

Max's Snowy Mountain Maths

Learning objective: To understand and use negative numbers in context, including counting back through zero.

Read the story about Max the monkey's mountain adventure. Use the information to answer the maths questions below.

Max the monkey is visiting the Snowy Peak Mountains. Max loves maths, even when it gets freezing cold! At the base of the mountain, the temperature is 5°C . As Max climbs higher, the temperature drops. Every 100 metres he climbs, the temperature falls by 2 degrees. When Max reaches the first plateau, the temperature is 1°C . He decides to keep climbing. After another 200 metres, he reaches a windy ridge where the thermometer reads -3°C . Max shivers, but he is excited to see negative numbers in real life! He knows that -3°C is 3 degrees below zero. He makes a note in his journal: 'If it gets 4 degrees colder tonight, the temperature will drop to -7°C .' Max uses his knowledge to stay warm and solve his mountain puzzles.

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

1. Max starts at 5°C . The temperature drops by 6 degrees. What is the new temperature? (2 marks)

2. Explain why -3°C is colder than 1°C . (2 marks)

3. If the temperature on the mountain ridge is -3°C and it rises by 5 degrees, what will the new temperature be? (2 marks)

4. Max sees a frozen puddle. The temperature is -4°C . If the temperature falls another 3 degrees, what will the new temperature be? (2 marks)

5. Max looks at his thermometer. It shows -1°C . He says, 'In two hours, it will be 2°C .' How many degrees does the temperature need to rise to reach 2°C ? (2 marks)

Draw: Draw a vertical thermometer showing the temperatures mentioned in the story (5°C , 1°C , -3°C , and -7°C) with zero clearly marked in the middle.



Extension challenge: Max finds a hidden cave where the temperature is -10°C . If he walks out of the cave into the sun where it is 4°C , what is the total difference in temperature between the cave and the outside?