11.1 Introduction to Chemistry

Chemistry

Summarize main points from each video.

Video Title / topic _____

Video Title / topic _____

Video Title / topic _____

Topic Introduction

Summarize your understanding of each paragraph.

All materials on Earth are composed of different combinations of atoms. Atoms are the smallest particles of a chemical element that still have all the unique chemical properties of this element.

Atoms and compounds they form play a role in almost all processes occurring on Earth and in space. All living organisms rely on a set of chemical compounds and chemicals to digest food, energy transport reactions, and to reproduce.

Protons are positively charged (+1), quite the opposite, as the electric charge of electrons (-1). The number of protons in the nucleus determines the total amount of positive charge in the atom.

In electrically neutral atom, the number of protons and electrons is equal, such that positive and negative charges are balanced to zero. Neutrons are about the same size as protons, but slightly heavier.

http://www.ency123.com/2014/03/protons-neutrons-and-electrons.html

Read/Summarize Text

1. **Read the passage.**
2. **Underline key expressions in each sentence.**
3. **Re-write each word (or expression) you underlined.**
4. **Summarize the passage.**

Title of Passage.

1

2

Definition of a Scientific Law. A scientific law is a statement that describes an observable occurrence in nature that appears to always be true. It is a term used in all of the natural sciences (astronomy, biology, chemistry and physics, to name a few).

Definition of atom. The smallest component of an element having the chemical properties of the element, consisting of a nucleus containing combinations of neutrons and protons and one or more electrons bound to the nucleus by electrical attraction; the number of protons determines the identity of the element

http://www.dictionary.com/browse/atom

Re-write words you underlined

3

_____ _____ _____

_____ _____ _____

Using a complete sentence, summarize or rephrase the passage

4

Read Text for Comprehension

Read this article for deeper understanding. No summary is required, although you may want to circle, underline, or mark key ideas and words.

Wikibooks has a weblink for High School Chemistry Students. The topic index includes these subject areas:

The Science of Chemistry; Chemistry - A Physical Science; Chemistry in the Laboratory; The Atomic Theory; The Bohr Model of the Atom; Quantum Mechanics Model of the Atom; Electron Configurations for Atoms; Electron Configurations and the Periodic Table; Relationships Between the Elements; Trends on the Periodic Table; Ions and the Compounds They Form; Writing and Naming Ionic Formulas; Covalent Bonding; Molecular Architecture; The Mathematics of Compounds; Chemical Reactions; Mathematics and Chemical Equations; The Kinetic-Molecular Theory; The Liquid State; The Solid State; The Solution Process; Ions in Solution; Chemical Kinetics; Chemical Equilibrium; Acids; Water, pH, and Titration; Thermodynamics; Electrochemistry; Nuclear Chemistry; Organic Chemistry.

The article and associated information is found at this link:

