

Reasoning and Problem Solving

Step 10: Equivalent FDP

National Curriculum Objectives:

Mathematics Year 5: (5F12) [Solve problems which require knowing percentage and decimal equivalents of \$\frac{1}{2}\$, \$\frac{1}{4}\$, \$\frac{1}{5}\$, \$\frac{2}{5}\$, \$\frac{4}{5}\$ and those fractions with a denominator of a multiple of 10 or 25](#)

Differentiation:

Questions 1, 4 and 7 (Reasoning)

Developing Explain which fraction, decimal or percentage is the odd one out. Includes half, tenths and hundredths only.

Expected Explain which fraction, decimal or percentage is the odd one out. Includes half, quarters, fifths and denominators of a multiple of 10 or 25.

Greater Depth Explain which fraction, decimal or percentage is the odd one out. Includes half, quarters, fifths and denominators of a multiple of 5, 10 and 25.

Questions 2, 5 and 8 (Problem Solving)

Developing Explain who has the largest fraction, decimal or percentage. Includes 2 options and half, tenths and hundredths only.

Expected Explain who has the largest fraction, decimal or percentage. Includes 3 options and half, quarters, fifths and denominators of a multiple of 10 or 25.

Greater Depth Explain who has the largest fraction, decimal or percentage. Includes 5 options and half, quarters, fifths and denominators of a multiple of 5, 10 and 25.

Questions 3, 6 and 9 (Reasoning)

Developing Explain which statement about equivalent fractions, decimals and percentages is correct. Includes half, tenths and hundredths only.

Expected Explain which statement about equivalent fractions, decimals and percentages is correct. Includes half, quarters, fifths and denominators of a multiple of 10 or 25.

Greater Depth Explain which statement about equivalent fractions, decimals and percentages is correct. Includes half, quarters, fifths and denominators of a multiple of 5, 10 and 25.

More [Year 5 Decimals and Percentages](#) resources.

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Equivalent FDP

1a. Circle the odd one out.

$$0.5 \qquad \frac{5}{10} \qquad \frac{1}{2}$$
$$\frac{2}{10} \qquad 50\%$$

Explain your reasoning.



R

Equivalent FDP

1b. Circle the odd one out.

$$0.6 \qquad \frac{3}{10} \qquad \frac{6}{10}$$
$$\frac{60}{100} \qquad 60\%$$

Explain your reasoning.



R

2a. Two friends are sharing a cake.

Kamil eats 0.25 of the cake.

Bella eats $\frac{60}{100}$.



Who eats the most cake?



PS

2b. Two zookeepers are feeding the lions.

Jason feeds 20% of the lions.

Naomi feeds $\frac{1}{2}$.



Who feeds the most lions?



PS

3a. Lily and Sven are comparing fractions, decimals and percentages.

Lily says,

$$\frac{7}{10} = 75\% = 0.75$$



$$\frac{7}{10} = 70\% = 0.7$$

Sven says,



Who is correct? Convince me.



R

3b. Holly and Jordan are comparing fractions, decimals and percentages.

Holly says,

$$\frac{1}{2} = 50\% = 0.5$$



$$\frac{1}{2} = 20\% = 0.2$$

Jordan says,



Who is correct? Convince me.



R

Equivalent FDP

Equivalent FDP

4a. Circle the odd one out.

$$0.8 \quad \frac{1}{8} \quad \frac{4}{5}$$

$$\frac{40}{50} \quad \frac{8}{10} \quad 80\%$$

Explain your reasoning.



R

4b. Circle the odd one out.

$$0.4 \quad \frac{4}{10} \quad \frac{1}{25}$$

$$\frac{2}{5} \quad \frac{20}{50} \quad 40\%$$

Explain your reasoning.



R

5a. Three friends are sharing a pizza.

Oscar eats 0.2 of the pizza.

Jenna eats 25%.

Lucas eats $\frac{30}{60}$.



Who eats the most pizza?
Who eats the least?



