Hello to all our users!

In response to the challenges presented by the ongoing Coronavirus situation, the Beyond team have made it their top priority to ensure that you and your children are catered to for your home-based educational needs. As such, we have decided to introduce **Interactive Resources** that can be completed using free-to-download PDF reading software, on a home PC/Laptop or Android/IOS smart device, sparing you the need to print where possible. By following the guidance below, we hope to offer you a smooth, stress-free means of continuing your children's education from the comfort of your home.

Step 1: Download   for PC/Mac (or search 'Adobe Acrobat Reader' on Google Play or the App Store).

Follow the link above to open the download page for the PC/Mac version of Adobe Acrobat Reader. Click 'Download Acrobat Reader' at the bottom of the middle column - this will take you to a download page where your download will begin. Open the downloaded file and Acrobat Reader will install automatically (check the 'Launch Adobe Acrobat Reader DC' checkbox before clicking 'Finish' if you would like to open the program straight away).

Step 2: Download one of our interactive resources, and open using Adobe Acrobat Reader DC.

If you are a PC/Mac user and your downloaded PDF resource does not open using Acrobat Reader by default, simply right-click your PDF file, go to 'Open with' and select Adobe Acrobat Reader DC from the drop-down list.

For smart device users, open the Adobe Acrobat Reader app, press 'Files' at the bottom of the homescreen, then press 'On this device' and select the PDF you wish to open.

Step 3: Complete the resource!

For PC/Mac users: To fill in the resource, click the text fields and type your answers as needed. Check boxes and radio buttons can simply be clicked on to make the selection of your choice. When you are finished with the resource, go to File > Save As... and save your file where you like (we recommend you do not save over the original PDF, as you may wish to use it again without first having to remove all the answers!)

For smart device users: To fill in the resource, press the text fields and type your answers as needed. Check boxes and radio buttons can simply be clicked on to make the selection of your choice. When you are finished, simply press the back button in the top left of the appscreen and your PDF will save automatically (this will overwrite the original file, so you may wish to create a copy if you would like to use the resource again in future without first having to remove all the answers!)

Step 4: Rinse and repeat!

We hope you have found this information useful. If you experience any problems in getting the above method to work, please do contact the Beyond team at   and we will endeavour to do what we can to assist you.

Rounding to a Given Number of Decimal Places **Answers**

1. Write the following numbers correct to the nearest tenth.

a. 5.82	c. 21.45	e. 785.49	g. 0.095
5.8	**21.5**	**785.5**	**0.1**

b. 9.77	d. 62.193	f. 80.02	h. 9.99
9.8	**62.2**	**80.0**	**10.0**

2. Write the following numbers correct to 2 decimal places.

a. 7.854	c. 16.0258	e. 8.155	g. 1.989
7.85	**16.03**	**8.16**	**1.99**

b. 5.146	d. 10.045	f. 156.2879	h. 0.0986
5.15	**10.05**	**156.29**	**0.10**

3. Write the following numbers correct to 3 decimal places.

a. 0.0348	c. 1.84208	e. 128.01756	g. 989.9994
0.035	**1.842**	**128.018**	**989.999**

b. 4.2266	d. 1058.9254	f. 40.48725	h. 0.09999
4.227	**1058.925**	**40.487**	**0.100**

4. Calculate 4.95 + 6.23
   Round your answer to 1 decimal place.

   4.95 + 6.23 = 11.18

   = 11.2

5. Calculate 10.26 + 0.489
   Round your answer to the nearest hundredth.

   10.26 + 0.489 = 10.749

   = 10.75

Challenge

a. Round 7.62cm to the nearest mm, leaving your answer in centimetres.

   7.6cm

b. Round 4.586m to the nearest cm, leaving your answer in metres.

   4.59m

Rounding to a Given Number of Decimal Places

Prior Knowledge:

- It may be useful to know how to round to the nearest 10, 100 and 1000.
- Place values.

There are two key rounding rules which you should know:

If the deciding digit is less than 5 (0, 1, 2, 3 or 4), we round down.

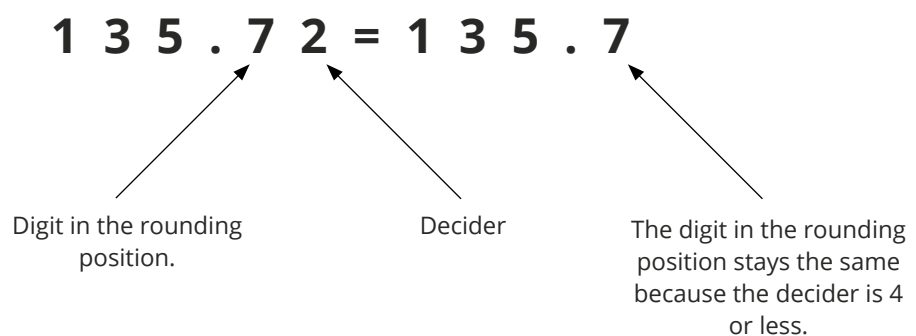If the deciding digit is 5 or more (5, 6, 7, 8 or 9), we round up.

