

Name _____

Sublimation and Deposition: The Magical Phase Changes

Open-Ended Response Answer Key

1. Answers may vary but could include applications in chemistry laboratories, pharmaceutical drug development, space exploration, and the preservation of historical artifacts.
2. Sublimation and deposition both involve changes in energy, with sublimation requiring the absorption of energy and deposition releasing energy. Sublimation results in particles going from a solid to a gas, while deposition involves the transition from a gas to a solid.
3. Sublimation and deposition are essential in chemistry for processes like freeze-drying, sublimation purification, and chemical vapor deposition. They can be controlled through temperature and pressure adjustments for specific applications.
4. Sublimation and deposition are key contributors to the water cycle, with sublimation adding water vapor to the atmosphere and deposition removing it. They influence weather patterns, precipitation, and the availability of water resources, impacting ecosystems and climate.

