





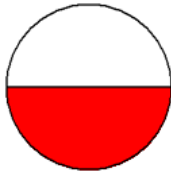
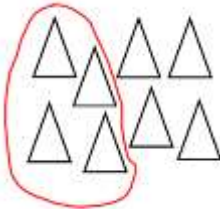
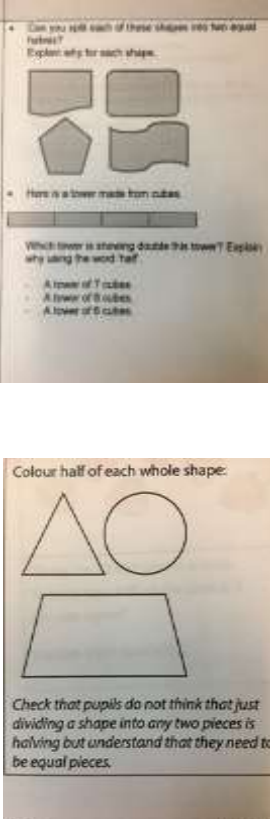
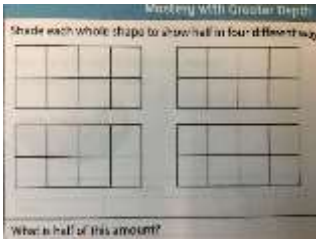
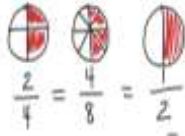

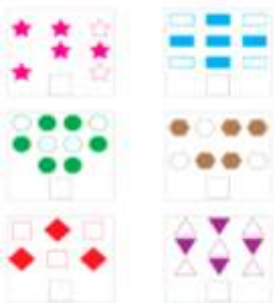



Usworth Colliery Primary School- Progression in fractions, decimals and percentages.

Year group	Foundation	Rapid Recall	Mental calculation	Objective	Practical method (Concrete)	Pictorial/written methods (Pictorial/Abstract)	Vocabulary	Mastery Challenges
EYFS	Counting in 2's	Numbers to 10		<p>To know halves and doubles to ten.</p> <p>To share items within 10.</p> <p>To solve problems involving doubling, halving and sharing.</p>	<p>Using a mirror to see doubles.</p>  <p>Nmicon doubles.</p>  <p>Or counting out 2 lots of any items. Eg beads, fruit, stones etc. Giving 2 teddies the same amount etc.</p> <p>Sharing picnic, milk, sweets etc with friends or between a certain numbers of people. Can you share it equally?</p> 	 	<p>Double</p> <p>Half</p> <p>Share</p> <p>Equal parts</p> <p>Same</p> <p>2 lots of.</p>	<p>Can you prove that double is 4?</p> <p>Draw a picture of double 2.</p>

<p>Y1</p>	<p>To understand what a whole is.</p> <p>To be confident with numbers to 10.</p> <p>To be confident with numbers to 20.</p> <p>To understand the vocabulary 'the same' and 'equal'.</p>	<p>Counting in 1's and 2's.</p>	<p>n/a</p>	<p>RECOGNISING FRACTIONS</p> <p>recognise, find and name a half as one of two equal parts of an object, shape or quantity</p> <p>recognise, find and name a quarter as one of four equal parts of an object, shape or quantity</p>	<p>To be able to fold piece of paper in half and quarters.</p> <p>Can share up to 10 objects equally between 2 and 4 people and recognise that each has half or a quarter.</p>  <p>Can share up to 20 objects equally between 2 and 4 people and say how many each has in their half or quarter.</p>	<p>To colour in a half and quarter of a given shape.</p> <p>To look at a picture and recognise what part of it is shaded.</p>  <p>To be able to circle a half and a quarter of the objects on a pictorial image.</p> 	<p>Equal, part, whole, half, halves, quarter, fraction.</p>	<p>Can you find half of an odd number? Explain.</p>  <p>Working with Greater Depth</p> <p>Shade each whole shape to show half in four different ways</p>  <p>What is half of this amount?</p>
------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------	------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<p>Y2</p>	<p>Halves up to 20. Division facts Division facts 2x table. Division facts 10x table. Division facts 5x table. Recognise a half as one of two equal parts of an object. Recognise a quarter as one of four equal parts of an object, shape or quantity</p>	<p>Know division facts for 2, 5 and 10 times tables</p>	<p>2x tables</p>	<p>RECOGNISING FRACTIONS 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</p> <p>EQUIVALENCE (INCLUDING FRACTIONS, DECIMALS AND PERCENTAGES) recognise and show, using diagrams, equivalent fractions with small denominators</p>	<p>Folding shapes, sharing sweets/objects, cutting objects, building towers, colour in parts of shapes, order the cylinders from least full to most full</p>	  <p>What fraction of each set is colored?</p>  <p>What fraction of the fish have stripes?</p>  <p>$\frac{3}{5}$</p>	<p>part, equal, whole, half, halves, quarter, three quarters, third, equivalent, fraction, numerator, denominator, unit fraction, non-unit-fraction.</p>	
------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------	------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------	--

