Round decimals

Notes and guidance

In Year 5, children learnt to round numbers with up to 2 decimal places to the nearest integer and to 1 decimal place. It may be helpful to recap some of this learning before beginning this step. In this small step, children round numbers with up to 3 decimal places to the nearest integer and tenth (1 decimal place), as well as rounding to the nearest hundredth (2 decimal places) for the first time.

It is vital that children can identify the multiples of 1, 0.1 and 0.01 before and after any number with up to 3 decimal places. Children can then explore which multiple is closer, to help decide what a number should be rounded to. As with all rounding, the use of number lines can help with this process. Children recognise that when asked to round to a given degree of accuracy, they look at the place value column to the right; if the digit is 0 to 4, they round to the previous multiple and if it is 5 to 9, they round to the next multiple.

Key questions

- What is the next/previous integer/tenth/hundredth?

- Using the number line, which multiple of _____ is _____ closer to?

- If you are rounding to the nearest _____, which column do you need to look at to decide where to round to?

- If the digit in this column is between 0 and 4, which multiple should you round to?

- Which multiple should you round to if the digit is a 5?

Possible sentence stems

- The previous/next multiple of _____ is _____

  _____ is closer to _____ than _____

  So _____ rounded to the nearest _____ is _____

Things to look out for

- The phrase "round down" can lead children to round too low, for example rounding 6.923 down to 6.91 rather than 6.92

National Curriculum links

- Solve problems which require answers to be rounded to specified degrees of accuracy

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Key learning
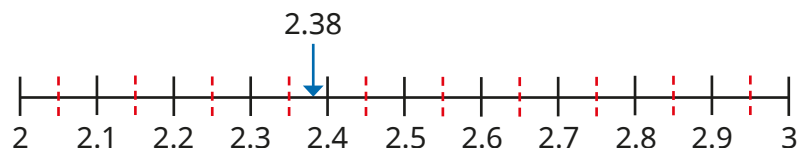
- Complete the table.

Number	3.472	2.196	0.804
Previous integer	3		
Next integer	4		
Previous tenth	3.4		
Next tenth	3.5		
Previous hundredth	3.47		
Next hundredth	3.48		

- Use the number line to complete the sentences.
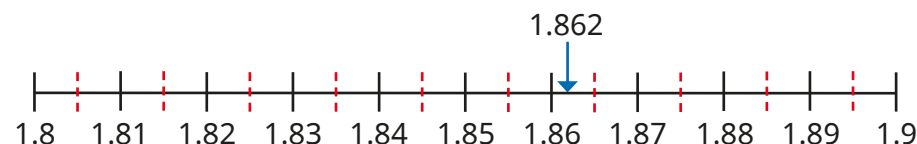
2.38

2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3

2.38 is closer to 2 than 3

2.38 rounded to the nearest integer is _____

2.38 is closer to 2.4 than 2.3

2.38 rounded to the nearest tenth is _____

- Use the number line to complete the sentences.

1.862

1.8 1.81 1.82 1.83 1.84 1.85 1.86 1.87 1.88 1.89 1.9

1.862 is closer to _____ than _____

1.862 rounded to the nearest hundredth is _____

- Complete the sentences to round 4.615 to different degrees of accuracy.

  ▶ 4.615 is closer to _____ than _____

  4.615 rounded to the nearest hundredth is _____

  ▶ 4.615 is closer to _____ than _____

  4.615 rounded to the nearest tenth is _____

  ▶ 4.615 is closer to _____ than _____

  4.615 rounded to the nearest integer is _____

- Round the numbers to the nearest hundredth, tenth and integer.

| 2.473 | 10.185 | 7.084 | 19.987 |

Round decimals

Reasoning and problem solving

Here are some number cards.

| 4.545 | 4.544 | 5.445 |
| 5.444 | 4.455 |

Use each number once only to complete the sentences.

_____ rounded to the nearest tenth is 4.5

_____ rounded to the nearest integer is 4

_____ rounded to the nearest tenth is 5.4

_____ rounded to the nearest hundredth is 5.45

_____ rounded to the nearest hundredth is 4.54

4.545   4.455   5.444   5.445   4.544

Use the digit cards to make the statements correct.

| 4 | 5 | 6 | 7 |

You may use each card once only.

☐.803 rounded to the nearest integer is 6

5.9☐ rounded to the nearest tenth is 6

6.☐ rounded to the nearest integer is 6

☐.002 rounded to the nearest hundredth is 6

5.803   5.9**7**   6.**4**   **6**.002