

Max's Minus Mountain Adventure

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

Read Max the monkey's mountain diary below. Use the number line to help you solve the maths puzzles. Remember: when we go below sea level or below zero, the numbers get smaller in value!

Max is climbing the Frosty Peaks. The base camp is at 0 metres above sea level. As Max climbs, he goes into positive numbers. However, he also likes to explore the Crystal Caves, which are located underground. Today, Max started at 5 metres above sea level. He climbed down 8 metres to reach the cave entrance. After finding some shiny rocks, he climbed up 3 metres to a ledge.

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

1. What is the final position of Max relative to sea level after he climbs up the 3 metres? (2 marks)

2. If the temperature at the base camp is 2°C, and it drops by 5°C as Max climbs higher, what is the new temperature? (2 marks)

3. Max has £3 in his pocket but buys a snack for £5. How much debt (negative money) does Max have? (2 marks)

4. What is the difference between 4°C and -3°C? (2 marks)

5. Explain why -10 is smaller than -2 using the number line. (2 marks)

Draw: Draw a vertical number line representing Max's mountain. Label 'Sea Level' at 0. Draw the Crystal Caves at -5m and the mountain peak at 10m.



Extension challenge: Research how negative numbers are used in history (like BC dates) or in bank accounts. Can you write your own word problem involving a temperature change from a positive number to a negative number?