

Max's Mountain Maths: Understanding Negative Numbers

Learning objective: To understand, order, and calculate with negative numbers in context, including temperature and bank balances.

Read each question carefully. Use your knowledge of number lines to help you solve these problems. Remember to show your working out.

Max the monkey is exploring the snowy peaks of the Crystal Mountains. He is recording temperatures and tracking his savings for his next big expedition.

Word bank: negative · positive · descend · ascend · interval · difference · below zero · above zero

1. The temperature at the base of the mountain is 4°C . As Max climbs higher, the temperature drops by 7°C . What is the new temperature? (2 marks)

2. Max has £15 in his expedition fund. He buys a new climbing rope for £22. If his account goes into an arranged overdraft (negative balance), how much does he owe the bank? (2 marks)

3. Order these temperatures from coldest to warmest: -5°C , 2°C , -12°C , 0°C , -1°C . (2 marks)

4. At midnight, the temperature is -8°C . By midday, it has risen by 11°C . What is the temperature at midday? (2 marks)

5. Max starts at -3 on a number line. He jumps 5 units in the positive direction, then jumps 4 units in the negative direction. What number does he land on? (2 marks)

Draw: Draw a vertical number line representing a thermometer, starting at -10 and ending at 10. Mark the positions of -7, -2, and 5 clearly on the scale.



Extension challenge: Explain how you know that -12 is colder than -5, even though 12 is greater than 5. Use the term 'number line' in your explanation.