Edward Peake Church of England Middle School

Topic: Fractions	Year: 5	NC Strand: Number

What should I already know?

- How to recognise and show, using diagrams, families of common equivalent fractions
- How to solve problems involving increasingly harder fractions to calculate quantities, and
- How to use fractions to divide quantities, including non-unit fractions where the answer is a whole
- number
- How to add and subtract fractions with the same denominator
- How to recognise and write decimal equivalents to ½, ¼, ¾
- How to find the effect of dividing a one- or two-digit number by 10 and 100, identifying the
- How to solve simple measure and money problems involving fractions

What will I know by the end of the unit?

- How to find equivalent fractions
- How to convert improper fractions to mixed numbers
- How to convert mixed numbers to improper fractions
- How to count up and down in a given fraction
- How to compare and order fractions less than one
- How to compare and order fractions more than one
- How to add and subtract fractions with the same denominator
- How to add fractions with different denominators (where one denominator is a multiple of the other)
- How to add three or more fractions (where two denominators are a multiple of the other)
- How to add fractions where the answer is greater than 1
- How to add mixed numbers
- How to subtract fractions with different denominators (where one denominator is a multiple of the other)
- How to subtract mixed numbers
- How to multiply a unit fraction by an **integer**
- How to multiply a non-unit fraction by an integer
- How to multiply a mixed number by a whole number
- How to find a fraction of an amount, quantities and measures
- How to link fractions of amounts to multiplying fractions to use fractions as operators.

Vocabulary

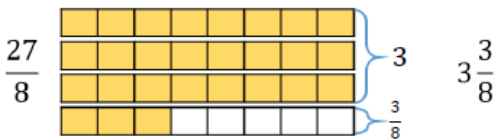|			
Equivalent	Denominator	Common numerator	Add
Fraction	multiple	Bar model	Take away
Equal	Integer	represent	difference
Improper fraction	Convert	visualise	partitioning
Proper fraction	converting	compare	Multiply
Mixed number	sequence	order	Repeated addition
Parts	Increasing	Simplest form	simplify
Whole	Decreasing	Subtract	Unit fraction
Numerator	Common denominator	Commutativity	Non-unit fraction

Investigate/Homework tasks

- Homework will be set by your teacher using google classroom
- You should complete at least 30 minutes of maths tasks on Maths Whizz (not games). Please attend help sessions if you do not have access to the internet at home
- Additional work you could complete:
  - Find out more about the meaning of the vocabulary list using http://www.amathsdictionaryforkids.com/
- To challenge yourself: Answer the key questions to deepen your knowledge

Key Information/Diagrams

Eva uses the models and her multiplication and division skills to find equivalent fractions.
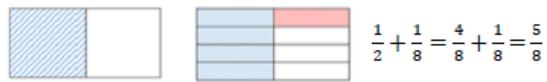
$$\frac{1}{4} = \frac{4}{16}$$ ×4
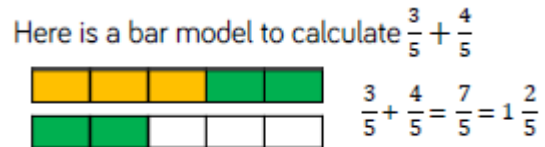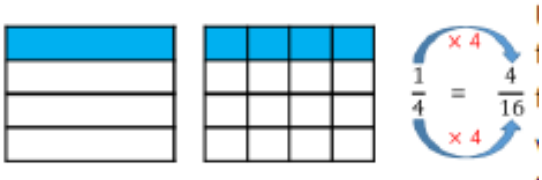
Tommy converts the improper fraction $\frac{27}{8}$ into a mixed number using bar models.

$$\frac{27}{8} \qquad 3 \qquad \frac{3}{8} \qquad 3\frac{3}{8}$$

Use bar models to compare $\frac{5}{8}$ and $\frac{3}{4}$

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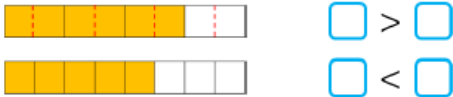
Use common numerators to help you compare $\frac{2}{5}$ and $\frac{2}{3}$

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Step 1	Step 2	Step 3
$\frac{1}{3}$	$\frac{4}{12}$	$\frac{1}{3} - \frac{1}{12} = \frac{3}{12}$

Here is a bar model to calculate $\frac{3}{5} + \frac{4}{5}$

$$\frac{3}{5} + \frac{4}{5} = \frac{7}{5} = 1\frac{2}{5}$$

Mo is calculating $\frac{1}{2} + \frac{1}{8}$
He uses a diagram to represent the sum.

$$\frac{1}{2} + \frac{1}{8} = \frac{4}{8} + \frac{1}{8} = \frac{5}{8}$$

Step 1	Step 2	Step 3
$\frac{1}{3}$		
$\frac{1}{6}$		

$$\frac{1}{3} + \frac{5}{6} + \frac{5}{12} = 1\frac{7}{12}$$

Work out $\frac{1}{6} × 4$ by counting in sixths.

$$\frac{1}{6} × 4 = \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{4}{6} = \frac{2}{3}$$

1 sixth
1 sixth
1 sixth — 4 sixths
1 sixth

Find $\frac{1}{7}$ of 42

42

$$42 ÷ 7 = 6$$
$$\frac{1}{7} \text{ of } 42 \text{ is } 6$$

Key Questions

How many halves/fifths/sixths/ eights are there in one whole?	Which method do you prefer when subtracting fractions: taking away or finding the difference?
Can you explain the steps in converting an improper fraction to a mixed number? Use the vocabulary: numerator, denominator, multiply, add	When can we subtract a fraction without partitioning the mixed number in a different way? Why is subtracting the wholes and parts separately easier with some fractions than others?
If the numerators are the same, how can we compare our fractions?	

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If the denominators are the same, how can we compare our fractions? Do we always have to find a common denominator? When adding, If I have an improper fraction in the question, should I change it to a mixed number first? Why? What representation could you use to convert a mixed number to an improper fraction?	Can you show the subtraction as a difference on a number line? Bar model? How are these different to taking away? Does making the whole numbers larger make the subtraction any more difficult? Explain why. How is multiplying fractions similar to adding fractions? What is the same/different between: 34×2and 2×34?