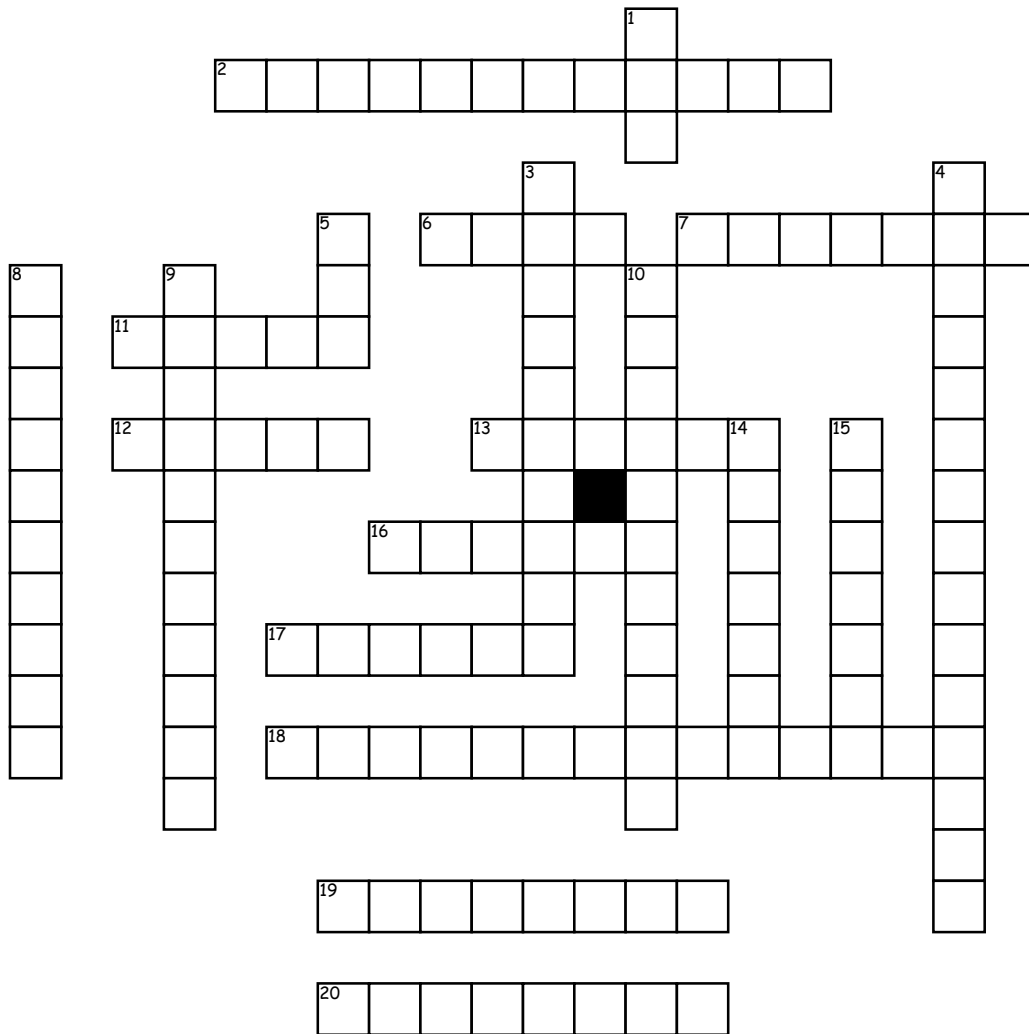


# Periodic Table of Elements



## Across

2. the number of protons in the nucleus of an atom  
 6. the smallest particle that has the properties of an element  
 7. a region in an atom where there is a high probability of finding electrons  
 11. an ion with a negative charge  
 12. a vertical column of elements in the periodic table  
 13. an ion with a positive charge  
 16. a horizontal row of elements in the periodic table

17. a positively charged subatomic particle in the nucleus of an atom  
 18. a quantity equal to one-twelfth the mass of a carbon-12 atom  
 19. any atoms having the same number of protons but a different number of neutrons  
 20. a negatively charged subatomic particle found in the energy level of an atom

## Down

1. symbol for atomic mass unit  
 3. the process of adding electrons to or removing electrons from an atom or group of atoms  
 4. an electron in the outermost energy level of an atom

5. an atom or a group of atoms that has lost or gained one or more electrons and therefore has a net electric charge  
 8. the total number of protons and neutrons in the nucleus of an atom  
 9. any of the possible energies an electron may have in an atom  
 10. the properties of elements tend to repeat in a regular pattern when elements are arranged in order of increasing atomic number  
 14. the center of an atom; made up of protons and neutrons  
 15. a neutral subatomic particle in the nucleus of an atom

## Word Bank

- |        |                  |               |             |                  |
|--------|------------------|---------------|-------------|------------------|
| cation | nucleus          | anion         | ionization  | atom             |
| amu    | neutron          | periodic law  | ion         | proton           |
| period | atomic mass unit | energy level  | mass number | valance electron |
| group  | orbital          | atomic number | isotopes    | electron         |