

**Unit 10**  
**Understanding multiplication and division**  
**Money and real life problems**  
**Fractions**

Five daily lessons

**Merseyside Consultants'**  
**Cluster Group**

**Year 2**  
**Spring term**

This Unit Plan is designed to guide your teaching.

You will need to adapt it to meet the needs of your class.

**Unit Objectives**

**Year 2**

- Understand division as grouping or sharing. Read the related vocabulary Page 49
- Use  $\times$ ,  $\div$  and  $=$  signs to record mental calculations Page 47
- Recognise and use  $\square$  to stand for an unknown number Page 47
- Use number facts and place value to divide mentally Page 57
- Choose and use an appropriate number operation and mental strategy to solve money and 'real life' word problems Page 69
- Check results. Explain methods orally. Record in number statements Page 69
- Begin to recognise and find one quarter of shapes and small numbers of objects. Recognise that 4 quarters make 1 whole Page 34

**Link Objectives**

**Year 1**

**Year 3**

- Work out how to pay an amount by using smaller coins.
- Solve simple mathematical puzzles or problems.
- Explain methods orally.
- Choose and use the appropriate number operation and mental strategy to solve a problem.

- **Recognise division as the inverse of multiplication.**
- Use doubling and halving starting from known facts.
- Say or write division statement corresponding to a multiplication statement.
- **Choose appropriate number operations and calculation methods to solve money or real life word problems with two steps.**
- Explain and record method, check results.
- Begin to recognise simple equivalent fractions.

(Key objectives in bold)

**Resources needed to teach this unit:**

- 8 ribbons
- Multilink
- Counters
- Number lines
- Resource sheet 1
- ITP fractions
- Whiteboards
- Digit cards

<b>Planning sheet</b>	<b>Day One</b>	<b>Unit 10 Understanding multiplication and division, money and real life problems, fractions</b>		<b>Term: Spring</b>	<b>Year Group: 2</b>
<b>Oral and Mental</b>		<b>Main Teaching</b>			<b>Plenary</b>
<b>Objectives and Vocabulary</b>	<b>Teaching Activities</b>	<b>Objectives and Vocabulary</b>	<b>Teaching Activities</b>	<b>Teaching Activities/ Focus Questions</b>	
		<p>Understand division as grouping or sharing. Read to related vocabulary. Use x, ÷ and = to record mental calculations</p> <p>VOCABULARY Sharing ÷ One each Two each Division Grouping Divided by</p> <p>RESOURCES 8 ribbons Multilink Whiteboards</p>	<p><b>Q</b> I have 8 ribbons and I want to share them between Jo and Nicola (Substitute names of 2 children in class).</p> <ul style="list-style-type: none"> <li>Show the children the ribbons and ask another child to come out and share the ribbons between the 2 children.</li> <li>When each child has 4 ribbons each show the children how to write the calculation <math>8 \div 2 = 4</math> 8 shared between 2 gives 4.</li> </ul> <p><b>Q</b> I have 9 sweets to share between 3 friends. How many do they get?</p> <ul style="list-style-type: none"> <li>Ask children to work with a partner using whiteboards and multilink to write the calculation and find the answer.</li> <li>Work through calculation together and check answers.</li> <li>We know that ÷ (division sign) can mean sharing but it can also be used for grouping - or repeated subtraction.</li> </ul> <p><b>Q</b> There are 18 apples in the box. How many bags, each with 3 apples, can be filled?</p> <ul style="list-style-type: none"> <li>Do this question practically with the children using balls or multilink to represent the apples.</li> <li>Explain that this can be written as <math>18 \div 3 = 6</math></li> </ul> <p><b>Q</b> How many sticks of 4 cubes can you make from a stick of 20 cubes?</p> <ul style="list-style-type: none"> <li>Children to work with partners using multilink to solve problem and writing calculation on whiteboards. Discuss methods and answers.</li> </ul>	<p>Using one of the sharing problems and one of the grouping problems solve as a class using apparatus and whiteboards to write calculation.</p> <p><b>By the end of the lesson children should be able to:</b></p> <ul style="list-style-type: none"> <li><b>Understand division as sharing.</b></li> </ul> <p>(Refer to supplement of examples, section 5, page 49 )</p>	

<b>Planning sheet</b>	<b>Day One (Cont'd)</b>	<b>Unit 10 <i>Understanding multiplication and division, money and real life problems, fractions</i></b>		<b>Term: <i>Spring</i></b>	<b>Year Group: 2</b>
<b>Oral and Mental</b>		<b>Main Teaching</b>			<b>Plenary</b>
<b>Objectives and Vocabulary</b>	<b>Teaching Activities</b>	<b>Objectives and Vocabulary</b>	<b>Teaching Activities</b>	<b>Teaching Activities/ Focus Questions</b>	
			<u>Activities</u> Children to work with a partner to write a sharing problem and a grouping problem and to solve problem. Swap problems with another group and solve.		





