



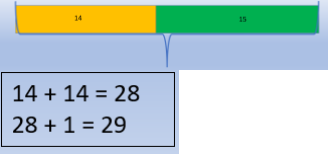

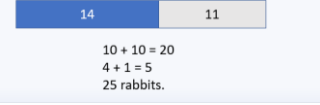


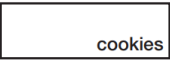
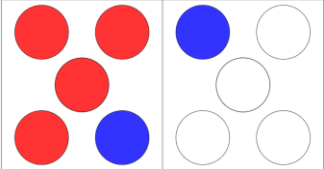


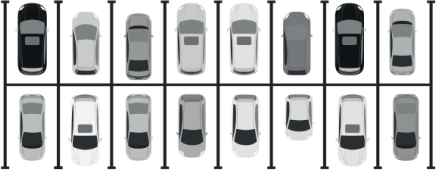
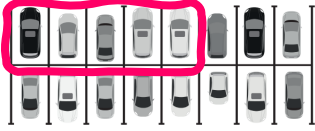
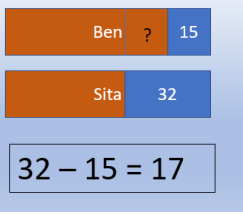
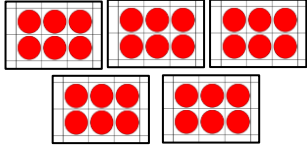



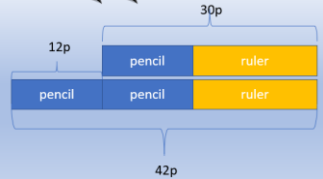
Apley Wood Problem Solving Progression – Word Problems

EYFS




Key Skills and Strategy Development EYFS	Question stems	
Read and analyse the problem.	What is the question about?	
Identify the steps.	What do you need to do?	
Calculate efficiently.	What methods would be best? What resources might you choose?	
Check the solution.	Have you answered the question correctly?	
Example problems	Model answers	Links
 Early Years Activities - Number Age 3 to 5  Early Years Activities - Measures Age 3 to 5  Early Years Activities - Shape and Space Age 3 to 5  Early Years Activities - Pattern Age 3 to 5		https://nrich.maths.org/13371

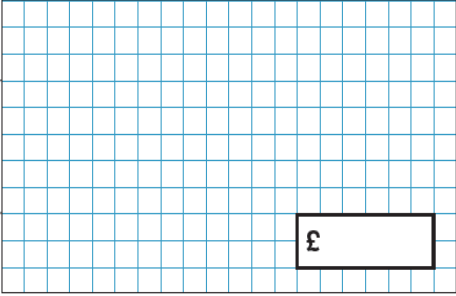
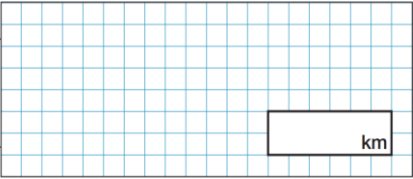

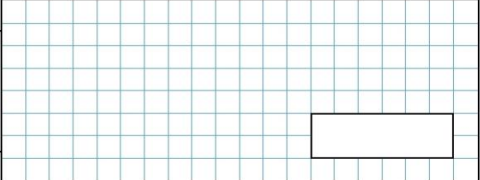
KS1

Key Skills and Strategy Development KS1	Question stems	
Read and analyse the problem.	What is the question about?	
Identify the steps.	What do you need to do?	
Calculate efficiently.	What methods would be best? What resources might you choose?	
Check the solution.	Have you answered the question correctly?	
One step example problems	Model answers	Links
<p>There are 14 girls and 15 boys in Katie's class.</p> <p>How many children are there in the class altogether?</p>		Kate Burton
<p>At the farm, there are 14 white rabbits and 11 grey ones. How many rabbits are there altogether?</p> 		Kate Burton
<p>Tom has 36 toy cars.</p> <p>He gives Simon 12 of them.</p> <p>How many does Tom have left?</p>		Kate Burton
<p>Jenny is reading a book. She reads 9 pages. She has 3 pages left to read.</p> <p>What fraction of the book does she have left to read?</p>	$9 + 3 = 12$ $3/12 = 1/4$	Kate Burton
<p>There are 6 cookies in a jar.</p> <p>Tom eats 4 cookies.</p> <p>How many are left?</p>  	 <p>2</p>	Kate Burton


