

APOLLO

Water

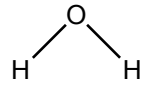
HL

Biology

First assessment 2025

6 questions | questions

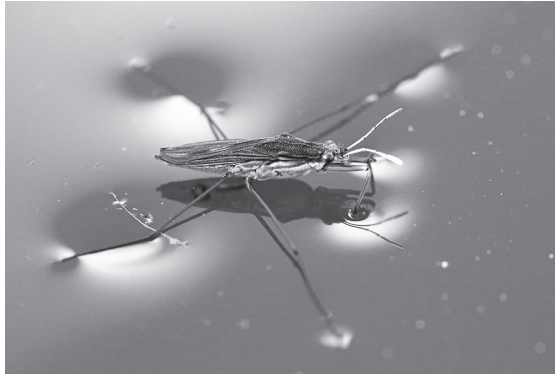
1. Which symbol indicates the polarity of the oxygen atom in the water molecule?



- A. $\delta +$
- B. $\delta -$
- C. $+$
- D. $-$

1. What property of water leads to aquatic environments having low fluctuations of temperature throughout the year?
- A. High specific heat capacity because covalent bonding restricts molecular motion
 - B. Low specific heat capacity because covalent bonding restricts molecular motion
 - C. Low specific heat capacity because hydrogen bonding restricts molecular motion
 - D. High specific heat capacity because hydrogen bonding restricts molecular motion

1. The photograph shows a pond skater.



Which property of water allows the insect to walk on water?

- A. Adhesion
- B. Capillarity
- C. Surface tension
- D. Transparency

Section A

Answer **all** questions. Answers must be written within the answer boxes provided.

2. Water is the medium in which most processes of life occur.

(a) Distinguish between the physical properties of water and air.

[2]

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The ringed seal (*Pusa hispida*) can be found in the Arctic and sub-Arctic regions of the Pacific, Atlantic and Arctic Oceans.



(b) Describe **two** physical adaptations of the ringed seal to live in water.

[2]

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Ringed seals belong to more than one trophic level as they feed on zooplankton and fish. They are secondary consumers when they feed on zooplankton.

(c) State the trophic level of zooplankton.

[1]

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Turn over

- 2.** It has been hypothesized that asteroids were the primary source of Earth's water. What has caused the retention of water on Earth?
- A. The gases of the early atmosphere absorbed water vapour.
 - B. High atmospheric pressure prevented water vapour from escaping.
 - C. Temperatures on Earth allowed condensation of water.
 - D. Water was trapped in the pores of newly formed rocks.

1. What allows the movement of water under tension in the xylem?
- A. Adhesion of water molecules to dissolved mineral salts
 - B. Cohesion of water molecules due to hydrogen bonding
 - C. Adhesion between water molecules due to uneven sharing of charges
 - D. Cohesion between water molecules and other polar substances