Year 1 programme of study

Number – number and place value

Statutory requirements

Pupils should be taught to:

- count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
- count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens
- given a number, identify one more and one less
- identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least
- read and write numbers from 1 to 20 in numerals and words.

Year 1 programme of study

Number – addition and subtraction

Statutory requirements

Pupils should be taught to:

- read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs
- represent and use number bonds and related subtraction facts within 20
- add and subtract one-digit and two-digit numbers to 20, including zero
- solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$.

Number – multiplication and division

Statutory requirements

Pupils should be taught to:

- solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

Year 1 programme of study

Number – fractions

Statutory requirements

Pupils should be taught to:

- recognise, find and name a half as one of two equal parts of an object, shape or quantity
- recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.

Geometry – properties of shapes

Statutory requirements

Pupils should be taught to:

- recognise and name common 2-D and 3-D shapes, including:
  - 2-D shapes [for example, rectangles (including squares), circles and triangles]
  - 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].

Geometry – position and direction

Statutory requirements

Pupils should be taught to:

- describe position, direction and movement, including whole, half, quarter and three-quarter turns.

Year 1 programme of study

Measurement

Statutory requirements

Pupils should be taught to:

- compare, describe and solve practical problems for:
  - lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]
  - mass/weight [for example, heavy/light, heavier than, lighter than]
  - capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]
  - time [for example, quicker, slower, earlier, later]
- measure and begin to record the following:
  - lengths and heights
  - mass/weight
  - capacity and volume
  - time (hours, minutes, seconds)
- recognise and know the value of different denominations of coins and notes
- sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]
- recognise and use language relating to dates, including days of the week, weeks, months and years
- tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.

Year 2 programme of study

Number – number and place value

Statutory requirements

Pupils should be taught to:

- count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
- recognise the place value of each digit in a two-digit number (tens, ones)
- identify, represent and estimate numbers using different representations, including the number line
- compare and order numbers from 0 up to 100; use <, > and = signs
- read and write numbers to at least 100 in numerals and in words
- use place value and number facts to solve problems.

Year 2 programme of study

Number – addition and subtraction

Statutory requirements

Pupils should be taught to:

- solve problems with addition and subtraction:
  - using concrete objects and pictorial representations, including those involving numbers, quantities and measures
  - applying their increasing knowledge of mental and written methods
- recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
- add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
  - a two-digit number and ones
  - a two-digit number and tens
  - two two-digit numbers
  - adding three one-digit numbers
- show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
- recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Year 2 programme of study

Number – multiplication and division

Statutory requirements

Pupils should be taught to:

- recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs
- show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
- solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Year 2 programme of study

Number – fractions

Statutory requirements

Pupils should be taught to:

- recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity
- write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.

Statistics

Statutory requirements

Pupils should be taught to:

- interpret and construct simple pictograms, tally charts, block diagrams and simple tables
- ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- ask and answer questions about totalling and comparing categorical data.

Year 2 programme of study

Geometry – properties of shapes

Statutory requirements

Pupils should be taught to:

- identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
- identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]
- compare and sort common 2-D and 3-D shapes and everyday objects.

Geometry – position and direction

Statutory requirements

Pupils should be taught to:

- order and arrange combinations of mathematical objects in patterns and sequences
- use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).

Year 2 programme of study

Measurement

Statutory requirements

Pupils should be taught to:

- choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
- compare and order lengths, mass, volume/capacity and record the results using >, < and =
- recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
- find different combinations of coins that equal the same amounts of money
- solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
- compare and sequence intervals of time
- tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times
- know the number of minutes in an hour and the number of hours in a day.