Y3

An understanding of place value.

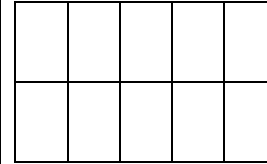
Counting in tenths

Add and subtract multiples of 10

Consolidation of Y2

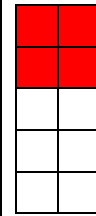
COUNTING IN FRACTIONAL STEPS
count up and down in tenths

Folding shapes into ten parts.



This rectangle is divided into tenths. True or false? Explain your answer

Denominator
Numerator
Quantity
Equal parts
Whole
More
Less
Divide
Same as
Equal to
Share
Half
Quarter
Third
Tenth



4/10 of the rectangle are shaded. True or false? Explain how you know.

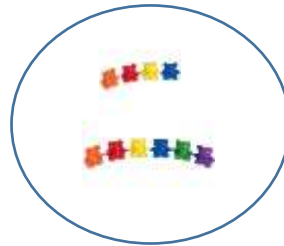
To know that a fraction is part of a whole.

Number bonds

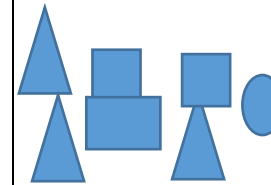
To know what a denominator and a numerator is.

To understand that a fraction is made up of equal parts.

RECOGNISING FRACTIONS
recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators



Practice practically sharing physical objects into equal parts

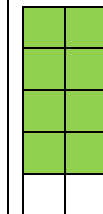
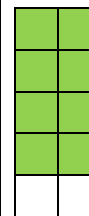


What fraction of the shapes are circles?

Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one - digit numbers or quantities by 10.



Dividing a whole into ten equal parts.



8/10 are shaded in. True or false? How do you know?

To understand the terms, greater,

Halving
Doubling

Times tables

Refer to:

White Rose Hub Y3 Spring Scheme

Kangaroo Maths

Oxford Owl

more, fewer,
less

recognise and use fractions
as numbers: unit fractions
and non-unit fractions with
small denominators

COMPARING FRACTIONS
compare and order unit
fractions, and fractions with
the same denominators

EQUIVALENCE
(INCLUDING FRACTIONS,
DECIMALS AND
PERCENTAGES)
recognise and show, using
diagrams, equivalent
fractions with small
denominators



$$\frac{2}{4} = \frac{4}{8} = \frac{1}{2}$$



Fill in the missing fraction.
Explain how you know.

Tom has eaten $\frac{4}{12}$ of a pizza.
His friend Jack ate $\frac{1}{3}$ of the
pizza. Who ate the most and
how much is left?

$\frac{16}{32}$ is equivalent to $\frac{1}{2}$ True
or false? Explain your answer?

ADDITION AND
SUBTRACTION OF
FRACTIONS

add and subtract fractions
with the same denominator
within one whole (e.g. $\frac{5}{7} +$
 $\frac{1}{7} = \frac{6}{7}$)

PROBLEM SOLVING

Solve problems involving all
of the above.

