

Day 18

"Light" \Rightarrow the electromagnetic spectrum

4 ways to describe light

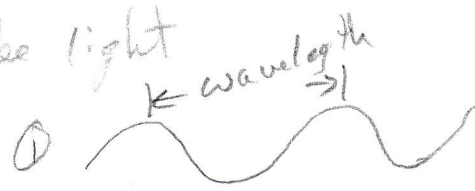
- frequency

- wavelength

- color

- energy

\Rightarrow important idea \Rightarrow every shade of color has a unique energy.



lower freq.
longer wavelength



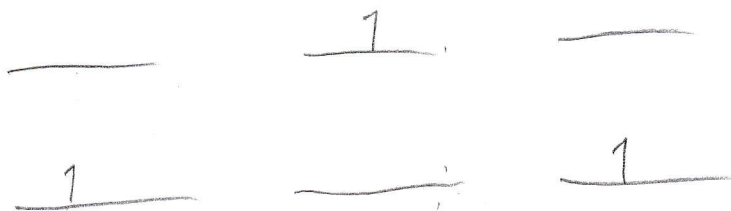
shorter wavelength
higher frequency

IR ROY G BIV ^{uv}

less energy
lower freq.
longer wavelength

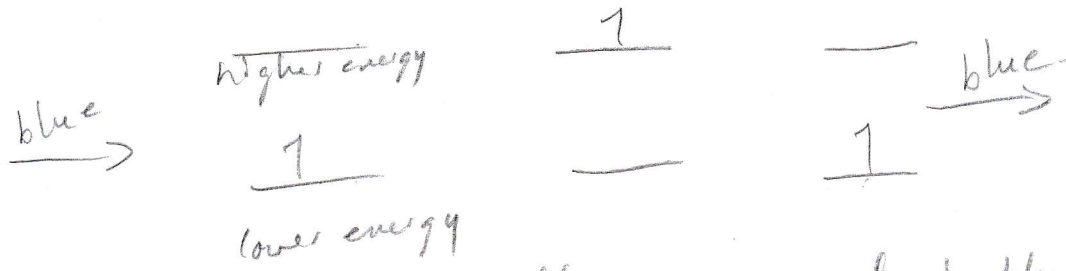
more energy
higher frequency
shorter wavelength

Bohr \Rightarrow each element has a unique set of colors

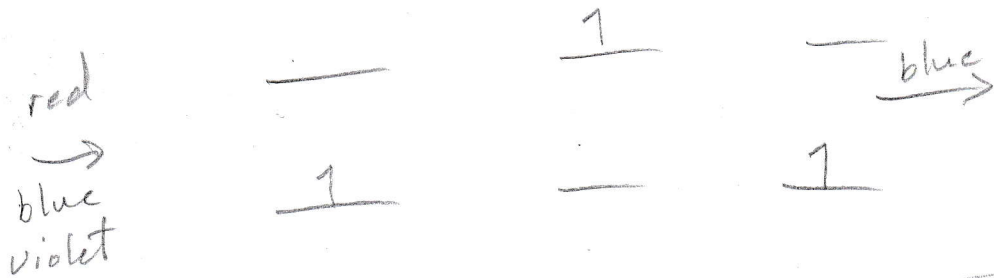


time \rightarrow

- energy levels must be discrete and fixed for each element
- you need exactly the right amount of energy to excite an elec.



assume energy difference corresponds to blue light



white light has all of the colors —
 electricity —