Mathematics End of KS1 Assessment

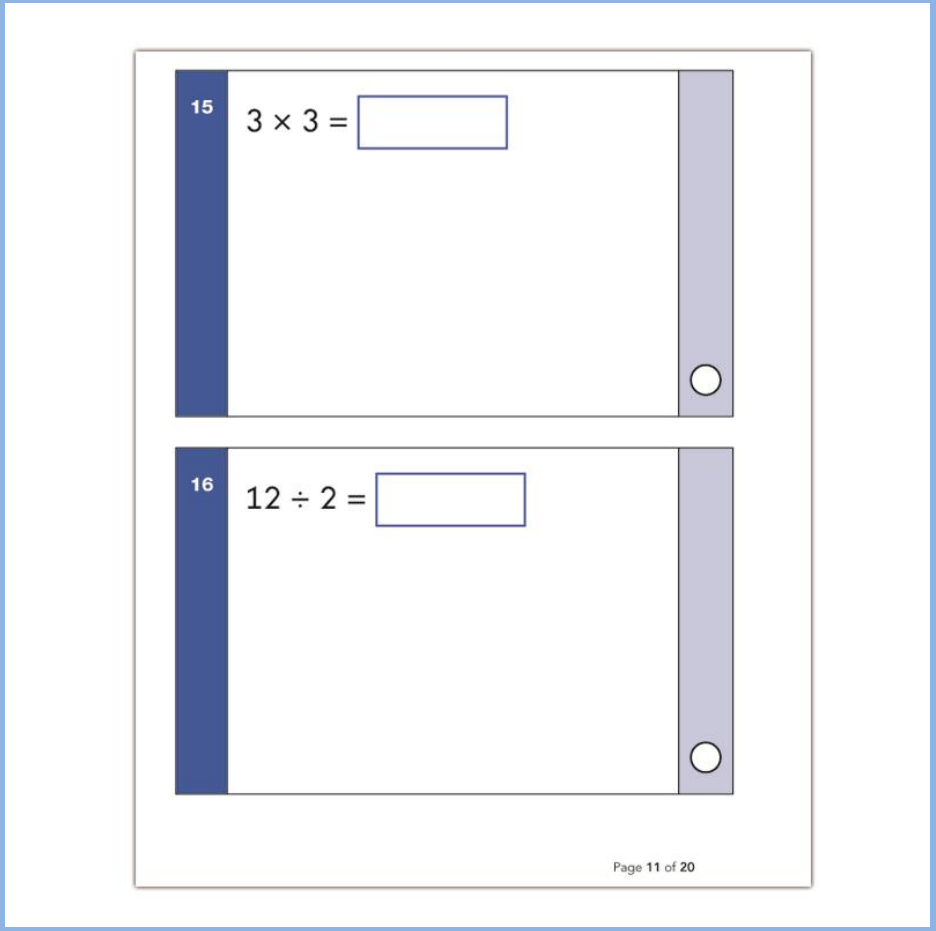
Children will sit two tests: Paper 1 and Paper 2:

- Paper 1 is for arithmetic, lasting approximately 25 minutes and worth 25 marks. It covers calculation methods for all operations.
- Paper 2 covers problem solving, reasoning and mathematical fluency, lasts for approximately 35 minutes and is worth 35 marks.
- Pupils will still require calculation skills and questions will be varied including multiple choice, matching, true/false, completing a chart or table or drawing a shape. Some questions will also require children to show or explain their working out.

Teacher assessment is used to report children's attainment and progress to parents. Teachers will use the key stage 1 test results to help them to reach an overall judgement of the standards children have reached in English reading and mathematics.

Sample Questions

Maths Paper 1: Arithmetic

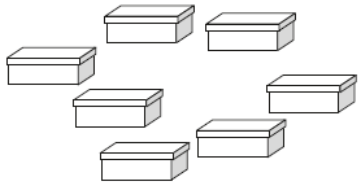


An arithmetic test to check your child's ability in basic mathematics

Sample Questions

Maths Paper 2: Reasoning

7



Sita puts **2** shoes in each of these boxes.

How many shoes are there altogether?

shoes

8 Complete the table.

words	digits
thirty-eight	38
	40
ninety-four	

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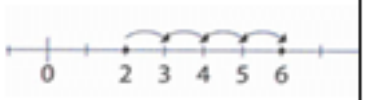
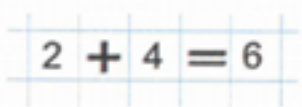
Mathematics 2 papers: arithmetic; mathematical reasoning

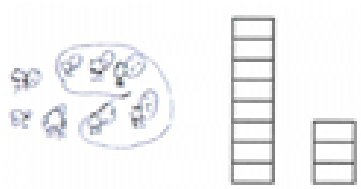
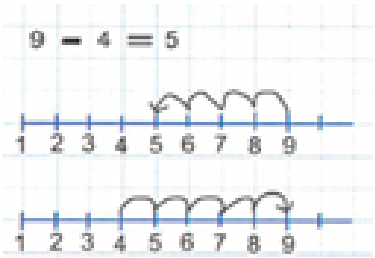
How to Help Your Child with Maths

- Play times tables games.
- Play mental maths games including counting in different amounts, forwards and backwards.
- Encourage opportunities for telling the time.
- Encourage opportunities for counting coins and money e.g. finding amounts or calculating change when shopping.
- Look for numbers on street signs, car registrations and anywhere else.
- Look for examples of 2D and 3D shapes around the home.
- Identify, weigh or measure quantities and amounts in the kitchen or in recipes.
- Play games involving numbers or logic, such as dominoes, card games, draughts or chess.

