

Reasoning and Problem Solving

Step 12: Understand Thousandths

National Curriculum Objectives:

Mathematics Year 5: (5F6b) [Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents](#)

Differentiation:

Questions 1, 4 and 7 (Reasoning)

Developing Explain which fraction or decimal is the odd one out of 3 options. Includes numbers smaller than 1.

Expected Explain which fraction or decimal is the odd one out of 5 options. Includes numbers smaller than 1 and the use of zero as a place holder.

Greater Depth Explain which fraction or decimal is the odd one out of 5 options. Includes numbers greater than 1, improper fractions and mixed numbers.

Questions 2, 5 and 8 (Problem Solving)

Developing Use digit cards to complete a place value grid and write the equivalent fraction. Includes numbers smaller than 1.

Expected Use digit cards to complete a statement using understanding of thousandths. Includes numbers smaller than 1 and the use of zero as a place holder.

Greater Depth Use digit cards to complete a statement using understanding of thousandths. Includes numbers greater than 1 and improper fractions.

Questions 3, 6 and 9 (Problem Solving)

Developing Match 2 children to the number they are describing. Includes numbers smaller than 1.

Expected Match 3 children to the number they are describing. Includes numbers smaller than 1 and the use of zero as a place holder.

Greater Depth Match 3 children to the number they are describing. Includes numbers greater than 1 and mixed numbers.

More [Year 4 and Year 5 Decimals](#) resources.

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Understand Thousandths

Understand Thousandths

1a. Circle the odd one out.

$$\frac{637}{1000}$$

0.673

$$\frac{673}{1000}$$

1b. Circle the odd one out.

$$\frac{298}{1000}$$

0.298

$$\frac{289}{1000}$$

Explain your reasoning.



5 R

Explain your reasoning.



5 R

2a. Use the digit cards to complete the place value grid in 3 different ways.

5

4

9

ones	tenths	hundredths	thousandths
0			

Write the matching fraction for each one.

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1000



5 PS

2b. Use the digit cards to complete the place value grid in 3 different ways.

3

6

1

ones	tenths	hundredths	thousandths
0			

Write the matching fraction for each one.

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1000



5 PS

3a. Match the children to their numbers.



Sasha

My number has 7 tenths, 8 hundredths and 2 thousandths.



Luke

My number has 8 tenths, 2 hundredths and 7 thousandths.

A = 0.827

B = 0.782



5 PS

3b. Match the children to their numbers.



Jason

My number has 4 tenths, 5 hundredths and 3 thousandths.



Freya

My number has 5 tenths, 3 hundredths and 4 thousandths.

A = 0.534

B = 0.453



5 PS

Understand Thousandths

Understand Thousandths

4a. Circle the odd one out.

$$\frac{405}{1000}$$

$$\frac{45}{1000}$$

0.045

0.45

0.405

Explain your reasoning.



5 R

4b. Circle the odd one out.

$$\frac{37}{1000}$$

$$\frac{370}{1000}$$

0.037

0.307

0.37

Explain your reasoning.



5 R

5a. Use the digit cards to complete the statement below in 3 different ways.

Each card can be used more than once.



$$\frac{\square \square \square}{1000} = 0.\square\square\square$$



5 PS

5b. Use the digit cards to complete the statement below in 3 different ways.

Each card can be used more than once.



$$\frac{\square \square \square}{1000} = 0.\square\square\square$$



5 PS

6a. Match the children to their numbers.



Violet

My number has 0 tenths, 3 hundredths and 5 thousandths.



Ali

My number has 0 tenths, 5 hundredths and 3 thousandths.



Katy

My number has 5 tenths, 0 hundredths and 3 thousandths.

A = 0.053 B = 0.503 C = 0.035



5 PS

6b. Match the children to their numbers.



Seth

My number has 6 tenths, 0 hundredths and 2 thousandths.



Jeni

My number has 2 tenths, 0 hundredths and 6 thousandths.



Marc

My number has 0 tenths, 2 hundredths and 6 thousandths.

A = 0.602 B = 0.026 C = 0.206



5 PS

Understand Thousandths

Understand Thousandths

7a. Circle the odd one out.

$$\frac{7302}{1000} \quad 7 \frac{32}{1000}$$

7.032 7.302 7.32

Explain your reasoning.



5 R

7b. Circle the odd one out.

$$\frac{5096}{1000} \quad 5 \frac{960}{1000}$$

5.96 5.906 5.096

Explain your reasoning.



5 R

8a. Use the digit cards to complete the statement below in 3 different ways.

Each card can be used more than once.



$$\frac{\square\square\square\square}{1000} = \square.\square\square\square$$



5 PS

8b. Use the digit cards to complete the statement below in 3 different ways.

Each card can be used more than once.



$$\frac{\square\square\square\square}{1000} = \square.\square\square\square$$



5 PS

9a. Match the children to their numbers.



Alina

My number has the same number of ones and hundredths.



Josh

My number is equal to $6 \frac{426}{1000}$.



Ella

My number has 6 ones, 2 tenths, 6 hundredths and 4 thousandths.

A = 6.264 B = 6.462 C = 6.426



5 PS

9b. Match the children to their numbers.



Liam

My number has an odd number of thousandths.



Kelis

My number is equal to $5 \frac{831}{1000}$.



Dan

My number has 5 ones, 3 tenths, 1 hundredth and 8 thousandths.

A = 5.831 B = 5.318 C = 5.803



5 PS

Reasoning and Problem Solving Understand Thousandths

Developing

1a. $\frac{637}{1000}$ is the odd one out because its matching decimal 0.637 is not given.

2a. Various possible answers, for example:

$$0.549 = \frac{549}{1000}, 0.459 = \frac{459}{1000}, 0.945 = \frac{945}{1000}$$

3a. A – Luke, B – Sasha

Expected

4a. 0.45 is the odd one out because its matching fraction $\frac{450}{1000}$ is not given.

5a. Various possible answers, for example:

$$\frac{602}{1000} = 0.602, \frac{247}{1000} = 0.247, \frac{706}{1000} = 0.706$$

6a. A – Ali, B – Katy, C – Violet

Greater Depth

7a. 7.32 is the odd one out because its matching fraction $\frac{7320}{1000}$ or $7\frac{320}{1000}$ is not given.

8a. Various possible answers, for example:

$$\frac{3906}{1000} = 3.906, \frac{4063}{1000} = 4.063, \frac{6409}{1000} = 6.409$$

9a. A – Ella, B – Alina, C – Josh

Reasoning and Problem Solving Understand Thousandths

Developing

1b. $\frac{289}{1000}$ is the odd one out because its matching decimal 0.289 is not given.

2b. Various possible answers, for example:

$$0.361 = \frac{361}{1000}, 0.631 = \frac{631}{1000}, 0.136 = \frac{136}{1000}$$

3b. A – Freya, B – Jason

Expected

4b. 0.307 is the odd one out because its matching fraction $\frac{307}{1000}$ is not given.

5b. Various possible answers, for example:

$$\frac{801}{1000} = 0.801, \frac{905}{1000} = 0.905, \frac{189}{1000} = 0.189$$

6b. A – Seth, B – Marc, C – Jeni

Greater Depth

7b. 5.906 is the odd one out because its matching fraction $\frac{5906}{1000}$ or $5\frac{906}{1000}$ is not given.

8b. Various possible answers, for example:

$$\frac{2071}{1000} = 2.071, \frac{8207}{1000} = 8.207, \frac{7028}{1000} = 7.028$$

9b. A – Kelis, B – Dan, C – Liam