

Unit I – Matter and the Rise of atomic Theory

Prior to watching the video consider the following questions...

1. When was chemistry invented?
2. What were the first practical uses of chemistry?
3. What major historical events provided the context for the transformation of chemistry into a science?
4. Has the definition of chemistry changed over time? If so, how?
5. How did the development of tools contribute to chemistry as a science?

As you watch the video answer the following questions...

Please write your answers neatly in the space provided.

1. What are the two elements found in sand that can be converted into the chemical components for computers, solar panels and smart phones?
2. The ancient Greek philosopher Aristotle suggested that all matter is made of just four elements. What are they?
3. Give three examples of substances that the Arab alchemist Jabir is credited for.
4. What process did Jabir use to purify chemical substances?
5. Christopher Morse shows how a mixture of beach sand and salt water can be separated by distillation. Is the sand and salt water mixture heterogeneous or homogeneous? (Consult a text if you are not sure).
6. When making a solar cell, the 99.9999% silicon does not have the proper electronic properties so the chemists must add another substance called a dopant. What element is used as the dopant in making the silicon based solar cell?

7. True or false... a single crystal of silicon is composed of only a few atoms.
8. What is phlogiston?
9. French chemical philosopher Antoine Lavoisier performed experiments with metal mercury in an attempt to disprove phlogiston theory. What did Lavoisier replace phlogiston theory with?
10. In Lavoisier's mercury experiments, what element was combining with the metal mercury?
11. What did Lavoisier later prove about the composition of water?
12. What metal atoms are found in solar cells that act as road blocks and impede electron flow and reduced the performance of the cell?
13. Please write a few sentences about what you think the big idea(s) is (are) behind this video segment.