Maths - Year 5

Numbers and the Number System 5: Working with negative numbers

Key Vocabulary

Negative	An amount below zero.
Positive	An amount above zero.
Minus	Indicates that a number is below zero (negative) e.g. –4.
Magnitude	The size of one number compared to another.

Mathematical Skills

- Read and write negative numbers.
- Recognise and interpret positive and negative numbers on a scale.
- Notice the symmetry in the negative number line.
- Explain that the magnitude of negative numbers increases the further their distance to zero.
- Order positive and negative numbers.
- Make connections with adding and subtracting and movements forwards and backwards on the negative number line, noticing how inverse operations affect each other.
- Compare numbers, including negative numbers, using < and > symbols in the context of temperature.
- Explain that calculating the difference between a positive and a negative number involves adding the amount from 0 to the positive number to the amount from 0 to the negative number.
- Recognise movement to the right (or forwards) on the number line as the positive direction and movement to the left (or backwards) as the negative direction.

Mathematical Methods

- Understanding negative numbers e.g.

- Exploring negative numbers in the context of temperature.
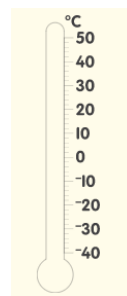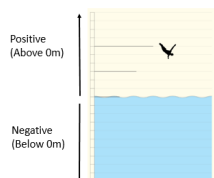
| Number of stars	Temperature	Degrees below or above freezing
4****	⁻18°C	18 degrees below freezing; suitable for long term storage
3***	⁻18°C	18 degrees below freezing
2**	⁻12°C	12 degrees below freezing
1*	⁻6°C	6 degrees below freezing
no stars: a fridge	5°C	5 degrees above freezing

- Drawing negative number lines horizontally.
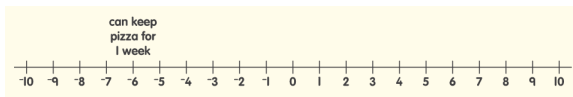
- Comparing temperatures e.g. warmest to coldest (-19°C > -23°C > -26°C > -27°C) or coldest to warmest (-27°C < -26°C < -23°C < -19°C).

- Calculating differences between positive and negative numbers when bridging zero e.g.

The difference between 39°C and -27°C is 66°C.
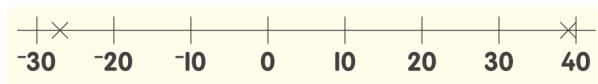
- Negative numbers and direction.

| ⁻3 | ⁻2 | ⁻1 | 🔴 | 1 | 2 | 3 |

Can you..?

- Put the following temperatures in order, from coldest to warmest.

| 11°C | 2°C | -7°C | -9°C | 1°C | -3°C | 4°C |

- Calculate the difference between 57°C and –63°C.

- If I start at –4 and take 7 steps in a positive direction, what number will I be standing on?