Let's look at this in practice.

Rounding to One Decimal Place

Write 135.72 correct to the nearest tenth.

1. Identify the digit in the rounding position. In this case, we are asked to write the number correct to the nearest tenth. Thinking about place values, the tenths column is the first column after the decimal point, so rounding to the nearest tenth is the same as rounding to one decimal place. In this question, the first digit after the decimal point is 7, therefore this is the digit in the rounding position.
2. To determine whether the number needs to be rounded up or down, we must look at the **decider**. This is the digit immediately to the right of the rounding position, in this case, a 2.
3. If the decider is 4 or less, we round the number down. If it is 5 or more, we round up. As the decider is 2 we are rounding down, the 7 in the rounding position remains the same.
4. Finally, any digits after the 7 are removed. Although the 7 hasn't changed, removing these digits means we have rounded down, as our new number is smaller than our original number.

137.72 correct to the nearest tenth is 137.7. We do not need any zeros after the 7 as that would change the number of decimal places.
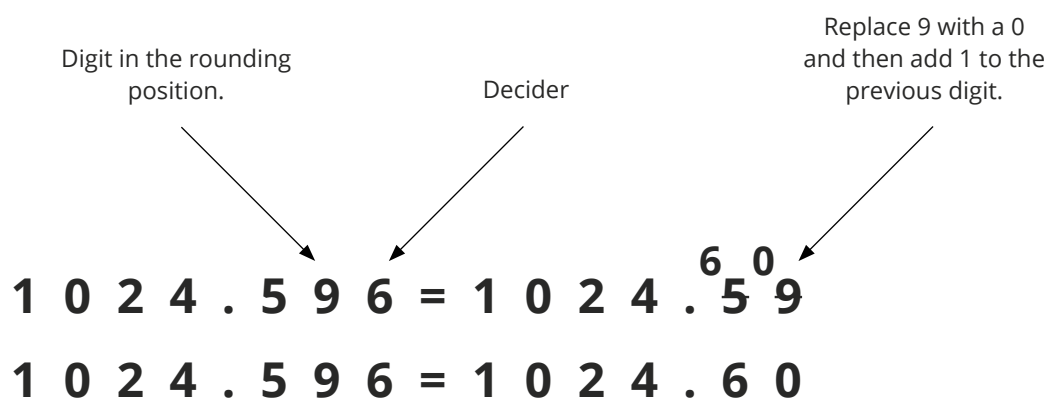
$$1 \ 3 \ 5 \ . \ 7 \ 2 = 1 \ 3 \ 5 \ . \ 7$$

Digit in the rounding position.

Decider

The digit in the rounding position stays the same because the decider is 4 or less.

Rounding to Two Decimal Places

Write 1024.596 correct to 2 decimal places.

In this case we are told how many decimal places to round to, and we don't have to think about place values. To round to 2 decimal places, we follow similar steps to rounding to 1 decimal place.

1. Identify the digit in the rounding position. We are asked to write the number correct to 2 decimal places, so we find the second digit after the decimal point: 9

2. Find the decider immediately to the right of the rounding position: 6

3. As the decider is 5 or more, we need to round up. This means the number in the rounding position increases. However, we can't turn 9 into 10, it won't fit. Instead, we replace the 9 with 0 and add the 1 to the number to the left. In this example, that turns the 5 into a 6, leaving us with 1024.60... (in some cases, that number to the left will also be a 9. In that case, you replace that 9 with a 0, and add 1 to the next digit to the left).

4. As before, we remove all numbers after the rounding position, giving us 1024.60.

1024.596 correct to 2 decimal places is 1024.60

Digit in the rounding position.   Decider   Replace 9 with a 0 and then add 1 to the previous digit.

$$1\ 0\ 2\ 4\ .\ 5\ 9\ 6 = 1\ 0\ 2\ 4\ .\ 5\ \overset{6}{9}\ \overset{0}{}$$

$$1\ 0\ 2\ 4\ .\ 5\ 9\ 6 = 1\ 0\ 2\ 4\ .\ 6\ 0$$

Rounding to Three Decimal Places

Write 0.0584 correct to 3 decimal places.

Once we know how to round to 1 or 2 decimal places, we can easily round to 3 decimal places.

