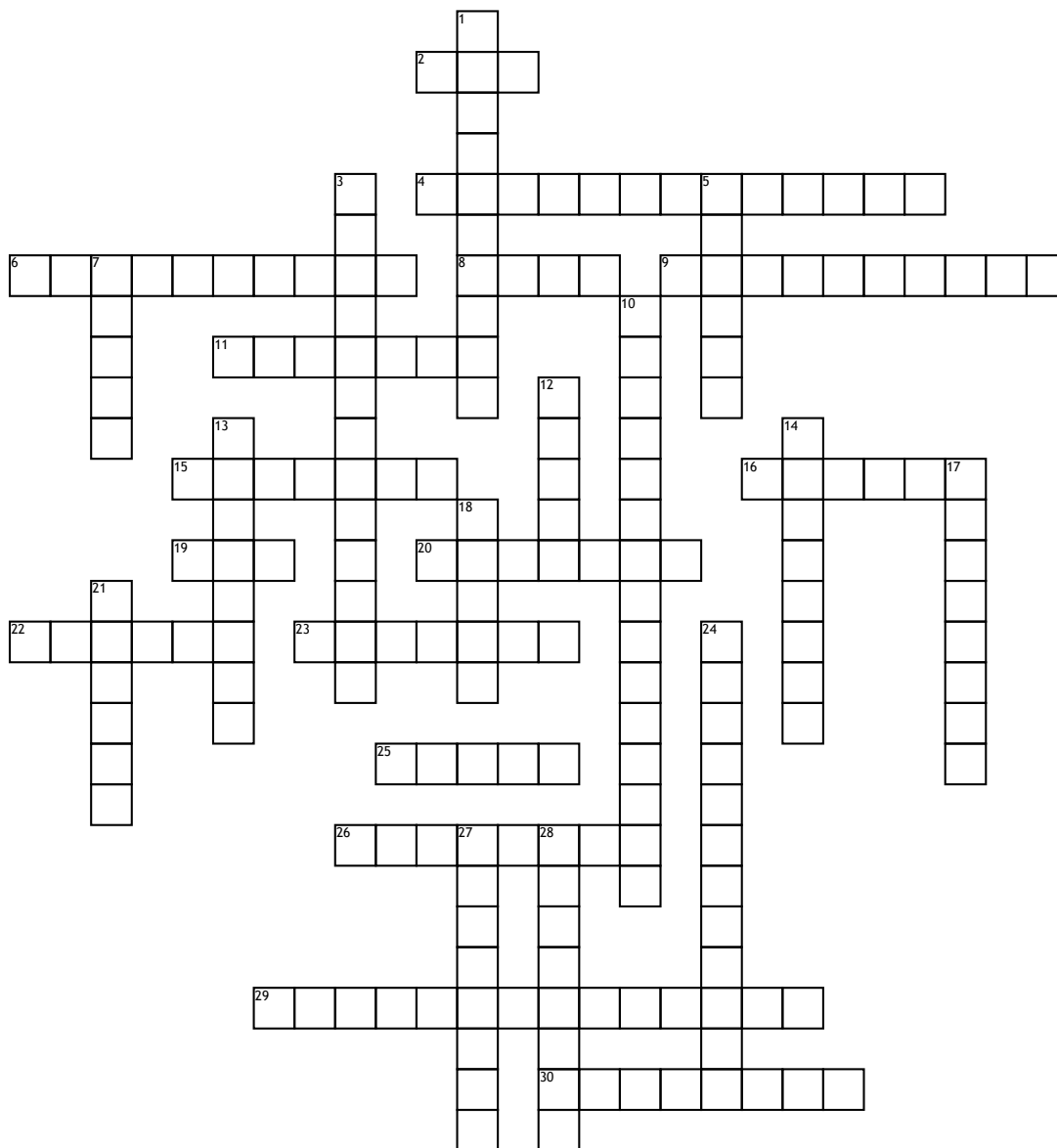


Name: \_\_\_\_\_

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# Atomic Structure and the Periodic Table



**Across**

- 2. Each \_\_\_\_\_ on the Periodic Table represents the number of "energy levels" an element has.
- 4. The elements are organized into this grid.
- 6. When elements react they form new \_\_\_\_\_.
- 8. The smallest unit of matter with all the properties of that substance.
- 9. Characteristics that are measurable or observable are called physical \_\_\_\_\_.
- 11. An element that can have a variable number of neutrons in its nucleus.
- 15. The "outer energy shell" of an atom
- 16. Each \_\_\_\_\_ on the periodic table represents the number of valence electrons in an element.
- 19. A charged particle.
- 20. A neutron has a \_\_\_\_\_ charge.

22. Atoms with full outer energy shells are known to be \_\_\_\_\_.

- 23. The center of an atom where the protons and neutrons are located.
- 25. Electrons are "stolen" in this type of bond.
- 26. Reactivity is a \_\_\_\_\_ property.
- 29. An abbreviated way to name an element.
- 30. Subtract the atomic number from the atomic mass to find the number of \_\_\_\_\_.

**Down**

- 1. A "Family" of elements that do not typically react with other elements.
- 3. The location around the nucleus where electrons orbit.
- 5. This element is found in all organic matter and has four valence electrons.
- 7. The "electronic connections" between elements in a molecule.

10. NaCl is the \_\_\_\_\_ for salt.

- 12. Other than hydrogen and helium, the number of electrons needed to fill the valence shell.
- 13. The "Family" of elements that are very reactive.
- 14. Protons have a \_\_\_\_\_ charge.
- 17. Electrons have a \_\_\_\_\_ charge.
- 18. "Like" electric charges \_\_\_\_\_ each other.
- 21. A group of elements with similar properties are known as a \_\_\_\_\_.
- 24. This matches the number of protons in an atom.
- 27. A combination of one or more atoms.
- 28. Electrons are "shared" in this type of bond.