

Max the Monkey's Sub-Zero Maths

Learning objective: To be able to count backwards through zero to include negative numbers and solve simple problems involving temperature.

Read about Max's mountain expedition and use the number line to help you answer the questions. Remember that when the temperature drops below zero, the numbers go into the negative.

Max the monkey is climbing the frosty slopes of Silver Peak Mountain. At the base of the mountain, the temperature is a mild 5°C . As Max climbs higher, the air gets colder. For every 100 metres he climbs, the temperature drops by 2 degrees. Max starts at 0°C at the mid-way point. If he climbs 400 metres higher, he will experience temperatures well below zero!

Word bank: negative · positive · degrees Celsius · interval · descend · below zero

1. If the temperature at the mid-way point is 0°C and it drops by 3 degrees, what will the new temperature be? (1 mark)

2. Max is currently at -2°C . If the sun comes out and the temperature rises by 5 degrees, what will the temperature be now? (2 marks)

3. Order these temperatures from coldest to warmest: 2°C , -5°C , 0°C , -1°C , 4°C . (2 marks)

4. Max finds a frozen pond. The water temperature is -4°C . If he adds some warm water to the pond and the temperature increases by 6 degrees, is the water now above or below zero? (2 marks)

5. A thermometer shows -3°C . If it drops another 4 degrees, what will the final reading be? (1 mark)

Draw: Draw a vertical thermometer showing the temperature at -6°C and shade the area below zero in a light blue colour.



Extension challenge: Max finds a hidden cave where the temperature is -10°C . If the temperature outside the cave is 3°C , what is the difference in temperature between the inside of the cave and the outside?