YEARS 3 TO 13

MATHS FROM AGE 7 TO A-LEVEL

quarter™

The *curriculum*

Everything your child can learn on quarter, year by year, with questions to ask at home.

STEM LAB

CODE, DATA, AI AND QUANTUM IDEAS

A reference for parents and carers

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WELCOME

Welcome

This booklet is a map of everything quarter covers, so you can see where your child is, what comes next and how to help at home.

How to use it

- Find your child's school year in the chapters that follow.
- Read what each topic covers, in plain words.
- Use the “Ask” question beside a topic to start a conversation about it.

What you'll find

- Maths from Year 3 to A-level, topic by topic.
- The 11+ strand and practice papers.
- The STEM lab: computing, data, AI and quantum ideas.
- The study library, tools and the parents' area.

SHORT, REGULAR PRACTICE BEATS LONG SESSIONS. TEN MINUTES MOST DAYS IS PLENTY.

The idea behind quarter

Every question comes with a hint, worked steps and feedback for that exact question, so what a child reads always fits what they're working on. Topics come back later, a little at a time, so what's learned stays learned. Children are never rushed on normal practice. The only timed activities are clearly labelled: the 11+ practice papers and the times tables challenge.

USING QUARTER

How quarter works

1. **A short check-up finds the starting point**
   About 24 questions that adapt to your child, so the first plan fits them, not just their school year.
2. **A weekly plan keeps things steady**
   Each week focuses on a few topics, with review of earlier ones mixed in.
3. **Practice is short and kind**
   A hint is always there, “Show the steps” explains a worked answer, and an optional AI tutor can talk a problem through without giving the answer away.
4. **Working-out tools help on paper and on screen**
   Counters, number lines, grids and method sheets are a tap away, and the keyboard works everywhere.
5. **Topics return at the right moment**
   Anything that was tricky comes back sooner. Anything secure comes back later.
6. **You see the progress**
   The parents' area shows what's secure, what needs attention, and a progress report you can print or save for any dates you choose.

What the status words mean

- **New**: not tried yet.
- **Learning**: being worked on.
- **Getting there**: mostly right, still wobbly.
- **Got it**: secure, and brought back later to stay that way.

Where it works

In any modern browser on phones, tablets and computers. Progress is saved to your account, so a child can carry on from any device.

THE WHOLE PICTURE

At a glance

211
maths topics

21
11+ reasoning topics

29
STEM lab topics

29
illustrated study guides

Key Stage 2

Years 3 to 6, ages 7 to 11

96 topics

Number · Ratio and proportion · Algebra · Measures · Geometry · Statistics

Key Stage 3

Years 7 to 9, ages 11 to 14

40 topics

Number · Ratio and proportion · Algebra · Measures · Geometry · Statistics

GCSE

Years 10 to 11, ages 14 to 16

39 topics

Number · Ratio and proportion · Algebra · Measures · Geometry · Statistics

A-level

Years 12 to 13, ages 16 to 18

36 topics

Algebra · Measures · Geometry · Statistics · Calculus

Also included

- Times tables revision with an optional timed check.
- 11+ practice papers and a finder for local test details, covering 33 areas.
- An AI tutor for children and an assistant for parents, both optional.
- Money topics from Year 3, with real-life contexts.
- Read-aloud, sound and motion controls, and light, dark or automatic themes.

KEY STAGE 2 · AGE 7 TO 11

Year 5

22 topics first taught in Year 5. Earlier topics keep coming back in review.

Decimals
Number

Add, subtract, multiply and divide decimals.
Ask: What happens to the digits when you multiply 3.5 by 10?

Factors and multiples
Number

Factors, multiples, highest common factor and lowest common multiple.
Ask: How can you tell quickly whether a number is a multiple of 3?

Fractions of amounts
Number

Find a fraction of a number or quantity.
Ask: What does the bottom number tell you, and what does the top number tell you?

Mixed numbers and improper fractions
Number

Count the fraction pieces in whole numbers and mixed numbers.
Ask: Why does the denominator stay the same?

Multiplying fractions by whole numbers
Number

Multiply a fraction by a whole number, and write the answer as a mixed number.
Ask: Why does the bottom number not change when you multiply?

Numbers to a million
Number

Read, write and compare numbers to 1,000,000, and multiply and divide by 10, 100 and 1,000.
Ask: What happens to the digits when you multiply by 1,000?

Prime, square and cube numbers
Number

Know prime numbers up to 19, and use square and cube numbers.
Ask: How can you tell that 21 is not a prime number?

Thousandths
Number

Read, write and compare decimals with three decimal places, and relate thousandths to tenths and hundredths.
Ask: Why is 0.4 the same as 0.400?

Converting units
Measures

Convert between metric units of length, mass and capacity.
Ask: Should the number get bigger or smaller when you change kilograms into grams? Why?

KEY STAGE 2

Year 5 (continued)

Metric and imperial units
Measures

Convert between common metric and imperial units using a given rule, such as inches and centimetres, or miles and kilometres.
Ask: How many lots of the rule did you need?

Multiplying and dividing money
Measures

Multiply a price by a number, and share an amount to find the price of one.
Ask: Would it be easier to work in pounds or in pence here?

