

Outdoor Adventures: Planning and Navigation

Learning objective: To apply knowledge of map symbols, compass directions, and resource management to plan a safe and successful outdoor expedition.

Use your geographical knowledge and mathematical reasoning to solve these expedition challenges. Refer to the word bank if you need help with key terminology.

Max and Nova are planning a hike across the Whispering Woods. They have a budget of £50.00 to buy supplies. They must navigate using an Ordnance Survey-style map, account for the changing terrain, and ensure they have enough food and water for the entire day. The weather forecast indicates a change in conditions, so they must be prepared for anything.

Word bank: Grid reference · Compass points · Topography · Contour lines · Legend · Orientation · Scale · Hazard mitigation

1. Max identifies a steep hill on the map marked with very close contour lines. Explain why close contour lines indicate a steep gradient and how this might influence the team's walking pace. (2 marks)

2. The team needs to purchase supplies: a map for £7.50, a compass for £12.25, and a first-aid kit for £15.40. Calculate the total cost and determine how much change they will have from their £50.00 budget. (3 marks)

3. Compare and contrast the importance of using a physical map versus a digital device when exploring remote areas. Justify your preference. (3 marks)

4. Nova notices a symbol on the legend representing a 'marshy area'. Explain why it is important to identify and avoid this feature during an outdoor adventure. (2 marks)

5. What might happen if the team fails to orientate their map correctly at the start of their journey? Describe the potential consequences for their navigation. (2 marks)

Draw: Draw a map of a fictional woodland area. Include a legend with at least four symbols, a north arrow for orientation, and a scale bar. Show a route that avoids a dangerous 'hazard' area you have drawn.

Extension challenge: Design a 'Survival Strategy' list. If Max and Nova were to get lost, write a persuasive paragraph explaining the three most important actions they should take and why these steps are vital for their safety.