Standard – The name given to the form of number that is a way of writing very big and very small numbers using power of ten.

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*

What does a positive power of 10 tell you about a number?

How do you write a big number in standard form?

What happens to a number when you side a negative power of 10?

How do you compare numbers in standard form.

How do you calculate with standard from?

Key Processes *(Things You Should Be Able to Do)*

Understand and investigate powers of 10.

Convert between ordinary numbers and standard form.

Compare and calculate with numbers in standard form.

Add, subtract, multiply and divide using powers of 10.

Use index laws, including negative and fractional indices.

Ordinary Number	Standard Form
29	2.9×10^{1}
350	3.50×10^{2}
4716	4.716×10^{3}
600000000	6×10^{8}
0.3	3×10^{-1}
0.09	9×10^{-2}
0.0071	7.1×10^{-3}
0.000502	5.02×10^{-4}

Mathematics

HT4 ASSESSMENT

Year 8

Number Sense

Look at estimating, rounding, order of operations, and understand accuracy, alongside converting between metric units for length, mass, capacity, area and volume. Apply this to practical calculation skills such as working with money, time, and calendars.

How I'll be assessed...

- **Formative:** White Rose Maths unit assessments
- **Summative:** White Rose Maths termly assessment

Key Spellings & Definitions

Capacity – How much a container can hole, like litres in a bottle.

Convert – To change a measurement into another unit (like metres into centimetres).

Estimate – A good guess of an answer using easier numbers.

Rounding – Changing a number to one that is simpler by close to the original.

Significant – The digits in a number that matter most when rounding.

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*	Key Processes *(Things You Should Be Able to Do)*
How do you round to significant figures? How do you estimate the value of a calculation? How do you apply the order of operations? How do you convert between litres and millilitres or kilograms and grams? How do you write an error interval for a rounded value?	Approximate values to powers of 10, significant figures, or decimal places to simplify calculations. Use the order of operations to evaluate expression correctly. Interpret error intervals and understand how rounding affects possible true values. Systematically scale units of length, mass, capacity, area, and volume using powers of 10. Apply numbers skills to money calculations, time problems, and everyday measurements.

M	HTh	TTh	T	H	T	O	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
0	0	0	0	0	0	0	0	0	0
Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths

MUSIC

Music
HT4 ASSESSMENT

Year 8

Sea Shanties/Folk Songs

You will develop your vocal skills by learning to sing with controlled sound and clear diction. You will explore the powerful meanings conveyed through simple folk songs and understand how these songs have evolved and are still sung today. This scheme aims to enhance vocal technique and appreciation of traditional music forms.

How I'll be assessed...

- **Summative:** Practice and performance

Key Spellings & Definitions

- **Diction** – Clear and precise pronunciation of words while singing.
- **Folk** – Traditional music passed down through generations, often telling stories.
- **Melody** – A sequence of musical notes that make the main tune.
- **Protest** – Songs created to express disagreement or demand change.
- **Shanty** – A type of **folk** song sung by sailors to help coordinate work on ships.
- **Singing** – Producing musical sounds using the **voice**.
- **Tradition** – Customs, beliefs or practices handed down over time.
- **Vocal** – Anything related to the **voice** or singing.
- **Voice Control** – Managing the **voice** to sing with accurate pitch, volume, and tone.
- **Voice** – The sound produced when air passes through the vocal cords.