Perimeter and area
Measures

Perimeter and area of rectangles and triangles.
Ask: Can two shapes have the same area but different perimeters?

Shopping bills
Measures

Work out the cost of several items, and the change from a bigger note.
Ask: What is a quick estimate of the bill before you work it out exactly?

Volume of cuboids
Measures

Use layers of cubes to calculate volume.
Ask: What does one cubic centimetre look like?

3-D shapes
Geometry

Count the faces, edges and vertices of 3-D shapes.
Ask: How can you keep track so you don't count an edge twice?

Angles
Geometry

Angles on a line, around a point, in triangles and quadrilaterals.
Ask: Why do the angles in any triangle always add up to 180°?

Drawing angles with a protractor
Geometry

Draw an angle of a given size by turning an arm on a protractor.
Ask: How can you check an angle you have drawn?

Measuring angles with a protractor
Geometry

Read the size of an angle from a protractor, using the right scale.
Ask: How can you tell which scale to read before you look at the numbers?

Nets and 3D solids
Geometry

Count the faces, edges and corners of a solid, and use them to check a net.
Ask: Which solids have the same number of faces but different numbers of corners?

Properties of rectangles
Geometry

Use the properties of rectangles to find missing lengths and angles.
Ask: If you know two sides of a rectangle, how many more sides do you know?

KEY STAGE 2

Year 5 (continued)

Regular and irregular polygons

Geometry

Tell regular polygons (equal sides and angles) from irregular ones.

Ask: Why is a rectangle that is not a square an irregular polygon?

Line graphs

Statistics

Read values from a line graph, find changes, and estimate between two readings.

Ask: What does a steep line tell you compared with a flat line?

SELECTIVE SCHOOL PREPARATION

What's in the 11+ strand

Verbal reasoning

Word and letter patterns, codes, analogies, odd words out and hidden words.

Non-verbal reasoning

Shapes and pictures: series, matrices, reflections, rotations and odd one out.

Problem solving

Logic puzzles, finding the error, combinations and “always, sometimes, never” reasoning.

Practice papers

Maths paper
20 questions · 25 minutes

Reasoning paper
Verbal, non-verbal and problem solving · 20 questions · 20 minutes

Maths and reasoning
Two parts in one sitting · 30 questions · 35 minutes

Papers are timed, with no hints, and marks are shown at the end with the topics to revisit. They're the one place quarter uses a countdown.

Local test finder

Tests differ between areas and schools. The finder in the parents' guides covers 33 areas of England and Northern Ireland: search by postcode, area or school, see what's known about each test and follow the links to the official admissions pages.

Start early and keep it light. Twenty minutes a few times a week beats a last-minute rush.

BEYOND MATHS

How the STEM lab works

The lab sits next to the maths activities, with its own sticky note on Today. It has its own topics and progress, separate from the maths plan, so children can explore for the fun of it.

Computing	Precise instructions, loops, sorting and searching, binary and hexadecimal, tracing code, logic, storage and secret codes.
Data science	Reading survey data, spotting outliers and checking whether data is fair.
AI and machine learning	Learning from examples, bias in data, nearest neighbour, a tiny artificial neuron, accuracy, spam filters, gradient descent and a neural network layer.
Quantum ideas	Packets of energy, qubits and probability, how many states qubits hold, and the X and H gates.

Build it labs

Binary lamps. Switch lamps on and off to build numbers.

Program the robot. Queue up instructions to reach the star.

Teach a machine. Place dots and see how a nearest-neighbour model decides.

Qubit playground. Try the X and H gates and measure the qubit.

PRACTICAL TIPS

Helping at home

Before practice

- Pick a calm moment, and stop when focus fades.
- Two or three topics are enough for a sitting.
- Have paper and a pencil to hand.

During practice

- Let them try first. A hint is always there.
- Ask them to explain a step in their own words.
- Praise the effort and the method, not just the answer.

When something's tricky

- Use “Show the steps”, then try a fresh question.
- Use a real object: coins, a ruler, slices of fruit.
- Come back to it tomorrow. Topics return on their own.

After practice

- Look at the “Ask” question for the topic.
- Spot the topic in real life: shopping, cooking, travel.
- Check the parents' area now and then, and celebrate what's secure.

IF A TOPIC FEELS TOO EASY OR TOO HARD, TRY ONE FROM THE YEAR ABOVE OR BELOW. THE MAP IS THERE TO BE EXPLORED.

Keeping in touch

Questions, ideas and feedback are always welcome through the feedback form in the parents' area, or at **yourquarter.co.uk**.

FREE SAMPLE

Want the full booklet?

You've seen 3 pages of Year 5 topics and a look at the 11+ and STEM strands. The full booklet has all 53 pages.

In the full booklet

- Every maths topic from Year 3 to A-level, year by year.
- The full 11+ strand, with the test finder for 33 areas.
- Every STEM lab topic.
- The illustrated study library.

How to get it

- Create a quarter account at **yourquarter.co.uk**.
- Open the Parents' area, then Settings.
- Find the Curriculum booklet card and choose Read online or Download PDF.

QUESTIONS? MESSAGE US AT YOURQUARTER.CO.UK/?INFO=CONTACT

quarter™

Maths and STEM, one quarter at a time.



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