

Maths - Year 4

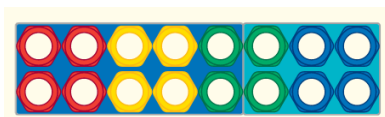
Numbers and the Number System 7: Exploring equivalence in fractions and introducing proportion

| Key Vocabulary | | Mathematical Skills | | | | |
|----------------------|--|---------------------|--|------|------|--|
| Part/whole | The relationship between a whole and its component parts. <div style="text-align: center; border: 1px solid black; padding: 5px; margin: 5px auto; width: fit-content;"> <table style="border-collapse: collapse; margin: 0 auto;"> <tr><td colspan="2" style="text-align: center; border-bottom: 1px solid black;">Whole</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">Part</td><td style="border: 1px solid black; padding: 2px;">Part</td></tr> </table> </div> | Whole | | Part | Part | <ul style="list-style-type: none"> - Explain the relationship between equivalent fractions using proportional language. - Explain the connections between factors and multiples and fractions of a whole. - Generate equivalent fractions. - Interpret a fraction as equivalent to a dividing calculation. |
| Whole | | | | | | |
| Part | Part | | | | | |
| Equivalent fractions | Fractions of equal value, represented in different ways. | | | | | |
| Denominator | Lower number of a fraction, shows how many of this kind of fraction. | | | | | |
| Numerator | Upper number of a fraction, shows how many of this kind of fraction. | | | | | |
| Proportion | Used to express a fraction of a whole, e.g. the proportion of grapes in a bag that are green could be expressed as $\frac{1}{2}$. | | | | | |
| Ordinal numbers | E.g. First, Second, Third, Fourth etc. | | | | | |
| Factor | A number that divides into another number exactly e.g. 4 is a factor of 8. | | | | | |

Mathematical Methods

- Introducing the term proportion e.g. in a twelve multipack of juice each carton is $\frac{1}{12}$

- Using proportional language to describe equivalences.



E.g. $\frac{4}{16}$ of the pegs are red which is equivalent to $\frac{1}{4}$.

Make connections that $4 \times 4 = 16$

$$16 \div 4 = 4$$

- Making fraction walls with number rods.



- Recognising equivalence and simplifying fractions with Numicon Shapes

E.g. $\frac{1}{3}, \frac{2}{6}, \frac{3}{9}$ $\frac{2}{3}$ is equivalent to $\frac{4}{6}, \frac{6}{9}, \frac{8}{12}$

- Exploring tenths and hundredths e.g. sharing a baguette between 10 people.



$$\frac{1}{10} + \frac{1}{10} = \frac{2}{10} \quad \frac{2}{10} \text{ and } \frac{1}{5} \text{ are equivalent}$$

| Number of baguettes | Fraction of one whole baguette that each friend gets |
|---------------------|--|
| 1 | $\frac{1}{10}$ |
| 2 | $\frac{2}{10}$ or $\frac{1}{5}$ |
| 3 | $\frac{3}{10}$ |
| 4 | $\frac{4}{10}$ or $\frac{2}{5}$ |

Can you..?

- If there are 24 cars in total, how many cars are red?

- Which numbers should go in the empty boxes?

$$\frac{3}{8} = \frac{6}{\square} \quad \frac{2}{\square} = \frac{4}{18}$$

- Simplify $\frac{32}{48}$