Adding fractions
 $\frac{3}{5} + \frac{1}{5} = \frac{4}{5}$



$$\frac{\square}{7} + \frac{3}{7} = \frac{5}{7}$$

Y4

Place Value up to two decimal places

Multiply and divide by powers of 10

Know the value of coins

Derive number facts up to 2 d.p.

Divide by 10 and 100 mentally

Numbers up to 1000 ÷ 10/100 (whole number)

Know multiplication and division facts up to 12

Consolidation of Y3

RECOGNISING FRACTIONS

recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten

COUNTING IN FRACTIONAL STEPS

count up and down in hundredths

COMPARING DECIMALS

compare numbers with the same number of decimal places up to two decimal places

ROUNDING INCLUDING DECIMALS

round decimals with one decimal place to the nearest whole number

EQUIVALENCE (INCLUDING

PV counters



Fraction towers



Fraction circles



Fraction diagrams

Place Value chart

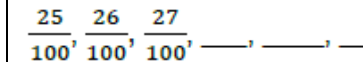
2344 ÷ 100?

Model						
Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Units
		2	3	4	4	
			2	3		

Calculations

2344 ÷ 100 = 23.44

Number lines



Order 1.6, 16, 0.16, 1.16

Use < > to compare decimals

Which of the following is the nearest to 2...

Hundredths;
tenths;
fraction;
decimal;
decimal point;
denominator;
numerator;
half;
quarter;
third;
place value;
divide;
equivalent;
add;
subtract;
improper fraction;
top heavy fraction;
integer;
greater than;
less than

'Convince me' challenges

Jasper says, "If I multiply ten by ten I get one hundred so if I multiply tenths by ten I get hundredths."
Do you agree? Explain your answer; use a place value grid to help.

Refer to:

White Rose Hub Y4 Spring Scheme

Kangaroo Maths

Oxford Owl

My number is rounded to 5, what is the smallest number it could be? Explain your reasoning.

Can you prove that 0.5 = 1/2

0.6 and 6/10 what is the same and what is different

FRACTIONS, DECIMALS AND PERCENTAGES)

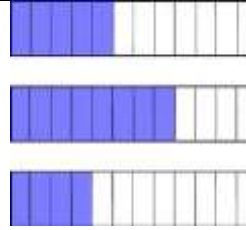
recognise and show, using diagrams, families of common equivalent fractions

recognise and write decimal equivalents of any number of tenths or hundredths

recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$

ADDITION AND SUBTRACTION OF FRACTIONS

add and subtract fractions with the same denominator



Use different representations to show fractions

Fraction diagrams

Matching fractions to decimals

e.g. $0.5 = \frac{1}{2}$

**MULTIPLICATION AND
DIVISION OF DECIMALS**

find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths

PROBLEM SOLVING

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

- Calculate:



Use diagrams and bar modelling to solve the problems below.

$$\frac{3}{8} + \frac{2}{8} = \quad \frac{1}{6} + \frac{2}{6} =$$

$$\frac{7}{8} - \frac{2}{8} = \quad \frac{5}{7} - \frac{2}{7} =$$

- Sarah eats $\frac{3}{8}$ of a bunch of grapes; Tom eats $\frac{2}{8}$ of a bunch of grapes. What fraction of the grapes have they eaten altogether?

- Fill in the box:

$$\frac{5}{8} + \boxed{} = \frac{7}{8}$$

$$\frac{5}{6} - \boxed{} = \frac{1}{6}$$

Refer to:

White Rose Hub Y4 Spring Scheme

Kangaroo Maths

Oxford Owl

solve simple measure and money problems involving fractions and decimals to two decimal places.

2344 ÷ 100?

