

Max's Deep-Freeze Discovery: A Negative Number Investigation

Learning objective: To calculate intervals across zero and solve problems involving negative numbers in context.

Max the monkey is helping a scientist record temperatures in the Arctic. Use this record sheet to track the changing temperatures and solve the maths puzzles hidden in the data. Remember: when the temperature drops below zero, we use negative numbers!

Word bank: integer · degrees Celsius · interval · calculate · difference · below zero · positive · negative

1. Max records a starting temperature of 3°C at midday. By midnight, the temperature has dropped by 7 degrees. What is the new temperature? (2 marks)

2. The temperature at 6:00 am is -4°C . By 10:00 am, it rises by 5 degrees. Explain your method for finding the new temperature. (3 marks)

3. If the temperature changes from -2°C to 4°C , what is the total difference in temperature? (2 marks)

4. Max finds an item in the ice that costs £5 to clean. If he has a balance of -£2 (he owes the scientist £2), and he earns £10 for his work, how much money does he have left after paying for the cleaning? (3 marks)

5. Create your own negative number word problem involving Max and the Arctic temperatures for a friend to solve. (4 marks)

Extension challenge: Research why negative numbers are used in meteorology and write three sentences explaining why scientists need to track temperatures that fall below zero.