**Name: Period: Seat#:**

**The questions are in chronological order.Times are estimates. You do not need full sentences.**

1. Where does an element take its identity from? (4:30)
2. How much gold (Au) is extracted per ton of rock ore? (7:30)
3. How much does a gold (Au) bar weigh and how much is it worth? (12:00)
4. Why is copper (Cu) so widely sought on the world market and New York Mercantile Exchange? (15:00)
5. What is copper (Cu) combined with to make bronze? (17:00)
6. What makes metals like Copper (Cu) conductive to electricity? (19:00)
7. Bronze is an alloy. What is an alloy and why are they preferable at times? (21:00)

**Worksheet #8**

1. How does the atomic arrangement of atoms lead to its crystal structure like was seen in the sample of bronze with gold (Au) and tin (Sn) atoms? (31:00)
2. What is the atomic number and what does the atomic number indicate? (33:00)
3. Most of the periodic table is made of what type of elements? (34:00)
4. How did early chemists like Mendeleev classify the elements? (37:00)
5. How is the periodic table structured with regard to elements with similar properties? (39:00)
6. What makes noble gases stable? (42:00)

1. Why is an alkali metal element like Sodium (Na) so reactive? (44:00)
2. What does chlorine (Cl) do for sodium (Na+)? What tasty substance is produced when this happens? (47:00)
3. What powers explosions and fire? (54:00)
4. What elements are basic to all living things? (58:00)
5. Why is Carbon (C) so good for forming the structure of life? (1:05:00).
6. What are at least three (3) other elements that are used for life functions and what are their uses? (1:11:00)
7. Why are cyanobacteria from places like volcanic pools so important for the production of oxygen in our atmosphere? (1:16:00)
8. What was the original element formed moments after the Big Bang? What then created higher order elements? (1:18:00)
9. How does silicon shape our technological reality? (1:21:00)
10. How are rare earth elements like neodymium (Nd) important to our technological world? (1:26:00)
11. What is an isotope like Carbon-14? (1:41:00)
12. How can an isotope like Carbon-14 be used to date dead organisms? (1:43:00).
13. What is an unstable radioactive isotope? (1:45:00)
14. Why don't the man-made radioactive elements exist for very long? (1:57:00)