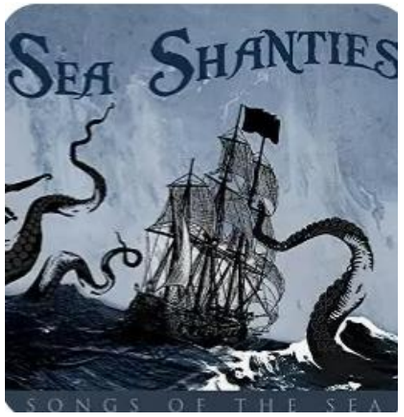
STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*

- What is meant by **folk** music and where does it come from?
- How have **traditional** songs been passed down through history?
- What makes a **Shanty** different from other **folk** songs?
- How does **voice control** affect the quality of your **vocal** performance?
- Why is **diction** important when **singing**?
- How can a **melody** communicate emotions or stories?
- What role did **Shanties** play for sailors working at sea?
- How can simple **folk** tunes carry powerful meanings or messages?
- In what ways have **protest** songs influenced society?
- How have **folk** traditions evolved and stayed relevant today?

Key Processes *(Things You Should Be Able to Do)*

- Use **voice control** to sing with steady pitch and clear tone.
- Demonstrate clear **diction** while **singing**.
- Sing in a group, blending **vocal** sounds with others.
- Perform a **melody** accurately from notation or by ear.
- Identify features of **folk** songs and describe their structure.
- Sing a **Shanty** keeping in time with the group.
- Explain the message or meaning behind a **protest** or **folk** song.
- Show how **vocal** techniques change depending on the style of music.
- Evaluate your own **singing** using vocabulary like **vocal**, **melody**, and **diction**.
- Compare different **traditions** of folk music from around the world.



PF

PE

HT4 ASSESSMENT

Year 8

Invasion games – Basketball

In this unit, you will build on your year 7 skills by performing more advanced football techniques with greater accuracy, control, and consistency. You'll apply complex tactics such as switching play and pressing, develop key physical attributes like speed and agility, and take on leadership roles in lessons. You'll also reflect on performance through analysis to improve both your own and others' gameplay.

How I'll be assessed...

- **Formative:** Assessed during lessons on your skills, fitness, and understanding of the game.
- **Summative:** You'll be marked on your ability to perform skills, apply tactics, communicate effectively, and lead aspects such as warm-ups or coaching tasks.

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*	Key Processes *(Things You Should Be Able to Do)*
•How can I perform and combine basketball skills under pressure in a game? •What are the more advanced basketball techniques and when should I use them? •How do different components of fitness (e.g. agility, endurance) contribute to my performance? •What tactics can I use to outplay opponents in different game situations? •How can I take on a leadership role to support others during training or matches? •What can I do to analyse and improve my own basketball performance?	•**Lay-ups and jump shots** – Executing basketball techniques with increasing accuracy. •**Skill combination** – Combining dribbling, passing, and shooting under pressure. •**Tactical play** – Demonstrating understanding of switching play, pressing, and cutting. •**Fitness application** – Using agility and movement knowledge to improve performance. •**Leadership** – Leading warm-ups and supporting peers through coaching or mentoring. •**Analysis** – Reflecting on personal performance and offering feedback to others.

Key Spellings & Definitions

- **Shielding** – Using your body to protect the ball from a defender while keeping control.
- **Switching play** – Passing the ball quickly from one side of the court to the other to create space.
- **Cut** – A quick movement by a player to get free from a defender and receive a pass.
- **Pressing** – Applying pressure to the ball carrier to force mistakes or win possession.
- **Lay-up** – A close-range shot taken while moving towards the basket.
- **Agility** – The ability to change direction quickly while staying balanced and in control.
- **Dynamic stretching** – Active movements that warm up muscles before playing.
- **Feedback** – Helpful advice given to improve performance or teamwork.

RELIGIOUS EDUCATION

RELIGIOUS EDUCATION
HT4 ASSESSMENT

Year 8

Death: Is it the end?

In this unit, we'll explore the timeless question, "What happens when we die?" This is a sensitive topic, yet one that people have always been fascinated by and sought to understand. Whether or not you believe in an afterlife, we will examine different perspectives, including religious beliefs about life after death, as well as the views held by Humanists and Atheists.

How I'll be assessed...

- **Formative:** How is the afterlife understood in the Dharmic Faiths?
- **Summative:** Is there life after death?

