

# Mathematics Curriculum Intent

## Subject Vision

At Trinity Academy Newcastle, the Mathematics curriculum enables learners to develop confidence, resilience and fluency in using mathematics to understand and engage with the world around them. Through a carefully sequenced curriculum, learners develop numerical fluency, logical reasoning, and problem-solving skills that support success across the curriculum and in everyday life. Mathematics empowers learners to think critically, make informed decisions, and apply their knowledge confidently in education, employment, and adult life.

## The Role of Maths within the Trinity Curriculum

Mathematics forms a central part of the **Core Academic** strand of the Trinity Curriculum Model. It provides learners with the essential knowledge and skills needed to access learning across a range of subjects whilst developing logical thinking, resilience, and independence. Through mathematical enquiry, reasoning, and problem-solving, learners develop the confidence to tackle increasingly complex challenges and apply learning in meaningful contexts.

The curriculum contributes significantly to the academy's curriculum drivers by promoting communication, independence, digital literacy, and preparation for adulthood. Learners are encouraged to explain their thinking, justify solutions, and apply mathematics to real-life situations including finance, employment, technology, and decision-making.

## **Assessment and Progression**

Assessment is directly aligned to curriculum progression and enables learners to demonstrate growth in fluency, reasoning, problem solving and independence from their individual starting points.

Progress is measured through curriculum mastery, ensuring that learners develop both mathematical knowledge and transferable problem-solving skills over time. Through Trinity Academy's assessment framework, learners are supported to build confidence and competence in mathematics across Key Stages 3 and 4.

## Key Stage 3 Intent

At Key Stage 3, learners develop the mathematical knowledge, reasoning and problem-solving skills required to access the wider curriculum and engage confidently with the world around them.

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Through a carefully sequenced curriculum, learners build secure foundations in number, algebra, geometry, ratio, probability, and statistics. Mathematical fluency, reasoning, and problem solving are developed progressively, enabling learners to apply learning confidently and independently across a range of contexts.

### Developing Numerical Fluency

Learners develop a secure understanding of numbers, place value, calculation, and arithmetic through a carefully sequenced curriculum. Core concepts are revisited and developed over time, enabling learners to build confidence and accuracy when working with whole numbers, decimals, fractions, percentages, and negative numbers. Fluency supports learners in applying mathematical knowledge independently across a range of contexts.

### Developing Reasoning and Problem – Solving Skills

Learners are taught to think mathematically by exploring patterns, making connections, testing ideas, and justifying conclusions. Through problem-solving activities, learners learn to select appropriate methods, evaluate outcomes, and explain their reasoning. These skills support learning across the wider curriculum and prepare learners to solve real-world problems with increasing confidence.

### Developing Mathematical Communication

Mathematics contributes significantly to the development of literacy and communication skills. Learners are encouraged to use mathematical vocabulary accurately, explain their methods, and justify their answers through discussion and written reasoning. This focus on communication helps learners articulate their thinking and become more confident learners.

### Developing Financial and Real – World Understanding

The curriculum provides learners with opportunities to apply mathematics in practical and meaningful situations. Learners develop understanding of budgeting, finance, measurement, data and estimation whilst exploring how mathematics is used within careers such as engineering, business, construction, science, healthcare and technology. These experiences help learners understand the relevance of mathematics in everyday life.

### Developing Digital Literacy

Educational technology is used to enhance mathematical understanding, engagement, and problem-solving. Learners use calculators, digital resources, online platforms, and interactive tools to investigate mathematical concepts, analyse data, and check solutions. This supports the academy's commitment to digital literacy and aligns with the NAACE EdTech Review Framework by helping learners use technology effectively, safely and responsibly.

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### Key Stage 4 Progression

At Key Stage 4, learners build upon the foundations established during Key Stage 3 through personalised qualification pathways.

Learners access:

GCSE Mathematics

Functional Skills Mathematics

according to individual need, attainment and aspiration.

The curriculum focuses on the application of mathematical knowledge, examination preparation, problem solving, reasoning and numeracy for adulthood. Learners develop the confidence to use mathematics independently in real-life situations while preparing for success in external qualifications.

### Supporting SEMH Development

The mathematics curriculum has been designed to support learners with SEMH needs through structured learning, clear routines, and opportunities for success. Learners are encouraged to persevere when faced with challenge, develop resilience through problem-solving, and build confidence in their ability to achieve. Collaborative learning and discussion support communication, self-esteem, and positive engagement with learning.

### Preparation For Adulthood

Preparation for Adulthood is embedded throughout the mathematics curriculum. Learners develop the numeracy skills required for independent living, employment, and further education. Through practical applications including budgeting, financial awareness, estimation, measurement, data interpretation and decision-making, learners gain the skills needed to navigate adult life successfully.

### Intended Outcomes

By the end of Key Stage 4, learners will:

- Demonstrate a secure understanding of numbers, calculations, and mathematical processes.
- Apply mathematical knowledge confidently in a range of real-world contexts.
- Solve problems using logical thinking, reasoning, and appropriate strategies.
- Communicate mathematical ideas using accurate vocabulary and clear explanations.
- Make informed decisions using numerical information and data.
- Use technology effectively to support mathematical learning and problem-solving.
- Demonstrate resilience, independence, and confidence when tackling mathematical challenges.

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- Be prepared for further education, employment and adult life through secure numeracy, mathematical reasoning and problem-solving skills.

### Ambition

Regardless of starting point or pathway, all learners are entitled to an ambitious mathematics curriculum which develops numerical fluency, logical reasoning and problem-solving skills.

Through carefully sequenced learning and high expectations, learners are supported to become:

- Confident mathematicians
- Effective problem solvers
- Critical thinkers
- Independent learners
- Successful learners prepared for further education, employment and adult life