Mathematics pitch and expectations

Year 2
Year 2

Using and applying mathematics

- Solve problems involving addition, subtraction, multiplication or division in contexts of numbers, measures or pounds and pence

There are 4 apples in each pack. Mrs Pullen buys 3 packs of apples. How many apples does she buy?

**Year 2 Using and applying mathematics**

KS1 2001 level 2b

When Desi is 4 years old, Sita is 10. When Desi is 9 years old, how old will Sita be?

KS1 2004 level 2b

Ella has a one pound coin. She spends ninety-nine pence. How much has she left?

KS1 2004 level 2b [oral]

How much money is in the hand?

KS1 2000 level 2b

Desi and Ella share this money equally.

How much do they each get?

KS1 2003 level 2b

Mina and Ben play a game. Mina scores 70 points. Ben scores 42 points. How many more points does Mina score than Ben?

Y3 optional test 2003 level 2

Ellas’s dad washes some cars. He uses 12 buckets of water. Each bucket has 5 litres of water. How many litres of water does he use altogether?

KS1 2004 level 2a

Look at this table.

<table>
<thead>
<tr>
<th>object</th>
<th>length</th>
</tr>
</thead>
<tbody>
<tr>
<td>ruler</td>
<td>30cm</td>
</tr>
<tr>
<td>paintbrush</td>
<td></td>
</tr>
<tr>
<td>book</td>
<td>24cm</td>
</tr>
<tr>
<td>pencil</td>
<td>15cm</td>
</tr>
<tr>
<td>crayon</td>
<td>12cm</td>
</tr>
</tbody>
</table>

Which object is half the length of the ruler? The ruler is longer than the crayon. How much longer?

KS1 2009 level 2a

Ella’s dad washes some cars. He uses 12 buckets of water. Each bucket has 5 litres of water. How many litres of water does he use altogether?

KS1 2004 level 2a

Emma is 21 years old today. Her father is 24 years older. How old is Emma’s father?

KS1 2004 level 3

There are 35 children. They get into teams of 5. How many teams are there altogether?

KS1 2003 level 3

A toy costs eight pounds fifty. Kemi pays with a ten pound note. How much change does she get?

KS1 2007 level 3 [oral]

Kiz has a two-pound coin and a five-pence coin. How much money does he have altogether?

KS1 2005 level 3 [oral]

Ellen has a £5 note. She spends £1.99 Draw a ring around each coin she gets in her change.

KS1 2001 level 3
Identify and record the information or calculation needed to solve a puzzle or problem; carry out the steps or calculations and check the solution in the context of the problem.

Look at the squares of chocolate.

There are 16 squares.
Tick (✓) the sum that matches the picture.

- $5 + 2 + 9 = 16$
- $5 + 6 + 5 = 16$
- $6 + 6 + 4 = 16$
- $6 + 2 + 8 = 16$
- $8 + 3 + 5 = 16$

**KS1 2004 level 2c**

Katie drew a number line to help her find the answer to $37 + 21$.

What number is hidden under the card?

**Y3 optional test 2003 Paper A level 2**

Molly drew a number line to find the answer to $43 + 32$.

What number is hidden under the card?

**Y4 optional test 2003 Paper A level 2**

Ben works out the answer to this

$57 - 16 = \boxed{41}$

Ben gets the answer 14.
Ben's answer is wrong.
Show Ben how to work out the correct answer in the box.

**KS1 2009 level 2a**

Look at the number line.
It shows the sum that Fred did.

Tick (✓) the sum that Fred did.

- $5 + 7 + 2 = 14$
- $5 + 6 + 3 = 14$
- $5 + 5 + 4 = 14$
- $5 + 8 + 1 = 14$

**KS1 2005 level 2a**

Look at the number sentences.
Use $46$ and $54$ each time to make these correct.

$8 + \boxed{8} = \boxed{16}$
$\boxed{8} + 8 = \boxed{16}$
$\boxed{8} - \boxed{8} = \boxed{0}$

**KS1 2009 level 2a**

There are 60 sweets in a bag.
20 sweets are red.
16 sweets are yellow.
The rest are green.

How many sweets are green?
Show how you work it out in the box.

**KS1 2003 level 2a**

Tara does not know how to work out the answer to this:

$16 \times 5 = \boxed{80}$

Show Tara how to work out the correct answer in the box.

**KS1 2009 level 3**
• Follow a line of enquiry; answer questions by choosing and using suitable equipment and selecting, organising and presenting information in lists, tables and simple diagrams

Investigate different ways of making 30p using only silver coins.
How many different ways can you find?
Record each different way of doing it.

[oral question]

Class 2 counted the letters in their names. They sorted some of them.

