

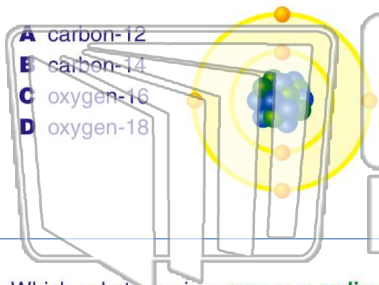


Name _____ Class _____ Date _____

1

A **radioactive isotope** used in the study of many **organic reaction mechanisms** is

- A carbon-12
- B carbon-14
- C oxygen-16
- D oxygen-18



2

High energy is a **requirement** for fusion reactions to occur because the nuclei involved

- A attract each other because they have like charges
- B attract each other because they have unlike charges
- C repel each other because they have like charges
- D repel each other because they have unlike charges

3

Which substance is a **gaseous radioactive waste product** that is released into the atmosphere after it has decayed to a safe radiation level?

4

Which type of radiation has **zero mass** and **zero charge**?

5



PREVIEW

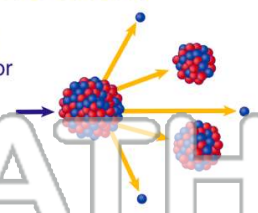
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7

spectral lines?

- A neutron absorption by the nucleus
- B gamma ray emission from the nucleus
- C movement of electrons to higher energy levels
- D return of electrons to lower energy levels

- A a moderator
- B an accelerator
- C a fuel rod
- D shielding



9

Which statement explains why **fusion reactions** are difficult to initiate?

- A Positive nuclei attract each other.
- B Positive nuclei repel each other.
- C Neutrons prevent nuclei from getting close enough to fuse.
- D Electrons prevent nuclei from getting close enough to fuse.

10

A **particle accelerator** is used to provide charged particles with sufficient

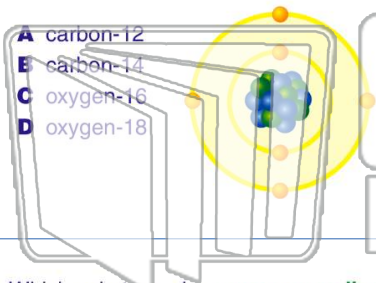
- A kinetic energy to penetrate a nucleus
- B kinetic energy to penetrate an electron cloud
- C potential energy to penetrate a nucleus
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