Fractions

Learning objectives: Understanding fractions

Pupils will be able to:
• use shapes to represent one whole and fractions with denominators of up to 12
• write fractions with denominators of up to 12 from given shapes with equal divisions
• identify whether a shape has been cut into equal fractional parts
• read and write fractions in words
• identify parts and whole from a given situation
• write fractions to represent the parts of a whole from a given situation

Teaching sequence
1
• Introduce the concept of fractions by first showing a whole divided into equal parts.
• Use a square as an example which can be divided into 4 equal parts in various ways.

2
• Show pupils an example of a square that is not divided into 4 equal parts.
• Two examples are shown in the textbook.

Key concepts
• Fractions make up equal parts of a whole. Conversely, unequal parts are not fractions of a whole.
• The symbol $\frac{1}{2}$ represents 1 out of 2 parts.
• $\frac{2}{2}$ is a whole.

Let’s Learn!

Understanding fractions

1 Hardeep divides a square piece of paper into 4 parts.
Each part has the same size.
We say that each part is equal.

Can you think of another way to divide the square piece of paper into 4 equal parts?

2 This square piece of paper has not been divided into 4 equal parts.
Each part does not have the same size.
We say that each part is unequal.

Can you think of other ways of dividing the square piece of paper into 4 unequal parts?
**Thinking skills**
- Analysing parts and whole
- Visualising equal parts

**Additional activity**
- Ask pupils to draw a circle. Then ask them to divide it into 3 unequal parts.
- Ask pupils to draw a rectangle on a piece of paper and cut it out. Ask them to divide their rectangle into 8 equal parts in two different ways.

**Teaching sequence**

3. Use this question to check that pupils understand the concept of equal parts and unequal parts.

4. This concept leads them to learn the concept of fractions.

- Show pupils a pizza (circle) and a sandwich (square) representing 1 whole each.
- Then using the pizza (circle), divide it into 2 equal parts to show the fraction $\frac{1}{2}$.
- Emphasise that the parts divided must be equal.
- Explain that if Miya has eaten 1 out of the 2 parts, then Miya has eaten $\frac{1}{2}$ of the pizza.
- The 2 parts out of the whole is $\frac{2}{2}$.
- Explain that $\frac{1}{2}$ and $\frac{2}{2}$ are some examples of fractions.

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3. Which of these shapes have been divided into equal parts? B, C, D, E, F

4. This is a sandwich. It is one whole.

   This is a cake. It is one whole too.

The pizza is divided into 2 equal parts.

If Miya eats the 2 parts, we say that she eats 2 out of 2 equal parts.
We write it as $\frac{2}{2}$.

$\frac{2}{2}$ is a whole.

If Miya eats only 1 part, we say that she eats 1 out of 2 equal parts.
We write it as $\frac{1}{2}$.

$\frac{2}{2}$ and $\frac{1}{2}$ are some examples of fractions.