<table>
<thead>
<tr>
<th>3 letters</th>
<th>4 letters</th>
<th>5 letters</th>
<th>6 letters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sue</td>
<td>Lucy</td>
<td>Raij</td>
<td>Nicole</td>
</tr>
<tr>
<td>Bob</td>
<td>Paul</td>
<td>Peter</td>
<td></td>
</tr>
<tr>
<td>Max</td>
<td>Lana</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Draw arrows to show where these other names belong. Tom is done for you.

**KS1 2002 level 2b**

Suggest a question you could ask about the information in the completed table.

Ben made a graph.
Tick (✓) the bag that shows Ben’s sweets.

KS1 2009 level 2b

Suggest another question you could ask about the information in the graph.

Suggest two more questions you could ask about the sweets in the four bags.

Abi had 80p in her purse.
Then she lost one of the coins.
How much altogether could be left in her purse now? Write all the different amounts.

<table>
<thead>
<tr>
<th></th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>p</td>
</tr>
<tr>
<td></td>
<td>p</td>
</tr>
</tbody>
</table>

**KS1 2009 level 2a**

Here is a graph.

Animals on a farm
The farm has more sheep than horses.
How many more?
The farm has 5 more cows than horses.
Complete the graph to show the number of cows.

**KS1 2009 level 3**

Suggest a question you could ask about the information in the completed graph.
• Describe patterns and relationships involving numbers or shapes, make predictions and test these with examples

Write the two missing numbers in this sequence.

41  43  45  47  49  53

KS1 2000 level 2b

Write the correct + or – sign in each box.

58 □ 26 = 84
43 □ 17 = 26
33 □ 33 = 0

KS1 2001 level 2b

Two of these shapes are not hexagons. Draw a cross (×) on each shape which is not a hexagon.

KS1 2003 level 2a

Two of these sentences are correct. Tick (√) them.
A cube has curved faces.
A cube has 6 faces.
A cube has more than 6 corners.
A cube has fewer than 6 edges.

KS1 2009 level 2a

Ella is making 3-digit numbers with these cards. She can make this number.

7  2  4

Write all the other 3-digit numbers she can make.

KS1 2004 level 2a

Write the missing digits to make this correct.

[ ] [ ] 0 + [ ] [ ] = [ ] [ ]

KS1 2004 level 3

Write the missing amounts in this sequence.

The same amount is added each time.

£2.65  £2.75  …  £2.85  …  £3.15

KS1 2004 level 3

Two of these shapes have no lines of symmetry. Draw a cross (×) on them. You may use a mirror.

KS1 2004 level 3

Here is a diagram for sorting numbers. Write each number in the correct box. One is done for you.

KS1 2009 level 3
• Present solutions to puzzles and problems in an organised way; explain decisions, methods and results in pictorial, spoken or written form, using mathematical language and number sentences

Lee buys two of these things to eat. He spends £1 altogether. Tick (✓) the two things he buys.

70p  
40p  
50p  
30p


KS1 2007 level 2b


70p  
40p  
50p  
30p

KS1 2007 level 2b

There are 60 sweets in a bag. 20 sweets are red. 16 sweets are yellow. The rest are green. How many sweets are green? Show how you work it out.

KS1 2003 level 2a

There are 15 apples in a tray. Ling has 4 trays of apples. How many apples does Ling have altogether? Show how you work it out.

KS1 2005 level 2a

Sita worked out the correct answer to $16 \times 5$. Her answer was 80. Show how she could have worked out her answer.

KS1 2004 level 3

Harry worked out the correct answer to $70 \div 5$. His answer was 14. Show how he could have worked out his answer.

KS1 2003 level 3
## Counting and understanding number

- **Read and write two- and three-digit numbers in figures and words; describe and extend number sequences and recognise odd and even numbers**

### KS1 1999 level 2c [oral]

- Write ‘one hundred and seven’ as a number.

### KS1 2005 level 2c [oral]

- Draw a ring around these numbers: thirty-six, forty-five, seventy-two.

<table>
<thead>
<tr>
<th></th>
<th>27</th>
<th>54</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>40</td>
<td>63</td>
<td></td>
</tr>
</tbody>
</table>

### KS1 2002 level 2c [oral]

- Write 24 in the correct place on the number grid.

<table>
<thead>
<tr>
<th></th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### KS1 2007 level 2a

- This number line goes up in tens.

Write the correct number in each box.

### KS1 2003 level 2b [oral]

- Write an odd number between 32 and 42.

### KS1 2004 level 2b

- Draw a cross (×) on three numbers that are not even.

- Draw a ring around each even number.

### KS1 2002 level 2b

- This number square is torn.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- What was the largest number on the square?

### KS1 1999 level 2b

- Write the missing numbers in this sequence.

47 42 37  [ ]

### KS1 2002 level 2b

- Write the total.

