Master The Place Value of Numbers with 3 Decimal Places

Rationale

In this step, pupils will build on their understanding of decimal numbers and recognise the place value of each digit in numbers with up to 3 decimal places. They will use place value counters to look at the number as a whole and explain the value of the digits in the ones, tenths, hundredths and thousandths columns, recognising that columns with the digit '0' do not need to be described. Pupils will look at the individual digits of given numbers and explain the value of a single digit in its place.

Pupils' learning will be developed with representations of given numbers in place value charts, applying their knowledge to recognise the value of specific digits abstractly.

Key Stem Sentences

- ___ has ___ ones, ___ tenths, ___ hundredths and ___ thousandths.
- ___ has ___ ones / tenths / hundredths /thousandths. The value of the digit ___ is ___
- In ___, the value of the digit ___ is ___

Key Vocabulary

- ones / tenths / hundredths / thousandths
- place value
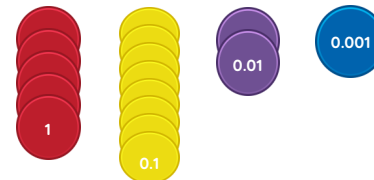- digit / placeholder
- value

Key Representations

Place Value Counters

5.821 has 5 ones, 8 tenths, 2 hundredths and 1 thousandth. The value of the digit 8 is 0.8

7.049 has 9 thousandths. The value of the digit 9 is 0.09

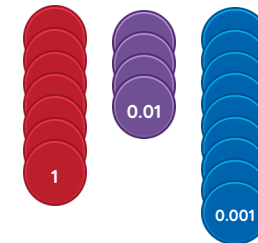### Place Value Charts with Digits

1s	0.1s	0.01s	0.001s
3	6	0	5

In 3.605, the value of the digit 3 is 3
In 3.605, the value of the digit 6 is 0.6
In 3.605, the value of the digit 5 is 0.005

Common Errors and Misconceptions

- Pupils may misinterpret the value of a digit in its place.
- Pupils may not recognise zero as a place holder.

Pupils will FLOURISH if they can...

- recognise the value of each digit in a decimal number with 3 decimal places.
- recognise zero as a place holder.
- identify the value of a single digit in its place.
- begin to explain their understanding using their own words and representations.