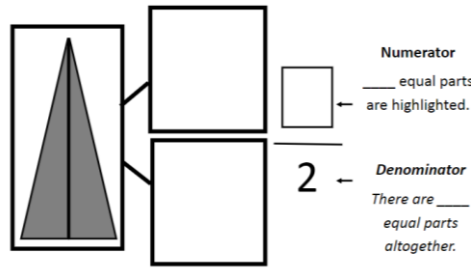


Year 2 Unit 8: Fractions (2 weeks)

Before you start...

- How secure are pupils with the concept of one half as one of two equal parts, and one quarter as one of four equal parts?
- What experiences have pupils had with equal sharing and grouping?

Video: Relating fractions to division



What is a fraction?

The unit looks at fractions as division of a whole and fractions as an operator. These are both key ideas in building an understanding of fractions and this [article](#) explains more.

Video: Writing fractions

Fraction misconceptions

- Pupils may find the concept of equal and unequal parts challenging, particularly when finding half or quarter of an area or object.
- Pupils may apply number knowledge to fractions, incorrectly assuming one quarter is greater than one half because four is greater than two.
- Pupils may apply number knowledge incorrectly when naming fractions e.g. one fourth for one quarter.



Deepening understanding of fractions

- L1 Relate half and quarter to division
- L2 Identify the parts of a fraction
- L3 Identify half of a shape

While pupils have experienced dividing shapes and quantities into equal parts, this unit is their first formal experience of fractions and fraction notation and so time should be taken in initial lessons to make clear links between this learning and prior experiences. In Lesson 1, clear links should be made between the word 'half' and the action of dividing a whole into two equal parts, using a part-whole model to connect and support. In Lesson 2, pupils are introduced to writing fractions using numerals, beginning with a focus on the denominator before introducing the numerator. In Lesson 3, pupils identify half of different representations, including line segments, and write this using fraction notation.

- ? What previous representations have pupils used to think about equal parts and how can these be built upon in these lessons?
- ? How will you develop pupils' understanding of the role of the denominator and numerator?

Exploring other fractions

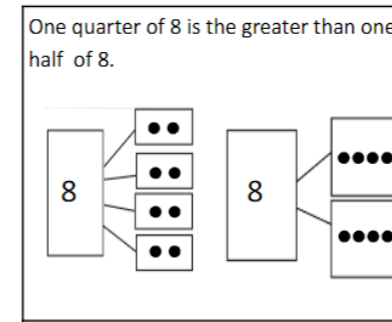
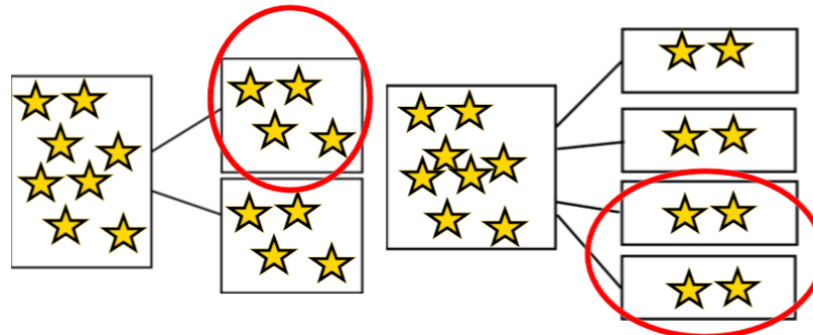
- L4 Identify half, quarter and third of a shape
- L5 Identify non-unit fractions of a shape

Lessons 4 and 5 move pupils' understanding of fractions to look at a third and introduces non-unit fractions, where the numerator is greater than one. Clear connections should be made throughout to emphasise the relationships between numerator and denominator, and part-whole language and representations, with a continuing focus on equal parts. In Lesson 5, pupils use their knowledge of identifying a unit fraction as the part shaded, or indicated, to identify the parts **not** indicated, thus identifying and writing non-unit fractions. Pupils then sort different representations of fractions using a Venn diagram.

- ? How will you support pupils to make connections between different representations of fractions including abstract notation?
- ? What mathematical language and reasoning would you expect from the sorting task? How can questioning and modelling support this?

The part-whole model!

This [article](#) from NRIC provides an explanation of part-whole language in relation to teaching fractions.



Comparing fractions

- L9 Identify equivalent fractions

The final lesson is pupils' first exposure to the concept of equivalent fractions (with a focus on half and quarters) however pupils may have made this connection themselves in different contexts such as turns and time. This relationship is developed through exploring equivalence in fractions of amounts.

- ? What opportunities will you provide for pupils to think mathematically through noticing similarity and difference and pattern seeking?

There is only one consolidation lesson in this unit however there is much to explore and consolidate. You may wish to include more than one consolidation lesson, and ensure that fractions and related ideas become a regular part of Maths Meetings.

Fractions of quantity

- L6 Find unit fractions of a quantity
- L7 Identify fractions of quantity and shape
- L8 Identify non-unit fractions of quantity and shape

Pupils' apply their understanding of unit and non-unit fractions to find fractions of quantity and shape, beginning with unit fractions before exploring non-unit fractions. Time should be spent making connections between previous learning and consolidating the connection between finding a fraction of a quantity and division. The use of part-whole models supports this. In Lesson 6, pupils explore true or false statements before connecting fractions of quantity and area using flag patterns in Lesson 7. Lesson 8 considers non-unit fractions, drawing on representations used throughout the unit as well as including problems related to measure.

- ? What practical experiences can you provide in different contexts so pupils develop a deep conceptual understanding?