Max’s Snowy Mountain Maths

Learning objective: To count backwards through zero to include negative numbers in context.

Help Max the monkey as he climbs the Frosty Peaks. Use the temperature gauge and the mountain map to answer the questions below. Remember, when the temperature drops below zero, we count into negative numbers.

Max is climbing the Frosty Peaks. At the base of the mountain, the temperature is 5°C. As Max climbs higher, the temperature drops by 2°C for every 100 metres he ascends. By the time Max reaches the halfway point, the temperature is 0°C. He continues to climb until he reaches the very top, where the air is freezing cold and the temperature has dropped another 4°C below zero.

Word bank: negative · positive · decrease · increase · temperature · below zero · difference

1. If the temperature at the top of the mountain is 4°C below zero, how do we write this as a negative number? (1 mark)

2. Max starts at 2°C on the trail and the temperature drops by 5°C. What will the new temperature be? (2 marks)

3. The temperature at the cave entrance is -3°C. If the sun comes out and the temperature rises by 4°C, what is the new temperature? (2 marks)

4. Max finds two thermometers. One reads -6°C and the other reads -2°C. Which one is the coldest temperature? Explain your reasoning. (3 marks)

5. If the temperature is -1°C and it drops by 3 degrees, what will the thermometer show? (2 marks)

Draw: Draw a vertical thermometer showing the temperatures from -10°C to 10°C, and mark where Max is currently standing at -4°C.

Extension challenge: Max wants to know the total difference in temperature between the base of the mountain (5°C) and the peak (-4°C). Can you calculate how many degrees the temperature has changed in total?