# Year 8 Maths Learning Journey

Spring term 6

Developing number: Number sense

| Core knowledge | Reference |
|---|---|
| **Round numbers to powers of 10 and 1 significant figure**<br>"What's the same and what's different about rounding to the nearest hundred or thousand?" | WORKSHEET |
| **Round numbers to a given number of decimal places**<br>"What's the same about rounding to 1 significant figure and rounding to 1 decimal place?" | WORKSHEET |
| **Estimate the answer to a calculation**<br>"Why is it useful to make an estimate before doing a calculation?" | WORKSHEET |
| **Understand and use error interval notation (H)**<br>"What's the difference between < and ≤?" | WORKSHEET |
| **Calculate using the order of operations**<br>"Why do 11 + 7 − 4 and 11 − 4 + 7 have the same answer?" | WORKSHEET |
| **Calculate with money**<br>"What's the difference between credit and debit?" | WORKSHEET |
| **Convert metric measures of lengths**<br>"What is the difference between the prefixes kilo and milli?" | WORKSHEET |
| **Convert metric units of weight and capacity**<br>"How do you know whether to multiply or divide when converting metric units?" | WORKSHEET |
| **Convert metric units of area (H)**<br>"Why can't we multiply 30cm by 5cm without converting first?" | WORKSHEET |
| **Convert metric units of volume (H)**<br>"How do you calculate the volume of a cuboid/cube?" | WORKSHEET |
| **Solve problems involving time and the calendar**<br>"To find the amount of time between 9/40 and 11.25, why can't you just do 11.25 − 9.40?" | WORKSHEET |

## Learning Checkpoints

| LC Title | Completed | Dirt |
|---|---|---|
| Number sense | | |

**Key Vocabulary:**

**Area:** a measure of the size of any plane surface. Area is usually measured in square units e.g. square centimetres (cm2 ), square metres (m2 ).

**Balance:** An equation in balance maintains proportion

**Bound:** The lower bound is the smallest value that would round up to the estimated value. The upper bound is the smallest value that would round up to the next estimated value.

**Centi:** prefix meaning one-hundredth (of)

**Change (money):** The amount of money returned during a transaction

**Continuous:** Data arising from measurements taken on a continuous variable

**Credit:** money added into a bank account

**Debit:** money taken out of a bank account

**Decimal place:** the position of a digit to the right of a decimal point.

**Decimal point:** a full point or dot placed after the figure representing units in a decimal fraction.

**Deposit:** money held at a bank

**Dimensions:** measure of the size of its covering properties.

**Discrete:** Data resulting from situations involving discrete variables

**Estimate:** To arrive at a rough or approximate answer by calculating with suitable approximations for terms

**Index/indices:** number that tells us how many times a term has been multiplied by itself. The plural of index is indices.

**Integer:** Any of the positive or negative whole numbers and zero. Example: 2, -1,

**Interest:** in savings, banks pay (or charge) interest on the amount invested (or borrowed)

**Kilo:** Prefix denoting one thousand

**Metre:** Symbol: m. The base unit of length in SI (Système International d'Unités)

**Metric unit:** Unit of measurement in the metric system

**Milli:** Prefix. One-thousandth

**Operation**:  addition, subtraction, multiplication and division

**Order of operations:** his refers to the order in which different mathematical operations are applied in a calculation.

**Perpendicular:** A line or plane that is at right angles to another line or plane.

**Power/index/exponent:** a number positioned above and to the right of another (base). Can be negative, zero or fractional

**Priority of operations:** same as order of operations

**Round:** In the context of a number, express to a required degree of accuracy.  E.g. 543 rounded to the nearest 10 is 540.

**Significant figures:** The run of digits in a number that are needed to specify the number to a required degree of accuracy.

**Square/root:** The square of a number is the product of the number and itself

**Underestimate:** an estimate that is too low.