

Unit 11

Five daily lessons

North West Consultants

Year 3

Autumn term

Unit Objectives

Year 3

?? Recognise unit fractions $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{10}$ and use them to find fractions of shapes or numbers
?? Begin to recognise fractions that are several parts of a whole $\frac{2}{3}$, $\frac{3}{4}$, $\frac{3}{10}$

Pages

Link Objectives

Year 2

Year 4

?? Begin to recognise and find one half of shapes and small numbers of objects
?? Recognise that two halves makes one whole

?? Use fraction notation
?? Recognise fractions that are several parts of a whole, and mixed numbers
?? Find fractions of shapes
?? Relate fractions to division and find simple fractions of quantities

This Unit Plan is designed to guide your teaching.

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

Resources needed to teach this unit:

- ?? 1 –100 number line
- ?? 100 square
- ?? Individual 100 square
- ?? Fraction ITP
- ?? OHP
- ?? Squared paper
- ?? Resource sheet 1

Planning Sheet	Day 1	Unit 11: Fractions	Term: Autumn	Year Group: 3
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions
		<p>Recognise unit fractions such as $\frac{1}{2}$, $\frac{1}{4}$</p> <p>Vocabulary</p> <p>Fraction Half Halve Quarter Equal parts</p> <p>Resources</p> <p>1-100 number line</p>	<p>Q. If I cut an apple into 4 pieces, what must be special about each piece if we are to call each piece a quarter?</p> <p>Share responses and agree each piece has to be equal.</p> <p>Give each child a square piece of paper. Children fold to show half and then a quarter.</p> <p>Show a number line strip 0-8. Fold it in half.</p> <p>Q. What's half of 8? Q. When we halve a number what are we doing?</p> <p>Collect responses which should include sharing between 2, dividing by 2, splitting into 2 groups.</p> <p>Fold strip in half again.</p> <p>Q. What fraction of the strip can you see? Q. So what is quarter of 8?</p> <p>Point out that 4 is 2 quarters of the way along and 6 is 3 quarters of 8.</p> <p>Q. What are we doing when we find a quarter of a number?</p> <p>Discuss responses which should include sharing between 4, finding half of half, dividing by 4.</p> <p>Record on board $\frac{1}{2}$ of 8 = 4, $\frac{1}{4}$ of 8 = 2</p> <p>Repeat with a number line strip 0-40</p> <p>Provide children with a selection of number line strips and ask them to find half and quarter of each number by folding and record number sentences.</p> <p>More able children have strips with only end number and fold and use knowledge of division to find half and quarter of each number.</p>	<p>Point to 100 on a 0-100 number line. Ask everyone to imagine the line being folded in half.</p> <p>Q. Where would one half be?</p> <p>Now ask them to imagine that part of the line being halved again.</p> <p>Q. What fraction have we got now?</p> <p>Q. On what number would the first line be? 50</p> <p>Q. What number sentence would show this? Half of 100 is 50</p> <p>Q. On what number would the second line be? Q. What number sentence would show this? Quarter of 100 is 25</p> <div style="border: 1px solid black; padding: 10px; margin-top: 20px;"> <p>By the end of the lesson children should know:</p> <p>How to find half and quarter of a number</p> </div>

