Unit 2 Chemistry

The Big Idea: The kinetic molecular theory and the theory of the atom explain the behaviour of matter.

2.2 Atomic Theory

In this section will think about the following question: If atoms are invisible to the naked eye, how do we know they exist?

Dalton's Atomic Theory Video Questions

1. Who is John Dalton?

2. All matter, whether an element, a compound or a mixture is made up of very tiny particles called _____.
3. All atoms of a given element are identical in _____ , _____ and chemical properties.
4. Atoms of different elements differ in _____ , _____ and chemical properties.
5. Atoms are _____ particles which can neither be created nor _____ in a chemical reaction.
6. Atoms combine together in fixed whole number ratios to form _____.
7. In a chemical reaction, atoms only get _____.
8. Atom of an element does not change into the atom of another _____-_____.

How do we know that things are really made of atoms?
Go to the BBC article by Chris Baraniuk. As you read answer the following questions:

1. Can you see an atom under a microscope?

2. What makes an object visible under a microscope?

3. Do atoms deflect light?

4. What Greek word does the word 'atom' derive from and what does it mean?

5. What three parts are atoms made up of?

6. How does the article describe an atom? (hint: sun)

7. If subatomic particles (ex. electrons) are so small, how do we know they're there?

8. JJ Tomson discovered the electron using an experiment called the Cathode Ray Tube. Watch the video below to see how this experiment was conducted. This experiment is extremely clever, and a little tricky to understand, so don't stress if this sounds like gibberish to you.
9. Are atoms solid little pieces of matter?

10. Ernest Rutherford contributed to the discovery of the proton. Watch the video below to see how this experiment was conducted.
11. You may stop reading the article at this point.

~ ~ ~ Hand in section 2.2 to your teacher ~ ~ ~