



31 - Introducing Ratio

Background

- A **ratio** is a way of comparing the sizes of two or more quantities.
- The ratio of black circles to white circles can be written as 6 : 2
- The above ratio would be read as 'in the ratio 6 to 2'. Please note that the order in which ratio is stated is important as 'in the ratio 2 to 6' would mean 2 black circles to 6 white circles.
- This would mean there are $6 + 2 = 8$ parts in total. Hence the fraction of black circles would be $\frac{6}{8}$ and the fraction of white circles is $\frac{2}{8}$.



Simplifying ratio

- When simplifying ratio we need to find the highest common factor (HCF) and then divide both parts by the HCF. For example the HCF of 6 : 2 is 2 so we need to divide both 6 and 2 by 2. The simplified ratio would be 3 : 1.
- If we were simplifying the ratio 35: 21 : 56 we would find the HCF first which is 7. Then we divide each part by 7. The simplified ratio is 5 : 3 : 8.
- To express a ratio as a fraction we need to add the separate parts ($5 + 3 + 8$) which totals 16. Hence as a fraction it would be $\frac{5}{16}$, $\frac{3}{16}$ and $\frac{8}{16}$ respectively.



Linked Prior Topics

- Times tables
- Finding the highest common factor
- Simplifying fractions
- Division

Vocabulary

- Ratio
- Parts
- Simplify
- Highest common factor

Linked Future Topics

- Dividing in a given ratio
- Exchange rates and conversions
- Scale drawing and similarity
- Direct and Inverse Proportion