# Grade 5 Mathematics

Curriculum Map for parents

Aligned with US Common Core. **Designed to exceed it.**

The 1:1 coach who stays with your child for years is irreplaceable.

> When problems become tough, as life sometimes does - a coach identifies the moments your child stops trying. With a gentle nudge, a warm word of encouragement, they egg them on to give it "one more try." That one intervention compounds a thousand times, building resilience and making your child MathFit for life.

For students on other boards, the coach maps modules to your child's school.

## The Grade 5 Curriculum

| # | Chapters | What the child unlocks |
|---|---|---|
| 01 | **Number System**<br>• Read & write 9-digit numbers<br>• **Identify place value (9-digit)**<br>• Write expanded & standard form<br>• Use exponents for powers of 10 | Multiply 342 by 10. Most children add a zero and move on: 3420. The trick works for every whole number, so nobody questions it. But nothing was added. The 3 was worth 3 hundreds. Now it is worth 3 thousands. Every digit shifted one place left, and the zero only filled the empty ones place. In the same grade, when decimals arrive and the teacher asks for 3.42 × 10, the child who watched the digits move knows the answer isn't 3.420. The digits move again: 34.2.<br>**× 10: Every Digit Slides One Place Left**<br>Th H T O: 3 4 2 → ×10 → 3 4 2 0 — *the 0 only fills the empty ones place* — **342 × 10 = 3420**<br>T O t h: 3 4 2 → ×10 → 3 4 2 — *the point stays - the digits move* — **3.42 × 10 = 34.2** |
| 02 | **Number Operations**<br>• Use the zero, one & commutative properties<br>• Apply the distributive property<br>• Multiply by multiples of 10<br>• Estimate products<br>• Multiply multi-digit by 1-digit<br>• Multiply multi-digit by 2- & 3-digit<br>• Relate multiplication & division<br>• **Divide 4-digit by 2-digit**<br>• Estimate quotients<br>• Solve word problems (all four operations) | How many 23s are in 161? There's no times-table to recall - and that gap is the whole lesson. The child rounds the divisor to something friendly: 23 is about 20. They make a guess, check it against the real 23, and adjust. Dividing by a two-digit number is estimate, test, correct. Grade 4 divided by a single digit from memory. Grade 5 reasons past that. Grade 6 folds the same loop into the long-division algorithm. **6.NS.B.2**<br>**How Many 23s Fit in 161?**<br>*Estimate: 23 is about 20, and 161 ÷ 20 ≈ 8 - so try 8*<br>try 8: 23 23 23 23 23 23 23 23 (161) — 8 × 23 = 184 - past 161 ×<br>try 7: 23 23 23 23 23 23 23 — 7 × 23 = 161 - exact ✓<br>**161 ÷ 23 = 7** |
| 03 | **Order of Operations**<br>• **Simplify expressions using MDAS**<br>• Simplify expressions with parentheses<br>• Simplify expressions with nested parentheses | Shown 8 + 4 × 2, one child answers 24 - working left to right. Another answers 16 - multiplying first. Both are sure. Both can't be right. The class needs an agreement, and the order of operations is that agreement - a necessary one, since multiplication binds numbers more tightly than addition. A child who sees why the rule exists never has to memorise it. In Grade 6 the same order keeps expressions exact once letters join the numbers. **6.EE.A.2**<br>**8 + 4 × 2 = ?**<br>left to right: (8+4) × 2 = 24 — **24 ×**<br>× before +: 8 + (4 × 2) = 16 — **16 ✓** |

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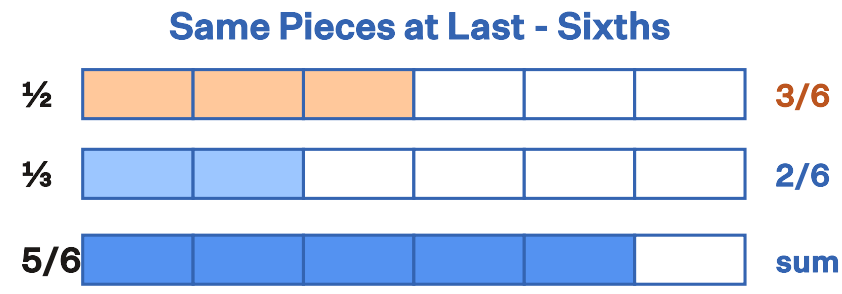
## 04 Fractions - Addition & Subtraction

