Master Rounding Decimals to Any Degree of Accuracy

Rationale

In this step, pupils consolidate their learning so far by rounding decimal numbers to any degree of accuracy. They will use their previous knowledge of number lines and consider multiples of 1, 0.1 and 0.01 before and after a given number. They will understand the significance of the relevant digit when rounding to the nearest power of 10 to decide whether to round up to the next multiple or down to the previous multiple.

Pupils will develop their learning by identifying a range of numbers which round to a specific multiple of 1, 0.1 or 0.01

Key Stem Sentences

- The multiples before and after ___ are ___ and ___
- ___ rounded to _____ is ___
- When rounding to the nearest ___ / ___ decimal place(s) look at the ___ digit.
- ___ is nearer to the _____ multiple of ___

Key Vocabulary

- whole number / decimal place(s)
- rounded to
- next / previous / multiple
- one / tenth / hundredth / thousandth

Key Representations

Number Line

105.84 to the nearest whole number is 106
105.84 to 1 decimal place is 105.8

72.339 to 1 decimal place is 72.3
72.339 to 2 decimal places is 72.34

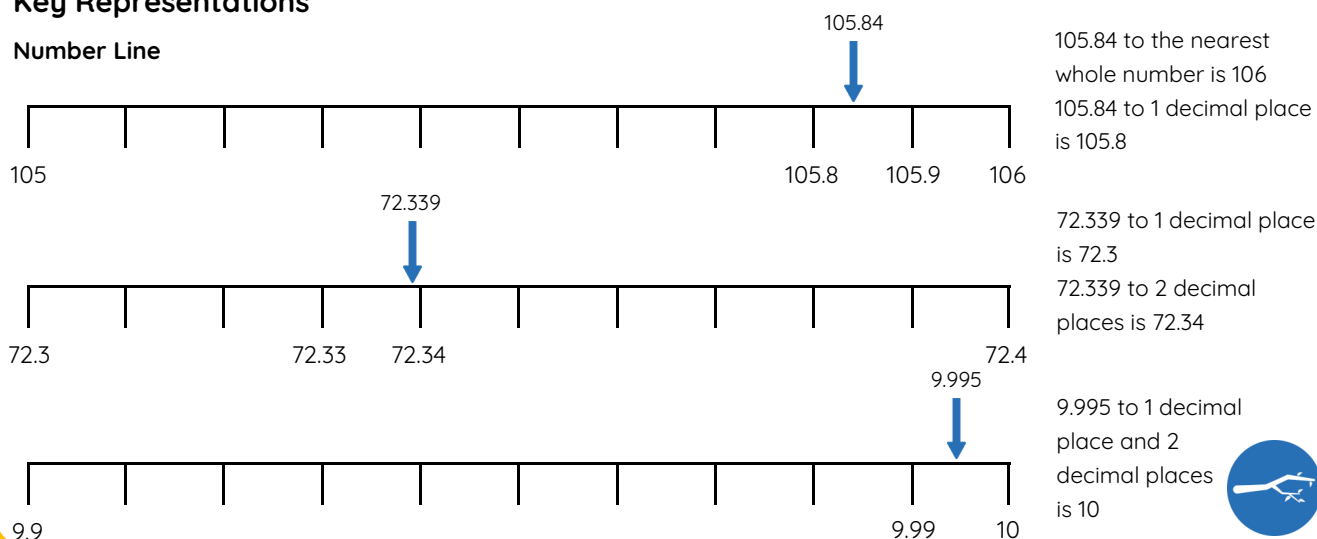9.995 to 1 decimal place and 2 decimal places is 10

Common Errors or Misconceptions

- Pupils may round to the wrong decimal place.
- Pupils may add place holders or leave digits which are unnecessary following rounding.

Pupils will FLOURISH if they can...

- identify the multiples of 1, 0.1 or 0.01 before and after a given decimal number.
- accurately round a given decimal number to the nearest whole number, 1 decimal place and 2 decimal places.
- identify the range of numbers which round to a specific multiple of 1, 0.1 or 0.01
- explain their understanding in multiple ways using their own words and representations.