PS

5b. Three gardeners are watering plants.

Bill waters 0.2 of the plants.

Helen waters 40%.

Frank waters $\frac{20}{80}$.



Who waters the most plants?
Who waters the least?



PS

6a. Freya and Daniel are comparing fractions, decimals and percentages.

Freya says,

$$\frac{10}{50} = 50\% = 0.5$$



$$\frac{10}{50} = 20\% = 0.2$$

Daniel says,



Who is correct? Convince me.



R

6b. Sarah and Leon are comparing fractions, decimals and percentages.

Sarah says,

$$\frac{60}{80} = 68\% = 0.68$$



$$\frac{60}{80} = 75\% = 0.75$$

Leon says,



Who is correct? Convince me.



R

Equivalent FDP

Equivalent FDP

7a. Circle the odd one out.

$$0.6 \quad \frac{48}{80} \quad \frac{3}{5}$$

$$\frac{60}{80} \quad \frac{12}{20} \quad 60\%$$

Explain your reasoning.



R

7b. Circle the odd one out.

$$0.7 \quad \frac{14}{20} \quad \frac{35}{50}$$

$$\frac{49}{70} \quad \frac{30}{40} \quad 70\%$$

Explain your reasoning.



R

8a. Five friends are sharing some cookies.

Imran eats 0.15 of the cookies.

Kelly eats 30%.

Danny eats $\frac{9}{90}$.

Mia eats 0.25.

Harry eats $\frac{16}{80}$.



Who eats the most cookies?

Who eats the least?



PS

8b. Five witches are making potions.

Zadie makes 0.3 of the potions.

Gwen makes 25%.

Ursula makes $\frac{12}{60}$.

Mia makes 0.15.

Winnie makes $\frac{4}{40}$.



Who makes the most potions?

Who makes the least?



PS

9a. Alice and Wilson are comparing fractions, decimals and percentages.

Alice says,

$$\frac{56}{70} = 70\% = 0.7$$



Wilson says,

$$\frac{56}{70} = 80\% = 0.8$$



Who is correct? Convince me.



R

9b. Rita and Alfie are comparing fractions, decimals and percentages.

Rita says,

$$\frac{63}{90} = 70\% = 0.7$$



Alfie says,

$$\frac{63}{90} = 75\% = 0.75$$



Who is correct? Convince me.



R

Reasoning and Problem Solving Equivalent FDP

Developing

1a. $\frac{2}{10}$ is the odd one out because the other fractions, decimal and percentage are equivalent.

2a. Bella eats the most cake.

3a. Sven is correct because $\frac{7}{10} = \frac{70}{100}$.

Expected

4a. $\frac{1}{8}$ is the odd one out because the other fractions, decimal and percentage are equivalent.

5a. Lucas eats the most pizza. Oscar eats the least.

6a. Daniel is correct because $\frac{10}{50} = \frac{2}{10}$.

Greater Depth

7a. $\frac{60}{80}$ is the odd one out because the other fractions, decimal and percentage are equivalent.

8a. Kelly eats the most cookies. Danny eats the least.

9a. Wilson is correct because $\frac{56}{70} = \frac{8}{10}$.

Reasoning and Problem Solving Equivalent FDP

Developing

1b. $\frac{3}{10}$ is the odd one out because the other fractions, decimal and percentage are equivalent.

2b. Naomi feeds the most lions.

3b. Holly is correct because $\frac{1}{2} = \frac{50}{100}$.

Expected

4b. $\frac{1}{25}$ is the odd one out because the other fractions, decimal and percentage are equivalent.

5b. Helen waters the most plants. Bill waters the least.

6b. Leon is correct because $\frac{60}{80} = \frac{3}{4}$.

Greater Depth

7b. $\frac{30}{40}$ is the odd one out because the other fractions, decimal and percentage are equivalent.

8b. Zadie makes the most potions. Winnie makes the least.

9b. Rita is correct because $\frac{63}{90} = \frac{7}{10}$.