https://en.wikibooks.org/wiki/High_School_Chemistry

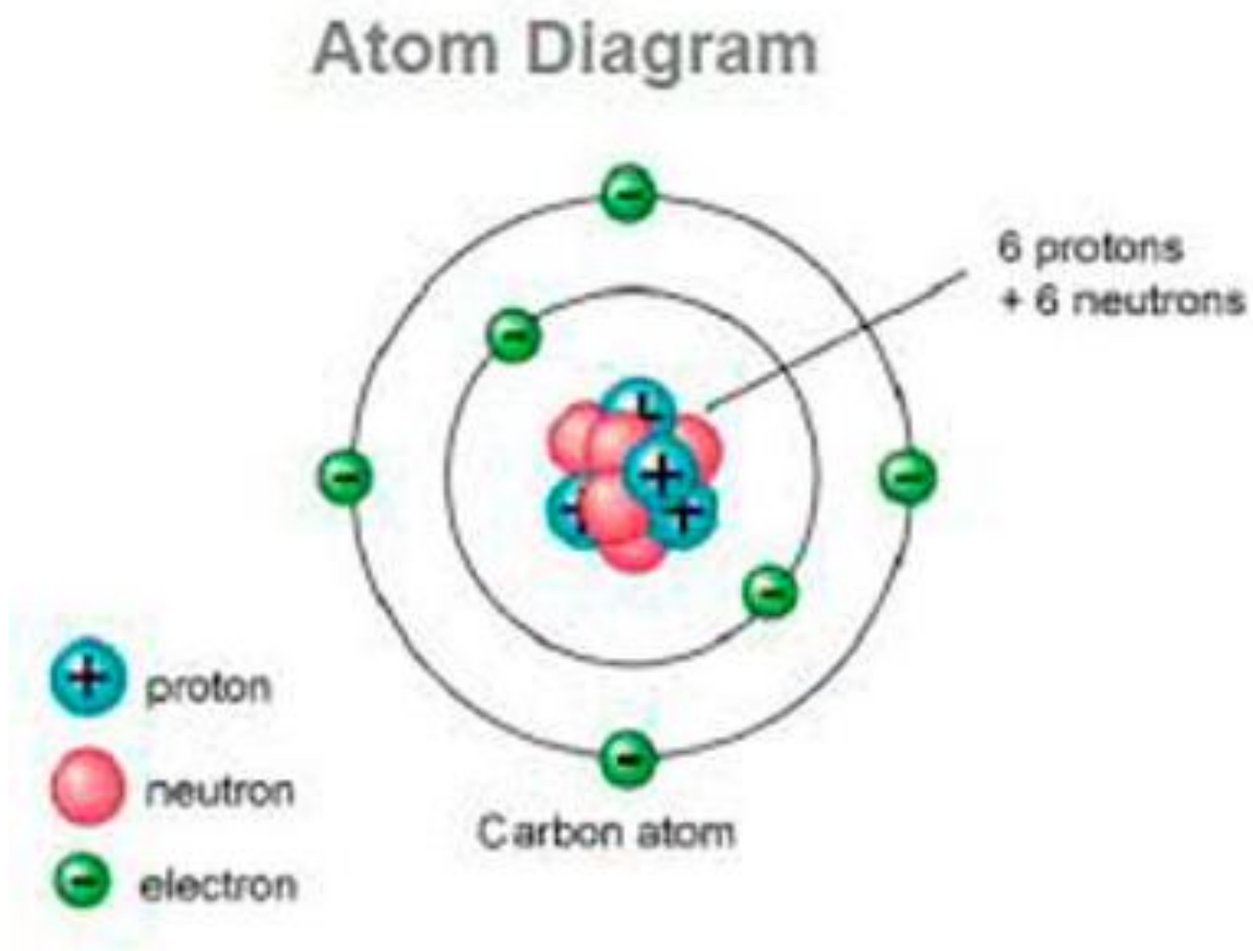
Additionally, you may download a free 197 page pdf-format workbook found at:

https://upload.wikimedia.org/wikipedia/commons/3/37/High_School_Chemistry_Workbook.pdf

While students are not required to have internet access at home to complete this course, this suggested free resources is both informative and convenient for those with web access.

