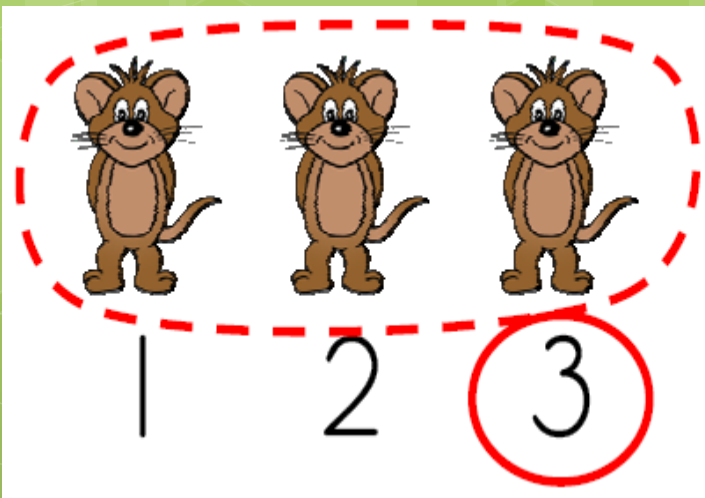


New Maths Curriculum 2014 Hagley Primary






- The 2014 national curriculum for mathematics has been designed to raise standards in maths, with the aim that the large majority of pupils will achieve mastery of the subject.
- “By raising standards in basics such as reading, grammar, fractions and basic scientific concepts, children will be equipped to do more advanced work once they start secondary school.”




- Broken down into:
- • **Number**
 - Number and place value
 - Addition and subtraction
 - Multiplication and division
 - Fractions, decimals and percentages
- • **Measures**
 - Measurement
- • **Geometry**
 - Properties of shape
 - Position and direction
- • **Statistics**






What's OUT?

-  A separate strand for using and applying mathematics
-  Calculators
-  Informal written methods of calculation





What is there LESS of?

-  Less emphasis on estimation
-  Less work on place value
-  Less work on data handling (now called *statistics*), and none in Year 1

What is there MORE of?

-  More challenging objectives, especially in number
-  Formal written methods introduced earlier
-  More work on fractions

What's NEW?

-  Roman numerals – 1 to 12 (I to XII) at Key Stage 1, up to 1000 (M) at Key Stage 2
-  Times tables up to 12×12
-  Equivalence between metric and imperial measures
-  Long division and algebra in Year 6

○ Y2 and Y6 Tests 2016

- End of KS1 – Y2
 - • Paper 1: Arithmetic (max. 15 marks)
 - • Paper 2: Mathematical fluency and reasoning (max. 35 marks)

- End of KS2 – Y6
 - • Paper 1: Arithmetic (max. 30 marks, 30 mins)
 - • Paper 2 and Paper 3: Mathematical fluency, solving problems and reasoning (max. 40 marks per paper, 40 mins per paper)

4 - 9 = 8

Qu	Requirement	Mark	Additional guidance
4	17	1m	

5 $\frac{3}{4}$ of 20 =

Qu	Requirement	Mark	Additional guidance
5	15	1m	

Arithmetic
KS1 Sample
Questions
NC Tests
2016

- 12** Apples cost **10p** each. Pears cost **25p** each.



Amy buys **1 apple** and **2 pears**.

How much **change** does she get from **£1**?

Show
your
working

p

○ Developing Fluency

- • *Pupils become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.*

○ Mathematical reasoning

- • Focused mathematics talk should remain central to your mathematics lessons.
- • *Pupils **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.*

○ Odd one out

○ • Which is the odd one out? Why?

6, 15, 28, 36, 66

Problem solving

•

- *Pupils can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.*
- • This could mean starting rather than ending, a topic with a problem, and whether problems provide a suitable context for learning, developing and securing new concepts.

- Ben spent $\frac{2}{5}$ of his money on a CD.
- The CD cost £10. How much money did he have at first?'



Ready to progress

- The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. When to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage.

High Achievers

If your child is achieving well, rather than moving on to the following year group's work many schools will encourage more in-depth and investigative work to allow a greater mastery and understanding of concepts and ideas.

- Pupils who grasp concepts rapidly should be challenged through rich and sophisticated problems before any acceleration through new content.

6

Write the missing digits to make the addition correct.



$$\begin{array}{r} 1 \quad \square \quad 1 \\ + \quad \square \quad 1 \quad \square \\ \hline 9 \quad 0 \quad 0 \end{array}$$

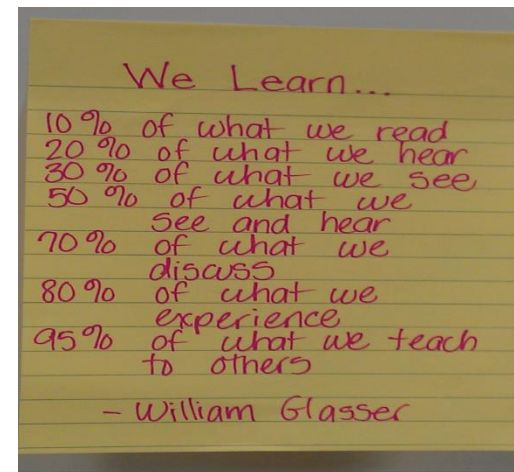
1 mark

Supporting vulnerable learners

- Those pupils who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Conceptual understanding

- Models, images and manipulatives remain key to securing understanding and fluency. The use of resources will support your explanations so that children understand the mathematics and are not just taught 'tricks'.



Learning written methods *is not*
the ultimate aim.

Mathematics is foremost an activity of the
mind; written calculations are an aid to
that mental activity.



