

Name _____

Pressure's Magical Effects on Matter: The Mystery of the Critical Point

Short Answer Key

1. Pressure can cause a substance to change its phase by altering the intermolecular forces between its particles, leading to a transition between solid, liquid, and gas states.
2. The critical point is a condition where a substance becomes a supercritical fluid, exhibiting properties of both a liquid and a gas, and traditional phase boundaries disappear.
3. One practical application of the critical point is the extraction of caffeine from coffee beans using supercritical carbon dioxide.
4. Increased pressure can cause gases in scuba diving to dissolve in the bloodstream, potentially leading to decompression sickness if not managed properly.
5. An example from everyday life where pressure-related phase changes occur is the use of aerosol spray cans, where the contents are stored as a supercritical fluid and rapidly expand into a gas when released.

