InkBiology

QUESTION WORKBOOK

Water and inorganic ions: the properties life depends on

Biological molecules, water and inorganic ions · Unit B02

AQA 3.1.7, 3.1.8 · OCR A 2.1.2 · CAIE 2.4

8 questions · 25 marks

PRINT EDITION

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SECTION B · Standard, 3 to 5 marks

B1 State two properties of water that result from hydrogen bonding between its molecules, and state one biological consequence of each. [4]

B2 Describe how a hydrogen bond forms between two water molecules. [3]

B3 Explain why the temperature of a large lake changes more slowly during a hot day than the temperature of the air above it. [3]

B4 Explain how sweating cools a mammal, and explain why only a small volume of sweat is needed to remove a large amount of heat. [3]

B5 In winter a pond freezes at the surface while the water below stays liquid. Suggest how this is explained by the structure of ice, and suggest what it means for the animals living in the pond. [3]

B6 Explain why sodium chloride dissolves readily in water but a triglyceride does not. [3]

B7 Give the role of iron(II) ions, phosphate ions and calcium ions in a named structure or process. [3]

B8 A crop grown in soil low in nitrate has pale leaves and grows poorly. Explain why a shortage of nitrate ions has these effects. [3]