



Grade 3 Mathematics Curriculum Framework Document

Number

Numbers and the number system

1. Recite numbers 100 to 200 and beyond.
2. Read and write numbers to at least 1000.
3. Count on and back in ones, tens and hundreds from two- and three-digit numbers.
4. Count on and back in steps of 2, 3, 4 and 5 to at least 50.
5. Understand what each digit represents in three-digit numbers and partition into hundreds, tens and units.
6. Find 1, 10, 100 more/less than two- and three-digit numbers.
7. Multiply two-digit numbers by 10 and understand the effect.
8. Round two-digit numbers to the nearest 10 and round three-digit numbers to the nearest 100.
9. Place a three-digit number on a number line marked off in multiples of 100.
10. Place a three-digit number on a number line marked off in multiples of 10.
11. Compare three-digit numbers, use $<$ and $>$ signs, and find a number in between.
12. Order two- and three-digit numbers.
13. Give a sensible estimate of a number as a range (e.g. 30 to 50) by grouping in tens.
14. Find half of odd and even numbers to 40, using notation such as $13\frac{1}{2}$.
15. Understand and use fraction notation recognising that fractions are several parts of one whole, e.g. $\frac{3}{4}$ is three quarters and $\frac{2}{3}$ is two thirds of a whole.
16. Recognise equivalence between $\frac{1}{2}$, $\frac{2}{4}$, $\frac{4}{8}$, and $\frac{5}{10}$ using diagrams.
17. Recognise simple mixed fractions, e.g. $1\frac{1}{2}$ and $2\frac{1}{4}$.
18. Order simple or mixed fractions on a number line, e.g. using the knowledge that $\frac{1}{2}$ comes half way between $\frac{1}{4}$ and $\frac{3}{4}$, and that $1\frac{1}{2}$ comes half way between 1 and 2.
19. Begin to relate finding fractions to division.
20. Find halves, thirds, quarters and tenths of shapes and numbers (whole number answers).

Calculation

Mental strategies

1. Know addition and subtraction facts for all numbers to 20.
2. Know the following addition and subtraction facts: multiples of 100 with a total of 1000 multiples of 5 with a total of 100.
3. Know multiplication/division facts for $2x$, $3x$, $5x$, and $10x$ tables.

4. Begin to know the 4x table.
5. Recognise two- and three-digit multiples of 2, 5 and 10.
6. Work out quickly the doubles of numbers 1 to 20 and derive the related halves.
7. Work out quickly the doubles of multiples of 5 (< 100) and derive the related halves.
8. Work out quickly the doubles of multiples of 50 to 500.

Addition and subtraction

1. Add and subtract 10 and multiples of 10 to and from two- and three-digit numbers.
2. Add 100 and multiples of 100 to three-digit numbers.
3. Use the = sign to represent equality, e.g. $75 + 25 = 95 + 5$.
4. Add several small numbers.
5. Find complements to 100, solving number equations such as $78 + x = 100$.
6. Add and subtract pairs of two-digit numbers.
7. Add three-digit and two-digit numbers using notes to support.
8. Re-order an addition to help with the calculation, e.g. $41 + 54$, by adding 40 to 54, then 1.
9. Add/subtract single-digit numbers to/from three-digit numbers.
10. Find 20, 30, ... 90, 100, 200, 300 more/less than three-digit numbers.

Multiplication and division

1. Understand the relationship between halving and doubling.
2. Understand the effect of multiplying two-digit numbers by 10.
3. Multiply single-digit numbers and divide two-digit numbers by 2, 3, 4, 5, 6, 9 and 10.
4. Multiply teens numbers by 3 and 5.
5. Begin to divide two-digit numbers just beyond 10x tables, e.g. $60 \div 5$, $33 \div 3$.
6. Understand that division can leave a remainder (initially as 'some left over').
7. Understand and apply the idea that multiplication is commutative.
8. Understand the relationship between multiplication and division and write connected facts.

