Inspire Maths and KS1 SATs

How can *Inspire Maths* help you and your Year 2 pupils prepare for SATs?
Introduction
How can *Inspire Maths* help you and your Year 2 pupils prepare for Key Stage 1 SATs?

We have selected a range of questions from the 2018 KS1 SATs papers and highlighted supporting pages from the *Inspire Maths* Pupil Textbooks that will help your Year 2 pupils to answer these questions.

Pupils following the *Inspire Maths* programme will build and consolidate knowledge and understanding year on year. *Inspire Maths* gives pupils the mathematical language, skills and confidence to fully prepare them for SATs.
Paper 1: Arithmetic

Curriculum objective:
Add and subtract one-digit and two-digit numbers to 20, including 0

Pupil Textbook 1A, Unit 3, Addition within 10 (page 28)
Paper 1: Arithmetic

12

7 \times 2 = \underline{\hspace{2cm}}

Curriculum objective:

Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers

All questions were taken from the 2018 Key Stage 1 national test papers

Pupil Textbook 2A, Unit 5, Multiplying by 2 and 3 (pages 86–87)
Paper 1: Arithmetic

Curriculum objective:
Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers

Let's Learn!

Sharing

Jack has 6 cherries. He wants to divide the cherries into 2 equal groups. How many cherries are there in each group?

$6 \div 2 = 3$

There are 3 cherries in each group.

Now he wants to divide them into 3 equal groups.

$6 \div 3 = 2$

There are 2 cherries in each group.

$6 \div 2 = 3$ and $6 \div 3 = 2$ are division sentences.

$6 \div 2 = 3$ says six divided by two equals three.
Paper 1: Arithmetic

Curriculum objective:
Count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward

Pupil Textbook 1B, Unit 13, Mental Calculations (page 63)
Paper 1:
Arithmetic

Curriculum objective:
Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
• a two-digit number and 1s
• a two-digit number and 10s
• 2 two-digit numbers
• adding 3 one-digit numbers

Pupil Textbook 1B, Unit 17, Numbers to 100 (page 116)
Paper 2: Reasoning

Curriculum objective:

Compare, describe and solve practical problems for:

- lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]

All questions were taken from the 2018 Key Stage 1 national test papers.
Paper 2: Reasoning

Curriculum objective:
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.
Paper 2: Reasoning

Curriculum objective:
Describe position, direction and movement, including whole, half, quarter and three-quarter turns.

Put a tick below the fourth black bead.

There are 5 thirsty children.

Ella is before Farha.
Peter is after Farha.
Farha is between Ella and Peter.

Describe the positions of Ruby and Jack using these words:
before, between, after.

Pupil Textbook 1A, Unit 6, Ordinal Numbers (page 67)
**Paper 2: Reasoning**

The chart shows the number of stickers four children have.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Kemi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ben</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sam</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Kemi has more stickers than Sam.

How many more?

**Curriculum objective:**

Ask and answer questions about totalling and comparing categorical data

Pupil Textbook 1B, Unit 11, Picture Graphs (pages 18–19)
Paper 2: Reasoning

A shopkeeper has 20 fish and 5 fish bowls. He puts the same number of fish in each bowl. How many fish go in each bowl?

Curriculum objective:

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.

Pupil Textbook 1B, Unit 15, Division (page 79)
Paper 2: Reasoning

Curriculum objective:
Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

Amy buys one pear for 35p. She pays with a 50p coin. How much change does Amy get?

Let’s Learn!
Adding and subtracting in pence

1. Tai is shopping. He has 90p. He buys the bookmark and the sweets. He has to pay 30p + 35p = 65p.

2. Ella buys a balloon. She gives the cashier 70p. She will get back 70p − 65p = 5p.

Pupil Textbook 1B, Unit 19, Money (2) (page 132)
Inspire Maths and KS2 SATs

How can *Inspire Maths* help you and your Year 6 pupils prepare for SATs?
Introduction
How can *Inspire Maths* help you and your Year 6 pupils prepare for Key Stage 2 SATs?

We have selected a range of questions from the 2018 KS2 SATs papers and highlighted supporting pages from the *Inspire Maths* Pupil Textbooks that will help your Year 6 pupils to answer these questions.

