Reasoning and Problem Solving
Step 1: Fractions to Percentages

National Curriculum Objectives:

Mathematics Year 6: (6F11) Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

Differentiation:

Questions 1, 4 and 7 (Reasoning)
Developing To prove whether a statement is true or false when changing fractions to percentages where the denominator is 10 and 100.
Expected To prove whether a statement is true or false when changing fractions to percentages where the denominator is 10, 20, 25 or 50.
Greater Depth To prove whether a statement is true or false when changing fractions to percentages where the denominator is 2, 4, 5, 10, 20, 25 or 50.

Questions 2, 5 and 8 (Problem Solving)
Developing Identify fractions greater than 50% where the denominator is 10 or 100.
Expected Identify fractions greater than 50% where the denominator is 10, 20, 25 or 50.
Greater Depth Identify fractions greater than 50% where the denominator is 2, 4, 5, 10, 20, 25 or 50.

Questions 3, 6 and 9 (Problem Solving)
Developing Change fractions into percentages (where the denominator is 10 or 100) in order to sort and compare.
Expected Change fractions into percentages (where the denominator is 10, 20, 25 or 50) in order to sort and compare.
Greater Depth Change fractions into percentages (where the denominator is 2,4,5,10, 20, 25 or 50) in order to sort and compare.

More Year 6 Percentages resources.

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

Fractions to Percentages

1a. Archie says,

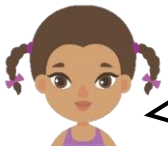
1% is the same as $\frac{1}{10}$.

Is he correct? Convince me.

D R

Fractions to Percentages

1b. Annabelle says,



20% is the same as $\frac{20}{100}$.

Is she correct? Convince me.

D R

2a. Competitors in a singing competition need more than 50% to get to the final. What percent did each singer score?

Name	Score
Emily	$\frac{3}{10}$
Charlie	$\frac{40}{100}$
Zara	$\frac{82}{100}$
Louis	$\frac{8}{10}$

Who gets to the final?

D PS

2b. Competitors in a music competition need more than 80% to get to the final. What percent did each person score?

Name	Score
Tyler	$\frac{7}{100}$
Nathan	$\frac{9}{10}$
Sophia	$\frac{3}{10}$
Willow	$\frac{87}{100}$

Who gets to the final?

D PS

3a. Convert the fractions to percentages and sort them into the correct columns.

Less than 50%	Equal to 50%	More than 50%

$\frac{5}{10}$ $\frac{35}{100}$ $\frac{9}{10}$ $\frac{2}{10}$

D PS

3b. Convert the fractions to percentages and sort them into the correct columns.

Less than 50%	Equal to 50%	More than 50%

$\frac{7}{10}$ $\frac{65}{100}$ $\frac{1}{10}$ $\frac{50}{100}$

D PS

Fractions to Percentages

4a. Millen says,

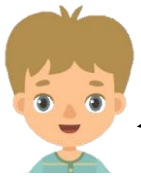
25% is the same as $\frac{1}{25}$.

Is she correct? Convince me.

E R

Fractions to Percentages

4b. Joey says,



5% is the same as $\frac{1}{20}$.

Is he correct? Convince me.

E R

5a. Competitors in a gymnastics competition need more than 75% to get to the final. What percent did each child score?

Name	Score
Ava-Lily	$\frac{32}{50}$
Tyrese	$\frac{8}{20}$
Rochelle	$\frac{18}{25}$
Kaelan	$\frac{8}{10}$

E Who gets to the final? PS

5b. Competitors in a dancing competition need more than 70% to get to the final. What percent did each dancer score?

Name	Score
Skyla	$\frac{15}{20}$
Jay	$\frac{4}{10}$
Kira	$\frac{29}{50}$
Dawson	$\frac{7}{25}$

E Who gets to the final? PS

6a. Convert the fractions to percentages and sort them into the correct columns.

Less than 50%	Equal to 50%	More than 50%

$\frac{15}{25}$ $\frac{19}{50}$ $\frac{8}{20}$

$\frac{4}{10}$ $\frac{11}{20}$ $\frac{22}{25}$

E PS

6b. Convert the fractions to percentages and sort them into the correct columns.

Less than 50%	Equal to 50%	More than 50%

$\frac{5}{10}$ $\frac{8}{25}$ $\frac{1}{50}$

$\frac{24}{25}$ $\frac{19}{50}$ $\frac{12}{20}$

E PS

Fractions to Percentages

7a. Marie says,

20% is the same as $\frac{1}{5}$.

Is she correct? Convince me.

