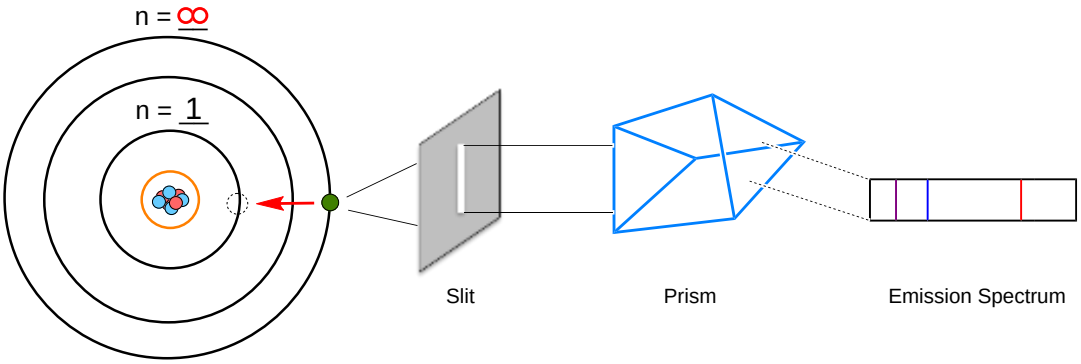
CONCEPT: EMISSION SPECTRUM

- **Emission Spectra** is a series of lines formed when emitted light is focused by a slit and passed through a prism.



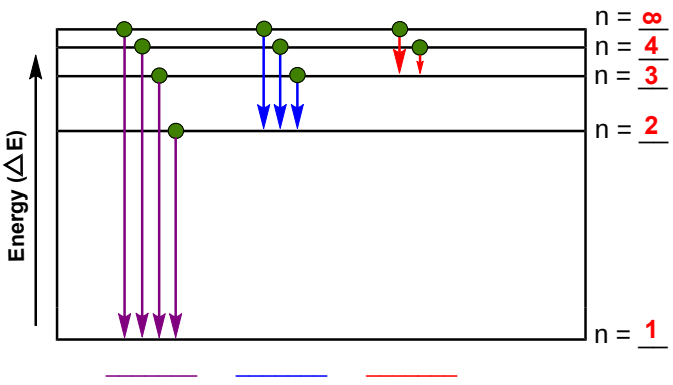
- □ **Slit**: A long narrow cut used to spread closely packed wavelengths, which can later be measured.
- □ **Prism**: Transforms _____ into discrete lines on an emission spectrum.

- **Line Emission Spectra**: When each line of an emission spectra is examined as a series of atomic emissions.
  - □ *Atomic emission* involves releasing energy as an electron goes from a ____ shell to a ____ shell.

Atomic Emission

Line emission spectra show the energy released as electrons travel between different shells.

Line Emission Spectra



Names of emission spectra are based on the final shell reached by the electron.

Line Emission Spectra Names

- □ _____ Series: (Final n = ____)
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EXAMPLE: Which of the following electron emissions corresponds to the Balmer series of lines in the spectrum of a hydrogen atom?

a) n = 4 to n = 3 b) n = 5 to n = 2 c) n = 4 to n = 1 d) n = 3 to n = 6 e) n = 1 to n = 4