

Quantum Atom Quest

http://www.colorado.edu/physics/2000/waves_particles/index.html

Click on table of contents, Quantum atom, Spectral lines. Read through and answer the questions after clicking next. Click on X-rays and then on CAT scan .

Spectral Lines

1. Do all atoms create the same colors? _____
2. What are Spectral lines? _____
3. Name the color and approximate amount of spectral lines for the following elements:

Be _____

Na _____

Si _____

K _____

Li _____

Bohr's Atom

1. What extraordinary rule about electrons did Bohr come up with? _____
2. What happens when you try clicking on different orbits in the model of an atom with the spinning yellow electron? _____

Energy Levels

1. What is the rule about energy and orbits? _____
2. In order for the energy to go *up* it has to come from somewhere, so it takes some what? _____

Atomic Spectra

1. Do Photons have colors? _____
2. Click on an orbit to make the electron jump energy levels. What happens each time the electron jumps down a level? _____
3. When you have a lot of atoms, you get all these different lines appearing at once. What is this termed? _____

X-Rays

1. How many bones are in the fingers? _____ The palm? _____ the wrist? _____.
2. How are x-rays produced?
3. Why are there light and dark areas on x-rays?
4. Why are x-rays dangerous?

CAT SCAN(if you click on the visible human website, then sampler , you can see slices of the human body)

1. How is a CAT scan different than a traditional x-ray?
2. What are you looking at when you position the box at different angles and then scan?
3. What is “back projection” ?
4. What is happening in the rib cage demonstration?