Reasoning and Problem Solving
Step 1: Equivalent Fractions 1

National Curriculum Objectives:

Mathematics Year 3: (3F2) Recognise and show, using diagrams, equivalent fractions with small denominators

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Find 2 different ways of colouring in an equivalent half and a quarter of a rectilinear shape.
Expected Find 3 different ways of colouring in an equivalent third and a quarter of a rectilinear shape.
Greater Depth Find 3 different ways of colouring in an equivalent eighth and a fifth of an irregular shape.

Questions 2, 5 and 8 (Problem Solving)
Developing Use equipment such as a fraction wall to identify and sort equivalent halves, quarters.
Expected Use equipment and multiplication facts to sort equivalent quarters, thirds, fifths and eighths. Includes an odd one out.
Greater Depth Use multiplication facts to sort equivalent fifths, eighths, tenths and sixths. Includes 2 odd ones out.

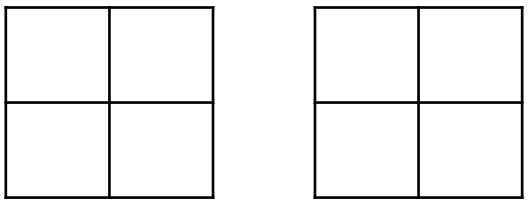
Questions 3, 6 and 9 (Reasoning)
Developing Explain why statements about equivalent halves and quarters are incorrect.
Expected Explain why statements about equivalent thirds, sixths and quarters are incorrect.
Greater Depth Explain why statements about equivalent thirds and sixths are incorrect starting from a non-unit fraction.

More Year 3 Fractions resources.

Did you like this resource? Don't forget to review it on our website.

Equivalent Fractions 1

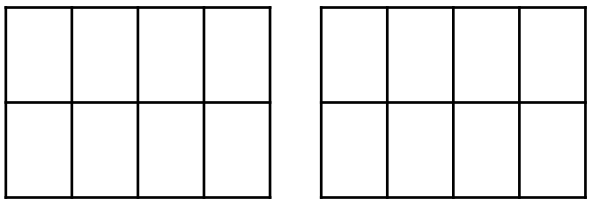
1a. Find 2 different ways to colour in a half of the same shape.



Complete this statement: $\frac{1}{2} = \frac{\square}{4}$

D PS

1b. Find 2 different ways to colour in a quarter of the same shape.

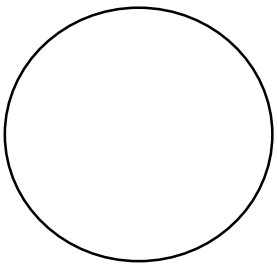


Complete this statement: $\frac{1}{4} = \frac{\square}{8}$

D PS

2a. Sort the correct fractions into the circle.

Equivalent to a half

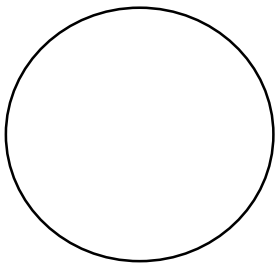


$\frac{1}{3}$ $\frac{4}{8}$ $\frac{2}{2}$ $\frac{3}{6}$ $\frac{2}{4}$

D PS

2b. Sort the correct fractions into the circle.

Equivalent to a quarter



$\frac{2}{4}$ $\frac{1}{6}$ $\frac{3}{12}$ $\frac{2}{12}$ $\frac{2}{8}$

D PS

3a. Sian says,

I think that $\frac{1}{2}$ is equivalent to $\frac{2}{2}$.

Is she correct? Explain why.

D R

3b. Morgan says,

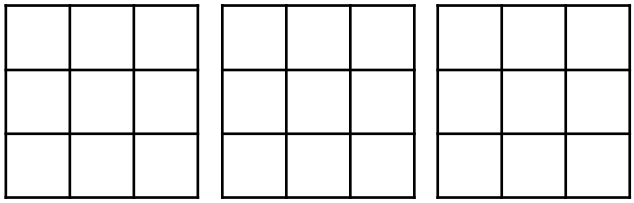
I think that $\frac{1}{4}$ is equivalent to $\frac{1}{8}$.

Is he correct? Explain why.

D R

Equivalent Fractions 1

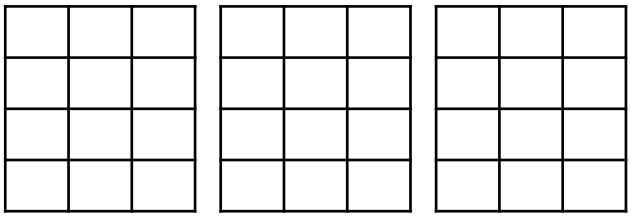
4a. Find 3 different ways to colour in a third of the same shape.



