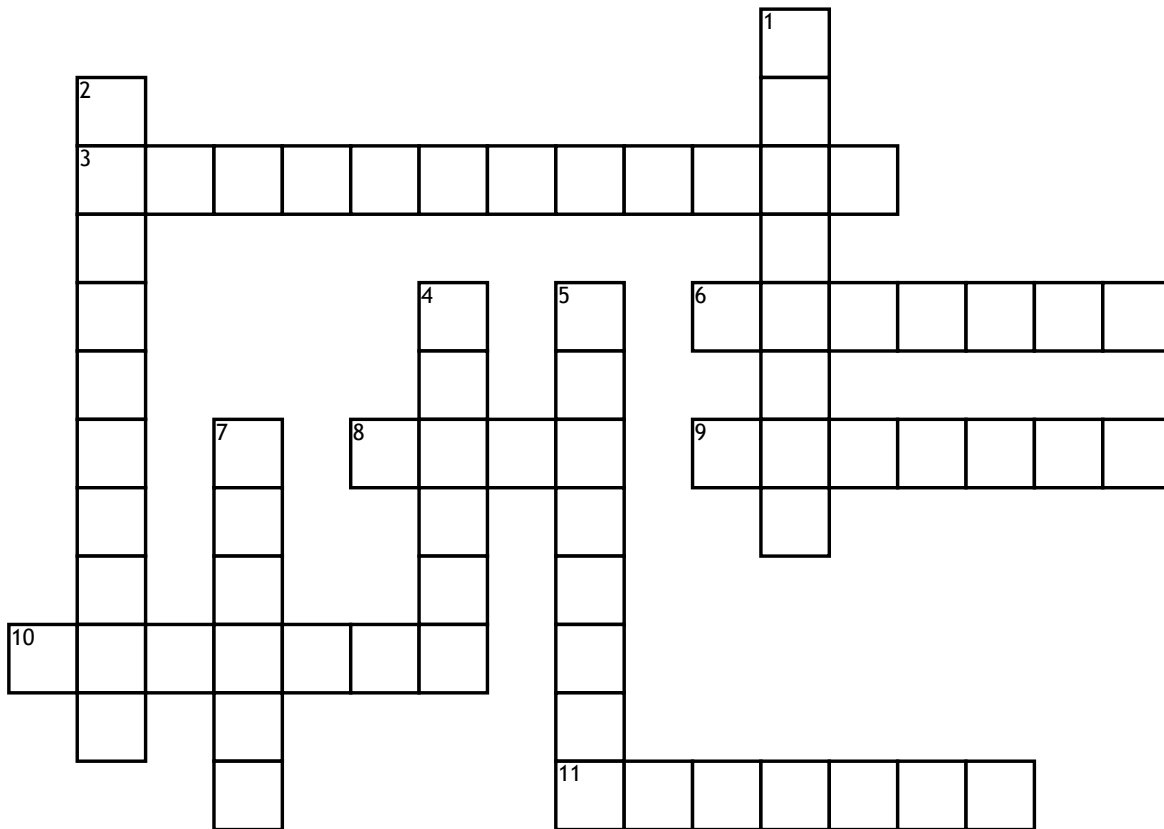


Atoms



Across

3. The number of protons in the nucleus of an atom, which determines the chemical properties of an element and its place in the periodic table
6. Each of two or more forms of the same element that contain equal numbers of protons but different numbers of neutrons in their nuclei, and hence differ in relative atomic mass but not in chemical properties
8. The SI unit of amount of substance, equal to the quantity containing as many elementary units as there are atoms in 0.012 kg of carbon-12
9. Relating to an orbit or orbits
10. A subatomic particle of about the same mass as a proton but without an electric charge, present in all atomic nuclei except those of ordinary hydrogen

11. The central and most important part of an object, movement, or group, forming the basis for its activity and growth

Down

1. The continuous physical force exerted on or against an object by something in contact with it
2. The total number of protons and neutrons in a nucleus
4. A stable subatomic particle occurring in all atomic nuclei, with a positive electric charge equal in magnitude to that of an electron, but of opposite sign
5. A stable subatomic particle with a charge of negative electricity, found in all atoms and acting as the primary carrier of electricity in solids
7. A particle representing a quantum of light or other electromagnetic radiation