- Estimate sums & differences of fractions
- **Add fractions with unlike denominators**
- Subtract fractions with unlike denominators
- Solve fraction word problems

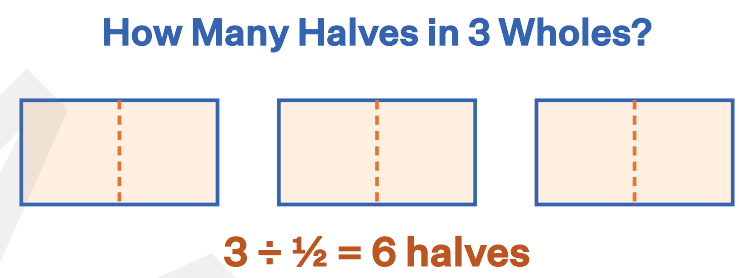
Ask to add ½ + ⅓. Halves and thirds are different-sized pieces of a whole. Pieces of different sizes can't be combined directly, the way 3 apples and 2 oranges aren't 5 apples. Rewrite both in sixths - 3/6 + 2/6 - and the pieces match: 5/6. The rule underneath is one Grade 6 leans on everywhere: you can only combine like units. It's the same reason 3x + 2x makes 5x but 3x + 2 does not. **6.EE.A.4**




## 05 Fractions - Multiplication & Division

- Multiply proper fractions by whole numbers
- Multiply improper fractions by whole numbers
- Multiply fractions by fractions
- Solve fraction multiplication problems
- Divide unit fractions by whole numbers
- **Divide whole numbers by unit fractions**

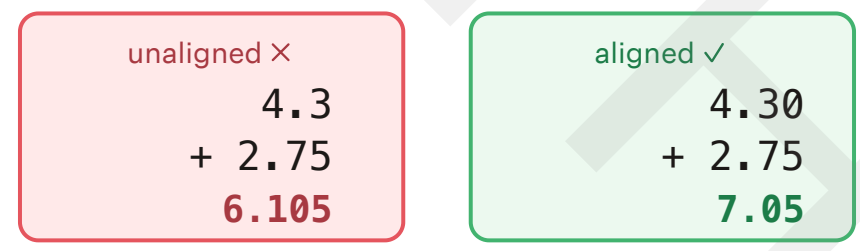
Ask how many half-sandwiches are in 3 whole sandwiches and the child counts them: 6. So 3 ÷ ½ = 6. Dividing has made the number larger - which feels impossible to anyone who believes division always shrinks. The picture keeps it honest: cut each whole into halves and count the pieces. Seeing that "divide by a half" means "how many halves fit" is exactly the meaning Grade 6 needs to divide any fraction by any fraction. **6.NS.A.1**




## 06 Decimals - Addition & Subtraction

- Write decimals in expanded form
- Relate fractions & decimals
- Place decimals on a number line
- Identify like & unlike decimals
- Compare & order decimals
- Add & subtract like decimals
- **Add & subtract unlike decimals**
- Solve decimal addition & subtraction problems

The places to the right of the decimal point extend the same place-value system the child has been using since Grade 2: tenths, then hundredths. To add 4.3 and 2.75, rewrite 4.3 as 4.30 - the same value, now counted in hundredths - and the columns line up by place. Lining up the decimal points is the same lining-up by place the child already knows. Grade 6 runs every decimal operation on this. **6.NS.B.3**



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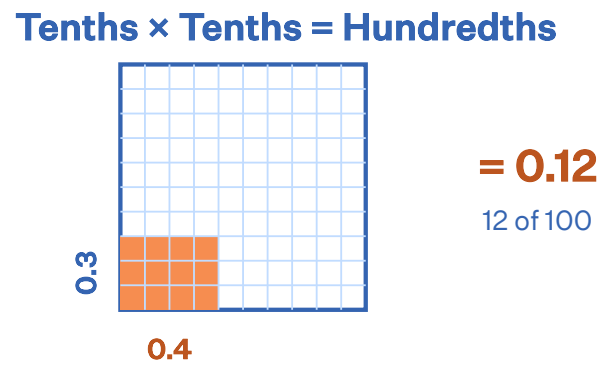
## 07 Decimals - Multiplication & Division