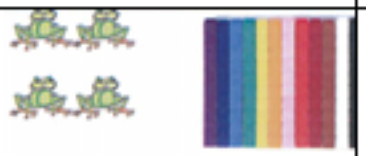
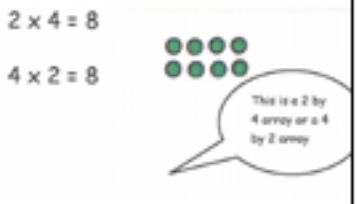
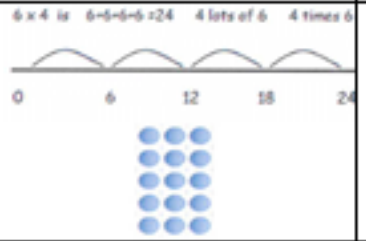
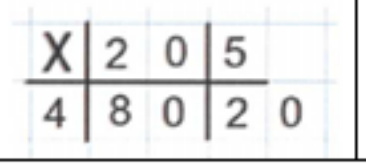
Calculation Policy 2016
Addition

	Addition	Illustration	Vocabulary
Pre-stage 1	• Touch one thing and say the number name at the same time to count up to 3 or 4 things • One to one correspondence • Able to identify "one more" when given a number (up to 10) • Order and recognise numbers to ten • Count up to 10 objects	counting things or singing rhymes 	Add, more
Stage 1	• Practical activities and discussion to relate addition to combining two groups of objects together. • Recognition that addition results in an answer that is bigger than the constituent numbers • Order and recognise numbers 11 to 20 • Count up to 20 and beyond • Able to identify "one more" when given a number (up to 20) • Horizontal recordings of number sentences with pictorial jottings • Know quick recall of number bonds within 10 • Use appropriate equipment to combine amounts		Add, more, and, make, sum, total, altogether, score, plus, equals, how many more make...
Stage 2	• Understand addition can be done in any order (commutative) • Adding a one digit number or a multiple of 10 to one-digit or a two-digit number • Learn to add ten to any given number • Understanding double as addition e.g. 7 + 7 = 14 • Use a given number line or a hundred square and count on • Know quick recall of number bonds within 20 • Begin to partition (TU) using Dienes or other appropriate equipment • Understand that subtraction is the reverse of addition e.g. 6 + 4 = 10 so 10 – 4 = 6 • To add three or more numbers together • Begin to do addition calculations using units of measure	 	+, add, addition, sum, inverse, plus, how many, equals, total, partition, altogether, Dienes, how much more is...

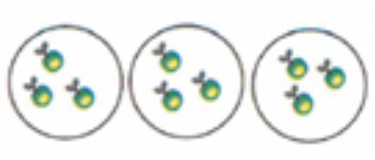
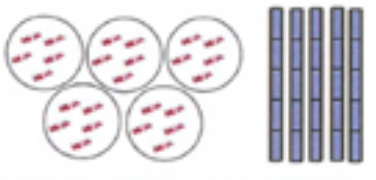
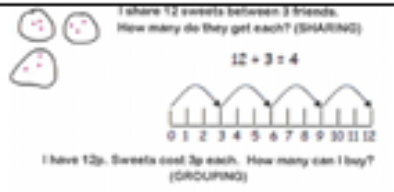
Calculation Policy 2016
Subtraction

