Reasoning and Problem Solving
Step 6: Halves and Quarters

National Curriculum Objectives:

Mathematics Year 4: (4F6a) Recognise and write decimal equivalents to 1/4 , 1/2 , 3/4

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Find the odd one out where two pairs of simplified fractions and decimals are given with one odd answer. Questions to support writing half, quarter and three quarters as decimals.
Expected Find the odd one out where two pairs of simplified or equivalent fractions and decimals are given with one odd answer. Questions to support writing fractions equivalent to half, quarter and three quarters as decimals.
Greater Depth Find the odd one out where three pairs of equivalent fractions and decimals are given with one odd answer. Questions to support writing fractions equivalent to half, quarter and three quarters as decimals. Multiple answers possible.

Questions 2, 5 and 8 (Reasoning)
Developing Explain who travels the furthest using simplified fractions and decimals. Two statements to compare. Questions to support writing half, quarter and three quarters as decimals.
Expected Explain who travels the furthest using equivalent fractions and decimals. Two statements to compare. Questions to support writing fractions equivalent to half, quarter and three quarters as decimals.
Greater Depth Explain who travels the furthest using equivalent fractions and decimals. Three statements to compare. Questions to support writing fractions equivalent to half, quarter and three quarters as decimals. Multiple answers possible.

Questions 3, 6 and 9 (Problem Solving)
Developing Use the digit clues to find the missing decimal or simplified fractions. Questions to support writing half, quarter and three quarters as decimals.
Expected Use the digit clues to find the missing decimal or equivalent fractions. Questions to support writing fractions equivalent to half, quarter and three quarters as decimals.
Greater Depth Use the digit clues to find the missing decimal or equivalent fractions. There may be multiple answers. Questions to support writing fractions equivalent to half, quarter and three quarters as decimals. Multiple answers possible.

More Year 4 Decimals resources.

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

Halves and Quarters

1a. Match the pairs. Which is the odd one out?

0.25

0.5

$\frac{1}{2}$

$\frac{1}{4}$

0.75

D

PS

Halves and Quarters

1b. Match the pairs. Which is the odd one out?

$\frac{1}{4}$

$\frac{1}{2}$

0.75

$\frac{3}{4}$

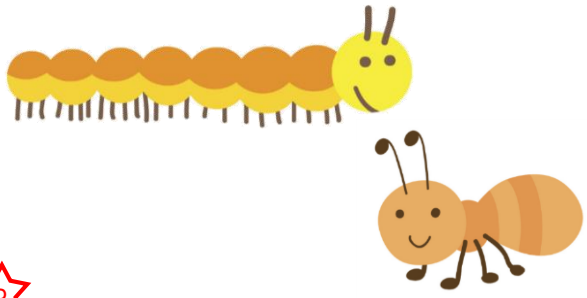
0.25

D

PS

2a. Cecil the centipede travels 0.5m in one hour. Annie the ant travels $\frac{3}{4}$m in one hour. Who travels furthest?

Explain how you know.

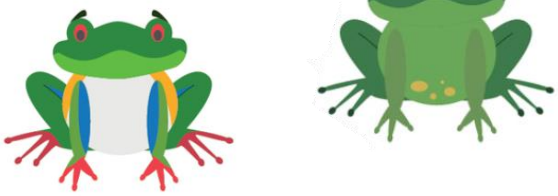


D

R

2b. Freddy the frog can hop 5m in 0.25 of a minute. Tommy the toad can hop 5m in $\frac{1}{2}$ of a minute. Who can hop 5m the fastest?

Explain how you know.



D

R

3a. I'm thinking of a decimal.

The tenths digit is five.

It is equal to one half.

What is my decimal?

D

PS

3b. I'm thinking of a fraction.

The denominator is 4.

It is equivalent to 0.25.

What is my fraction?

D

PS

Halves and Quarters

4a. Match the pairs. Which is the odd one out?

0.75

0.5

$\frac{5}{10}$

$\frac{3}{4}$

0.25

E

PS

Halves and Quarters

4b. Match the pairs. Which is the odd one out?

$\frac{6}{8}$

0.5

0.75

$\frac{25}{100}$

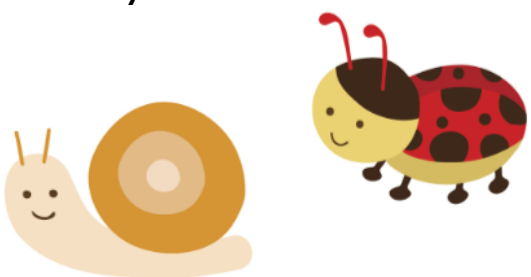
0.25

E

PS

5a. Sidney the snail travels 0.25m in one hour. Lucy the ladybird travels $\frac{50}{100}$m in one hour. Who travels furthest?

Explain how you know.