200 + 40 + 7 =

### KS1 2000 level 2a

- Write a number in the box to make this correct.

857 = [ ] + 50 + 7
• Count up to 100 objects by grouping them and counting in tens, fives or twos; explain what each digit in a two-digit number represents, including numbers where 0 is a place holder; partition two-digit numbers in different ways, including into multiples of ten and one

Write the total.

\[
60 + 8 = \]

\textbf{KS1 2004 level 2c}

Write a number in the box to make this correct.

\[
78 = \square + 8
\]

\textbf{KS1 2000 level 2c}

Write the missing number.

\[
\square + 8 = 68
\]

\textbf{KS1 2003 level 2c}

There are 10 pencils in each box and 4 more pencils.

How many pencils are there altogether?

\textbf{KS1 2003 level 2b}

Two purses hold the same amount of money. Tick (\(\checkmark\)) them.

Anna has 50 pencils. She puts 5 pencils in each party bag.

How many bags does she put pencils in?

\textbf{KS1 2007 level 2a}

Write the missing numbers in each of these patterns.

\[
45 \quad 20 \quad 54 \quad 17 \quad 40
\]

\textbf{KS1 2005 level 3}

Draw rings around all the multiples of 5.
• Order two-digit numbers and position them on a number line; use the greater than (>), less than (<) signs

This sentence is correct.

10 is less than 12 ✓
Two of these sentences are correct. Tick (✓) them.

19 is more than 36
28 is less than 52
50 is more than 15
45 is less than 23

KS1 2007 level 2c

Here are some numbers.

43  89  64  28  51
Write the numbers in order. One is done for you.

KS1 2003 level 2c

Desi walks on all the numbers from smallest to largest. Draw arrows (→) to show the path he takes.

KS1 2004 level 2c

Write numbers in the boxes to make these correct. One is done for you.

37 is more than 25
37 is between ___ and ___.
37 has ___ tens

KS1 2009 level 2b

Imagine a number line.
What number is halfway between 11 and 19?

KS1 2003 level 2a

Write the missing number in each box.

19 is 1 less than ___
19 is 10 less than ___

KS1 2002 level 2a

Here are the first two rows on a 100 square.

KS1 2003 level 3

Look at the number line. The arrow points to fifty. Draw an arrow to show where the number one hundred and twenty-five belongs.

KS1 2005 level 3

Estimate the number marked by the arrow. Write the number in the empty box.

KS1 2003 level 3

Here are two signs.

Use the signs to make these correct.

52 □ 17
18 □ 91
50 □ 34

Y4 optional test 2003 Paper A level 3
• Estimate a number of objects; round two-digit numbers to the nearest 10

Which number is nearest to 80?
Draw a ring around it.

83  84  77  88  78

Which number is nearest to 80?
Draw a ring around it.

33  86
to the nearest 10 is

KS1 2000 level 2b

KS1 2005 level 2b

Write each number in the correct box.
One is done for you.

17  12  28

round to 10  round to 20  round to 30

KS1 2007 level 2a

• Find one half, one quarter and three quarters of shapes and sets of objects

One shape is less than half blue.
Tick (✓) it.

KS1 2009 level 2c

Here is a set of 12 pencils.

How many is half the set?
KS1 2002 level 2c

How many is half the set?
KS1 2002 level 2c

Colour \( \frac{1}{2} \) of this shape.
KS1 2005 level 2b

Harry has a set of 22 pencils.
How many is half the set?
KS1 2002 level 2c

Divide this shape into 4 equal parts. Use a ruler
KS2 2003 level 2a

Shade one quarter of this shape.
KS2 2001 level 3

Shade more squares so that \( \frac{3}{4} \) of the shape is shaded.
KS1 2003 level 3

Look at the number line Join each fraction to the correct place. One is done for you
KS1 2007 level 3
Knowing and using number facts

- Derive and recall all addition and subtraction facts for each number to at least 10, all pairs with totals to 20 and all pairs of multiples of 10 with totals up to 100

What is two add seven?
\textit{Y3 optional test 2003 Mental test level 2}

What is nine minus four?
\textit{Y3 optional test 2003 Mental test level 2}

Work out the sum of 13 and 7.
\textit{KS1 2002 level 2c [oral]}

Add these three numbers: five and five and five.
\textit{KS1 2003 level 2c [oral]}

Add these numbers: 5 and 6 and 2.
\textit{KS1 2001 level 2c [oral]}

Add together three, seven and five.
\textit{Y4 optional test 2003 Mental test level 2}

Write the total.
\[ 7 + 3 + 8 + 2 = \]
\textit{KS1 2004 level 2c}

Some children were asked to choose their favourite animal in the zoo. This table shows the results.