Model

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Units	Tenths	Hundredths
		2	3	4	4	*		
			2	3	*		4	4

Calculations

$$2344 \div 100 = 23.44$$

Missing box questions

$$37 \div ? = 0.37$$

Find fractions of a whole number e.g. Find $\frac{3}{4}$ of 12


Y5	Count in tenths and hundredths	Bonds to 1 and 100	Count on in quarters, 10ths, 100ths and 1000ths
	Recognise tenths and hundredths	Multiplication and division facts to 12x12	Partitioning using multiples of 10 and 100, compensating and near doubles
	Compare numbers with same number of d.p. up to 2d.p.	Doubling and halving	Multiplication and division facts to 12x12
	Multiply and divide by 10 and 100		Multiply and divide by 10s, 100s and 1000s
Round whole and 1d.p. numbers		Doubling and halving	
Spot common equivalent fractions			
Know decimals for $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$			
Add fractions with same denominator			

Consolidation of year 4

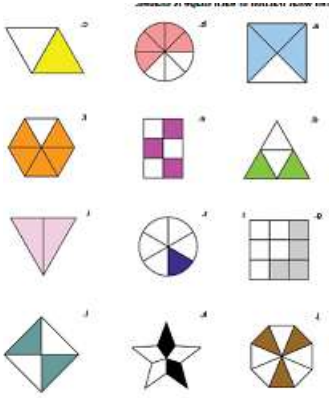
RECOGNISING FRACTIONS
recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (also appears in Equivalence)

COMPARING FRACTIONS
compare and order fractions whose denominators are all multiples of the same number

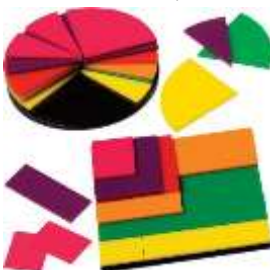
Fraction Towers



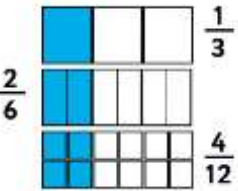
Different ways/images of showing the same fraction.



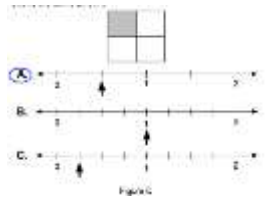
Fraction shapes



Shaded shapes for equivalence



Ordering on number lines with different intervals



Whole, equal parts, half, quarter, fifths etc
Tenths, hundredths, thousandths.
Numerator, denominator
Proper fractions, improper fractions, Equivalent fractions/ decimals mixed numbers
Percentage
Compare and order



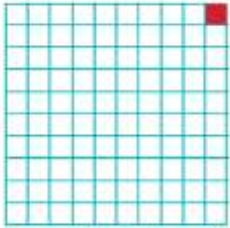

[http://nrich.maths.org/public/search.php?search=fractions&filters\[ks2\]=1](http://nrich.maths.org/public/search.php?search=fractions&filters[ks2]=1)

https://www.ncetm.org.uk/public/files/23305632/Mastery_Assessment_Y5_Low_Res.pdf

NTAG Assessment grid

White Rose Hub

http://www.kangaroomaths.com/kenny2.php?page=Kschemek_s2

				<p>Sort fractions into categories: greater than or less than a given fraction.</p> <p>Decimal Place Value Counter</p>  <p>Fraction action snap cards (with decimals and percentages)</p>	<p>Comparing using $<$, $>$ and $=$</p> <p>Folded paper</p>  <p>Comparing on a fraction square</p> <p>Hundred square</p>  <p>0.01</p>  <p>0.1</p>		
--	--	--	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--

COMPARING DECIMALS
 read, write, order and compare numbers with up to three decimal places

**ROUNDING
INCLUDING
DECIMALS**

round decimals with
two decimal places
to the nearest whole
number and to one
decimal place

**EQUIVALENCE
(INCLUDING
FRACTIONS,
DECIMALS AND
PERCENTAGES)**

identify, name and
write equivalent
fractions of a given
fraction,
represented visually,
including tenths and
hundredths

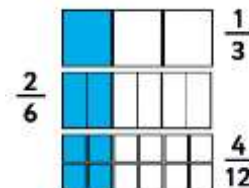
Simplify fraction to its
simplest form



Calculating decimals using
formal written methods

Place value charts

Shaded shapes for
equivalence



read and write decimal numbers as fractions (e.g. $0.71 = \frac{71}{100}$)

recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator 100 as a decimal fraction



Convert fractions to same denominator

Show me $\frac{4}{8}$ in quarters, halves etc (using multilink fractions and paper folding)

Compare fractions with different denominators



ADDITION AND SUBTRACTION OF FRACTIONS

add and subtract fractions with the same denominator and multiples of the same number

recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$)

MULTIPLICATION AND DIVISION OF FRACTIONS

multiply proper fractions and mixed numbers by whole numbers, supported

Folded paper



by materials and diagrams

PROBLEM SOLVING

solve problems involving numbers up to three decimal places

solve problems which require knowing percentage and decimal equivalents

of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$

and those with a denominator of a multiple of 10 or 25.

