

Year 7 : Fractional Operations Medium Term Plan

Fractional Operations	Addition and Subtraction of Fractions	Add and subtract fractions when denominators are the same or different. Add and subtract fractions that crosses into the consecutive integer.	Egyptian Fractions
	Multiplication between Integer and Fraction	Multiply integers and fractions. Emphasise commutivity. Show pictorial representations to introduce.	
	Multiplication Fraction by Fraction	Multiply fractions by fractions. Show pictorial representations to introduce.	
	Division of Integer and Fraction	Divide integers by fractions. Show pictorial representations and use the same denominators method. Divide fraction by integer. Find half way fractions.	
	Division of Fraction and Fraction	Same as above.	

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	Mixed Number Operations	Be able to use all 4 operations with mixed numbers.	
	Problem Solving with Fractional Operations	Same as above.	

Key Knowledge/Prior Learning KS2/Retrieval and Suggested Starters

- Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
- Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $1/4 \times 1/2 = 1/8$]
- Divide proper fractions by whole numbers [for example, $1/3 \div 2 = 1/6$]
- Representing fractions pictorially
- Equivalent fractions
- Simplifying fractions
- Improper and mixed number conversions
- Fractions of amounts

KS3 National Curriculum – what students will be practicing

- Add and subtract fractions with different denominators
- Multiply a fraction by an integer and a fraction by a fraction
- Divide an integer by a fraction, a fraction by an integer and a fraction by a fraction
- Calculate with mixed numbers
- Problem solve with fractional operations

Specific Ambitious Knowledge

- Pictorial representations of adding, subtracting, multiplying, and dividing
- Division of fractions:
 - multiplying by the reciprocal (KFC),
 - common denominator,
 - bar modelling,
 - box model,
 - integer divisor method.
- Use of algebra to add fractions.

Key Vocabulary/Literacy Opportunities

- Numerator
- Denominator
- Add, subtract, multiply, divide
- Equivalent
- Simplify
- Mixed number, improper, proper fractions
- Integer

Key Formulae/Knowledge

- Common denominators for adding fractions
- Converting between mixed numbers and improper fractions

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Cross Curricular Links

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| <ul style="list-style-type: none">• Food and Catering - recipes• Design – perimeters and areas• Music |
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Student' Thinking

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Projects/Enrichment/Investigations

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| <ul style="list-style-type: none">• Fractions jigsaw: https://nrich.maths.org/content/id/5467/Fractions%20Jigsaw.pdf• Egyptian Fractions: https://nrich.maths.org/1173• Same answers: https://nrich.maths.org/11124 |
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Projects:

Core:

Upper:

Set 1:

TBC