<table>
<thead>
<tr>
<th></th>
<th>Girls</th>
<th>Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>zebra</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>lion</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>giraffe</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>monkey</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>elephant</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

How many more girls than boys chose giraffes?
How many more boys chose lions than elephants?
Which animal was chosen by the greatest number of children?
\textit{KS2 2007 Paper B level 3}

Ben puts 15 buttons on a table. He hides some of them under his hand. How many buttons is Ben hiding?
\textit{KS1 2009 level 2b}

Subtract nine from fourteen.
\textit{Y4 optional test 2003 Mental test level 2}

What is eleven subtract six?
\textit{Y4 optional test 2003 Mental test level 2}

Tim bought two fruits. He spent twenty pence altogether. He bought an orange for eleven pence. What did he pay for the other fruit?
\textit{KS1 2000 level 2c [oral]}

Write the answer.
\[ 40 + 10 + 50 + 20 = \]
\textit{KS1 2005 level 2a}

Write the number in the box to make this correct.
\[ 60 - 40 = 20 + \square \]
\textit{KS1 2001 level 3}
• Understand that halving is the inverse of doubling and derive and recall doubles of all numbers to 20, and the corresponding halves

At the shop, all packets of crisps cost the same. Hannah buys 2 packets. She pays 40 pence. How much does one packet cost?

KS1 2002 level 2c [oral]

Write the missing number. One is done for you.
5 \rightarrow \text{double and add 3} \rightarrow 13
8 \rightarrow \text{double and add 3} \rightarrow \underline{16}

KS1 2003 level 2b

When I doubled a number, the answer was 18. Which number did I double?

KS1 2001 level 2b [oral]

Write the correct numbers in the boxes.
Half of 12 is \underline{6}
Double 12 is \underline{24}

KS1 2009 level 2b

What is double seven?

Y3 optional test 2003 Mental test level 2

What is half of twelve?

Y3 optional test Mental test level 2

What is half of fourteen?

Y4 optional test 2003 Mental test level 2

Mina has thirty-two stickers. She gives half to her brother. How many stickers does she give him?

Y3 optional test 2003 Mental test level 2

Write the number which is half of 38.

KS1 2001 level 3 [oral]

What is half of this amount?

KS1 2005 level 3

• Derive and recall multiplication facts for the 2, 5 and 10 times-tables and the related division facts; recognise multiples of 2, 5 and 10

Write the missing number in the box.
\underline{\_} \times 5 = 50

KS1 2001 level 2b

Match each one to an answer. You may use an answer more than once.

\begin{align*}
7 \times 5 & = 35 \\
2 \times 8 & = 16 \\
5 \times 2 & = 10 \\
20 \div 2 & = 10 \\
45 \div 5 & = 9 \\
\end{align*}

KS1 1997 level 2a

Draw rings around all the multiples of 5

45 20 54 17 40

KS1 2005 level 2a

Circle two numbers that add to make a multiple of 10.

11 12 13 14 15 16 17 18 19

KS2 2005 level 3

Write the missing number in the box.
\underline{\_} \div 2 = 7

KS1 2001 level 3

Write the missing number in the box.

5 \times 4 = 10 \times \underline{\_}

KS1 2002 level 3

Write the answer.

45 \div 5 = \underline{9}

KS1 2002 level 3
• Use knowledge of number facts and operations to estimate and check answers to calculations

Look at these cards.

| 3 | 1 | 4 | 2 | 6 |

Use one card each time to make these correct.

\[
\begin{align*}
7 + \Box &= 10 \\
10 - \Box &= 4
\end{align*}
\]

**KS1 2001 level 2c**

Only one of these is correct. Draw a tick (✓) on it.

\[
\begin{align*}
5 + 7 &= 10 \\
8 + 5 &= 18 \\
10 + 10 &= 19 \\
9 + 6 &= 15 \\
12 + 4 &= 14
\end{align*}
\]

**KS1 2003 level 2c**

Write a calculation that you could do to check the answer to 24 ÷ 2 = 12.

Look at each number sentence. Put a tick (✓) if it is correct. Put a cross (✗) if it is not correct.

\[
\begin{align*}
8 \times 2 &= 8 + 8 \quad \text{✓} \\
3 \times 10 &= 3 + 3 + 3 \quad \text{✗} \\
5 \times 4 &= 5 + 5 + 5 + 5 \quad \text{✗}
\end{align*}
\]

**Y3 optional test 2003 level 2**

Write the number in the box to make this correct.

\[
60 - 40 = 20 + \Box
\]

**KS1 2001 level 3**

Ling wants to check her answer to this addition.

\[
45 + 28 = 73
\]

Which of these tells Ling that her answer is correct?

