Temperatures – Vinay and Sam

Objectives

The relevant framework objectives are:

- order a given set of positive and negative integers, eg on a number line or on a temperature scale (key objective)
- calculate a temperature rise or fall across zero degrees Celsius.

Activity description

The teacher gave the pupils the day's temperature and told them that it will drop by a value, making it negative. They were then asked to work out the new temperature.

They were also asked to order a set of positive and negative numbers.

Commentary

Vinay has clearly demonstrated his understanding of negative numbers in this context by working out mentally questions like, 'What is ten degrees less than five degrees Celsius?'. He knows that the size of the negative number gives its distance from zero.

Sam has ordered the given set of mixed positive and negative numbers on an extended number line. This shows he understands that negative numbers are used to represent values below zero.

This work is typical of performance at level 4 in Ma2.

Items of work

The teacher and Vinay discussed falling degrees

Teacher: The temperature today is ten degrees C and tomorrow it falls by twelve degrees C. What will the temperature be then?

Vinay: Minus two degrees.

Teacher: How do you know that?

Vinay: Because 12 is 2 more than 10. It's 10 down to 0 and 2 more go below 0.

Teacher: What is ten degrees less than five degrees C?

Vinay: Minus five degrees C because 10 is 5 plus 5.

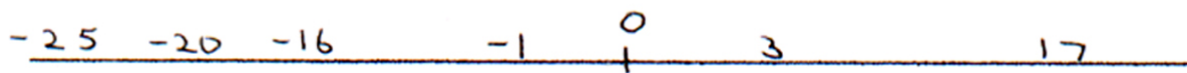Teacher: Which is nearer to zero: five degrees C or minus six degrees C?

Vinay: Five degrees C because 6 is more than 5.

Sam has used a number line to order a set of positive and negative numbers

Put these numbers in order on the number line.

-25   3   -1   32   17   -20   -16   0

-25   -20   -16   -1   O   3   17

About this entry

Subject: mathematics

Year: 5

Key stage: 2

NC programme of study: Ma2p2c

Attainment target: Ma2

Evidence for: level 4

Framework for teaching mathematics – objectives:

- Order a given set of positive and negative integers.