

11. Explain the relationship of the following terms: *concentration*, *partial pressure*, and *partial molar volume*.

(Answers are given in the Student Solutions Manual.)

12. Multiple-choice questions:

12. The vapor cell produced for a gas thermometer for 2000 ft of water has a pressure that was 1/4 that of the atmosphere at sea level. What was the depth of the water? (The effects on water vapor and liquid are ignored.) The density of water was 1000 kg/m³.
12. Calculations can be used to compare the effect of a 1000 ft rise in atmospheric pressure on the boiling point of water at sea level. The boiling point of water is affected because atmospheric pressure affects the average mean molecular weight of the gas. The boiling point of water is affected because atmospheric pressure affects the average mean molecular weight of the gas. The boiling point of water is affected because atmospheric pressure affects the average mean molecular weight of the gas. The boiling point of water is affected because atmospheric pressure affects the average mean molecular weight of the gas.
12. Vapor pressure is the pressure exerted by a vapor in equilibrium with its liquid at a given temperature. The boiling point of a liquid is the temperature at which the vapor pressure of the liquid is equal to the external pressure. The boiling point of a liquid is the temperature at which the vapor pressure of the liquid is equal to the external pressure. The boiling point of a liquid is the temperature at which the vapor pressure of the liquid is equal to the external pressure.
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