\[
\begin{align*}
A & \quad 73 + 45 = 118 \\
B & \quad 73 - 45 = 28 \\
C & \quad 28 + 73 = 91 \\
D & \quad 45 - 28 = 17
\end{align*}
\]
## Calculating

- **Add or subtract mentally a single-digit number or a multiple of 10 to or from any two-digit number; use practical and informal written methods to add and subtract two-digit numbers**

<table>
<thead>
<tr>
<th>Task</th>
<th>Expected Answer</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write the answers.</td>
<td>5 + 10 =</td>
<td>KS1 2001 level 2c</td>
</tr>
<tr>
<td></td>
<td>15 + 10 =</td>
<td></td>
</tr>
<tr>
<td></td>
<td>25 + 10 =</td>
<td></td>
</tr>
<tr>
<td>Write the total.</td>
<td>58 + 9 =</td>
<td>KS1 2000 level 2c</td>
</tr>
<tr>
<td>Write the answer.</td>
<td>30 – 15 =</td>
<td>KS1 2003 level 2b</td>
</tr>
<tr>
<td>Write the number which is 11 less than 40.</td>
<td>54 + 19 =</td>
<td>KS1 2009 level 2b</td>
</tr>
<tr>
<td>What is thirty subtract nineteen?</td>
<td></td>
<td>KS1 2007 level 2a [oral]</td>
</tr>
<tr>
<td>There are 29 children. 5 children are painting. How many children are not painting?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 children are on a bus. 8 children get off the bus. Then 4 more children get off the bus.</td>
<td>8</td>
<td>KS1 2009 level 2b</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Tick (✓) the two numbers which total 50.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>KS1 2002 level 2a</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>38</td>
<td></td>
</tr>
<tr>
<td></td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Write the total.</td>
<td>82 + 45 =</td>
<td>KS1 2004 level 3</td>
</tr>
<tr>
<td>Write the answer.</td>
<td>63 – 37 =</td>
<td>KS1 2002 level 3</td>
</tr>
<tr>
<td>Work out the difference between 46 and 18.</td>
<td></td>
<td>KS1 2000 level 3</td>
</tr>
<tr>
<td>Write the answer.</td>
<td>150 + 56 =</td>
<td>KS1 2005 level 3</td>
</tr>
<tr>
<td>What is twenty-seven subtract nine?</td>
<td></td>
<td>Y3 optional test 2003 Mental test level 3</td>
</tr>
</tbody>
</table>
- Understand that subtraction is the inverse of addition and vice versa; use this to derive and record related addition and subtraction number sentences

<table>
<thead>
<tr>
<th>KS1 2005 level 2c [oral]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twenty-three children are on the bus. Four children get off and four children get on. How many children are on the bus now?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KS1 2005 level 2b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Look at the numbers in this addition.</td>
</tr>
<tr>
<td>9 + 5 = 14</td>
</tr>
<tr>
<td>Use the same numbers to make these correct.</td>
</tr>
<tr>
<td>□ – □ = 9</td>
</tr>
<tr>
<td>□ + 9 = □</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KS1 2000 level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Put a number in the box to make this correct.</td>
</tr>
<tr>
<td>38 – □ = 11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KS1 1997 level 2a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write numbers in the boxes to make this correct.</td>
</tr>
<tr>
<td>18 + □ – □ = 18</td>
</tr>
</tbody>
</table>
• Represent repeated addition and arrays as multiplication, and sharing and repeated subtraction (grouping) as division; use practical and informal written methods and related vocabulary to support multiplication and division, including calculations with remainders

There are 4 apples in each pack. Mrs Pullen buys 3 packs of apples. How many apples does she buy?

**KS1 2001 level 2b**

Ella puts these coins in a box. How much does she put in the box altogether?

**KS1 2004 level 2c**

Ella has 12 counters. She puts them into threes like this. How many threes can she make altogether? She puts the same number of counters into fours. How many fours can she make altogether?

**KS1 2004 level 2b**

There are 10 candles in a packet. Abi needs 50 candles. How many packets does Abi need altogether?

**KS1 2009 level 2b**

Write the answer. 6 × 2 =

**KS1 2007 level 2b**

Match each addition to a multiplication. One is done for you.

- 4 + 4 + 4 + 4 + 4
- 3 + 3 + 3
- 6 + 6 + 6 + 6 + 6
- 6 + 6 + 6

**KS1 2004 level 3**

Complete the table. The first row is done for you.

<table>
<thead>
<tr>
<th>1 × 5</th>
<th>3 × 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>35</td>
</tr>
</tbody>
</table>

**KS1 2007 level 3**

23 children are coming to John’s party. Each child will get 1 ice cream. There are 10 ice creams in a box. How many boxes does John need to buy?

**KS1 2001 level 2a**

Desi needs 18 balloons. The shop sells balloons in packs of 5. How many packs does he need to buy?