Y6

Understand the size of fractions – 2 halves, 4 quarters, that the larger the denominator the smaller the fraction.

Compare and order fractions with the same denominator.

Place value of whole numbers to at least 4 places

Multiplying and dividing by 10, 100 and 1000.

Tables division facts to 12x12

Multiplying and dividing by 10, 100 and 1000.

Skip counting of tables (2, 4, 6, 8, etc).
All tables by heart.

Multiplying and dividing by 10, 100 and 1000.

COMPARING FRACTIONS

compare and order fractions, including fractions >1

COMPARING DECIMALS

identify the value of each digit in numbers given to three decimal places

Use fraction strips and circles to compare unit fractions.

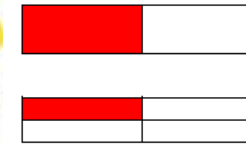


Sort fractions into categories: greater than or less than a given fraction.

Place Value Counters



Label diagrams to help prove their answers



Placing fractions on a number line from 0-1 and between 1-2 etc.

Fluency

Find the value of the in each statement.

$0.5 \times \underline{\quad} = 500$
 $37.2 \div 100 = \underline{\quad}$
 $8.4 \div \underline{\quad} = 0.084$

Greater than
Less than
Equal to
Equivalent
Numerator
Denominator
Unit fraction
Multiple fraction
Whole
Improper/Proper fraction
Mixed number

Tenths
Hundredths
Thousandths
Decimal place
Greater than
Less than
Approximately

Reasoning

Sallie insists she had more pizza than her sister because she had 6/8 of hers and her sister had 5/6. **Is she correct? Explain how you know.**

Problem Solving

NRich - Fractions made faster
WRH
Three friends went shopping. Steve spent 3/7 of his money. Alfie spent 4/12 of his money. Becky spent half of what Alfie spent. Order them from smallest to largest by what they spent.

Reasoning

Kayleigh says:
"The more decimal places a number has, the smaller the number is."
Do you agree? Explain why.

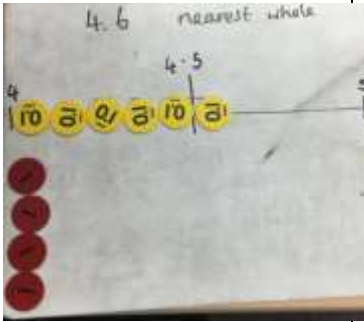

Problem Solving

Four children are thinking of four different numbers.



Yvonne: "My number has four hundredths."

