Worksheet - Equivalent fractions and comparing fractions

Year: Year 3 · 20

Show your working.

Question 1

Question 1 – Name the fraction *(Section A · Practice)*

Write the fraction of each bar that is shaded.

a. 

b. 

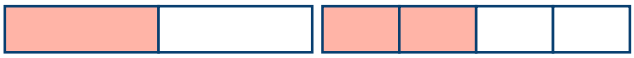
c. 

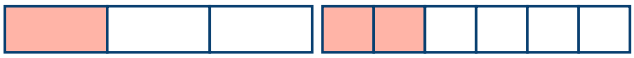
d. 

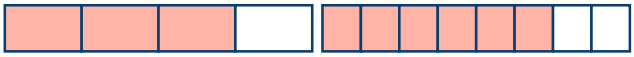
Question 2

Question 2 – Equivalent fractions with pictures *(Section A · Practice)*

The bars are all the same length. Fill in the missing number to make equivalent fractions.

a.  $\frac{1}{2} = \frac{?}{4}$

b.  $\frac{1}{3} = \frac{?}{6}$

c.  $\frac{3}{4} = \frac{?}{8}$

Question 3

Question 3 – Find the equivalent fraction *(Section A · Practice)*

Multiply the numerator and the denominator by the number shown.

a. $\frac{1}{2} \times 3$
b. $\frac{1}{3} \times 4$
c. $\frac{2}{5} \times 2$
d. $\frac{3}{4} \times 2$
e. $\frac{1}{5} \times 2$

Question 4

Question 4 – Missing numbers in equivalent fractions *(Section A · Practice)*

Work out the missing number in each pair.

a. $\frac{1}{2} = \frac{?}{10}$
b. $\frac{2}{3} = \frac{?}{9}$
c. $\frac{4}{8} = \frac{2}{?}$
d. $\frac{6}{10} = \frac{3}{?}$

Question 5

Question 5 – Compare the fractions *(Section A · Practice)*

Write <, > or = in each gap.

a. $\frac{3}{8}$ ___ $\frac{5}{8}$
b. $\frac{2}{9}$ ___ $\frac{7}{9}$
c. $\frac{1}{4}$ ___ $\frac{1}{6}$
d. $\frac{1}{3}$ ___ $\frac{1}{10}$
e. $\frac{4}{5}$ ___ $\frac{2}{5}$

Question 6

Question 6 – Add and subtract *(Section A · Practice)*

Work out each answer. Give the answer as a fraction.

a. $\frac{2}{7} + \frac{3}{7}$
b. $\frac{4}{9} + \frac{2}{9}$
c. $\frac{6}{7} - \frac{2}{7}$
d. $\frac{5}{10} - \frac{4}{10}$

Question 7

Question 7 – Sharing a pizza *(Section B · Real-life practice)*

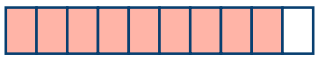
Mia and her friends order two identical pizzas. The first is cut into 8 slices and the second into 4 slices.

a. Mia eats 4 slices of the first pizza. What fraction of that pizza is this? Write it in its simplest form too.
b. Zack eats 2 slices of the second pizza. What fraction of that pizza is this?
c. Who eats more pizza, Mia or Zack? Explain.
d. Ella eats 3 slices of the first pizza. Who ate more, Ella or Zack?

Question 8

Question 8 – The chocolate bar *(Section B · Real-life practice)*

A chocolate bar has 10 equal squares. Ben eats 3 squares. His sister eats 5 squares. Their dad eats 1 square.



a. What fraction of the bar does Ben eat?
b. What fraction does his sister eat? Write a simpler equivalent fraction.
c. What fraction of the bar do Ben and his sister eat together?
d. What fraction is left after all three have eaten?

Question 9

Question 9 – The cake *(Section B · Real-life practice)*

A cake is cut into 12 equal slices for a party. At the party, 5 slices are eaten before tea and 4 slices at tea time.

a. What fraction of the cake is eaten before tea?
b. What fraction is eaten at tea time?
c. What fraction has been eaten altogether?
d. What fraction of the cake is left? Write it in two ways using equivalent fractions.

Question 10

Question 10 – Ribbon at the craft table *(Section B · Real-life practice)*

Maya has three ribbons of the same length. She cuts the first into 2 equal pieces, the second into 4 equal pieces and the third into 8 equal pieces.

a. She uses 1 piece of the first ribbon. What fraction of the ribbon is this?
b. How many pieces of the second ribbon make the same length as one piece of the first?
c. How many pieces of the third ribbon make the same length as one piece of the first?
d. Maya wants 3 eighths. She says "That is longer than a quarter." Is she right?

Question 11

Question 11 – Fruit in the market *(Section B · Real-life practice)*

At a market stall a box holds 12 apples. Mr Evans sells apples in 3 packs. The first pack has 6 apples, the second has 4 apples and the third has 2 apples.

a. What fraction of the box is in the first pack? Write it in simplest form.
b. What fraction of the box is in the second pack?
c. What fraction of the box is in the third pack?

d. Which pack has the biggest share? Put the three fractions in order, smallest first.