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*

- What do different religions and worldviews believe happens after death?
- What is reincarnation, and how do dharmic religions understand the cycle of life, death, and rebirth?
- How do dharmic beliefs (Hindu, Sikh, Buddhist) differ in their views of karma, moksha, and liberation?
- What do the Abrahamic religions teach about judgement, heaven/hell, and the soul?
- What paranormal or supernatural explanations do people give for life after death?
- What are near-death experiences, and how do different people interpret them?
- What do atheists believe about death, consciousness, and the end of life?

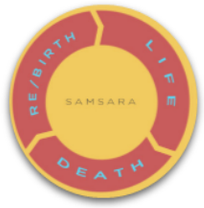
Key Processes *(Things You Should Be Able to Do)*

- Use key vocabulary accurately (reincarnation, karma, resurrection, judgement, soul, NDE, evidence).
- Explain and compare religious, philosophical, and paranormal beliefs about life after death.
- Analyse similarities and differences between dharmic and Abrahamic views.
- Evaluate paranormal claims and NDEs using both sceptical and religious interpretations.
- Summarise atheistic perspectives and contrast them with religious ones.
- Form balanced arguments using evidence, examples, and clear reasoning.
- Produce structured written responses and apply feedback to improve them.

NOTTINGHAM ACADEMY

Key Spellings & Definitions

Life after Death	The belief that when you die there is another life which the souls can transfer to.
Paranormal	Events beyond scientific explanation, thought to have a spiritual cause.
Near Death Experience	An event where a person experiences the afterlife without dying.
Mediums	A person who claims to be able to speak to the dead.
Humanism	People who do not believe in God but place great importance on human life
Samsara	The cycle of death and rebirth
Enlightenment	The realisation of the truth about life
Atman	Soul in Hinduism
Karma	Actions and the consequences of actions
Eightfold Path	The eight practises a Buddhist strives to live by
The Soul	The non-physical part of a person, believed to be a gift from God
Heaven	A place with God.
Hell	A place without God.



Abrahamic View	Dharmic View	Paranormal View	Humanist/ Atheist View
Most Abrahamic religions like Christianity and Islam see God as having human like qualities. They tend to believe God will judge all people when they die. He will divide people's souls into two groups - those who are good and those who are bad. He will reward good people by sending them to heaven and punish those who are bad by sending them to hell.	Dharmic religions don't see God as a person. They believe in a universal truth such as that God is in everything and everything is one. Dharmic religions such as Hinduism, Sikhism and Buddhism tend to believe that there is no heaven or hell but a instead the soul is reincarnated (born again) in a new body after death. Only very holy people will manage to escape this cycle	**Paranormal events are used by some as evidence for life after death by some people.** Examples of paranormal events might include: **Ghosts** – the soul or spirit of a dead person believed to be sensed by the living. **Mediums** – People who claim to be able to communicate to the dead. **Near death experiences** – When someone who was close to death wakes up and claims to have had a temporary experience of the afterlife.	Humanists are non-religious people and so do not believe in a God. They believe in scientific methods when it comes to understanding how the universe works - They reject ideas of life after death as they do not believe in a God / afterlife, they suggest that instead we should find meaning in our own lives and live it to the full, when we die our bodies will decompose but we will still be remembered by our family and loved ones.

Year 8 - Unit 2 – KS3 Religious Studies – Is there Life After Death?

In this unit, we'll explore the timeless question, "What happens when we die?" This is a sensitive topic, yet one that people have always been fascinated by and sought to understand. Whether or not you believe in an afterlife, we will examine different perspectives, including religious beliefs about life after death, as well as the views held by Humanists and Atheists.

