Atomic Structure

1. Be able to interpret isotopic symbols to obtain protons, neutrons, electrons, mass number, atomic number and compare isotopes
2. Be able to calculate the relative atomic mass of an element given percent abundance and the mass.
3. Which of the electron transitions in the hydrogen atom will be of highest energy?
4. Draw orbital notation for Mg and Zn
5. Write the complete electron configuration for Kr and Si
6. Write the noble gas notation for Co and Cl
7. A sample of iron from a meteorite is analyzed and the following results were obtained:

|  |  |
| --- | --- |
| Isotope | Abundance (%) |
| 54Fe | 5.80 |
| 56Fe | 91.16 |
| 57Fe | 3.04 |

* 1. Name an instrument that could be used to obtain this data
  2. Calculate the relative atomic mass of this sample of iron to two decimal places

1. Describe the difference between a continuous spectrum and a line spectrum
2. Sketch a diagram of the emission spectrum of hydrogen in the visible region, showing clearly the relative energies of any lines
3. Explain how a line in the visible spectrum of hydrogen arises
4. Write the full electron configuration for O2-ion
5. Give a formula on an atom and an ion that have the same number of electrons as an O2- ion