

Max the Monkey's Temperature Trek

Learning objective: To identify and order negative numbers and calculate intervals across zero.

Read the story about Max the Monkey's mountain expedition and answer the questions below. Remember that temperatures below zero are written with a minus sign.

Max the Monkey is an expert mountaineer. Today, he is climbing the snowy peak of Mount Frosty. At the bottom of the mountain, the temperature is a warm 5°C . As Max climbs higher, the temperature drops. By the time he reaches the first plateau, it is 0°C . Max continues to climb to the summit, where the temperature is -4°C . He decides to climb back down 2 degrees to find a sunny ledge to have his lunch.

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

1. What is the temperature on the sunny ledge where Max has his lunch? Show your working out. (2 marks)

2. Put these temperatures in order, starting with the coldest: 3°C , -5°C , 0°C , -2°C , 1°C . (2 marks)

3. Max finds a frozen pond at -7°C . If the temperature rises by 4 degrees, what will the new temperature be? (1 mark)

4. Explain why -1°C is warmer than -6°C . (2 marks)

5. Max has $\pounds 10$. He buys a hot chocolate for $\pounds 3$ and a warm scarf for $\pounds 8$. Does he have enough money? Use negative numbers to show his balance. (2 marks)

Draw: Draw a vertical number line representing the mountain, showing the temperatures from -10°C to 5°C , and mark where Max is standing.



Extension challenge: If the temperature drops by 3 degrees every hour, and it is currently -2°C , what will the temperature be in 4 hours' time?