	<p>Round to the nearest 10, 100 and 1000</p> <p>Place value of whole numbers and decimal places to 3dp.</p> <p>4 operations (according to the problems)</p>			<p>ROUNDING INCLUDING DECIMALS</p> <p>solve problems which require answers to be rounded to specified degrees of accuracy</p>	<p>= 0.333</p> <p>In response to problem solving:</p> <p>There are 1145 pupils at a school. Each classroom has enough desks for 32 pupils. What is the smallest number of classrooms needed for the pupils?</p>	<p>Position of decimals on a number line (numbers to 1 first)</p> <p>e.g. 0-100, 45-50 and 40-50 – where would 45.6 be?</p> <p>Bar model of problem.</p> <div style="border: 1px solid blue; border-radius: 15px; padding: 5px; background-color: #4a86e8; color: white; text-align: center;"> <p>Ian is building a wall measuring 74m. He wants to divide the wall into 7 sections. How long will each section be? Give your answer to 1dp.</p> </div> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td colspan="7" style="text-align: center;">74m</td> </tr> <tr> <td style="text-align: center;">10.6</td> <td style="text-align: center;">10.6</td> <td style="text-align: center;">10.6</td> <td style="text-align: center;">10.6</td> <td style="text-align: center;">10.6</td> <td style="text-align: center;">10.6</td> <td style="text-align: center;">10.6</td> </tr> </table>	74m							10.6	10.6	10.6	10.6	10.6	10.6	10.6	<p>Times bigger</p> <p>Times smaller</p> <p>Digit</p> <p>Digit</p> <p>Nearest</p> <p>Whole number</p> <p>Tenths</p> <p>Hundredths</p> <p>Thousandths</p> <p>Decimal place</p> <p>Greater than</p> <p>Less than</p> <p>Approximately</p>	<p>Alex: "My number has the same amount of ones, tenths and hundredths."</p> <p>Louise: "My number has more tenths and hundredths than ones."</p> <p>Emily: "My number has 2 decimal places."</p> <p>Can you match each number to the correct child?</p> <p>245 people attend a coffee morning. 536 cups of coffee and 324 cups of tea are drunk at the coffee morning. On average, how many cups does each person drink? Round your answer to the nearest half cup.</p> <p>Each cup holds approximately 0.35 litres of liquid. How much coffee and tea is drunk in ml? Give your answer to 1 decimal place.</p> <p>At the same coffee morning, 56 chocolate cakes are cut into eighths and 37 strawberry cakes are cut into sixths.</p> <p>How many slices does each person eat to the nearest whole slice?</p>
74m																						
10.6	10.6	10.6	10.6	10.6	10.6	10.6																

	<p>Factors and multiples</p>	<p>Multiplication and Division facts to 12x12</p> <p>Common multiples and factors</p>	<p>Tables facts</p> <p>Relationship between multiplication tables - e.g. $x4 = x2 \times 2$</p>	<p>EQUIVALENCE (INCLUDING FRACTIONS, DECIMALS AND PERCENTAGES)</p> <p>use common factors to simplify fractions; use common multiples to express fractions in the same denomination</p> <p>associate a fraction with division and calculate decimal</p>	<p>Use number line measured to the correct length (10 counters)</p>  <p>Simplify fraction to its simplest form</p> 	<p>Simplify fraction to its simplest form</p> $48/54 = 24/27 = 8/9$ <p>Convert fractions to same denominator</p> $2/7 \text{ and } 3/8 \text{ (} 7 \times 8 = 56 \text{)}$ <p>(x8) and (x7)</p> $16/56 \text{ and } 21/56$ <p>Compare fractions with different denominators Which is greater?</p> $2/3 \text{ or } 4/7$	<p>Factor</p> <p>Multiple</p> <p>Division</p> <p>Numerator</p> <p>Denominator</p> <p>Common</p>	<p>Reasoning</p> <p>Is the following statement, always, sometimes or never true? 'To simplify a fraction you divide the numerator and denominator by 2 over and over.'</p> <p>Explain your answer using examples.</p> <p>Problem Solving WRH</p> <p>Find 3 fractions that can be simplified 5 times.</p> <p>Fluency</p> <p>https://nrich.maths.org/5467</p>
--	------------------------------	---------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Halves, quarters and eights, tenths, twentieths, hundredths as decimals

Tables facts

Division facts
Divisibility rules

fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)

recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.



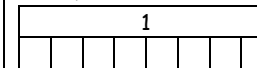
Convert fractions to same denominator

Show me $\frac{4}{8}$ in quarters, halves etc (using multilink fractions and paper folding)

Compare fractions with different denominators

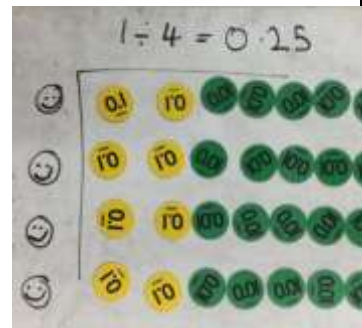


Bar Model



$1 \div 8 = 0.125$
($0.125 \times 8 = 1$, or repeated addition to prove)

Short division using PVC



Divide/division
Shared into
How many ... in ...?
Tenth
Hundredth
Thousandth
Numerator
Denominator

WRH - Problem solving.