- Multiply decimals by powers of 10
- Solve unit-conversion problems
- Multiply decimals by whole numbers
- **Multiply decimals by decimals**
- Divide decimals by powers of 10
- Divide decimals by whole numbers
- Use long division for decimals
- Divide decimals by decimals & solve problems

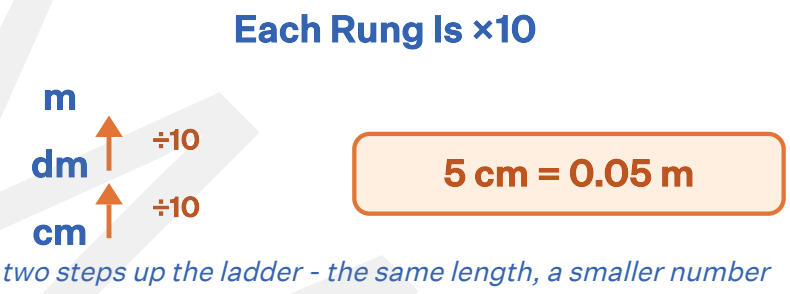
0.4 × 0.3 - where does the decimal point go? The child is tempted by 1.2, but place value settles it: tenths times tenths make hundredths, so the answer lands two places in, at 0.12. Shade 4 columns and 3 rows of a hundred-square and exactly 12 small squares are covered - 12 hundredths. The “count the decimal places” rule every textbook hands over is simply this: track which place the product lands in. Grade 6 multiplies and divides any decimals on this same logic. **6.NS.B.3**




## 08 Mensuration

- **Convert metric units**
- Solve unit-conversion word problems
- Relate units in the metric system
- Measure perimeter
- Find perimeter of squares & rectangles
- Recall area concepts
- Find area of squares & rectangles

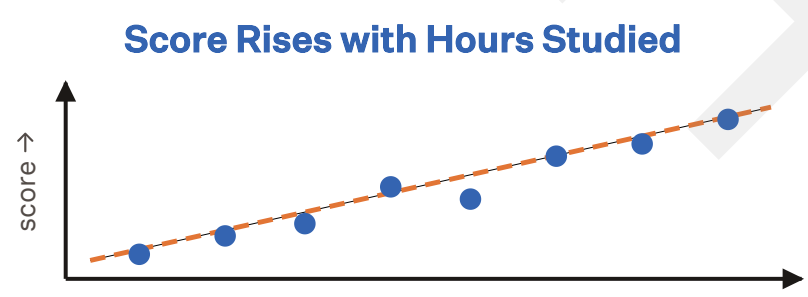
When asked to write 5 centimetres in metres, the child doesn’t need to memorise a table. The metric system is built on tens: each step up the ladder - cm to dm to m - divides by 10, the same ×10 pattern as place value. So 5 cm slides two steps and becomes 0.05 m. The length is the same, only the unit has changed. Unit conversion is a place-value problem. In Grade 6 it grows into ratio reasoning, where any two units convert by the rate between them. **6.RP.A.3.d**




## 09 Data Handling

- Make & interpret line plots
- Solve problems on line plots
- Read & interpret bar graphs
- Read & interpret stem-and-leaf plots
- **Read & interpret scatter plots**