**KS1 2003 level 2a**

There are 20 eggs. A box holds 6 eggs. How many boxes are needed to hold all the eggs?

**KS1 2000 level 2a**
- Use the symbols $+, -, \times, \div$ and $=$ to record and interpret number sentences involving all four operations; calculate the value of an unknown in a number sentence, e.g. $\square \div 2 = 6, \ 30 - \square = 24$

<table>
<thead>
<tr>
<th>KS1 2003 level 2c</th>
<th>Write four different numbers to make these correct.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\square + \triangle = 17$</td>
</tr>
<tr>
<td></td>
<td>$\Diamond + \bigcirc = 17$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KS1 2005 level 2c</th>
<th>Write numbers in the boxes to make this correct.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$13 + \square + \square = 23$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KS1 2009 level 3</th>
<th>Here are some signs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$+ \quad - \quad \times \quad \div$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KS1 2009 level 3</th>
<th>Write the correct sign in each box. One is done for you.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$3 + 3 = 6$</td>
</tr>
<tr>
<td></td>
<td>$3 \bigcirc 3 = 1$</td>
</tr>
<tr>
<td></td>
<td>$3 \triangle 3 = 9$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KS1 2004 level 2b [oral]</th>
<th>Write the same number in each triangle to make the multiplication correct.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\triangle \times \triangle = 100$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KS1 2001 level 2b</th>
<th>Write the missing number in the box.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\square \times 10 = 50$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KS1 2001 level 2a</th>
<th>Write the missing number in the box.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\square \div 2 = 7$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KS1 2002 level 3</th>
<th>Write the missing number in the box.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$5 \times 4 = 10 \times \square$</td>
</tr>
</tbody>
</table>
**Understanding shape**

- Visualise common 2-D shapes and 3-D solids; identify shapes from pictures of them in different positions and orientations; sort, make and describe shapes, referring to their properties

Two of these shapes are not hexagons. Draw a cross (×) on each shape which is not a hexagon.

**KS1 2003 level 2a**

Look at this shape.

How many right angles does it have?

**KS1 2005 level 3**

Look at the shape names. They say: square, hexagon, rectangle, pentagon, octagon. One of these shapes has exactly two more sides than a triangle. Tick the correct shape.

**KS1 2009 level 3 [oral]**

Write each word in the correct box.

<table>
<thead>
<tr>
<th>faces</th>
<th>edges</th>
<th>vertices</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>12</td>
</tr>
</tbody>
</table>

**Y3 optional test 2003 level 2**

Write the missing numbers in the 2 empty boxes.

<table>
<thead>
<tr>
<th></th>
<th>number of squares</th>
<th>number of triangular faces</th>
<th>number of circular faces</th>
</tr>
</thead>
<tbody>
<tr>
<td>cylinder</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>cube</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>pyramid</td>
<td>1</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

**KS1 2000 level 2a**

Tick (✓) each picture of a cylinder.

**KS1 2003 level 2a**

Two of these sentences are correct. Tick (✓) them.

- A cube has curved faces.
- A cube has 6 faces.
- A cube has more than 6 corners.
- A cube has fewer than 6 edges.

**KS1 2009 level 2a**

Imagine a cube. Four faces are yellow, the rest are blue. How many faces are blue?

**KS1 2003 level 3 [oral]**

Look at the shape names. They say: cylinder, cube, pyramid, cuboid. Two of these shapes always have six faces. Tick the names of the two shapes.

**KS1 2007 level 3 [oral]**

Complete the table.

<table>
<thead>
<tr>
<th></th>
<th>number of faces</th>
<th>number of edges</th>
</tr>
</thead>
<tbody>
<tr>
<td>cuboid</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>square-based pyramid</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

**Y3 optional test 2003 level 3**
• Identify reflective symmetry in patterns and 2-D shapes and draw lines of symmetry in shapes

[Hold up a square so that all the children can see it.]
Tick which of these shape I can make if I fold this square in half.

KS1 2001 level 2c [oral]

Draw the reflection of this pattern in the mirror line. You may use a mirror.

KS1 1999 level 2c

Here is a picture of a shape. The shape has been folded in half along the dotted line. Imagine opening it up. How many sides does the opened shape have?

KS1 2004 level 2a [oral]

Two of these shapes have no lines of symmetry. Draw a cross (×) on them. You may use a mirror.

KS1 2004 level 3

Draw the reflection of the shape in the mirror line. You may use a mirror.

KS1 2007 level 3

Draw the reflection of this shape in the mirror line. You may use a mirror.

KS1 2009 level 3
• Follow and give instructions involving position, direction and movement

Use the grid to help you complete this table.