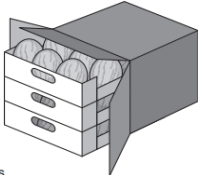
<p>This morning, there were 16 cars in the carpark.</p>  <p>Some cars leave. Now there are 5 cars. How many cars have left the carpark?</p> <div style="border: 1px solid black; width: 80px; height: 20px; margin-left: auto; margin-right: auto; text-align: center;">cars</div>	<p>This morning, there were 16 cars in the carpark.</p>  <p>Some cars leave. Now there are 5 cars. How many cars have left the carpark?</p> <div style="border: 1px solid black; width: 80px; height: 20px; margin-left: auto; margin-right: auto; text-align: center;">cars</div> <p>$16 - 5 = 11$</p>	<p>Kate Burton</p>
Two step example problems Model answer Links		
<p>Ben and Sita collect animal stickers. They have the same amount. Ben gives away 15 stickers. Sita gives away 32 stickers. How many more stickers does Ben have than Sita now?</p>	 <p>$32 - 15 = 17$</p>	<p>Kate Burton</p>
<p>Ben bakes 5 trays of muffins. Each tray holds 6 muffins. Ben sells 16 muffins and eats 5. How many muffins does he have left?</p>	 <p>$16 + 5 = 21$ $30 - 21 = 9$</p>	<p>Kate Burton</p>
<p>29 There are 100g of chocolate chips in the bag. Sita uses 25g. Ben uses 35g. How many grams of chocolate chips are left in the bag?</p>  <p>Show your working</p> <div style="border: 1px solid black; width: 250px; height: 80px; margin-left: 20px;"></div> <div style="border: 1px solid black; width: 80px; height: 20px; margin-left: auto; margin-right: auto; text-align: center;">g</div>	<p>$35 + 25 = 60$ $100 - 60 = 40g$</p>	<p>KS1 SATS paper</p>
<p>Sita buys these two items for 30p.</p>  <p>Ben buys these three items for 42p.</p>  <p>What is the cost of one ruler?</p>		<p>Kate Burton</p>


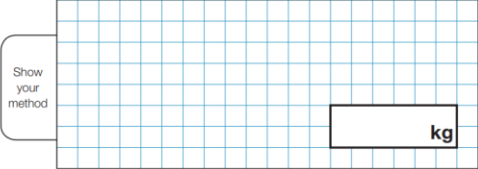


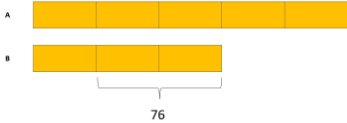

Lower KS2

Key Skills and Strategy Development LKS2	Question stems	
Read and analyse the problem.	What is the question asking you to do?	
Identify the steps.	What arithmetic or calculations do you need?	
Calculate efficiently.	What order do you need to proceed? What methods would be the most efficient?	
Check the solution.	Have you answered the question correctly?	
One step example problems	Model answers	Links
<p>1 The original price of this car is £8,999</p> <div style="text-align: center;">  </div> <p style="text-align: center; background-color: #d9e1f2; padding: 5px;">What is the sale price of the car?</p> <div style="text-align: center; margin-top: 20px;"> <input style="width: 60px; height: 20px; border: 1px solid black;" type="text"/> </div>	$8,999 - 1,100 = 7,899$	KS2 SATS paper
 <p>Everyone in the Patel family likes toast for their breakfast, with either jam or marmalade. Two people say their favourite spread is jam. There are four more marmalade-lovers than jam-lovers. How many people are in the family altogether?</p>		Kate Burton
<p>14 A train has 8 carriages. Each carriage has 56 seats.</p> <p style="background-color: #d9e1f2; padding: 5px;">How many seats are there on the train altogether?</p> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;">Show your method</div> <div style="border: 1px solid black; width: 200px; height: 80px; background-color: #e6f2ff; display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; width: 80px; height: 40px; margin: auto;"></div> </div> </div>	$56 \times 8 = 448$	KS2 SATS paper
Two step example problems	Model answers	Links
<p>8 Ken buys 3 large boxes and 2 small boxes of chocolates.</p> <p>Each large box has 48 chocolates. Each small box has 24 chocolates.</p> <div style="display: flex; justify-content: space-around; align-items: center; margin: 10px 0;"> <div style="border: 1px solid black; padding: 10px; text-align: center;"> Large 48 chocolates </div> <div style="border: 1px solid black; padding: 10px; text-align: center;"> Small 24 chocolates </div> </div> <p style="background-color: #d9e1f2; padding: 5px; text-align: center;">How many chocolates did Ken buy altogether?</p> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;">Show your method</div> <div style="border: 1px solid black; width: 250px; height: 80px; background-color: #fff9e6; display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; width: 80px; height: 20px; margin: auto; text-align: center;">chocolates</div> </div> </div>	$48 \times 3 = 144$ $24 \times 2 = 48$ 192	KS2 SATS paper