A bar graph shows how many students scored each grade. It doesn’t show whether studying longer tends to lift the score. A scatter plot does. Each dot is one student: hours studied across, score up. No single dot tells the story - the upward drift of the whole cloud does. The child who reads that lean is using data to answer a question that mattered before the chart was drawn. It’s the first taste of the statistical thinking that runs through every later grade. **Reasoning foundation**



| # | Chapters | What the child unlocks |
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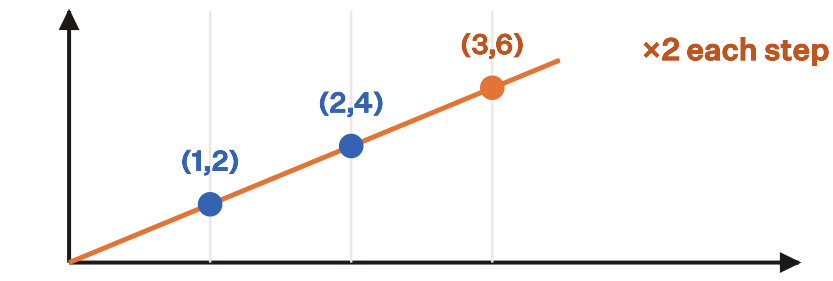
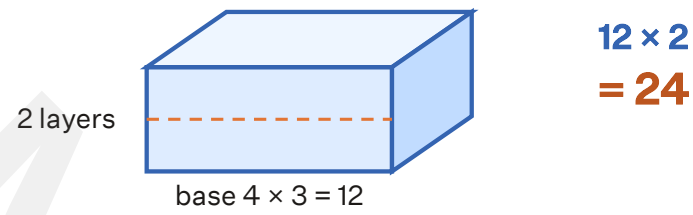
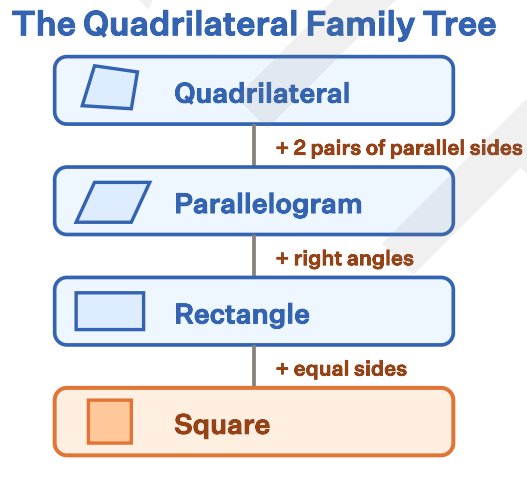
| 10 | **Coordinate Geometry**<br>• Plot points in the coordinate plane<br>• Find distances between points<br>• Draw polygons on the coordinate plane<br>• Plot & interpret line graphs<br>• **Graph numeric patterns & analyse the relationship** | Plot (1,2), then (2,4), then (3,6). The dots march in a perfectly straight line. The second number is always double the first. What looked like a plotting exercise has captured a relationship between two quantities in a single picture - and the line predicts the next point before it's drawn. In Grade 6 that picture gets its name (a linear relationship) and its equation (y = 2x), as one quantity is set free to depend on another. **6.EE.C.9** |
| 11 | **An Introduction to Volume**<br>• Explore volume with unit cubes<br>• Find volume by counting cubes<br>• **Calculate volume using a formula**<br>• Find volume of composite solids | A 4 × 3 × 2 box holds 24 unit cubes - the child has counted them. Is there a faster way? One layer is 4 × 3 = 12 cubes, the area of the base. Two layers make 12 × 2 = 24. The child has built the formula themselves: volume = base area × height. Volume is area pushed up into a third dimension, the base stamped over and over. In Grade 6 the same formula holds even when the edges are fractions. **6.G.A.2** |
| 12 | **Geometry**<br>• Classify triangles by their angles<br>• Classify triangles by their sides<br>• Classify quadrilaterals by their properties<br>• **Classify quadrilaterals in a hierarchy** | Is a square a rectangle? Most children say no: they sort by looks. The child builds the family tree instead. Two pairs of parallel sides turn a quadrilateral into a parallelogram. Right angles turn it into a rectangle. Equal sides turn it into a square. Each level inherits everything above and adds its own. So the child reasons: every rectangle has right angles, a square is a rectangle, so a square must have right angles too. Their first if-then chain. Every proof they write will have this shape. **Reasoning foundation** |




Common Core standards in gold show how this Grade 5 content prepares for Grade 6.

CUEMATH
Making Kids MathFit™

Schedule a free evaluation with an expert tutor who identifies the exact learning gaps and strengths and builds a tailored learning plan for your child from the very first session.

Schedule an Evaluation