A sledgehammer to crack a nut!

$$\begin{array}{r}
 \overset{0}{1} \overset{9}{0} \overset{9}{0} \overset{1}{0} \\
 - \quad \quad \quad 7 \\
 \hline
 993
 \end{array}$$

$$\begin{array}{r}
 \overset{1}{1} \overset{0}{6} \\
 - \quad \quad 9 \\
 \hline
 7
 \end{array}$$

$$\begin{array}{r}
 97 \\
 \times 100 \\
 \hline
 00 \\
 000 \\
 \hline
 9700 \\
 \hline
 9700
 \end{array}$$

$$\begin{array}{r}
 08 \\
 7 \overline{) 56} \\
 \hline
 \end{array}$$

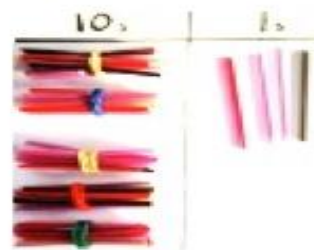
Supporting addition

Partition and recombine

$$46 + 27 = 60 + 13 = 73$$



$$\begin{array}{r} 24 + 10 \\ + 10 \\ + 10 = 54 \end{array}$$



Subtraction

80

3

20

6

Subtraction

- $$\begin{array}{r} 70 \ 13 \\ - 20 \ 6 \\ \hline 50 \ 7 \end{array}$$

- $83 - 26$

$$\begin{array}{r} 7 \ 13 \\ \cancel{83} \\ - \underline{26} \\ 57 \end{array}$$

Multiplication

$$\begin{array}{r} \bullet \\ \circ \\ \hline 251 \\ \times 4 \\ \hline 4 \\ 200 \\ 800 \end{array}$$

4×1
 4×50
 4×200

- **251×4**

- $$\begin{array}{r} 251 \\ \times 4 \\ \hline 1004 \end{array}$$

Division

$$58 \div 4$$

$$\begin{array}{r} 14 \text{ r } 2 \\ \underline{4 | 58} \end{array}$$

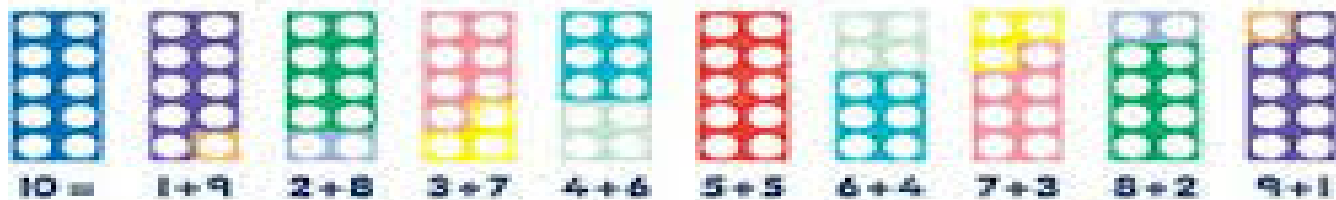
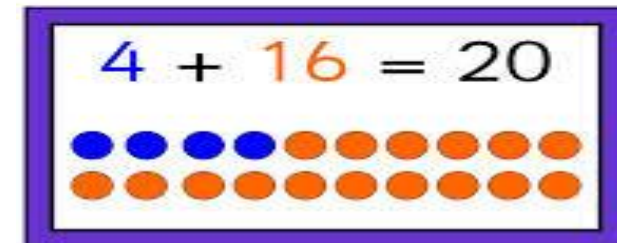
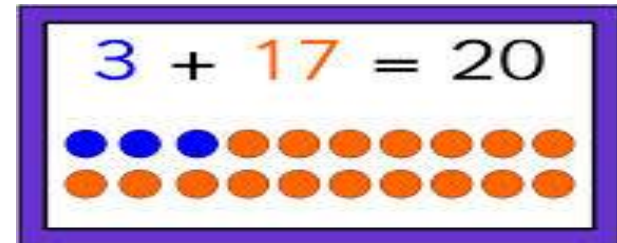
- Y6 - Long Division Methods $839 \div 27$

Developing Recall Number Facts

Player A		Player B
27	→	+ 3
	↙	
-6	→	+ 7
	↙	
+ 6	→	- 7
	↙	
-5	→	-10
	↙	
-6	→	+ 3



Number Bonds



Learning Times Tables

x7

x3

x9

x8

x4

x5

x6

x11

x10

x2

x12

How to help at home

- When your child has begun to learn a table, practise the table for five minutes each day with them.
- • It is important to say the whole table, not just the answers, again and again and again and again!
- • Break down each table into manageable chunks. For example, ask them 1×6 , 2×6 and 5×6 until they know the answers. Then add the next one.
- • Work on pairs of tables, for example if your child is learning the two times table they can use their doubling facts to calculate the four times tables.
- • Test your child by firing questions at them, out of order reminding them that they can use facts that they are confident with to work out trickier ones. For example if they know $4 \times 6 = 24$ just double to find 8×6 .
- • Keep checking that they still know the facts they have learnt and revisit previously learnt facts.
- • Use a range of vocabulary—times, multiply, lots of, sets of.....

Maths Apps

- Numberjacks
£1.49 Addition facts to 10



- Bugs and Numbers (KS1)
£2.29



DK – 10 minutes
a day FREE (times
tables)



More Apps

- Squeebles – A variety of different resources from £1.49 each



- Andre Brodie – Mental
- Maths Y1-6
- £1.99 each





Play Games



- Playing number games, including board games like Snakes and Ladders, has been proven by research to increase children's understanding of relative number size as well as counting.



How you can support your child at home.



- Look for and talk about numbers in the environment
- Play games
- Shopping and giving change.
- Number bonds for 10, 20, 100
- Times tables
- Cooking
- Telling the time and reading timetables

