

Max's Polar Expedition: Understanding Negative Numbers

Learning objective: To count backwards through zero to include negative numbers and solve problems involving temperature and money.

Help Max the monkey calculate the temperature drops at the icy South Pole and work out his budget for thermal snacks. Read the passage carefully, answer the questions, and use the drawing prompt to visualise the number line.

Max is visiting the South Pole to study how the temperature changes. At midday, the thermometer shows 3°C . As the sun begins to set, the temperature drops by 5 degrees. Max shivers and puts on his thickest coat! Later that evening, the temperature falls by another 4 degrees. Max also has £5 in his pocket to buy hot cocoa. Each cup of cocoa costs £2. If he buys two cups, he will have £1 left. If the temperature drops another 3 degrees tonight, Max knows he needs to be prepared for the cold.

Word bank: negative · positive · decrease · degrees · celsius · below zero · interval

1. Starting at 3°C , what is the temperature after it drops by 5 degrees? (2 marks)

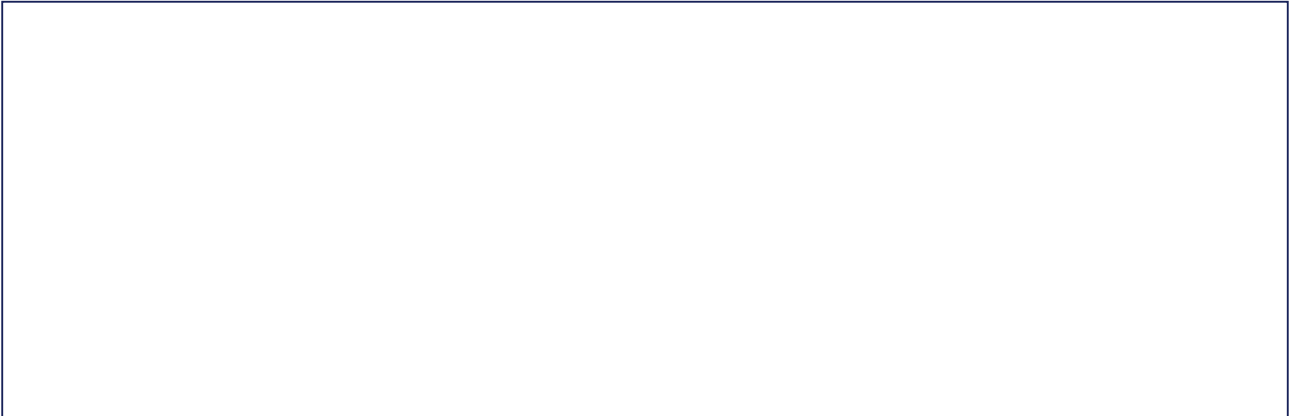
2. If the temperature is -2°C and it drops by another 4 degrees, what is the new temperature? (2 marks)

3. Max has £5 and buys two cups of cocoa at £2 each. How much money does he have left? Show your working. (2 marks)

4. Which is colder: -5°C or -2°C ? Explain how you know using the number line. (2 marks)

5. If the temperature is -6°C and it rises by 3 degrees, what is the new temperature? (2 marks)

Draw: Draw a large, vertical thermometer showing the numbers from 5 down to -10. Colour the area above zero in a light, warm yellow and the area below zero in a cool, icy blue. Draw Max standing next to the thermometer.



Extension challenge: Max finds a 'Temperature Treasure Map' where the starting temperature is -8°C . The temperature rises by 4 degrees, then drops by 6 degrees. What is the final temperature on the map? Write a short story about Max finding the treasure.