Tenths, hundredths, thousandths

Fraction and decimal equivalence of hundredths.

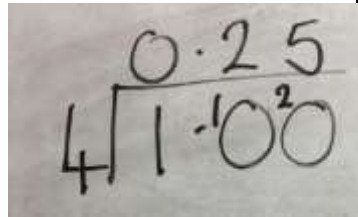
Place value moves with 10, 100 and 1000

Multiplying and dividing by 10, 100 and 1000 (decimal to percentage)

ADDITION AND SUBTRACTION OF FRACTIONS

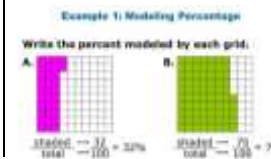
add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

(Formal Written Method will go to:



Fraction	Decimal	Diagram	Out of 100	Percentage
1/10	0.1		10/100	10%
2/10	0.2		20/100	20%
3/10	0.3		30/100	30%
4/10	0.4		40/100	40%
5/10	0.5		50/100	50%

Colouring 100 squares to show fraction and percentage:



Using Base 10/Paper strips to cover 100 square.

				35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

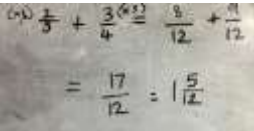
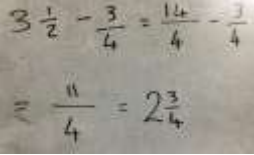

Method: Find fraction equivalence to

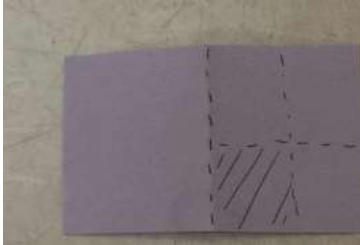
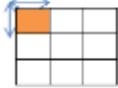
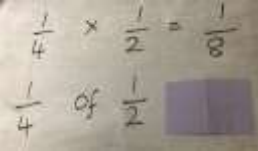
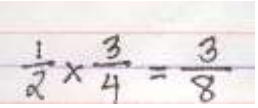
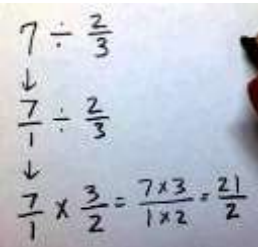

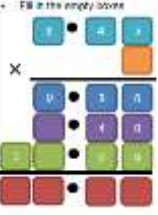
Equivalence
Percentage (per, cent)
Out of 100
Tenth
Hundredth
Thousandth
Fraction
Decimal point
Decimal number
Numerator
Denominator

Three friends were competing in a race. Billy completed half of the race. Harrison completed 50% of what Billy completed and Charlotte completed 0.25 of what Billy completed. What fraction of the race did they each complete?

WRH Problem Solving - Word problem to show $\dots + 3/5 = 8/5$

Katie subtracted $\frac{2}{3}$ away from a fraction and the answer was $\frac{5}{6}$. What was the original fraction?

	<p>Add and subtract fractions of the same denominator</p> <p>Add and subtract mixed numbers of the same denominator</p> <p>Be able to find equivalent fractions.</p>	<p>Tables facts to 12x12</p> <p>Number bonds to 100</p>	<p>Adding and subtracting within 100</p> <p>Application of times tables - e.g. 2x7, 20x7</p>	<p>MULTIPLICATION AND DIVISION OF FRACTIONS</p> <p>multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$)</p> <p>divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$)</p> <p>MULTIPLICATION AND DIVISION OF DECIMALS</p> <p>multiply one-digit numbers with up to two</p>	<p>100 then find percentage. (e.g. $34/100 = 34\%$. $5/20 = 25/100 = 25\%$)</p> <p>Ensure children understand that /100 means divided by 100 for decimal conversion.</p> <p>Paper strips to make fractions of the same denominations. Use whole strips to represent whole numbers.</p> <p>Exchange strips to show equivalence.</p>	<p>Pictorial representation of the problem using circles, strips etc. Children should draw their own models to show what is happening and why it works (reasoning, explanation exercise).</p> <p>Written Method:</p>  	<p>Add</p> <p>Total</p> <p>Altogether</p> <p>Plus</p> <p>More</p> <p>Greater than</p> <p>Subtract</p> <p>Take away</p> <p>Less</p> <p>Minus</p> <p>Fewer than</p> <p>Mixed number</p> <p>Whole number</p> <p>Fraction</p> <p>Less than one</p> <p>Numerator</p> <p>Denominator</p> <p>Equivalence</p> <p>Same</p> <p>Different</p>	<p>The answer to a multiplication problem is called the product. If you are subtracting, what is the answer called?</p>  <p>If $\frac{1}{2} \times \frac{2}{3} = \frac{1}{3}$</p> <p>$2 \times \frac{1}{2} = 1$</p> <p>Explain your answer</p>
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------	----------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

