NOVA Video Questions: *Hunting the Elements*	Name: Per: Seat #:

http://www.pbs.org/wgbh/nova/physics/hunting-elements.html

1) Where does an element take its identity from?

2) How much gold (Au) is extracted per ton of rock ore?

3) How much does a gold (Au) bar weigh and how much is it worth?

4) Why is copper (Cu) so widely sought on the world market and New York Mercantile Exchange?

5) What is copper (Cu) combined with to make bronze?

6) What makes metals like Copper (Cu) conductive to electricity?

7) Bronze is an alloy. What is an alloy and why are they preferable at times?

8) 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?

9) What is the atomic number and what does the atomic number indicate?

10) Most of the periodic table is made of what type of elements?

11) How did early chemists like Mendeleev classify the elements?

12) How is the periodic table structured with regard to elements with similar properties?

13) What makes noble gases stable?

14) Why is an alkali metal element like Sodium (Na) so reactive?

15) What does chlorine (Cl-) do for sodium (Na+)? What tasty substance is produced when this happens?

16) What powers explosions and fire?

17) What elements are basic to all living things?

18) Why is Carbon (C) so good for forming the structure of life?

19) What are at least three (3) other elements that are used for life functions and what are their uses?

20) Why are cyanobacteria from places like volcanic pools so important for the production of oxygen in our atmosphere?

21) What was the original element formed moments after the Big Bang? What then created higher order elements?

22) How does silicon shape our technological reality?

23) How are rare earth elements like neodymium (Nd) important to our technological world?

24) What is an isotope like Carbon-14

25) How can an isotope like Carbon-14 be used to date dead organisms?

26) What is an unstable radioactive isotope?

27) Why don't the man-made radioactive elements exist for very long?