

# Max's Mountain Maths: Understanding Negative Numbers

*Learning objective: To count forwards and backwards with positive and negative whole numbers through zero.*

Max the monkey is exploring the Snowy Peaks! Help him track the temperatures and his climbing progress by filling in the number lines and answering the questions below. Remember, when the temperature drops below zero, we use negative numbers.

Max is climbing up from the base of a valley. The valley floor is 3 degrees below zero ( $-3^{\circ}\text{C}$ ). As Max climbs higher, the temperature rises towards zero and then into positive numbers. On the mountain path, he finds frozen puddles at  $-5^{\circ}\text{C}$  and starts to feel warmer as he reaches the sunny plateau at  $4^{\circ}\text{C}$ .

*Word bank: negative · positive · zero · degrees Celsius · ascending · descending · interval*

**1. Max starts at -4 on the number line. If he jumps 6 steps forward, what number does he land on? (2 marks)**

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**2. The temperature at the bottom of the cliff is  $-2^{\circ}\text{C}$ . By midday, it rises by 5 degrees. What is the new temperature? (2 marks)**

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**3. Order these temperatures from coldest to warmest:  $2^{\circ}\text{C}$ ,  $-5^{\circ}\text{C}$ ,  $0^{\circ}\text{C}$ ,  $-1^{\circ}\text{C}$ ,  $3^{\circ}\text{C}$ . (2 marks)**

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**4. Max is at  $1^{\circ}\text{C}$ . The temperature drops by 4 degrees as a cloud passes. What is the temperature now? (2 marks)**

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**5. If Max has £5 and buys a special climbing rope that costs £8, how much money does he have left? Write your answer as a negative number. (2 marks)**

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**Draw:** Draw a vertical number line shaped like a mountain. Label the bottom of the mountain -10 and the peak 10. Draw Max at the -3 mark and a little sun at the 5 mark.



*Extension challenge: Max wants to climb from -7 to 4. How many steps does he need to take in total? Explain your method.*