

Hot and Cold Equilibrium Demonstration Worksheet

Discussion Questions

- When the violet cobalt chloride is placed in the beaker containing cold water, what color does it turn? Where in the tube does the color change begin and why?
- When the violet cobalt chloride is placed in the beaker containing hot water (70–80 °C), what color does it turn? Where in the tube does the color change begin and why?
- LeChâtelier postulated that if a stress such as a change in concentration, pressure or temperature is applied to a system at equilibrium, the equilibrium is shifted in a way that compensates for the effects of that stress.
 - Given this information, what effect does an increase in temperature have on this system at equilibrium? Write the chemical equation and use arrows above each reactant and product to indicate whether the concentration is increasing or decreasing.
 - What effect does a decrease in temperature have on this system at equilibrium? Write the chemical equation and use arrows above each reactant and product to indicate whether the concentration is increasing or decreasing.
- Use the color wheel and graph below to determine why cobalt(II) chloride appears violet at room temperature.