		Tables facts to 12x12	Application of tables facts.	<p>decimal places by whole numbers</p>	 <p>Folding paper to show $\frac{1}{4}$ of $\frac{1}{2}$</p>	<p>$\frac{1}{3} \times \frac{1}{3} = \frac{1}{9}$</p>     <p>Multiply out the decimal point and divide it back in at the end.</p>	<p>Multiply Times Groups of Lots of</p> <p>Divide Groups of Shared by Whole number Factors Multiples</p>	<p>Becky's mum ordered a pizza for her and her friends. By the time they arrived home there was only $\frac{7}{12}$ of it left. When she shared it among her friends they each got $\frac{1}{72}$. How many friends did Becky have with her?</p>  
--	--	-----------------------	------------------------------	----------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Secure in written methods for short and long multiplication

Tables facts

Application of tables facts - 3x, 30x, 300x

Multiplying and dividing by 10, 100 and 1000.

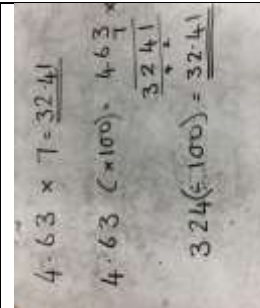
and 1000 where the answers are up to three decimal places

use written division methods in cases where the answer has up to two decimal places.

Folding paper $\frac{1}{3} \div 2$ show $\frac{1}{3}$ being folded into 2 equal parts making the fraction smaller ($\frac{1}{6}$)



Place Value counters:



Common multiples
Common factors

Times
Multiply
Lots of
Groups of
Decimal point

Problem Solving

Four children are thinking of four different numbers.



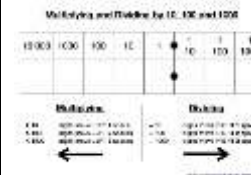
Yvonne: "My number has four hundredths."

Alex: "My number has the same amount of ones, tenths and hundredths."

Louise: "My number has more tenths and hundredths than ones."

Emily: "My number has 2 decimal places."

Can you match each number to the correct child?



Use place value grid/squares in books to represent the place value grid.

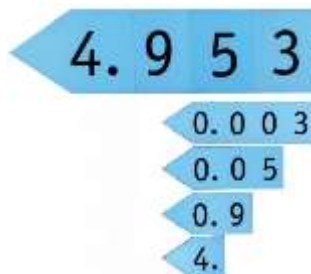
With whole numbers

Solid understanding of short division and long

Tables facts (division)

Application of tables facts - 2x, 20x etc.

Move numbers up and down the place value grid/physical jumping up and down with decimal point not allowed to move.



$$463 \div 4 = 115.75$$

Times greater,
times smaller
decimal place
multiply by
position
digit
value
tenths
hundredths
thousandths
ones
tens
hundreds
thousands
etc.

Divide


Each place value is ten times greater than the digit below it. If there is more than one digit in any place, the number must be multiplied by 10.



$$8 - 8 = 10.88$$

$$12 - 8 = 18.11$$

$$34 - 8 = 104.25$$

	<p>division without remainders</p> <p>Understanding of how to show a decimal remainder to 1dp with short division.</p>						<p>Groups of Shared by Whole number Remainder Left over Left</p>	
--	------------------------------------------------------------------------------------------------------------------------	--	--	--	------------------------------------------------------------------------------------	--	--------------------------------------------------------------------------------------	--