<p>9 Mr and Mrs Jones are saving for a holiday. Mr Jones has saved £742 Mrs Jones has saved £1359 The holiday costs £3415</p> <p>How much more do they need to save?</p> <p>Show your method</p> 	$1,359 + 742 = 2,101$ $3,415 - 2,101 = 1,314$	KS2 SATS paper
<p>6 Aisha cycles 5 laps of a track. The total distance Aisha cycles is 20 km. Ben cycles 7 laps of the same track.</p> <p>How far does Ben cycle in total?</p> <p>Show your method</p> 	$20 \div 5 = 4$ $7 \times 4 = 28$ laps	KS2 SATS paper
<p>Multi-step example problems Model answers Links</p>		
<p>A bag of 5 lemons costs £1 A bag of 4 oranges costs £1.80</p>  <p>How much more does one orange cost than one lemon?</p> <p>Show your method</p> 	$£1 \div 5 = 20\text{p (lemon)}$ $£1.80 \div 4 = 45\text{p (orange)}$ $45\text{p} - 20\text{p} = 25\text{p}$	KS2 SATS paper

Upper KS2

Key Skills and Strategy Development UKS2	Question stems	
Read and analyse the problem.	What is the context of the question?	
Identify the steps.	What arithmetic or calculations do you need?	
Calculate efficiently.	What order do you need to proceed? What methods would be the most efficient?	
Check the solution.	Have you answered the question correctly? Do you need to change the units of measurement in this answer?	
One step example problems	Model answers	Links
<p>14 Mrs Hyde bakes 180 cookies. She sells them in boxes of 10 Each box costs £4</p> <p style="background-color: #d9e1f2; padding: 2px;">How much money does she make in total?</p> <p style="text-align: right; margin-top: 20px;">£ <input style="width: 50px;" type="text"/></p>	$180 \div 10 = 18$ $18 \times 4 = £72$	KS2 SATS paper
<p>3 Class 6 have some fruit. For every 2 apples, they have 3 bananas.</p> <p style="text-align: center;">  </p> <p>They have 10 apples.</p> <p style="background-color: #d9e1f2; padding: 2px;">How many bananas do they have?</p>	$2:3$ $2 \times 5 = 10$ $3 \times 5 = 15$	KS2 SATS paper
Two step example problems	Model answers	Links
<p>15 A box contains trays of melons. There are 15 melons in a tray. There are 3 trays in a box.</p> <div style="text-align: center;">  </div> <p>A supermarket sells 40 boxes of melons.</p> <p style="background-color: #d9e1f2; padding: 2px;">How many melons does the supermarket sell?</p> <div style="margin-top: 20px;"> <p>Show your method</p> <div style="border: 1px solid black; width: 280px; height: 80px; position: relative;"> <div style="position: absolute; top: 5px; right: 5px; border: 1px solid black; padding: 2px;">melons</div> </div> </div>	$15 \times 3 = 45$ $45 \times 40 = 1,800$	KS2 SATS paper

<p>10 The mass of a box containing 6 tins of beans is 7.5 kg.</p>  <p>When 2 tins of beans are removed, the mass of the box is 5.1 kg.</p> <p>What is the mass of one tin of beans?</p> <p>Show your method</p> 	$7.5 - 5.1 = 2.4$ $2.4 \div 2 = 1.2\text{kg}$	<p>KS2 SATS paper</p>
Multi-step example problems Model answers Links		
<p>16</p>  <p>potatoes £1.50 per kg</p> <p>carrots £1.80 per kg</p> <p>Jack buys $\frac{1}{2}$ kg of potatoes and $\frac{1}{2}$ kg of carrots.</p> <p>How much change does he get from £5?</p> <p>Show your method</p> 	$£1.50 \div 2 = 75\text{p}$ $£1.80 \div 2 = 90\text{p}$ $£1.50 + 75\text{p} + 90\text{p} = £3.15$ $£5 - £3.15 = £1.85$	<p>KS2 SATS paper</p>
<p>There are 5 times as many pens in box A than box B. Jaz moves 76 pens from box A to box B. Both boxes now have the same amount of pens. How many pens are in box A now?</p>	 <p><small>A + B = 6 parts in total as A has 5 times as many pens as B (1 part). To be equal both A and B need 3 parts each. This means the 76 pens moved from A to B must represent 2 parts. So each part is 38. A and B have 114 pens each.</small></p>	<p>Kate Burton</p>
<p>23 The length of a day on Earth is 24 hours. The length of a day on Mercury is $58\frac{2}{3}$ times the length of a day on Earth.</p> <p>What is the length of a day on Mercury, in hours?</p> <p>Show your method</p> 	$58 \times 24 = 1,392$ $24 \times \frac{2}{3} = 16$ $1,392 + 16 = 1,408$	<p>KS2 SATS paper</p>

10

Adam buys 4 pens and a ruler and pays £4.75 altogether.



Jack buys 2 pens and pays £1.98 altogether.



How much does a ruler cost?

Show your method

A large grid for showing the method. A small rectangular box is drawn in the bottom right corner of the grid.

2 marks

Various ways of answering:

$$£1.98 \times 2 = £3.96$$

$$£4.75 - £3.96 = 79p$$

KS2 SATS
paper