



Name _____ Class _____ Date _____

1 In the currently accepted model of the atom, a **fuzzy cloud** around a hydrogen nucleus is used to **represent** the

- A electron's actual path, which is not a circular orbit
- B general region where the atom's proton is most probably located
- C general region where the atom's electron is most probably located
- D presence of water vapor in the atom

2 The **isotopes** of an element can be **separated** using a

- A cathode ray tube
- B diffraction grating
- C Geiger counter
- D mass spectrometer

3 Which device is used to **detect nuclear radiation**?



4 A medical lab has a **16-gram** sample of a radioactive isotope. After **6.0 hours**, it is found that **12 grams** of the sample have decayed. **What is the half-life of the isotope?**



PREVIEW

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7 **alpha particles** emitted is

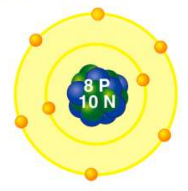
- A 5
- B 6
- C 8
- D 14

level. The **energy** of the emitted photon is

- A 1.51 eV
- B 1.89 eV
- C 3.40 eV
- D 4.91 eV

9 If **nitrogen nuclei** are bombarded with alpha particles they can be **changed** into **oxygen nuclei**. This **phenomenon** is known as

- A nuclear fission
- B nuclear fusion
- C artificial transmutation
- D particle scattering



10 **One atomic mass unit** is defined as

- A the mass of an electron
- B the mass of an alpha particle
- C the mass of an atom of carbon-12
- D $\frac{1}{12}$ the mass of an atom of carbon-12



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A cyclotron

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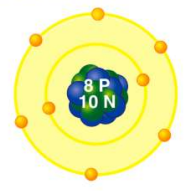
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