Planning Sheet	Day 2	Unit 11: Fractions		Term: Autumn	Year Group: 3
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
		<p>To recognise $\frac{1}{10}$ as one tenth, and know that it means one whole divided into 10 equal parts</p> <p>Vocabulary Equal parts Groups of One whole One tenth Divide by</p> <p>Resources 100 square Individual 100 squares Resource sheet 1</p>	<p>Write on the board the following table: 10 groups of 1 child are..... 10 groups of 2 children are..... 10 groups of 3 children are.... 10 groups of 10 children are.....</p> <p>Ask children to answer each question quickly on whiteboards. Invite children with correct answers to write answer on board. Leave table on board and keep referring back to it when necessary.</p> <p>Q. If we know that 10 groups of 5 children are 50, how many will be in each group if we split 50 children into 10 groups? Q. What is 50 divided by 10? Q. If we split 30 children into 10 groups how many will be in each?</p> <p>Discuss answers and refer to table.</p> <p>Shade in 40 squares of a blank 100 square or fold away 6 rows leaving 4 rows visible, i.e. 40 squares.</p> <p>Q How many squares can you see?</p> <p>Explain you want to find one tenth of the squares.</p> <p>Q. How could we do this? Let children talk to partner for 1 minute to decide on a strategy for finding a tenth. Share ideas and show how to find one tenth. Record $\frac{1}{10}$ of 40 = 4 Explain that this could also be written as $40 \div 10 = 4$</p> <p>Refer back to table and ask if there are any facts there which would have helped them work out $\frac{1}{10}$ of 40. Repeat for other numbers of rows on the 100 square.</p> <p>Provide children with small blank 100 squares and ask them to pick a multiple of 10 below a hundred, make that from the 100 square, and then find $\frac{1}{10}$, recording on the square and as a number sentence.</p>	<p>Q. What is $\frac{1}{10}$ of 30? 70? 60?</p> <p>For each question first ask them to hold up the multiple of ten and then hold up the answer to $\frac{1}{10}$.</p> <p>Q. What do you notice?</p> <p>Let children talk to their partner for 1 minute. Share ideas highlighting the fact that when we divide a tens number by 10 we get a ones number.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>By the end of the lesson children should know:</p> <p>How to find $\frac{1}{10}$ of an amount.</p> </div>	

Planning Sheet	Day 3	Unit 11: Fractions	Term: Autumn	Year Group: 3
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions
		<p>Recognise unit fractions such as $\frac{1}{3}$ and know that it means one whole divided into 3 equal parts.</p> <p><u>Vocabulary</u> Equal parts Groups of One whole One third Divide by</p> <p><u>Resources</u> Multilink</p>	<p>Give all children access to multilink and ask them to make a rod with $\frac{1}{4}$ a different colour to the rest.</p> <p>Q. Explain how you know this is a quarter.</p> <p>Children to discuss with partners and share answers. To find a $\frac{1}{4}$ rod is divided into 4 equal pieces.</p> <p>Q. If $\frac{1}{4}$ means divide into 4 equal pieces, what does $\frac{1}{3}$ or one third mean?</p> <p>Children to discuss with partner and share answers. $\frac{1}{3}$ means to divide into 3 equal pieces.</p> <p>Ask the children to make a rod with $\frac{1}{3}$ in a different colour.</p> <p>Q. Will the rod always have only 3 cubes in it?</p> <p>Get children to explain how rod can have any number of cubes as long as it divides equally into 3 pieces.</p> <p>Q. What is one third of 6, 9, 12, 15 etc</p> <p>Q. What do you notice about these numbers?</p> <p>Discuss with partner.</p> <p>They are all in the 3 times table.</p> <p>Give children squared paper and ask them to draw different sized rods and show $\frac{1}{4}$, $\frac{1}{3}$ or $\frac{1}{2}$. Children to write the statement underneath, $\frac{1}{3}$ of _____ is _____.</p>	<p>Show the children the interactive teaching programme (ITP) for fractions with a strip to represent thirds. Highlight one third.</p> <p>Q. How much have I coloured?</p> <p>Now highlight $\frac{2}{3}$.</p> <p>Q How much have I coloured now?</p> <p>Ask children to made rods of multilink with $\frac{2}{3}$ a different colour.</p> <p>Q. How many cubes are the different colour?</p> <div style="border: 1px solid black; padding: 10px; margin-top: 20px;"> <p>By the end of the lesson children should know:</p> <p>How to find $\frac{1}{3}$ of an amount.</p> </div>