Pupils following the *Inspire Maths* programme will build and consolidate knowledge and understanding year on year. *Inspire Maths* gives pupils the mathematical language, skills and confidence to fully prepare them for SATs.
Curriculum objective:
Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
Paper 1: Arithmetic

Curriculum objective:
Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit
Curriculum objective:
Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
Paper 1: Arithmetic

Curriculum objective:
Divide proper fractions by whole numbers [for example, \(\frac{1}{3} \div 2 = \frac{1}{6}\)]
Paper 1: Arithmetic

Curriculum objective:
Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison

28% of 650 =

15% of the children who went to a sports club wore football kits. If 30 children wore football kits, find the total number of children who went to the sports club.

15% of the whole is equal to 30 children.

The whole is 100%, which is the total number of children.

Zarha got 66 marks on the maths part of her test. This was 75% of her total marks. Find the total marks for the test.

Her total mark for the test was 88 marks.

All questions were taken from the 2018 Key Stage 2 national test papers
Paper 2: Reasoning

Curriculum objective:
Complete a simple symmetric figure with respect to a specific line of symmetry

Pupil Textbook 4B, Unit 13, Symmetry (page 130)

All questions were taken from the 2018 Key Stage 2 national test papers
Paper 2: Reasoning

Curriculum objective:
Recognise and show, using diagrams, families of common equivalent fractions

Write the missing values.

\[
\frac{3}{4} = \frac{9}{\phantom{0}} = \frac{\phantom{0}}{24}
\]

1 mark
Paper 2: Reasoning

Curriculum objective:

Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]

All questions were taken from the 2018 Key Stage 2 national test papers
Paper 2: Reasoning

Curriculum objective:
Calculate and interpret the mean as an average

Last year, Jacob went to four concerts. Three of his tickets cost £5 each. The other ticket cost £7.

What was the mean cost of the tickets?

Show your method

£

Find the total number of shells.
$4 + 9 + 8 = 21$ shells
Then divide the total number of shells by the number of children.
$21 ÷ 3 = 7$ shells
Each child gets 7 shells.

$\text{Mean number of shells} = \frac{\text{Total number of shells}}{\text{Number of children}}$

The number of shells that each child will get if they are shared equally is 7. 7 is called the mean, or average, of 4, 9 and 8.

Pupil Textbook 5B, Unit 9, Mean (average) (page 50)
Paper 2: Reasoning

Curriculum objective:
Recognise when it is possible to use formulae for area and volume of shapes

Pupil Textbook 6B, Unit 11, Volume of Solids and Liquids (page 74)
Paper 3: Reasoning

Tick the numbers that are common factors of both 12 and 18

2 [ ]
3 [ ]
6 [ ]
9 [ ]
12 [ ]

Curriculum objective:
Identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers

All questions were taken from the 2018 Key Stage 2 national test papers
Paper 3: Reasoning

This chart shows the number of different types of big cat in a zoo.

There are 20 big cats in the zoo altogether.

Here are some statements about the chart.

Tick the statements that are true.

- There are more cheetahs than jaguars. ☐
- The total number of lions and tigers is 10 ☐
- One-quarter of the big cats are cheetahs. ☐
- There are more than 5 jaguars. ☐

Curriculum objective:
Interpret and construct pie charts and line graphs and use these to solve problems

Pupil Textbook 6B, Unit 9, Pie Charts (page 54)
Paper 3: Reasoning

A farmer is packing eggs. Each box holds six eggs.

The farmer has 980 eggs to pack.

How many boxes can the farmer fill using 980 eggs?

full boxes

How many eggs will be left over?

left over

Curriculum objective:

Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.

All questions were taken from the 2018 Key Stage 2 national test papers.
Paper 3: Reasoning

Curriculum objective:

Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.
Curriculum objective:

Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.
Paper 3: Reasoning

On a dice, the sum of the dots on opposite faces is always 7

Curriculum objective:
Identify 3-D shapes, including cubes and other cuboids, from 2-D representations
Inspire Maths and SATs

Find out more about Inspire Maths

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