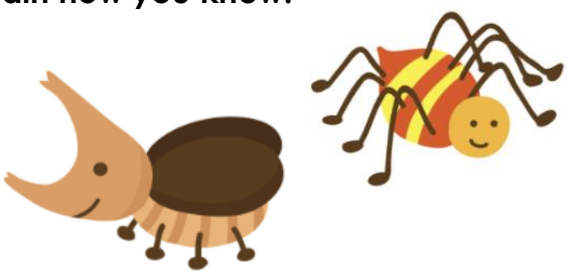


E

R

5b. Sammy the spider can run 5m in 0.75 of a minute. Barry the beetle can run 5m in $\frac{3}{12}$ of a minute. Who can run the fastest?

Explain how you know.



E

R

6a. I'm thinking of a decimal.

The hundredths digit is five.

It is equal to one quarter.

What is my decimal?

E

PS

6b. I'm thinking of a fraction.

The numerator is 9.

It is equivalent to 0.75.

What is my fraction?

E

PS

Halves and Quarters

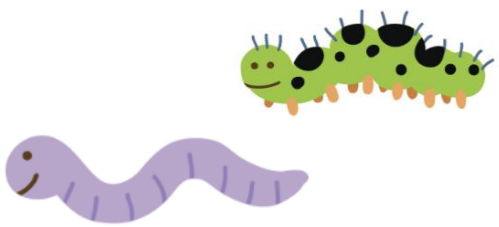
7a. Match the pairs. Which is the odd one out?

$\frac{8}{16}$ 0.25 0.5 $\frac{9}{12}$ $\frac{5}{20}$ $\frac{6}{10}$ 0.75

GD PS

8a. Wally the worm travels 0.75m in one minute. Katie the caterpillar travels $\frac{18}{24}$ m in one minute. Who travels furthest?

Explain how you know.



GD R

9a. I'm thinking of a fraction.

One of the digits is 8.

It is equivalent to 0.25.

What could my fraction be?

GD PS

Halves and Quarters

7b. Match the pairs. Which is the odd one out?

0.5 $\frac{5}{20}$ $\frac{25}{100}$ $\frac{32}{64}$ 0.3 $\frac{18}{24}$ 0.75

GD PS

8b. Claire the cricket can jump 1 mile in $\frac{7}{28}$ of an hour. Gary the grasshopper can jump 1 mile in $\frac{12}{16}$ of an hour. Who can jump the fastest?

Explain how you know.

GD R

9b. I'm thinking of a fraction.

One of the values is 36.

It is equivalent to 0.75.

What could my fraction be?

GD PS

Reasoning and Problem Solving
Halves and Quarters

Developing

1a. 0.5 and $\frac{1}{2}$, 0.25 and $\frac{1}{4}$, 0.75 is the odd one out.

2a. Annie the ant travels furthest because $\frac{3}{4}$ m is equivalent to 0.75m and Cecil the centipede only travels 0.5m or $\frac{1}{2}$ m.

3a. 0.5

Expected

4a. 0.5 and $\frac{5}{10}$, 0.25 and $\frac{1}{4}$, 0.25 is the odd one out.

5a. Lucy the ladybird travels furthest because $\frac{50}{100}$ m is equivalent to $\frac{1}{2}$ m or 0.5m and Sidney the snail only travels 0.25m or $\frac{1}{4}$ m.

6a. 0.25

Greater Depth

7a. 0.5 and $\frac{8}{16}$, 0.25 and $\frac{5}{20}$, 0.75 and $\frac{9}{12}$ $\frac{6}{10}$ is the odd one out.

8a. Wally the worm and Katie the caterpillar both travel the same distance as 0.75m is equivalent to $\frac{18}{24}$ or $\frac{3}{4}$m.

9a. $\frac{2}{8}$ or $\frac{8}{32}$ or $\frac{12}{48}$ or $\frac{20}{80}$ (accept any correct fraction with an 8 in it)

Reasoning and Problem Solving
Halves and Quarters

Developing

1b. 0.5 and $\frac{3}{4}$, 0.25 and $\frac{1}{4}$, $\frac{1}{2}$ is the odd one out.

2b. Freddy the frog hops the fastest because he can hop 5m in only 0.25 of a minute which is equivalent to $\frac{1}{4}$ of a $\frac{1}{2}$ minute. It takes Tommy the toad a minute or 0.5 minutes to travel the same distance.

3b. $\frac{1}{4}$

Expected

4b. 0.75 and $\frac{6}{8}$, 0.25 and $\frac{25}{100}$, 0.5 is the odd one out.

5b. Barry the beetle is fastest because he can run 5m in $\frac{3}{12}$ or $\frac{1}{4}$ or 0.25 of a minute. It takes Sammy the spider 0.75 or $\frac{3}{4}$ of a minute.

6b. $\frac{9}{12}$

Greater Depth

7b. 0.5 and $\frac{32}{64}$, 0.75 and $\frac{18}{24}$, $\frac{5}{20}$ and $\frac{25}{100}$ 0.3 is the odd one out.

8b. Claire the cricket can jump the fastest because she can jump 1 mile in $\frac{7}{28}$ or $\frac{1}{4}$ or 0.25 of a hour. It takes Gary the grasshopper $\frac{12}{16}$ or $\frac{3}{4}$ or 0.75 of a minute.

9b. $\frac{36}{48}$ or $\frac{27}{36}$