

# Number Sense 5.1

Length of unit:  
**3 weeks**

Week beg:

Year:5

Teacher:

## Success criteria

Pupils can represent and explain the multiplicative nature of the number system understanding how to multiply and divide by 10, 100 and 1000. Pupils make appropriate decisions about when to use their understanding of counting place value and rounding for solving problems including adding and subtracting.

## Prior Learning:

- Check that children can already
- count in multiples of 6, 7, 9, 25 and 1000
  - find 1000 more or less than a given number
  - count backwards through zero to include negative numbers
  - recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)
  - order and compare numbers beyond 1000
  - identify, represent and estimate numbers using different representations
  - round any number to the nearest 10, 100 or 1000
  - solve number and practical problems that involve all of the above and with increasingly large positive numbers
  - read Roman numerals to 100 (I to C) and know that, over time, the numeral system changed to include the concept of zero and place value
  - recognise and show, using diagrams, families of common equivalent fractions
  - count up and down in hundredths; recognize that hundredths arise when dividing an object by one hundred and dividing tenths by ten
  - add and subtract fractions with the same denominator
  - recognise and write decimal equivalents of any number of tenths or hundredths
  - recognise and write decimal equivalents to  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$
  - find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
  - round decimals with one decimal place to the nearest whole number
  - compare numbers with the same number of decimal places up to two decimal places
  - convert between different units of measure [for example, kilometre to metre, hour to minute]
  - solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days
  - read, write and convert time between analogue and digital 12 and 24-hour clocks

## Resources

- Maths vocabulary book
- Using and Applying in every maths lesson
- Assessment through guided maths
- Think Maths!
- Pitch and Expectations Y5 and Y6
- Mind the Gap (L3 to L4)
- Overcoming Barriers to Learning – L3 to 4 and L4 to 5 (available on M drive)
- Securing Level 4 and Securing Level 5 documents (available on M drive))
- Errors and Misconceptions in Maths at KS2

## Guidance

Pupils extend counting from Year 4, using decimals and fractions including bridging zero, for example on a number line.

Pupils say, read and write decimal fractions and related tenths, hundredths and thousandths accurately and are confident in checking the reasonableness of their answers to a problem.

They extend their knowledge of fractions to thousandths and connect this knowledge to decimals and measures.

Pupils should go beyond the measurement and money models of decimals, for example by solving puzzles involving decimals.

## Learning objectives

Pupils should be taught to:

### Number and place value

- read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
- count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
- round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
- solve number problems and practical problems that involve all of the above

### Multiplication and division

- multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

### Fractions (including decimals and percentages)

- read and write decimal numbers as fractions [for example,  $0.71 = \frac{71}{100}$ ]
- recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- round decimals with two decimal places to the nearest whole number and to one decimal place
- read, write, order and compare numbers with up to three decimal places
- solve problems involving number up to three decimal places

### Measurement

- convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimeter and millimetre; kilogram and gram; litre and millilitre)
- solve problems involving converting between units of time.

## Pupil outcomes:

I can explain and represent how I know that 71.7m is greater than 71.57m, explain why it is easy to subtract 0.7m from 71.7m and why rounding both numbers to the nearest metre gives the same result, suggesting other numbers that would also round to 72m.

I can explain the relationship between 71.7 and 717.