Castlefield School- Maths

Topic: Fractions, decimals and percentages	Year: Six	Theme: Fractions, Decimals and Percentages

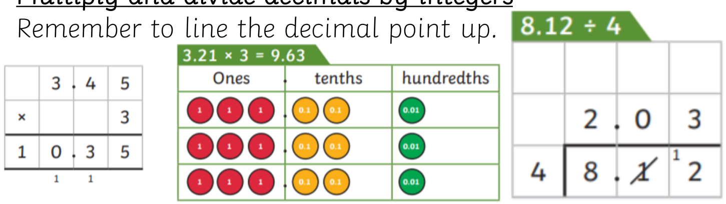
Key concepts and questions

How do you add fractions?
- 1/3 + 3/6 = 2/6 + 3/6 = 5/6
- If it's mixed, convert to an improper fraction then simplify or add the wholes then the fractions.

How do you multiply fractions? E.g. 2/3 x 1/6
- Multiply the numerators 2 x 1 = 2
- Multiply the denominators 3 x 6 = 18
- 2/3 x 1/6 = 2/18
- Simplify 2/18 = 1/9

Multiply and divide decimals by integers

Remember to line the decimal point up.



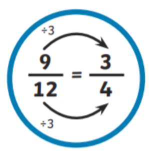
Key Vocabulary

whole	numerator	denominator	tenths
hundredths	thousandths	convert	order
equal to	less than	greater than	
Common Denominator	A common multiple for the denominators of several fractions.	Division	The line in a fraction (vinculum) means divide.
Mixed Number	A whole and a fraction	Per cent	Out of 100
Improper	Numerator > Denominator	Simplify e.g. 2/10 = 1/5	To find the lowest common factor of the numerator and denominator
Proper	Numerator < Denominator		

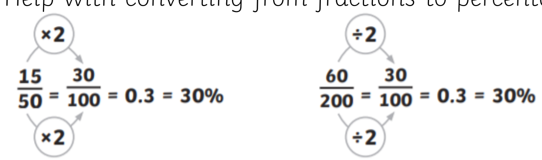
Making connections

Multiples and Factors

Factors help with simplifying fractions.



Help with converting from fractions to percentages.



Finding common denominators: $\frac{1}{2} + \frac{1}{3}$

2 is not a factor of 3 so both need to be converted into a common multiple (6, 12, 18 etc). $\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$

Using the inverse

Multiplication and division are the inverse of one another so, ÷ 2 is the same as x $\frac{1}{2}$ $\frac{2}{5} \div 2 = \frac{1}{5}$ $\frac{2}{5} \times \frac{1}{2} = \frac{2}{10}$

Using fractions as operators when finding a percentage of an amount

50% = $\frac{1}{2}$ so we can divide by 2	10% = $\frac{1}{10}$ so we can divide by 10	25% = $\frac{1}{4}$ so we can divide by 4	1% = $\frac{1}{100}$ so we can divide by 100

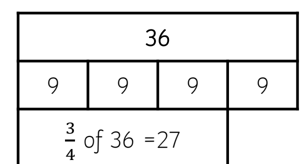
35% of 200 → 10% of 200 = 200 ÷10 = 20 So, 30% of 200 = 20 x3 = 60 and 5% of 200 = 20 ÷ 2 = 10

60 + 10 = 70 35% of 200 = 70

Representations

Bar model

Used to support problem solving, represents how the whole is split into equal parts.



Place value chart

Helps with understanding the value of numbers less than 1.