Key Words

Life after Death	The belief that when you die there is another life which the souls can transfer to.
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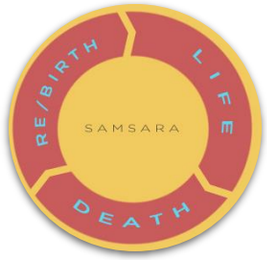
Atman	Soul in Hinduism
Karma	Actions and the consequences of actions
Eightfold Path	The eight practises a Buddhist strives to live by
The Soul	The non-physical part of a person, believed to be a gift from God
Heaven	A place with God.
Hell	A place without God.
Purgatory	Believed by Catholics, where our souls go to be 'purified' before entering heaven
Akhirah	Life after death in Arabic (the Islamic view of life after death)
Bazarkh	The waiting place between death and judgement for Muslims.
Jannah	The Arabic word for Paradise – a heaven where you go when you die
Jahannam	The Muslim word for hell – a place of punishment
Abrahamic Religions	Christianity, Islam and Judaism. They beleive there is a God with personhood (who can think or act similarly to a person)
Dharmic Religions	Hinduism, Sikhism and Buddhism - The belief that God is not a person but a perfect truth or oneness of the universe.
Atheist	A person who does not believe there is a God
Reincarnation	To be born again

Key Concepts – Religious beliefs about life after death

There are lots of different beliefs about life after death. Theists believe in life after death because it involves an afterlife which links to faith in God. Some agnostics might be persuaded by arguments for life after death (for example paranormal). Atheists reject an afterlife completely.



Abrahamic View	Dharmic View	Paranormal View	Humanist/ Atheist View
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'Who will bring us back to life? The one who created you the first time'
The Qur'an

As a man casts off worn out garments and puts on new ones so the soul casts off a worn-out body and enters a new one
- Bhagvad Gita

'A delusion is something that people believe in spite of a total lack of evidence'
Richard Dawkins

SCIENCE

NOTTINGHAM ACADEMY

SCIENCE
HT4 ASSESSMENT YEAR 8

REACTIONS AND GENES

students will learn about energy changes in chemical reactions through experiments. They will study genetics, evolution, and maintaining biodiversity.

How I'll be assessed...
- **Formative:** Interpret chemical equations
- **Summative:** Interpret graphs and MCQ's

Key Spellings & Definitions

- **Biodiversity** – The variety of living organisms in an ecosystem.
- **Chemical Reaction** – A process where substances change to form new substances.
- **DNA** – The molecule that carries genetic information in organisms.
- **Endothermic** – A reaction that **absorbs** energy from the surroundings.
- **Energy Transfer** – Movement of energy from one store or place to another during reactions.
- **Evolution** – The gradual change of species over time through natural selection.
- **Exothermic** – A reaction that **releases** energy to the surroundings.
- **Gene** – A section of **DNA** that controls a characteristic.
- **Inheritance** – The passing of genetic information from parents to offspring.
- **Variation** – Differences between individuals within a species.

STICKY KNOWLEDGE

Key Questions *(Things You Should Know)*

- What is a **chemical reaction** and how can we identify when one has occurred?
- What is the difference between **exothermic** and **endothermic** reactions?
- How does **energy transfer** happen during chemical reactions?
- What is **DNA** and why is it important?
- What is a **gene** and how does it relate to **inheritance**?
- What causes **variation** within a species?
- How does **evolution** occur over many generations?
- What evidence supports the theory of **evolution**?
- Why is **biodiversity** important for ecosystems?
- How can humans help to maintain **biodiversity**?

Key Processes *(Things You Should Be Able to Do)*

- Identify signs of a **chemical reaction** taking place.
- Measure temperature changes to classify reactions as **exothermic** or **endothermic**.
- Describe how **energy transfer** occurs in practical experiments.
- Interpret simple diagrams of **DNA** structure.
- Match **genes** to inherited characteristics.
- Explain how **inheritance** leads to **variation** in offspring.
- Use examples to explain how **evolution** works through natural selection.
- Analyse data showing patterns of **variation** within a population.
- Evaluate why high **biodiversity** is beneficial.
- Suggest ways to protect **biodiversity** in different habitats.