Draw Illustration

Copy and Label the Illustration in the Space Provided



http://www.ency123.com/2013/07/what-is-atom.html

Draw (Copy) the Illustration Here

Interpret a Graph

Write the title of the graph _____

Circle the type of chart this represents

Bar Chart *Line Chart* *Pie Chart* *Other*

If applicable,

What does the X-axis represent _____

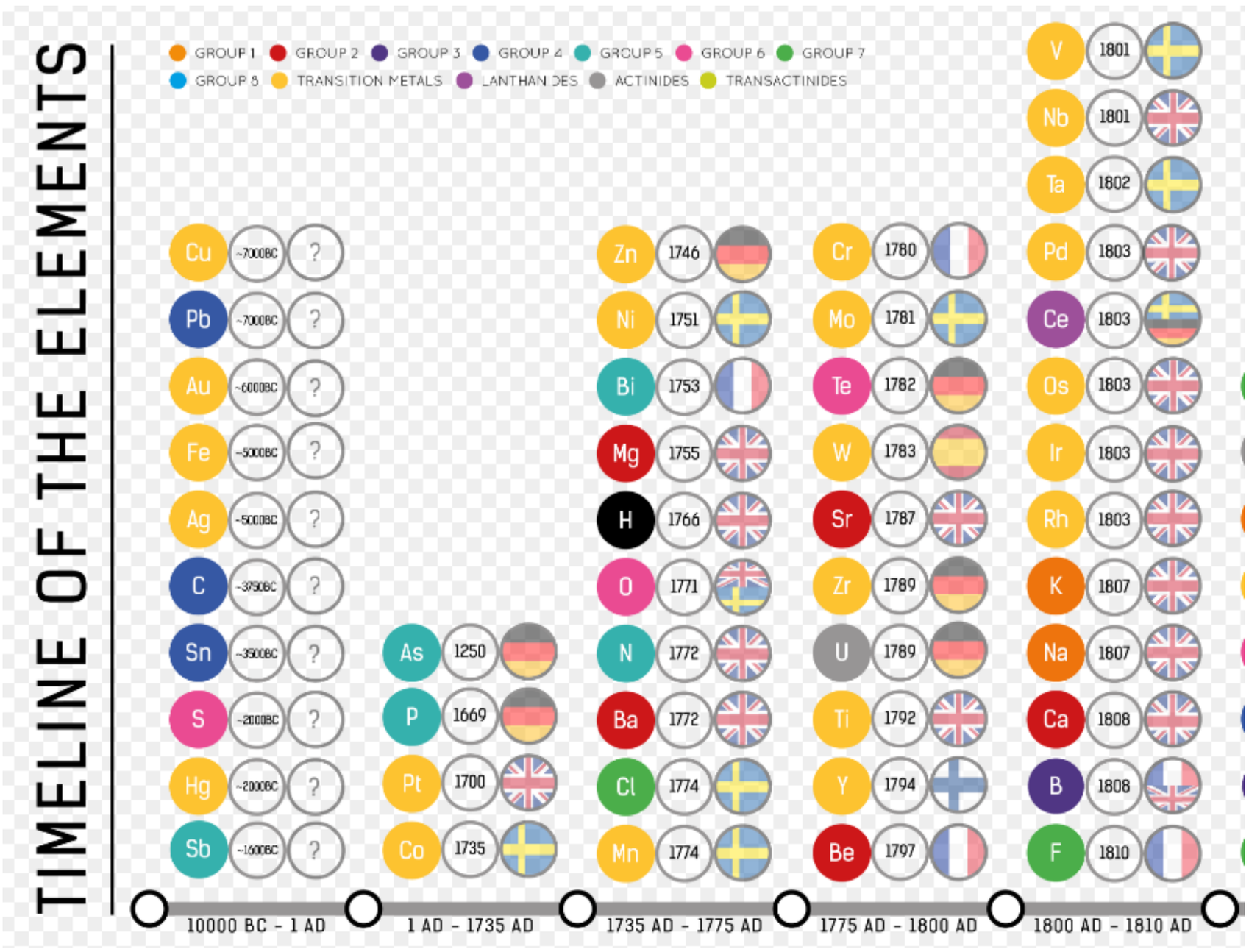
What does the Y-axis imply _____

Summarize what this graph represents or conveys

_____

www.compoundchem.com

Note: this is only a partial graphic. Full graphic extends through 2014 AD.



Show-Off Your Smarts!

Instructions

- Complete as an individual or small group.
- Discuss your ideas/answers/responses in a small group.
- Select one person to present your responses to the class.

Q1. How can this information be applied to a young-person's life?

Q2. How does this information apply to (or impact) communities?

Q3. When do scientists need to apply this information? How?

Q4. How would a person from 100 years ago view this information?

Q5. How does this topic connect to other science topics or math?

Write down at least three words introduced or covered by this topic.

1.
2.
3.
4.
5.
6.

Make a Poster

In the space provided here, create/draw a poster which conveys the concepts you have learned on this topic.