Unit I0

Strengthen activities

MISCONCEPTION: Children may be unsure of the meaning of numerator and denominator, in particular if the numerator is greater than 1. When using resources, they may find it difficult to identify the fraction bars that they need to use by referring to the denominator.

Answers

1. The bar will be split into 5, with 3 parts shaded.
2. In each case the whole is divided into 5 equal parts and 3 are shaded.
3. Any fraction where the numerator is less than half the denominator will be a fraction smaller than $\frac{1}{2}$.

Children should be able to represent $\frac{5}{8}$ in two different representations, explaining that a whole has been divided into 8 parts and 5 of those parts are shaded, for example.

MISCONCEPTION: Some children may think that when comparing fractions, they must compare both the numerator and the denominator; for example, that $\frac{2}{8} > \frac{1}{2}$ since 2 > 1 and 8 > 2.

Answers

2. $\frac{1}{2}$ is bigger than $\frac{1}{8}$ because it is one of only 2 parts, rather than one of 8 parts, from the same size whole.
3. $\frac{3}{8} < \frac{1}{2}$, $\frac{6}{8} > \frac{1}{2}$, $\frac{7}{8} > \frac{1}{2}$, $\frac{4}{8} = \frac{1}{2}$.

$\frac{5}{8} < \frac{3}{4}$

MISCONCEPTION: Children may assume that, for example, all quarters are the same. They do not understand that the size of the whole determines the size of the fractional part.

Answers

1. $\frac{1}{4}$ of the 6 cm square is bigger than $\frac{1}{4}$ of a 4 cm square.
2. $\frac{1}{4}$ of a 2 litre bottle is more than $\frac{1}{4}$ of a 500 ml bottle.
3. $\frac{1}{4} < \frac{3}{5}$ of the same size whole. $\frac{1}{4}$ of 20 > $\frac{3}{5}$ of 5
   $\frac{3}{4}$ of a 400 g chocolate bar is more than $\frac{2}{5}$ of a 500 g bar.

Deepen activities

Answers

Activity 1

a) 6 sweets, 3 sweets.

b) 4, 2, 8, 9, 10, 6, 4, 8

c) $\frac{1}{3}$ and $\frac{2}{6}$ both equal 4 sweets, $\frac{2}{3}$ and $\frac{4}{6}$ both equal 8 sweets

From smallest to largest the fractions are $\frac{1}{6}$, $\frac{1}{3}$, $\frac{2}{4}$, $\frac{4}{6}$ ($\frac{2}{3}$), $\frac{3}{4}$, $\frac{5}{6}$

Activity 2

a) Correct answers should be shown on a fraction strip, part of a rectangle and placed on a number line.

b) $\frac{1}{6}$ $\frac{1}{4}$ $\frac{3}{8}$ $\frac{3}{5}$ $\frac{2}{3}$ $\frac{5}{6}$

Activity 3

a) Children should recognise that the denominator is 3 times the numerator in each case and that they are all equivalent fractions.

b) The most likely ones for children to answer are: $\frac{1}{4}$, $\frac{2}{8}$, $\frac{3}{12}$, $\frac{4}{16}$; $\frac{1}{5}$, $\frac{2}{10}$, $\frac{3}{15}$, $\frac{4}{20}$; $\frac{1}{6}$, $\frac{2}{12}$, $\frac{3}{18}$, $\frac{4}{24}$