GD R

Fractions to Percentages

7b. Ray says,

75% is the same as $\frac{15}{25}$.

Is he correct? Convince me.

GD R

8a. Competitors in a spelling competition need more than 60% to get to the final. What percent did each child score?

Name	Score
Amie	$\frac{3}{5}$
Sadie	$\frac{23}{25}$
Robert	$\frac{8}{50}$
David	$\frac{19}{20}$

Who gets to the final?

GD PS

8b. Competitors in a maths competition need more than 80% to get to the final. What percent did each person score?

Name	Score
Will	$\frac{3}{4}$
Ruby	$\frac{89}{100}$
Aiden	$\frac{42}{50}$
Betty	$\frac{4}{5}$

Who gets to the final?

GD PS

9a. Convert the fractions to percentages and sort them into the correct columns.

Less than 50%	Equal to 50%	More than 50%

$\frac{5}{20}$ $\frac{92}{100}$ $\frac{2}{4}$

$\frac{13}{25}$ $\frac{34}{50}$ $\frac{2}{5}$

GD PS

9b. Convert the fractions to percentages and sort them into the correct columns.

Less than 50%	Equal to 50%	More than 50%

$\frac{35}{100}$ $\frac{4}{20}$ $\frac{12}{25}$

$\frac{4}{4}$ $\frac{9}{10}$ $\frac{24}{50}$

GD PS

Reasoning and Problem Solving
Fractions to Percentages

Developing

1a. Archie is incorrect. 1% is not $\frac{1}{10}$. 1% is $\frac{1}{100}$ and $\frac{1}{10}$ is 10%.

2a. Emily 30%, Charlie 40%, Zara 82%, Louis 80% so Zara and Louis get through to the final.

3a. Less than 50% = $\frac{3}{100}$ (3%) and $\frac{2}{10}$ (20%). Equal to 50% = $\frac{5}{10}$. More than 50% = $\frac{9}{10}$ (90%).

Expected

4a. Millen is incorrect. 25% is not $\frac{1}{25}$. 25% is $\frac{1}{4}$ and $\frac{1}{25}$ is 4%.

5a. Ava-Lily 64%, Tyrese 40%, Rochelle 72% and Kaelan 80% so only Kaelan gets to the final.

6a. Less than 50% = $\frac{4}{10}$ (40%), $\frac{19}{50}$ (38%) and $\frac{8}{20}$ (40%). None of the fractions are equal to 50%. More than 50% = $\frac{11}{20}$ (55%), $\frac{15}{25}$ (60%) and $\frac{22}{25}$ (88%).

Greater Depth

7a. Marie is correct.

8a. Amie 60%, Sadie 92%, Robert 16%, David 95% so Sadie and David get through to the final.

9a. Less than 50% = $\frac{5}{20}$ (25%) and $\frac{2}{5}$ (40%). Equal to 50% = $\frac{2}{4}$. More than 50% = $\frac{92}{100}$ (92%), $\frac{13}{25}$ (52%) and $\frac{34}{50}$ (68%).

Reasoning and Problem Solving
Fractions to Percentages

Developing

1b. Annabelle is correct.

2b. Tyler 7%, Nathan 90%, Sophia 30%, Willow 87% so Nathan and Willow get through to the final.

3b. Less than 50% = $\frac{1}{10}$ (10%). Equal to 50% = $\frac{50}{100}$. More than 50% = $\frac{7}{10}$ (70%) and $\frac{65}{100}$ (65%).

Expected

4b. Joey is correct.

5b. Skyla 75%, Jay 40%, Kira 58%, Dawson 28% so only Skyla gets through to the final round.

6b. Less than 50% = $\frac{8}{25}$ (32%), $\frac{1}{50}$ (2%) and $\frac{19}{50}$ (38%). Equal to 50% = $\frac{5}{10}$. More than 50% = $\frac{24}{25}$ (96%) and $\frac{12}{20}$ (60%).

Greater Depth

7b. Ray is incorrect. 75% is not $\frac{15}{25}$. 75% is $\frac{3}{4}$ and $\frac{15}{25}$ is 60%.

8b. Will 75%, Ruby 89%, Aiden 84%, Betty 80% so Ruby, Aiden and Betty get through to the final.

9b. Less than 50% = $\frac{35}{100}$ (35%), $\frac{4}{20}$ (20%), $\frac{12}{25}$ (48%) and $\frac{24}{50}$ (48%). None of the fractions are equal to 50%. More than 50% = $\frac{4}{4}$ (100%) and $\frac{9}{10}$ (90%).