Geometry

Shapes and geometric reasoning

1. Identify, describe and draw regular and irregular 2D shapes including pentagons, hexagons, octagons and semi-circles.
2. Classify 2D shapes according to the number of sides, vertices and right angles.
3. Identify, describe and make 3D shapes including pyramids and prisms; investigate which nets will make a cube.
4. Classify 3D shapes according to the number and shape of faces, number of vertices and edges.
5. Draw and complete 2D shapes with reflective symmetry and draw reflections of shapes (mirror line along one side).
6. Relate 2D shapes and 3D solids to drawings of them.
7. Identify 2D and 3D shapes, lines of symmetry and right angles in the environment.

8. Identify right angles in 2D shapes.

Position and movement

1. Use the language of position, direction and movement, including clockwise and anti-clockwise.
2. Find and describe the position of a square on a grid of squares where the rows and columns are labelled.
3. Use a set square to draw right angles.
4. Compare angles with a right angle and recognise that a straight line is equivalent to two right angles.

Measure

Money

1. Consolidate using money notation.
2. Use addition and subtraction facts with a total of 100 to find change.

Length, mass and capacity

1. Choose and use appropriate units and equipment to estimate, measure and record measurements.
2. Know the relationship between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres.
3. Read to the nearest division or half division, use scales that are numbered or partially numbered.
4. Use a ruler to draw and measure lines to the nearest centimetre.
5. Solve word problems involving measures.

Time

1. Suggest and use suitable units to measure time and know the relationships between them (second, minute, hour, day, week, month, year).
2. Read the time on analogue and digital clocks, to the nearest 5 minutes on an analogue clock and to the nearest minute on a digital clock.
3. Begin to calculate simple time intervals in hours and minutes.
4. Read a calendar and calculate time intervals in weeks or days.

Handling data

Organising, categorising and representing data

1. Answer a real-life question by collecting, organising and interpreting data, e.g. investigating the population of mini-beasts in different environments.
2. Use tally charts, frequency tables, pictograms (symbol representing one or two units) and bar charts (intervals labelled in ones or twos).
3. Use Venn or Carroll diagrams to sort data and objects using two criteria.

Problem solving

Using techniques and skills in solving mathematical problems

1. Choose appropriate mental strategies to carry out calculations.
2. Begin to understand everyday systems of measurement in length, weight, capacity and time and use these to make measurements as appropriate.
3. Make sense of and solve word problems, single (all four operations) and two-step (addition and subtraction), and begin to represent them, e.g. with drawings or on a number line.
4. Check the results of adding two numbers using subtraction, and several numbers by adding in a different order.
5. Check subtraction by adding the answer to the smaller number in the original calculation.
6. Check multiplication by reversing the order, e.g. checking that $6 \times 4 = 24$ by doing 4×6 .
7. Check a division using multiplication, e.g. check $12 \div 4 = 3$ by doing 4×3 .
8. Recognise the relationships between different 2D shapes.
9. Identify the differences and similarities between different 3D shapes.
10. Estimate and approximate when calculating, and check working.
11. Make a sensible estimate for the answer to a calculation, e.g. using rounding.
12. Consider whether an answer is reasonable.

Using understanding and strategies in solving problems

1. Make up a number story to go with a calculation, including in the context of money.
2. Explain a choice of calculation strategy and show how the answer was worked out.
3. Explore and solve number problems and puzzles, e.g. logic problems.
4. Use ordered lists and tables to help to solve problems systematically.
5. Describe and continue patterns which count on or back in steps of 2, 3, 4, 5, 10, or 100.
6. Identify simple relationships between numbers, e.g. each number is three more than the number before it.
7. Identify simple relationships between shapes, e.g. these shapes all have the same number of lines of symmetry.
8. Investigate a simple general statement by finding examples which do or do not satisfy it, e.g. when adding 10 to a number, the first digit remains the same.
9. Explain methods and reasoning orally, including initial thoughts about possible answers to a problem.