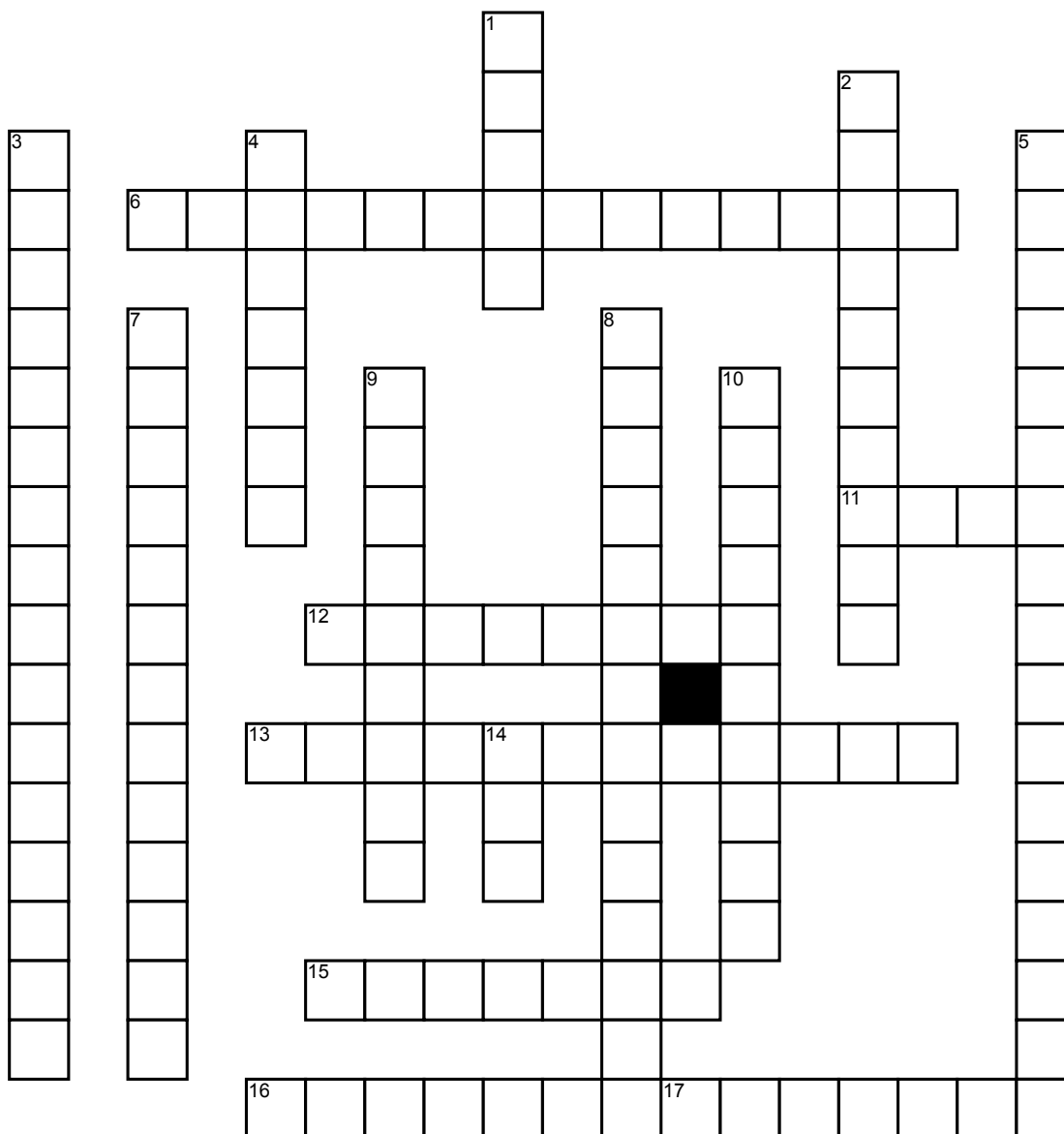


ATOMS & ELEMENTS



Across

6. An abbreviation or short representation of a chemical element; the symbols in the periodic table

11. The smallest component of an element having the physical and chemical properties of the element

12. A particle of atoms consisting of a charge of negative electricity; mass = $1/1,836$ amu.

13. The number of positive charges or protons in the nucleus of an atom of a given element

15. The positively charged mass within an atom, composed of neutrons and protons, and possessing most of the mass but occupying only a small fraction of the volume of the atom.

16. A stable, positively charged subatomic particle.

17. One of two or more atoms having the same atomic number but different mass numbers due to more or less neutrons. There are 275 isotopes of the 81 stable elements.

Down

1. Any of a class of elementary substances, As gold, silver, or copper, all of which are crystalline when solid and many of which are characterized by opacity, ductility, conductivity, and a unique luster when freshly fractured

2. The atomic mass of a chemical element is the average mass of an atom. Atomic Mass = Protons + Neutrons

3. Electrons found on the outermost shell or orbital of an atom. These electrons are available for atomic bonding.

4. An elementary particle having no charge, mass slightly greater than that of a proton

5. Particles that are smaller than an atom, including protons, neutrons and electrons.

7. A tabular arrangement of the elements according to their atomic numbers so that elements with similar properties are in the same column.

8. The group of electrons revolving around the nucleus of an atom; a cloudlike group of electrons.

9. An element that has both metallic and nonmetallic properties, as arsenic, silicon, or boron

10. The sum of the number of neutrons and protons in an atomic nucleus.

14. A positively or negatively charged atom due to gain or loss of electrons.