Y9 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	Key Words
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. ½ = 0.5, ¼ = 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.	**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

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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	**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.

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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Go to student login at the top… find your school, enter your details and then set up your password…

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login: school username followed by **@penryn-college**

password: **Penryn2016**

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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).