History of the Atom

Read the article and then answer the questions that follow.

The name “atom” was first coined by the ancient Greek scientist Democritus. Much later in 1803, an English schoolteacher named John Dalton proposed the idea that all matter is made of atoms. Dalton thought that atoms were small, indestructible particles. Then in 1897, electrons were discovered. This meant that atoms were made of even smaller sub-atomic particles. In 1904, J.J. Thomson developed the “plum-pudding” model of the atom which suggested that the atom was a sphere with electrons embedded in its surface.

Seven years later, a New Zealand physicist named Ernest Rutherford found through experimentation that the atom was mostly empty space with a very, small but dense centre. His proposal was that the atom contained a nucleus of protons surrounded by a large area containing electrons.

In 1923, the Japanese scientist, Nagaoka, suggested that electrons were moving in orbits around the nucleus in a way similar to that of the planets around the sun.

Choose which meaning best suits each of these words:

9. Coined
   *thought of
   *minted
   *bought

2. Indestructible
   *not breakable
   *destroyed
   *soft

3. Particle
   *crumb
   *small piece
   *apart

5. Physicist
   *chemist
   *scientist who studies physics
   *student

6. Dense
   *dumb
   *heavy
   *silly

7. Nucleus
   *explosive
   *centre
   *membrane

4. <u>Sub-atomic</u>
   *smaller than atom
   *bigger than atom
   *same size as atom

8. <u>Orbits</u>
   *space
   *stars
   *paths around sun

Answer these questions:

9. Who thought that atoms were small indestructible particles? _____

10. What model was developed to explain the existence of electrons? _____

11. What sub-atomic particle is thought to be in the nucleus according to the article? _____

12. What sub-atomic particle believed now to be in the nucleus is not mentioned in the article? _____