YFAR 8 - PROPORTIONAL RFASONING

@whisto maths

Multiplying and Dividing Fractions

What do I need to be able to do?

By the end of this unit you should be able to:

- Carry out any multiplication or division using fractions and integers.
- Solutions can be modelled, described and reasoned

Keywords

Each part

represents 5

Numerator: the number above the line on a fraction. The top number. Represents how many parts are taken **Denominator**: the number below the line on a fraction. The number represent the total number of parts.

Whole: a positive number including zero without any decimal or fractional parts.

Commutative: an operation is commutative if changing the order does not change the result **Unit Fraction**: a fraction where the numerator is one and denominator a positive integer

Non-unit Fraction: a fraction where the numerator is larger than one.

Dividend: the amount you want to divide up

Divisor: the number that divides another number.

Quotient: the answer after we divide one number by another e.g. dividend- divisor = quotient

Reciprocal: a pair of numbers that multiply together to give

When adding fractions with

the same denominator = add

the numerators

Representing a fraction

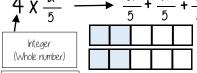
Numerator Denominator

Number of parts represented Numerator

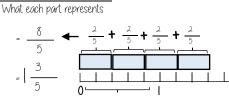
Number of parts to make up the whole

Denominator **QLL** PORTS of a fraction are of equal size

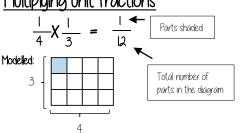
Repeated addition = multiplication by an integer



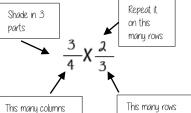
How many parts are shaded?



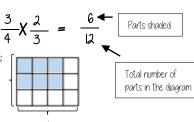
Multipluina unit fractions



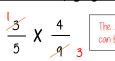
Multiplying non-unit fractions Repeat it







Quick Multiplying and Cancelling down



Quick Solving Multiply the numerators

Multiply the denominators

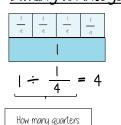
The <u>reciprocal</u> When you multiply a number by its reciprocal the answer is always I

The reciprocal of 3 is

Reciprocals for division

Multiplying by a reciprocal gives the

Dividing an integer by an unit fraction



There are **4 quarters** in I whole. Therefore, there are 20 auarters in 5 wholes"

Multiplying by a reciprocal aives the

Dividing any fractions Remember to use reciprocals