<table>
<thead>
<tr>
<th></th>
<th>B2</th>
<th>A3</th>
</tr>
</thead>
<tbody>
<tr>
<td>trees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>slide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>seesaw</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

KS1 1998 level 2c

The tick (✔) is in square B5.
Draw a cross (✗) in square D2.

KS1 2002 level 2b

Look at the L shape on the grid.
Part of it is in square B5.
Write the other two squares it is in.

KS1 2009 level 3

Alan slid his finger along this route from START to STOP.

He started writing how his finger moved. Complete the moves.

left 3
down 1
right 2
down 2

KS1 1999 level 2a

Follow this route with your pencil.

Complete this chart showing the route from START to STOP.

START
left 5
up 3
right 2
........
........
STOP

Y3 optional test level 3
• Recognise and use whole, half and quarter turns, both clockwise and anti-clockwise; know that a right angle represents a quarter turn

Watch me as I rotate (turn) this picture of a clown.

[Rotate the clown smoothly and continuously through a full turn, keeping it facing the children at all times.]

Which of your pictures shows what the clown will look like if I rotate (turn) my picture a half-turn? Tick the picture.
[Do not rotate your picture this time.]

KS1 1999 level 2b

Shade the correct triangle in the last hexagon.

KS1 2004 level 2a

Look at this toy car.

Lee turns the car one quarter turn.
Tick (✓) the picture which shows how the car looks after the turn.

KS1 2007 level 2a

What will this arrow look like after a half turn?

Tick (✓) the drawing a,b,c or d which shows this.

Y3 optional test level 3

Draw how this triangle will look after a half turn.

KS1 2002 level 3

Here is a triangle.

Tom turns it one quarter turn clockwise.
Tick (✓) the triangle which shows how it looks after the turn.

KS1 2002 level 3

One shape is a pentagon and has a right angle.
Tick the correct shape.

KS1 2004 level 3 [oral]
### Measuring

- Estimate, compare and measure lengths, weights and capacities, choosing and using standard units (m, cm, kg, litre) and suitable measuring instruments

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KS1 1999 level 2c</strong></td>
<td>Tick (✓) the side of the shape which is 7cm (centimetres) long. Use a ruler.</td>
</tr>
<tr>
<td><strong>KS1 2004 level 2b</strong></td>
<td>Draw a line 12 centimetres long. Use a ruler.</td>
</tr>
<tr>
<td><strong>KS1 2009 level 2a</strong></td>
<td>Three sticks fit along one side of this book. Estimate how many sticks fit around all four sides of the book.</td>
</tr>
<tr>
<td><strong>KS1 2005 level 2a</strong></td>
<td>Measure these two lines. How much longer is line A than line B?</td>
</tr>
<tr>
<td><strong>KS1 1997 level 2a</strong></td>
<td>How much does the bottle hold? Match the correct label to the bottle.</td>
</tr>
<tr>
<td><strong>KS1 1999 level 2a</strong></td>
<td>I can measure the length of the classroom in ... I can measure the capacity of a bucket in ...</td>
</tr>
<tr>
<td><strong>KS1 2005 level 3</strong></td>
<td>How tall is Sita now?</td>
</tr>
<tr>
<td><strong>KS1 2003 level 3</strong></td>
<td>On my 3rd birthday, I was 95cm tall. Now I am 28cm taller.</td>
</tr>
</tbody>
</table>
• Read the numbered divisions on a scale, and interpret the divisions between them, e.g. on a scale from 0 to 25 with intervals of 1 shown but only the divisions 0, 5, 10, 15 and 20 numbered; use a ruler to draw and measure lines to the nearest centimetre

How much does the bag weigh?

KS1 2007 level 2b

Draw a line 3 cm longer than this line.
Use a ruler.

KS1 2000 level 2a

Here is a pattern of lines.
Draw the missing line in the pattern.
Use a ruler.

2 cm

4 cm

6 cm

10 cm

KS1 2007 level 2a

How much does this parcel weigh?
Match the correct label to the parcel.

KS1 2000 level 2b

How heavy is Peter?

KS1 2002 level 2a

Here is a scale which shows the weight of a letter.

How much does the letter weigh?