Complete this statement: $\frac{1}{3} = \frac{\square}{9}$

E PS

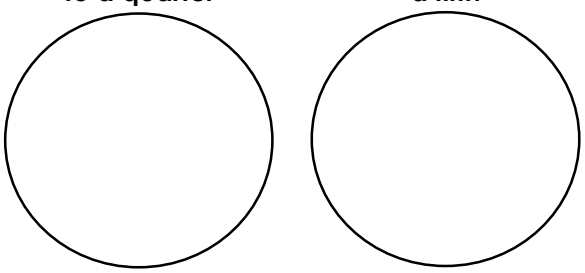
4b. Find 3 different ways to colour in a quarter of the same shape.



Complete this statement: $\frac{1}{4} = \frac{\square}{12}$

E PS

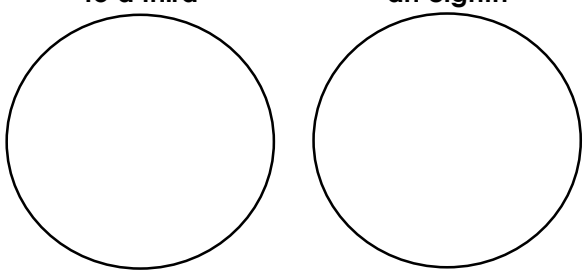
5a. Sort the fractions into the correct circle. Are there any fractions that don't fit in the circles?



$\frac{2}{8}$ $\frac{4}{16}$ $\frac{4}{8}$ $\frac{5}{25}$ $\frac{3}{12}$ $\frac{2}{10}$

E PS

5b. Sort the fractions into the correct circle. Are there any fractions that don't fit in the circles?



$\frac{2}{4}$ $\frac{4}{12}$ $\frac{2}{6}$ $\frac{2}{16}$ $\frac{3}{24}$ $\frac{5}{15}$

E PS

6a. Ellie says,

I think that $\frac{1}{3}$ is equivalent to $\frac{3}{6}$.

Is she correct? Explain why.

E R

6b. Raj says,

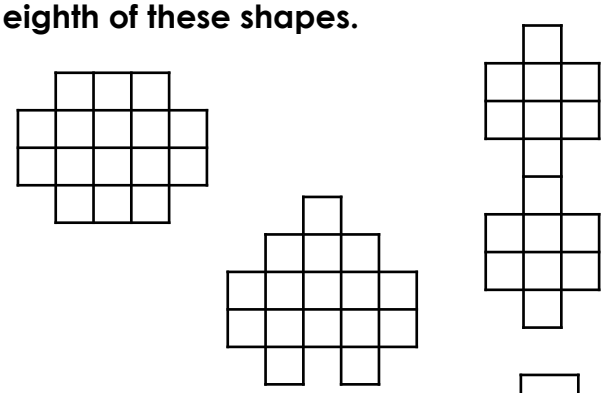
I think that $\frac{1}{5}$ is equivalent to $\frac{1}{10}$.

Is he correct? Explain why.

E R

Equivalent Fractions 1

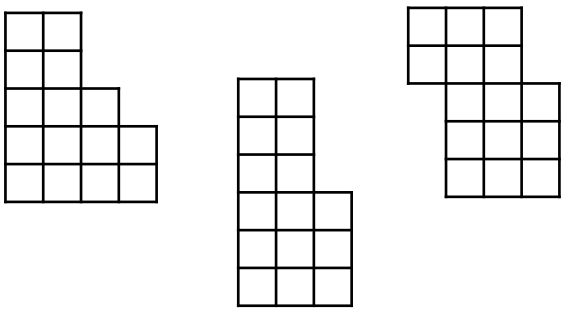
7a. Find 3 different ways to colour in an eighth of these shapes.



Complete this statement: $\frac{1}{8} = \frac{\square}{\square}$

GD PS

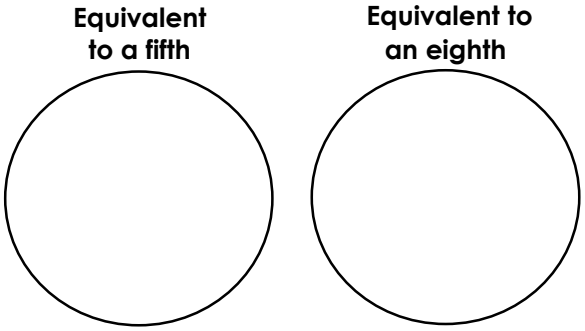
7b. Find 3 different ways to colour in a fifth of these shapes.