1. Identify the digit in the rounding position: 8
2. Locate the decider digit: 4
3. Apply the rounding rules: 4 tells us that the digit in the rounding position remains the same.
4. Remove the numbers after the rounding position, as this means the number is rounded down.

0.0584 correct to 3 decimal places is 0.058

Your Turn

1. Write the following numbers correct to the nearest tenth.

   a. 5.82

   [ ]

   c. 21.45

   [ ]

   e. 785.49

   [ ]

   g. 0.095

   [ ]

   b. 9.77

   [ ]

   d. 62.193

   [ ]

   f. 80.02

   [ ]

   h. 9.99

   [ ]

2. Write the following numbers correct to 2 decimal places.

   a. 7.854

   [ ]

   c. 16.0258

   [ ]

   e. 8.155

   [ ]

   g. 1.989

   [ ]

   b. 5.146

   [ ]

   d. 10.045

   [ ]

   f. 156.2879

   [ ]

   h. 0.0986

   [ ]

3. Write the following numbers correct to 3 decimal places.

   a. 0.0348

   [ ]

   c. 1.84208

   [ ]

   e. 128.01756

   [ ]

   g. 989.9994

   [ ]

   b. 4.2266

   [ ]

   d. 1058.9254

   [ ]

   f. 40.48725

   [ ]

   h. 0.09999

   [ ]

4. Calculate 4.95 + 6.23

   Round your answer to 1 decimal place.

   [ ]

5. Calculate 10.26 + 0.489

   Round your answer to the nearest hundredth.

   [ ]

Challenge

   a. Round 7.62cm to the nearest mm, leaving your answer in centimetres.

   [ ]

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Rounding to a Given Number of Decimal Places

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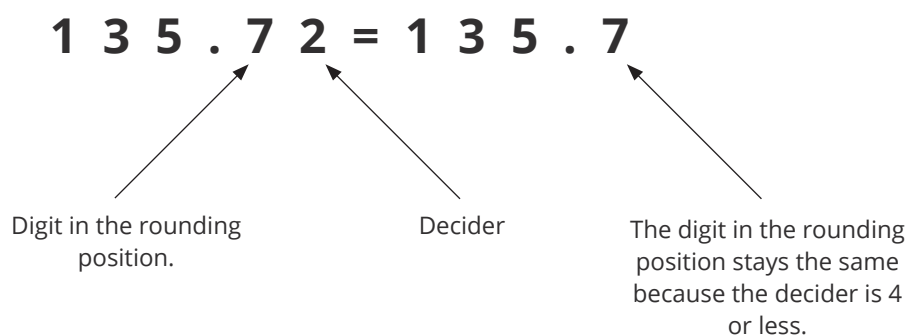If the deciding digit is 5 or more (5, 6, 7, 8 or 9), we round up.

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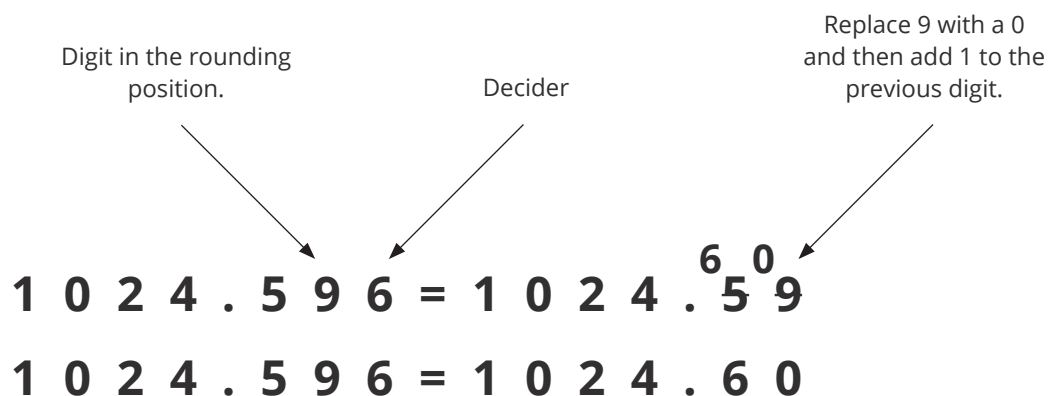
$$1\ 3\ 5\ .\ 7\ 2\ =\ 1\ 3\ 5\ .\ 7$$

Digit in the rounding position.

Decider

The digit in the rounding position stays the same because the decider is 4 or less.

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Write 1024.596 correct to 2 decimal places.

In this case we are told how many decimal places to round to, and we don't have to think about place values. To round to 2 decimal places, we follow similar steps to rounding to 1 decimal place.

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Decider

Replace 9 with a 0 and then add 1 to the previous digit.

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