Y3 optional test 2003 Paper A level 3
- Use units of time (seconds, minutes, hours, days) and know the relationships between them; read the time to the quarter hour; identify time intervals, including those that cross the hour

<table>
<thead>
<tr>
<th>Look at this clock.</th>
<th>How many months are there in one year?</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Clock with times" /></td>
<td><strong>KS1 2003 level 2c</strong></td>
</tr>
<tr>
<td>What time will the clock show two hours later? Tick (✓) it.</td>
<td>A week has 7 days. How many weeks are there in 35 days?</td>
</tr>
<tr>
<td><img src="image" alt="Clock with times" /></td>
<td><strong>KS1 2000 level 2a</strong></td>
</tr>
<tr>
<td>The bus left at 9 o'clock to go to the zoo. It arrived 1 hour and 15 minutes later. Draw a ring around the time it got to the zoo.</td>
<td>Jane leaves home at ten-fifteen. It takes her half an hour to get to the seaside. At what time does Jane get to the seaside?</td>
</tr>
<tr>
<td>9:15 11:15 9:30 10:45 10:15</td>
<td><strong>KS1 2004 level 3 [oral]</strong></td>
</tr>
<tr>
<td>Sita’s watch shows this time.</td>
<td>Two clocks show the same time. Tick (✓) them.</td>
</tr>
<tr>
<td><img src="image" alt="Watch showing 3:30" /></td>
<td><img src="image" alt="Clock with times" /></td>
</tr>
<tr>
<td>Harry’s watch shows the same time. Draw the hands on his watch.</td>
<td><img src="image" alt="Clock with times" /></td>
</tr>
<tr>
<td><img src="image" alt="Clock with times" /></td>
<td><strong>Y3 optional test 2003 level 3</strong></td>
</tr>
<tr>
<td>Harry leaves school at</td>
<td>Harry gets home at</td>
</tr>
<tr>
<td><img src="image" alt="Clock with times" /></td>
<td><img src="image" alt="Clock with times" /></td>
</tr>
<tr>
<td>How long does he take to get home?</td>
<td><strong>KS1 2003 level 3</strong></td>
</tr>
</tbody>
</table>
Handling data

- **Answer a question by collecting and recording data in lists and tables; represent the data as block graphs or pictograms to show results; use ICT to organise and present data.**

### Look at this pictogram.

There are 12 boys in Class 5. Show this on the pictogram.

**KS1 2002 level 2a**

<table>
<thead>
<tr>
<th>Number of children in Class 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>boys</strong></td>
</tr>
</tbody>
</table>

#### Class 2 make a graph.

<table>
<thead>
<tr>
<th>Our eye colours</th>
<th>number of children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>brown</td>
</tr>
<tr>
<td></td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

5 children have blue eyes. Show this on the graph. More children have brown eyes than green eyes. How many more?

**KS1 2007 level 2a**

A shop sold 10 ice lollies on Wednesday.

<table>
<thead>
<tr>
<th>Number of lollies sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
</tr>
<tr>
<td>Tuesday</td>
</tr>
<tr>
<td>Wednesday</td>
</tr>
<tr>
<td>Thursday</td>
</tr>
<tr>
<td>Friday</td>
</tr>
<tr>
<td>Saturday</td>
</tr>
<tr>
<td>Sunday</td>
</tr>
</tbody>
</table>

How many lollies were sold on Monday?

How many more lollies were sold on Tuesday than on Wednesday?

**Y3 optional test 2003 level 2**

The tally chart shows the number of children in each class.

<table>
<thead>
<tr>
<th>Class</th>
<th>Tally</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td>22</td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>

The tally for Class 3 is covered up. Complete the tally for Class 3.

**KS1 2004 level 2a**

Some children rolled toy cars down a slope.

How far did the blue car roll?

How much further did the green car roll than the red car?

**KS1 2005 level 2a**

<table>
<thead>
<tr>
<th>Seasons our birthdays are in</th>
</tr>
</thead>
<tbody>
<tr>
<td>spring</td>
</tr>
</tbody>
</table>

| stands for | 4 children |

There is an even number of birthdays in 2 seasons. Which seasons are they?

How many children have a birthday in the summer?

**KS1 2003 level 3**
• Use lists, tables and diagrams to sort objects; explain choices using appropriate language, including *not*

This table shows the ages of some children.

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fred</td>
<td>7 years 4 months</td>
</tr>
<tr>
<td>Harriet</td>
<td>7 years 0 months</td>
</tr>
<tr>
<td>Isla</td>
<td>6 years 10 months</td>
</tr>
<tr>
<td>Julian</td>
<td>7 years 6 months</td>
</tr>
<tr>
<td>Kate</td>
<td>6 years 11 months</td>
</tr>
<tr>
<td>Asim</td>
<td>6 years 11 months</td>
</tr>
</tbody>
</table>

Who is the youngest?
How many children are older than Harriet?

**KS1 2001 level 2b**

These shapes have been sorted.
One shape is in the wrong place.
Draw a cross (×) on it.

**KS1 2004 level 2a**

Write Sita's and Harry's names in the correct boxes on the diagram.

<table>
<thead>
<tr>
<th></th>
<th>is taller than 130cm</th>
<th>is not taller than 130cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sita</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>has brown eyes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>does not have brown eyes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**KS1 2004 level 3**

Acknowledgment

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