Complete this statement: $\frac{1}{5} = \frac{\square}{\square}$

GD PS

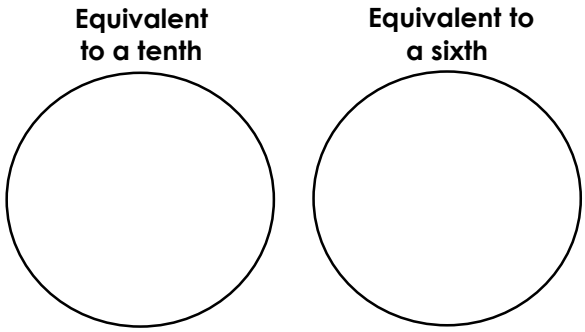
8a. Sort the fractions into the correct circle. Are there any fractions that don't fit in the circles?



$\frac{5}{15}$ $\frac{4}{20}$ $\frac{10}{20}$ $\frac{6}{30}$ $\frac{4}{32}$ $\frac{5}{40}$

GD PS

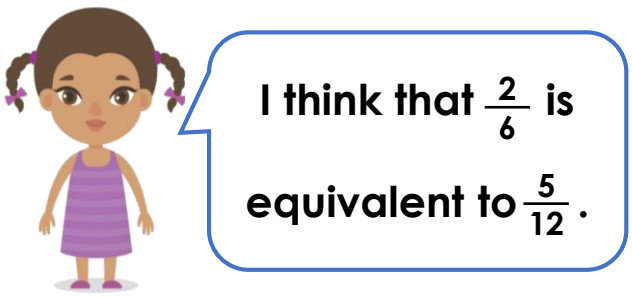
8b. Sort the fractions into the correct circle. Are there any fractions that don't fit in the circles?



$\frac{5}{10}$ $\frac{3}{30}$ $\frac{5}{30}$ $\frac{5}{50}$ $\frac{6}{36}$ $\frac{3}{12}$

GD PS

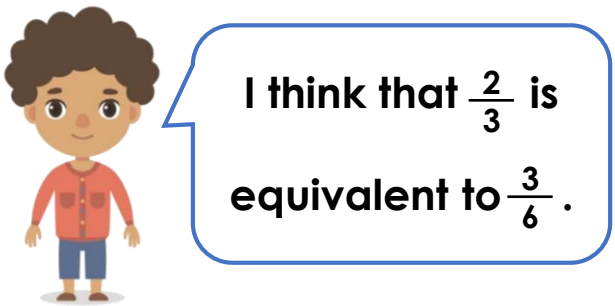
9a. Crystal says,



Is she correct? Explain why.

GD R

9b. Oscar says,



Is he correct? Explain why.

GD R

Reasoning and Problem Solving
Equivalent Fractions 1

Developing

1a. $\frac{1}{2} = \frac{2}{4}$ Any 2 squares need to be coloured in for each shape.

2a. one half = $\frac{2}{4}$ $\frac{3}{6}$ $\frac{4}{8}$

one third = $\frac{1}{3}$ $\frac{3}{9}$ $\frac{4}{12}$

3a. Sian is not correct as one half is equivalent to two quarters.

Expected

4a. $\frac{1}{3} = \frac{3}{9}$ Any 3 squares need to be coloured in for each shape.

5a. one quarter = $\frac{2}{8}$ $\frac{3}{12}$ $\frac{4}{16}$

one fifth = $\frac{2}{10}$ $\frac{5}{25}$ odd one out = $\frac{4}{8}$

6a. Ellie is not correct as one third is equivalent to two sixths.

Greater Depth

7a. $\frac{1}{8} = \frac{2}{16}$ Any 2 squares need to be coloured in for each shape.

8a. one fifth = $\frac{4}{20}$ $\frac{6}{30}$ one eighth = $\frac{4}{32}$ $\frac{5}{40}$

odd ones out = $\frac{5}{15}$ $\frac{10}{20}$

9a. Crystal is not correct as two sixth is equivalent to four twelfths.

Reasoning and Problem Solving
Equivalent Fractions 1

Developing

1b. $\frac{1}{4} = \frac{2}{8}$ Any 2 squares need to be coloured in for each shape.

2b. one quarter = $\frac{2}{8}$ $\frac{3}{12}$

one sixth = $\frac{1}{6}$ $\frac{2}{12}$

3b. Morgan is not correct as one quarter is equivalent to two eights.

Expected

4b. $\frac{1}{4} = \frac{3}{12}$ Any 3 squares need to be coloured in for each shape.

5b. one third = $\frac{2}{6}$ $\frac{4}{12}$ $\frac{5}{15}$

one eighth = $\frac{2}{16}$ $\frac{3}{24}$ odd one out = $\frac{2}{4}$

6b. Raj is not correct as one fifth is equivalent to two tenths.

Greater Depth

7b. $\frac{1}{5} = \frac{3}{15}$ Any 3 squares need to be coloured in for each shape.

8b. one tenth = $\frac{3}{30}$ $\frac{5}{50}$ one sixth = $\frac{5}{30}$ $\frac{6}{36}$

odd ones out = $\frac{5}{10}$ $\frac{3}{12}$

9b. Oscar is not correct as two thirds is equivalent to four sixths.