

Y8 Unit 4 Overview - **FDPR**

Test window: 16th March 2020 - 27th March 2020

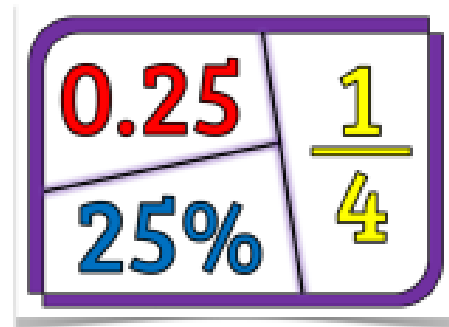
Target grade for tests:

You will learn about:

- Equivalence of fractions, decimals and percentages.
- Calculate with fractions, decimals and percentages.

You will be able to:

- Simplify fractions.
- Find equivalent fractions.
- Compare and order fractions, including fractions bigger than 1.
- Change fractions to decimals by dividing.
- Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
- Solve problems using the equivalence of fractions.
- Solve problems involving similar shapes.
- Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
- Add and subtract fractions with different denominators and mixed numbers.
- Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$].
- Divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$].
- Multiply one-digit numbers with up to two decimal places by whole numbers.
- Solve problems involving the calculation of percentages.



Lesson Overview

EXPLORING FRACTIONS, DECIMALS AND PERCENTAGES

- Understand that two fractions can be equivalent
- Identify a common factor of two numbers
- Simplify a fraction
- Write a fraction in its lowest terms
- Confirm that a fraction is written in its lowest terms
- Compare two fractions by considering diagrams
- Compare two fractions by considering equivalent fractions
- Compare two top-heavy fractions
- Understand that a fraction is also a way of representing a division
- Know standard fraction / decimal equivalences (e.g. $\frac{1}{2} = 0.5$, $\frac{1}{4} = 0.25$, $\frac{1}{10} = 0.1$)
- Work out the decimal equivalents of fifths, eighths and tenths
- Know standard fraction / decimal / percentage equivalences (e.g. 10%, 25%, 50%, 75%)
- Work out the percentage equivalents of fifths, eighths and tenths
Use the equivalence between fractions, decimals and percentages when solving problems

PROPORTIONAL REASONING

- Identify when a comparison problem can be solved using multiplication or division, or both.
- Find the value of a single item in a comparison problem and use it to solve a problem.
- Understand the meaning of enlargement and scale factor.
- Recognise when one shape is an enlargement of another
- Use a scale factor to complete an enlargement
- Find the scale factor for a given enlargement
- Use knowledge of fractions to solve a sharing (or grouping) problem
- Use knowledge of multiples to solve a sharing (or grouping) problem

Key Words

Refer to

<http://studymaths.co.uk/glossary.php>
for definitions of the key words

Fraction
Improper fraction, Proper fraction, Vulgar fraction, Top-heavy fraction, Mixed number
Percentage, percent
Decimal
Proportion
Simplify, Lowest terms
Equivalent
Numerator, denominator
Equivalent fraction

Notation

Diagonal fraction bar / horizontal fraction bar

Proportion
Quantity
Integer
Similar (shapes)
Enlargement
Scale factor
Group
Share
Multiples

CALCULATING FRACTIONS, DECIMALS AND PERCENTAGES

- Add (subtract) fractions with different denominators
- Add (subtract) a mixed number and a fraction, including with different denominators
- Add (subtract) mixed numbers, including with different denominators
- Multiply a proper fraction by a proper fraction
- Divide a proper fraction by a whole number
- Simplify the answer to a calculation when appropriate
- Multiply U.t by U
- Multiply U.th by U
- Find 10% of a quantity
- Use non-calculator methods to find a percentage of an amount
- Use decimal or fraction equivalents to find a percentage of an amount where appropriate
- Solve problems involving the use of percentages to make comparisons

Research	
Note-making	
Group work & discussion	
Memorisation	
Precision & accuracy	
Independence	
Reflection	

Suggested reading or support/ challenge available



Support is available from a Maths teacher in 'MORALE' in M1 daily from 1:30pm -1:45pm

www.mymaths.co.uk

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Cross curricular

SMSC:

- 1.1 Exploring, understanding and respecting cultural diversity e.g. exploration of different methods of multiplication (Chinese, Russian).
- 3.1 Developing personal qualities and using social skills (regular paired/group work communication).
- 3.2 Participating, cooperating and resolving conflicts (paired/group activities).
- 4.2 Experiencing fascination, awe and wonder of mathematics.
- 4.4 Using imagination and creativity in learning.

Literacy:

Verbal communication of understanding using key words in the correct context. Development of written communication of methods and strategies to problem solve.

NAC:

- Science** – Recognise when two fractions are equivalent. Multiply and divide fractions and decimals. Calculate percentages of quantities.
- R.E.** – Calculate percentages of quantities.
- Business** – Calculate percentages of quantities (KS4).
- Technology** – Calculate percentages of quantities (KS4).

