



Name _____ Class _____ Date _____

1 How much **energy** would be generated if a 1.0×10^{-3} kilogram mass were completely **converted** to energy?

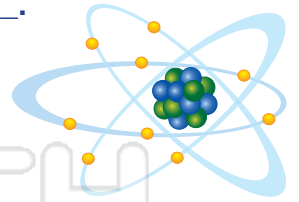
Circle the answer letter.

- a. 9.3×10^{-1} MeV
- b. 9.0×10^{13} J
- c. 9.0×10^{16} J



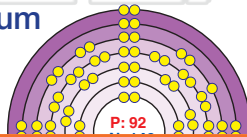
6 As the nucleus of an unstable atom emits only **gamma radiation**, the **nucleus must** _____.

- a. gain energy
- b. lose energy
- c. lose protons



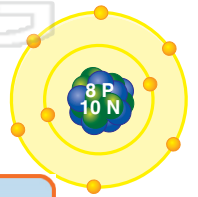
2 One **isotope** of uranium is $^{238}_{92}\text{U}$. **Any other isotope** of uranium must have _____.

- a. 92 protons



7 The **isotopes** of an element can be **separated** using a _____.

- a. diffraction grating
- b. cathode ray tube
- c. mass spectrometer



3 A
n
o
a
k
c
4 A
d
n
n



PREVIEW

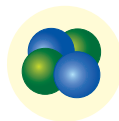
Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

minutes? Write the answer below.

12 g

5 An **alpha particle** consists of two protons and two neutrons. The alpha particle's charge of **+2 elementary charges** is **equivalent to** _____. Circle the answer.

- 8.0×10^{-20} C
- 3.2×10^{19} C
- 3.2×10^{-19} C
- 1.2×10^{19} C

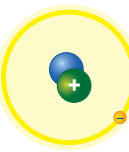


- a. protect the reactor operators from radiation
- b. adjust the number of neutrons
- c. transfer thermal energy to a heat exchanger



10 An **electron** in a hydrogen atom drops from the $n = 3$ energy level to the $n = 2$ energy level. Circle the **energy** of the **emitted photon**.

- 1.51 eV
- 1.89 eV
- 3.40 eV



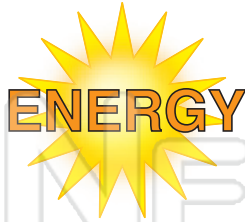


Name _____ Class _____ Date _____

1 How much **energy** would be generated if a 1.0×10^{-3} kilogram mass were completely **converted** to energy?

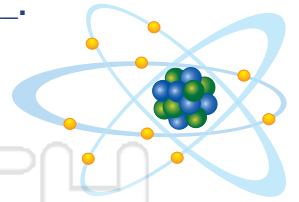
Circle the answer letter.

- a. 9.3×10^{-1} MeV
- b. 9.0×10^{13} J
- c. 9.0×10^{16} J



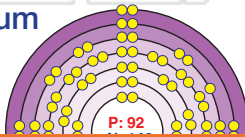
6 As the nucleus of an unstable atom emits only **gamma radiation**, the **nucleus must** _____.

- a. gain energy
- b. lose energy
- c. lose protons



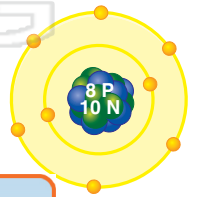
2 One **isotope** of uranium is $^{238}_{92}\text{U}$. Any other **isotope** of uranium must have _____.

- a. 92 protons



7 The **isotopes** of an element can be **separated** using a _____.

- a. diffraction grating
- b. cathode ray tube
- c. mass spectrometer



3 A nucleus of an atom is located in the center of the atom. The mass of a nucleus is not a function of the number of protons in the nucleus. The mass of a nucleus is approximately equal to the sum of the masses of the protons and neutrons in the nucleus.



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

4 A nucleus of an atom is located in the center of the atom. The mass of a nucleus is not a function of the number of protons in the nucleus. The mass of a nucleus is approximately equal to the sum of the masses of the protons and neutrons in the nucleus. How long does it take for a nucleus to decay? Write the answer below.

12 g

5 An **alpha particle** consists of two protons and two neutrons. The alpha particle's charge of **+2 elementary charges** is **equivalent to** _____. Circle the answer.

- 8.0×10^{-20} C
- 3.2×10^{19} C
- 3.2×10^{-19} C
- 1.2×10^{19} C



- a. protect the reactor operators from radiation
- b. adjust the number of neutrons
- c. transfer thermal energy to a heat exchanger



10 An **electron** in a hydrogen atom drops from the $n = 3$ energy level to the $n = 2$ energy level. Circle the **energy** of the **emitted photon**.

- 1.51 eV
- 1.89 eV
- 3.40 eV

