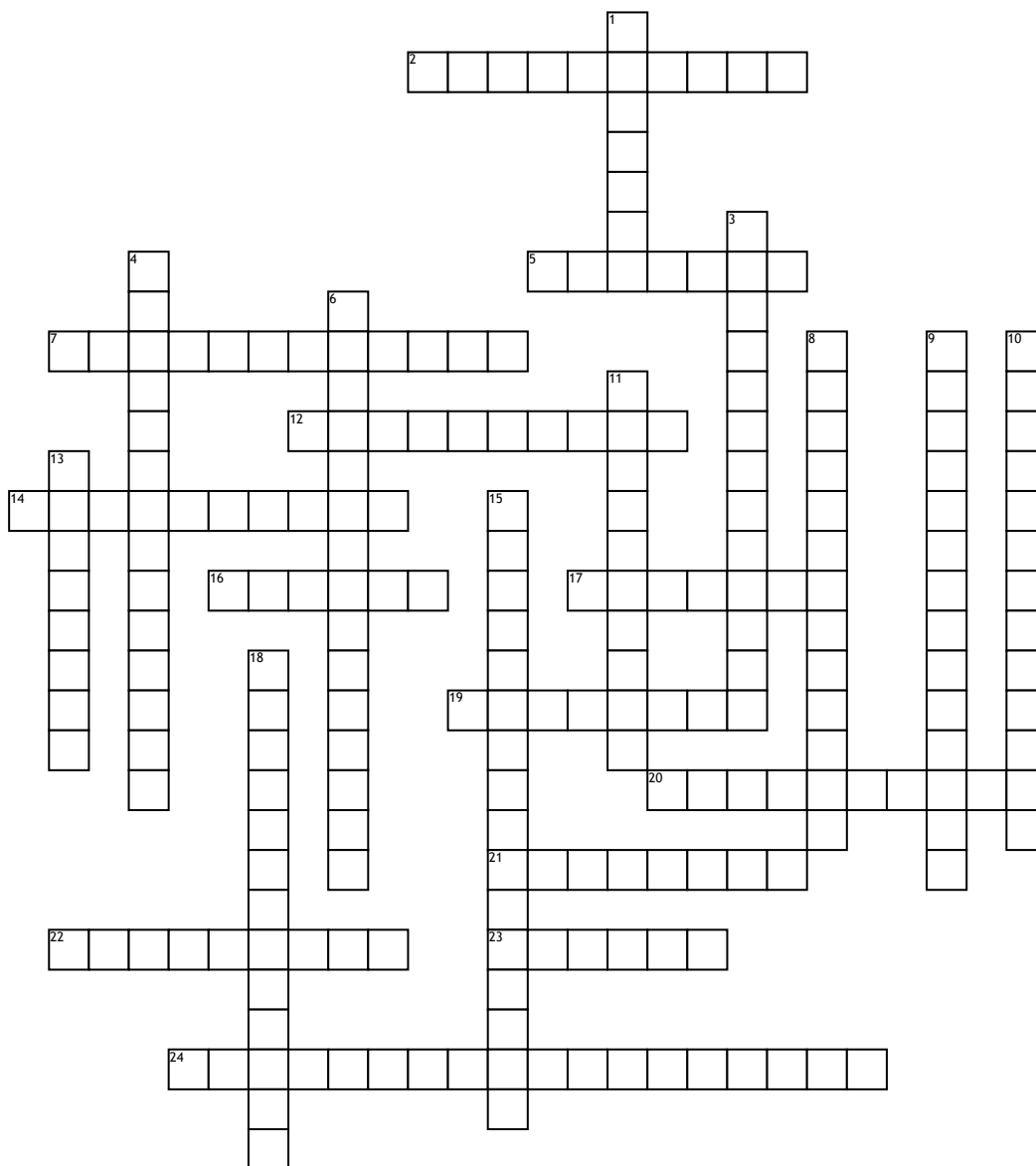


Name: _____ Date: _____ Period: _____

Physics



Across

2. the difference between the mass of an isotope and its mass number.

5. the splitting of a heavy nucleus into lighter nuclei

7. number of protons

12. a type of radioactive decay in which an atomic nucleus emits an alpha particle

14. type of radioactivity in which an unstable atomic nucleus dissipates energy by gamma emission, producing gamma rays

16. an elementary particle and a fundamental constituent of matter

17. a distinct kind of atom or nucleus characterized by a specific number of protons and neutrons

19. a proton or neutron

20. emitting or relating to the emission of ionizing radiation or particles.

21. a measure of the "effective concentration" of a species in a mixture

22. radioactive decay in which an electron is emitted.

23. the process by which multiple atomic nuclei join together to form a heavier nucleus.

24. In the context of binding protons and neutrons together to form atomic nuclei, the strong interaction is called the _____

Down

1. a subatomic particle, such as an electron, muon, or neutrino, that does not take part in the strong interaction.

3. particles that give rise to forces between other particles

4. a unit of mass used to express atomic and molecular weights

6. a change in the identity or characteristics of an atomic nucleus that results when it is bombarded with an energetic particle, as in fission, fusion, or radioactive decay.

8. a self-sustaining series of reactions

9. the conversion of a radiation quantum into an electron and a positron

10. a mathematical description of the elementary particles of matter and the electromagnetic, weak, and strong forces by which they interact

11. all the protons and neutrons

13. the time taken for the radioactivity of a specified isotope to fall to half its original value.

15. The fundamental force that acts between leptons and is involved in the decay of hadrons.

18. the energy that holds a nucleus together, equal to the mass defect of the nucleus