Resource Sheet 1

$$25 \div \quad = 5$$

$$15 \div 3 =$$

$$\div 10 = 4$$

$$27 \div \quad = 9$$

$$20 \div \quad = 10$$

$$\div 5 = 6$$

$$50 \div 5 =$$

$$\div 4 = 2$$

Planning sheet	Day Four	Unit 10 <i>Understanding multiplication and division, money and real life problems, fractions</i>		Term: <i>Spring</i>	Year Group: 2
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions	
		<ul style="list-style-type: none"> <li>◆ Begin to recognise and find one quarter of shapes and small numbers of objects.</li> <li>◆ Recognise that four quarters make 1 whole.</li> <li>◆ Choose and use appropriate number operation and mental strategy to solve real life problems.</li> </ul> <p>VOCABULARY  <math>\frac{1}{2}</math>, one half  <math>\frac{1}{4}</math>, one quarter  One whole</p> <p>RESOURCES  ITP – fractions  Whiteboards  Digit cards (even 10 – 30)</p>	<ul style="list-style-type: none"> <li>• Using ITP fractions show <u>whole</u> rods then shade <math>\frac{1}{2}</math></li> </ul> <p><b>Q</b> How much is shaded?</p> <ul style="list-style-type: none"> <li>• Take responses. Show that we write this as <math>\frac{1}{2}</math> or 1 whole divided into 2 bits.</li> <li>• Now shade <math>\frac{1}{4}</math> of rod.</li> </ul> <p><b>Q</b> How much is shaded now?</p> <ul style="list-style-type: none"> <li>• Take responses. Show that we write this as <math>\frac{1}{4}</math> or 1 whole divided into 4 bits.</li> </ul> <p>So if we have 10 buttons – show the children 10 buttons.</p> <p><b>Q</b> How many will be a half?  <b>Q</b> How can we work this out?</p> <p>Children to discuss with partner and suggest methods to calculate eg sharing 10 between 2 or grouping the buttons into 2 groups. On whiteboards children to suggest how we could write this as calculation.</p> <p>Take responses and write on board</p> $10 \div 2 = 5$ <p><b>Q</b> Find half of 16 roses</p> <p>Children to work with partner to discuss method and write answer on whiteboard. Check answers and ask child to describe method</p> $16 \div 2 = 8$ <p><b>Q</b> How can we check this answer?</p> $2 \times 8 = 16$ <p><u>Activities</u></p> <p>Using even digit cards 10 → 30 work with partner to choose a card and devise a problem that would involve finding <math>\frac{1}{2}</math>. Write problem and solution and check answers using multiplication.</p>	<p>Use one of children's problems and work through as class discussing method and checking answers.</p> <p><b>By the end of the lesson children should be able to:</b></p> <ul style="list-style-type: none"> <li>• Understand how to find one quarter or half of a whole.</li> </ul> <p>(Refer to supplement of examples, section 5, page 21 )</p>	

Planning sheet		Day Five	Unit 10 <i>Understanding multiplication and division, money and real life problems, fractions</i>	Term: <i>Spring</i>	Year Group: 2
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions	
		<ul style="list-style-type: none"> <li>Begin to recognise and find one quarter of shapes and small numbers of objects.</li> <li>Recognise that four quarters make 1 whole.</li> <li>Choose and use appropriate number operation and mental strategy to solve real life problems.</li> </ul> <p>VOCABULARY  <math>\frac{1}{2}</math>, one half  <math>\frac{1}{4}</math>, one quarter  One whole</p> <p>RESOURCES  Whiteboards  Number fans  ITP  Digit cards (12, 16, 20, 24, 28, 32)</p>	<ul style="list-style-type: none"> <li>Show children ITP fractions and show <math>\frac{1}{4}</math> of rod shaded.</li> <li>Q How much is shaded?</li> <li>Remind children that <math>\frac{1}{4}</math> of a shape is the whole shape divided into 4.</li> <li>Q How can we find <math>\frac{1}{4}</math> of 8 pencils?</li> <li>Children to discuss with partners. Ask children to explain methods – but not give answer.</li> <li>Having established <math>8 \div 4 =</math></li> <li>Ask children to find answer and show using number fans – check answer using multiplication. Repeat exercise.</li> <li>Q I have 20p. I will give <math>\frac{1}{4}</math> to Ben. How much will he get?</li> <li>Children to discuss with partner and write calculation and answer on whiteboards. Check using multiplication.</li> <li>Activities. Using digit cards – (only from 4 times table). Children to devise problems using <math>\frac{1}{4}</math>, find solution and check using inverse.</li> </ul>	<ul style="list-style-type: none"> <li>I have a cake and 3 friends want to share it with me.</li> <li>Q How much of the cake will I get?</li> <li>Children to discuss with partners.</li> <li>Q How many pieces will I need?</li> <li>Show answer using number fans, 4.</li> <li>I had a whole cake and it has been divided into 4.</li> <li>Q How much of the cake will I get?</li> <li>Take responses and demonstrate by using cake or drawing of cake and splitting into 4 to give <math>\frac{1}{4}</math>.</li> </ul> <p><b>By the end of the lesson children should be able to:</b></p> <ul style="list-style-type: none"> <li>Understand how to find a fraction of a whole.</li> </ul> <p>(Refer to supplement of examples, section 5, page 21 )</p>	