Planning Sheet	Day 4	Unit 11: Fractions	Term: Autumn	Year Group: 3
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions
		<p>Begin to recognise fractions that are several parts of one whole eg $\frac{2}{4}$, $\frac{3}{4}$, $\frac{2}{3}$</p> <p>Vocabulary Equal parts Groups of Two thirds Three quarters</p> <p>Resources Fraction ITP</p>	<p>Remind children of the work from the plenary yesterday. Ask them with a partner to make a rod of multilink with $\frac{1}{3}$ a different colour and then $\frac{2}{3}$.</p> <p>Q. How many cubes in each case?</p> <p>Q. What is the relationship between these numbers?</p> <p>Children to discuss with partners.</p> <p>Draw out that the second number is double the first.</p> <p>Q. Ask children to explain this.</p> <p>We now have 2 lots of $\frac{1}{3}$ that is twice as many as $\frac{1}{3}$.</p> <p>Now make a rod with $\frac{1}{4}$ a different colour.</p> <p>Q. If you made a rod with $\frac{3}{4}$ a different colour how could you work out how many cubes would be in that colour?</p> <p>Children to discuss with partners.</p> <p>Expect answer that it is 3 times the number of cubes in $\frac{1}{4}$.</p> <p>Use Fractions ITP to model $\frac{3}{4}$ and $\frac{2}{3}$ and discuss.</p> <p>Children use squared paper to make rods of different size showing $\frac{2}{3}$ or $\frac{3}{4}$ and record statement as in yesterday's lesson.</p>	<p>Show children a collection of objects. Ask for a pair of children to come and help.</p> <p>Q. Put $\frac{3}{4}$ of these objects in the blue hoop.</p> <p>Ask the rest of the class to write on the whiteboards how many objects will be in the blue hoop?</p> <p>Compare answers with objects in the hoop.</p> <p>Now ask another pair of children to put $\frac{1}{8}$ of the objects in the hoop</p> <p>Q How do we find $\frac{1}{8}$</p> <p>Half of $\frac{1}{4}$</p> <p>Ask children to write the number in the hoop on their whiteboards.</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>By the end of the lesson children should know:</p> <p>How to find $\frac{2}{3}$ and $\frac{3}{4}$ of an amount</p> </div>

Planning Sheet	Day 5	Unit 11: Fractions		Term: Autumn	Year Group: 3
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
		<p>Begin to recognise fractions that are several parts of one whole e.g. $\frac{2}{4}$, $\frac{3}{4}$, $\frac{2}{3}$</p> <p><u>Vocabulary</u> Equal parts</p> <p><u>Resources</u> OHP Square paper</p>	<p>Using the overhead projector show a rectangle drawn on a square grid.</p> <p>Q How many squares are inside the rectangle?</p> <p>Q. If we wanted to shade $\frac{1}{4}$ of this shape what could we do?</p> <p>Children to discuss with their partners.</p> <p>Ask a volunteer to shade in the squares on the shape.</p> <p>Q. Could we shade this in a different way?</p> <p>Using the same rectangle ask the children to show how many different ways $\frac{1}{4}$ can be shaded.</p> <p>Q. Do the squares need to be together?</p> <p>Children to discuss with a partner. Ask for their thoughts. Then clarify that the squares can be anywhere within the shape as long as the right number of squares are coloured.</p> <p>Repeat with other fractions.</p> <p>Children to draw shapes on squared paper and colour a fraction of the shape then swap with a partner and ask them to put the number sentence underneath.</p> <p>E.g. $\frac{1}{4}$ of this shape is coloured.</p>	<p>Using the same shapes ask the children to demonstrate colouring $\frac{2}{3}$ or $\frac{3}{4}$.</p> <p>Children to explain how they can work out how many squares to shade.</p> <div style="border: 1px solid black; padding: 10px; margin-top: 20px;"> <p>By the end of the lesson children should know:</p> <p>How to find $\frac{2}{3}$ and $\frac{3}{4}$ of a shape.</p> </div>	

Resource Sheet 1