	Subtraction	Illustration	Vocabulary
Pre-stage 1	• Singing rhymes involving take-away • Put numbers from ten in reverse order • Take away from up to 10 objects • Practical experience of removing objects from a given set		Take away, less
Stage 1	• Subtraction taught through physical action. • Taking away and 'how many are left' are solved through practical and physical activities • Recognise that take away results in less than the original number • Horizontal reading of number sentences with pictures e.g. 8 take away 6 leaves 3 • Number line used to count back • Some informal recording • Able to identify 'one less' than a given number		Take away, leave, How many are left over? How many have gone? One less, two less, ten less. How many fewer...is...than?
Stage 2	• Start with single digits • Subtraction understood firstly as taking-away • 'Finding the difference' then taught • Vocabulary and symbols used to describe actions and to record number sentences • Practical methods and informal written methods used to subtract simple numbers • Able to use number lines and hundred squares to find the difference (counting on/up or counting back) • Understand subtraction cannot be done in any order (non-commutative)		Subtract, minus, How much less is ...than...? =, equals, the difference between, forwards, backwards, count up, count back, count on

Calculation Policy 2016
Multiplication

	Multiplication	Illustration	Vocabulary
Stage 1	• Double a number (use objects) • Counting in tens • Dienes blocks and cubes or alternative apparatus • Bundles of ten • Begin to understand repeated addition as a means of multiplication		Equal, double, group of, lots of
Stage 2	• Understand multiplication as repeated addition • Introduction of 'x' sign • Counting in 2s, 5s and 10s • 'Groups of' jottings are recorded pictorially • A more formal array is recorded • Calculations involve 2s, 5s 10s times tables • Understand multiplication can be done in any order (commutative) (i.e. 5 x 2 = 2 x 5 = 10)		Multiply, multiplication, multiplied by, array, groups of, lots or, product
Stage 3	• Number sentences recorded 3x5 = 15 • Further use of pictorial arrays • Number line using repeated addition • Know 2x, 5x and 10x tables		Once, twice, three times Repeated addition Row, column, product, times tables
Stage 4	• Know all tables up to 12x tables • Begin to partition and record single multiplication as a number sentence eg 25 x 4 = (20x4) + (5x4) • Begin to use grid method to calculate TU x U		Times tables, grid method

Calculation Policy 2016
Division

	Division	Illustration	Vocabulary
Stage 1	• Halve a number (using objects) • Objects are shared out equally and objects within groups are counted • Objects are shared out through practical activities • Informal recordings will include jottings of pictorial groups • Simple numbers are used (no remainders) • Understand the difference between grouping and sharing		Half, halve, share, equal
Stage 2	• Quarter a number (using objects) • The division sign is introduced • Objects / numbers are divided into equal groups using multiplication facts • Arrays are used to understand number • Informal written methods are used to record • Understand division cannot be done in any order (non-commutative)		Division, divide, group, share, equal
Stage 3	• Sharing /grouping taught as two aspects of division. Grouping is taught on a number line but sharing is taught using jottings • Division (repeated subtraction) seen as the inverse of multiplication • Use of numbered number line • Write fractions 1/3, 1/4 2/4 and 3/4 of quantity • Write simple fractions for example, 1/2 of 6 = 3		Inverse, share equally, one each, two each, pairs, divide, divided by, lots of, groups of, jumps

JOHN HAMPDEN SCHOOL WENDOVER

Loving to Learn

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Service Pupil and Family Support

- Letters home (Newsletters found in Key Information S
- Spelling in Year 1 and Year 2
- Supporting Learning at Home
- Parent View
- Questionnaires and Surveys
- The Buckinghamshire Family Information Service (BFIS
- Useful Maths Websites
- Ordering school milk

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Useful Maths Websites

- IXL
- Maths Champs
- Snappy Maths
- BBC Bitesize - maths
- Top Marks

JOHN HAMPDEN SCHOOL WENDOVER

Loving to Learn

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Supporting Learning at Home

- Learning about punctuation.docx
- Learning about grammar.docx
- Phonics at John Hampden.pdf
- Phonics Presentation (Evening meeting for parents).pdf
- Reading with your child leaflet.pdf
- How to Support Your Child With Maths 2015.pdf
- Foundation Stage - Helping your child to learn at John Hampde

Loving to Learn

How to Support Your Child With Maths

Some Suggestions for Parents

We are often asked to suggest ways in which parents can help their child to learn at home. These sheets are designed to address that request. It is vital for children to see that mathematics is all around them and to encourage them to use and apply their knowledge to a variety of everyday situations. The more support you can give, in identifying and discussing mathematical opportunities as they arise, the more likely it is that children will start to see a real purpose for acquiring mathematical knowledge, skills and understanding.

THE BEST SUPPORT IS FUN AND ENJOYABLE FOR EVERYONE!!