

# Master The Place Value of 7-Digit Numbers

## Rationale

In this step, pupils will build on their understanding from Year 5 and recognise the place value of each digit in 7-digit numbers. They will use a Gattegno chart to look at the number as a whole and explain the value of the digits in all columns, recognising that columns with the digit '0' do not need to be described. Pupils will continue to use the same representation to 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 \_\_\_ millions / hundred thousands / ten thousands / thousands / hundreds / tens / ones.
- \_\_\_ has \_\_\_ s. The value of the digit \_\_\_ is \_\_\_
- In \_\_\_, the value of the digit \_\_\_ is \_\_\_



## Key Vocabulary

- ones / tens / hundreds / thousands / ten thousands / hundred thousands / millions
- digit / place holder
- place
- value



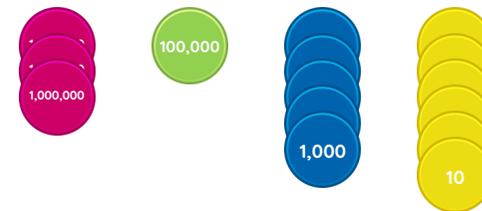
## Common Errors or Misconceptions

- Pupils may misinterpret the value of a digit in its place. For example, in 2,658,901, the value of the digit 2 is 200,000
- Pupils may not recognise zero as a place holder.



## Key Representations

### Place Value Counters



3,105,060 has 3 millions, 1 hundred thousand, 5 thousands and 6 tens.

### Place Value Charts with Digits

| 1,000,000s | 100,000s | 10,000s | 1,000s | 100s | 10s | 1s |
|------------|----------|---------|--------|------|-----|----|
| 4          | 7        | 2       | 6      | 0    | 5   | 9  |

In 4,726,059, the value of the digit 5 is 50

### Gattegno Charts

|           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1,000,000 | 2,000,000 | 3,000,000 | 4,000,000 | 5,000,000 | 6,000,000 | 7,000,000 | 8,000,000 | 9,000,000 |
| 100,000   | 200,000   | 300,000   | 400,000   | 500,000   | 600,000   | 700,000   | 800,000   | 900,000   |
| 10,000    | 20,000    | 30,000    | 40,000    | 50,000    | 60,000    | 70,000    | 80,000    | 90,000    |
| 1,000     | 2,000     | 3,000     | 4,000     | 5,000     | 6,000     | 7,000     | 8,000     | 9,000     |
| 100       | 200       | 300       | 400       | 500       | 600       | 700       | 800       | 900       |
| 10        | 20        | 30        | 40        | 50        | 60        | 70        | 80        | 90        |
| 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         |

5,301,684 has 5 millions, 3 hundred thousands, 1 thousand, 6 hundreds, 8 tens and 4 ones.

The value of the digit 3 is 300,000



## Pupils will FLOURISH if they can...

- describe the place value of each digit in a 7-digit number.
- recognise zero as a place holder.
- identify the value of a single digit in its place.
- explain their understanding in multiple ways using their own words and representations.

