Bright Line Emission Spectra & Flame Tests

Answer the following questions after observing the bright line spectra from the lamps and the different colors emitted from the flame tests.

NAME: _____

BLOCK: _____ DATE: _____

1. Explain the following equation: $E = h\nu$ where E equals energy (in joules), h equals Planck's constant, and ν equals the frequency of the electromagnetic radiation (light)

2. When you observe a "normal" lamp with a prism (spectrometer) you see a continuous "spectrum" of light (a rainbow). Explain why the atomic bright-line emission spectrum consists of only discrete (specific) lines of color.

3. Explain why when a specific element is subjected to a flame it emits a different color of light than any other element, potassium, for instance.