Chilly Heights



Activity

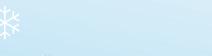
Jonathan and Penny have taken leave from work to climb Aoraki (Mount Cook). Use the information below to help you work out the temperatures at different parts of their climb.

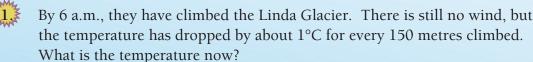
	Altitude (height above sea level)			
Mount Cook Village	700 metres			
Plateau Hut	2 200 metres			
Top of Linda Glacier	3 100 metres			
Summit Rocks	3 400 metres			
Aoraki summit	3 754 metres			

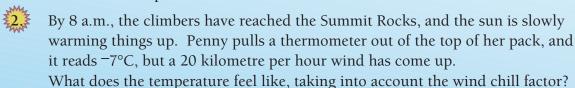


Air Temperature	7	4	1	-1	-4	-7	-10	
Wind speed	Wind chill temperature (in°C)							
20 km/h	4	0	-4	-6	-10	-14	-8	
40 km/h	2	-2	-6	-9	-13	-17	-21	
60 km/h	1	-3	-7	-10	-14	-18	-23	
80 km/h	0	-4	-8	-11	-15	-20	-24	

Jonathan and Penny leave Plateau Hut at 2 a.m. There is no wind, and the temperature is -4°C. The forecast is for a clear, cloudless day.





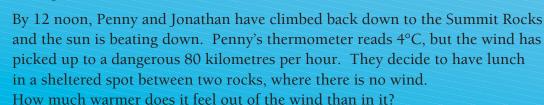


At 10 a.m., they are at the summit of Aoraki. Penny's thermometer reads -4°C, but the wind has picked up to 40 kilometres per hour. What is the temperature that the climbers feel?





What was the temperature at Mt Cook Village at 10 a.m.? Remember that the temperature drops by about 1°C for every 150 metres of height climbed.



When the climbers get back to the Linda Glacier, Penny's thermometer reads 7°C and the wind has dropped to 20 kilometres per hour.
What temperature do the climbers feel now?



