



KS1 Mathematics 2016:

The expected standard

2016

In preparing for the new statutory assessment arrangements in 2016, the government has identified the bullet points below as the 'expected standard' in mathematics by the end of Key Stage One.

Number

- Count in multiples of 2, 5 and 10, to 100, forwards and backwards
- Count forward in multiples of 3, to 18
- Count in steps of 10, forward and backwards (e.g. 97, 87...)
- Read & write numbers to at least 100 in numerals, and phonetically attempts to write numbers to 100 in words
- Use place value in whole numbers up to 100 to compare and order numbers, sometimes using < and > signs correctly
- Identify, represent and estimate within a structural environment (e.g. estimate 33 on a number line)
- Use place value and number facts to solve problems (e.g. $60 - XX = 20$)
- Recall and use addition and subtraction facts
- Subtract two simple 2-digit numbers, which do not involve bridging ten (e.g. 36-24)
- Add three 1-digit numbers, where they use known addition or doubling facts
- Add and subtract numbers using concrete objects and pictorial representations, including:
 - a 2-digit number and ones
 - a 2-digit number and tens
 - adding two 2-digit numbers
 - adding three 1-digit numbers
- Use inverse operations to solve missing number problems for addition and subtraction
- Solve simple 2-step problems with addition and subtraction
- Recall and use multiplication and division facts for the x10 table using the appropriate signs
- Recognise odd and even numbers
- Solve simple problems involving multiplication and division
- Know that addition and multiplication of two small numbers can be done in any order (commutative) and subtraction of one number from another cannot
- Recognise and find half of a set of objects or a quantity and begin to find $\frac{1}{3}$ or $\frac{1}{4}$ of a small set of objects with support
- Recognise, find and name fractions $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, and $\frac{3}{4}$ of a shape
- Recognise the equivalence of two quarters and one half in practical contexts



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Measurement

- Compare and order lengths, mass, volume/capacity
- Choose and use appropriate standard units to measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (l/ml) to the nearest appropriate unit using rules, scales, thermometers and measuring vessels and begin to make good estimates.
- Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value and find different combinations of coins to equal the same amounts of money
- Recognise, tell and write the times: o'clock; half past and quarter past and are beginning to recognise quarter to the hour; draw hands on a clock face to show half past and o'clock times
- Solve simple problems in a practical context involving addition and subtraction of money using the same unit, including giving change

Geometry

- compare and sort common 2-D shapes (e.g. semi-circle, rectangle and regular polygons such as pentagon, hexagon and octagon) and everyday objects, identifying and describing their properties (e.g. the number of sides or vertices, and are beginning to recognise symmetry in a vertical line)
- compare and sort common 3-D shapes (e.g. cone, cylinder, triangular prism, pyramid) and everyday objects, identifying and describing their properties (e.g. flat / curved surfaces, and beginning to count number of faces and vertices correctly)
- identify 2-D shapes on the surface of 3-D shapes and images of them (e.g. a circle on a cylinder and a triangle on a pyramid)
- order and arrange combinations of mathematical objects in patterns (e.g. continue a repeating pattern)
- use mathematical vocabulary to describe position, direction (e.g. left and right) and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter and half turns



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Statistics

- interpret simple pictograms (where the symbols show one to one correspondence), tally charts, block diagrams (where the scale is divided into ones, even if only labelled in multiples of two) and simple tables
- answer questions by counting the number of objects in each category and sorting the categories by quantity
- answer questions about totalling and begin to compare simple categorical data (e.g. when the pictures or blocks are adjacent)

Solve problems, communicate and reason mathematically

- solve problems by applying their mathematics in a range of contexts (including money and measures, geometry and statistics) using the content described above; use and interpret mathematical symbols and diagrams; and begin to communicate their reasoning; for example:
 - use place value and number facts to solve problems (e.g. $40 + XX = 70$)
 - use inverse operations to solve missing number problems for addition and subtraction (e.g. There were some people on a bus, six get off leaving seventeen people on the bus. How many were on the bus to start with?)
 - solve simple 2-step problems with addition and subtraction, which require some retrieval (e.g. There are 12 kittens in a basket, 6 jump out and only 2 jump back in. How many are in the basket now?)
 - solve simple problems involving multiplication and division (e.g. Ahmed buys 3 packs of apples. There are 4 apples in each pack. How many apples does he buy?)
 - solve problems with one or two computational steps using addition, subtraction, multiplication and division and a combination of these (e.g. Joe has 2 packs of 6 stickers; Mina gives him 2 more stickers. How many stickers does he have altogether?)
 - solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change (e.g. Identify three coins with a total value of 24p or find the two items which cost exactly £1 altogether from a list such as: 70p, 40p, 50p and 30p)