Question 12

Question 12 – Running club *(Section B · Real-life practice)*

Four children run round the school field. The table shows what fraction of the field each child has run.

Child	Fraction of the field
Aisha	$\frac{7}{8}$
Ben	$\frac{1}{2}$
Cara	$\frac{5}{8}$
Dan	$\frac{3}{4}$

a. Who has run the furthest?
b. Who has run the least?
c. How much further has Aisha run than Dan?
d. Put all four in order, smallest first.

Question 13

Question 13 – The petrol tank *(Section B · Real-life practice)*

A van has a tank that is split into 10 equal parts on its gauge. In the morning the gauge shows 8 parts full. At lunchtime it shows 5 parts full.

a. What fraction of the tank is full in the morning?
b. What fraction is full at lunchtime? Write another name for it.
c. What fraction of the tank was used?
d. The driver says he used less than half of the tank. Is he right? Explain.

Question 14

Question 14 – Fractions of the school day *(Section B · Real-life practice)*

The school day is split into 8 equal sessions. Look at the table.

Subject	Sessions
English	2
Maths	2
Science	1

a. English takes 2 sessions. What fraction is this? Write it as quarters.
b. Maths takes 2 sessions and science takes 1. What fraction do maths and science

take together?
c. Break and lunch take 1 session together. What fraction of the day is left for lessons?
d. Is half the day more or less than 3 sessions?

Question 15

Question 15 – Problem: the pizza party *(Section C · Problem solving)*

Four friends each order a pizza of the same size. Lily's pizza is cut into 4 slices, Omar's into 6, Ravi's into 8 and Sara's into 10. They each eat the number of slices shown in the table.

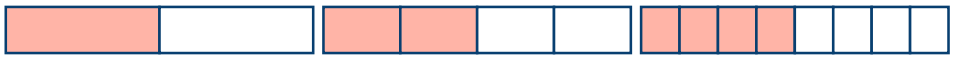
Child	Slices	Eaten
Lily	4	3
Omar	6	4
Ravi	8	5
Sara	10	6

a. Write the fraction of the pizza each child eats.
b. Lily and Ravi compare. Whose share is bigger? Change to eighths.
c. Ravi says "I ate 5 slices but Lily only ate 3, so I ate more." Is he right? Explain.
d. What fraction of Omar's pizza is left? Write it as a unit fraction.

Question 16

Question 16 – Problem: the fraction wall *(Section C · Problem solving)*

A fraction wall shows bars of the same length split into equal parts. Aisha completes the wall for halves, quarters and eighths. She says some fractions are equal.



a. Which fractions of the eighths row match one half?
b. Which fractions in the eighths row equal one quarter and three quarters?
c. Put $\frac{1}{2}$, $\frac{3}{8}$, $\frac{3}{4}$ and $\frac{1}{4}$ in order, smallest first.
d. Aisha says "$\frac{5}{8}$ is between a half and three quarters." Is she right?

Question 17

Question 17 – Problem: the swimming pool *(Section C · Problem solving)*

A swimming pool is 10 lanes wide. Year 3 use some of the lanes and Year 4 use others. Lane 1 to 3 are for beginners, lanes 4 to 6 for improvers and lanes 7 to 10 for fast swimmers.

a. What fraction of the lanes is for beginners?

b. What fraction is for improvers?
c. What fraction is for fast swimmers? Is this more or less than a third?
d. Write the fraction for beginners and improvers together. Write an equivalent fraction with denominator 5.

Question 18

Question 18 – Problem: spot the mistakes *(Section C · Problem solving)*

Tom’s homework has four answers. Check each and correct the wrong ones.

a. $\frac{1}{3} = \frac{2}{5}$
b. $\frac{3}{4} > \frac{5}{8}$
c. $\frac{2}{9} + \frac{3}{9} = \frac{5}{18}$
d. $\frac{1}{6} > \frac{1}{4}$

Question 19

Question 19 – Problem: the garden *(Section C · Problem solving)*

Mr Khan plants a rectangular garden split into 12 equal beds. He plants roses in 3 beds, tulips in 4 beds, herbs in 2 beds and leaves the rest empty.

a. Write the fraction for each plant type as a fraction of 12.
b. Write each in simplest form.
c. What fraction of the garden is empty?
d. Which uses more of the garden: roses or the empty beds? Explain.

Question 20

Question 20 – Challenge: three fractions *(Section D · Challenge)*

Find three different fractions that are all equivalent to $\frac{1}{2}$ with denominators of 4, 6 and 10. Then find a fraction that is bigger than $\frac{1}{2}$ and smaller than $\frac{3}{4}$, using eighths.

a. Write the three equivalent fractions.
b. Explain why $\frac{5}{8}$ is between $\frac{1}{2}$ and $\frac{3}{4}$.
c. Is there another fraction with denominator 8 between $\frac{1}{2}$ and $\frac{3}{4}$? Explain.