

BENCHMARK SC.912.L.18.12

Reporting Category	Molecular and Cellular Biology
Standard	Standard 18 Matter and Energy Transformations
Benchmark	SC.912.L.18.12 Discuss the special properties of water that contribute to Earth’s suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
Benchmark Clarifications	Students will explain the properties of water at a conceptual level. Students will explain how the properties make water essential for life on Earth.
Content Limits	Items referring to the properties of water are limited to hydrogen bonding, polarity, cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent. Items may address adhesion but will not assess adhesion.
Stimulus Attribute	Scenarios must have a biological context.
Response Attributes	None specified
Prior Knowledge	Items may require the student to apply science knowledge described in the NGSSS from lower grades. This benchmark requires prerequisite knowledge of SC.6.E.7.4 and SC.8.P.8.5.

Sample Item 22 SC.912.L.18.12

Water is essential for life. Its special properties make water the single most important molecule in plant life. Which of the following properties of water enables it to move from the roots to the leaves of plants?

- A. Water expands as it freezes.
- B. Water is an excellent solvent.
- ★ C. Water exhibits cohesive behavior.
- D. Water is able to moderate temperatures.