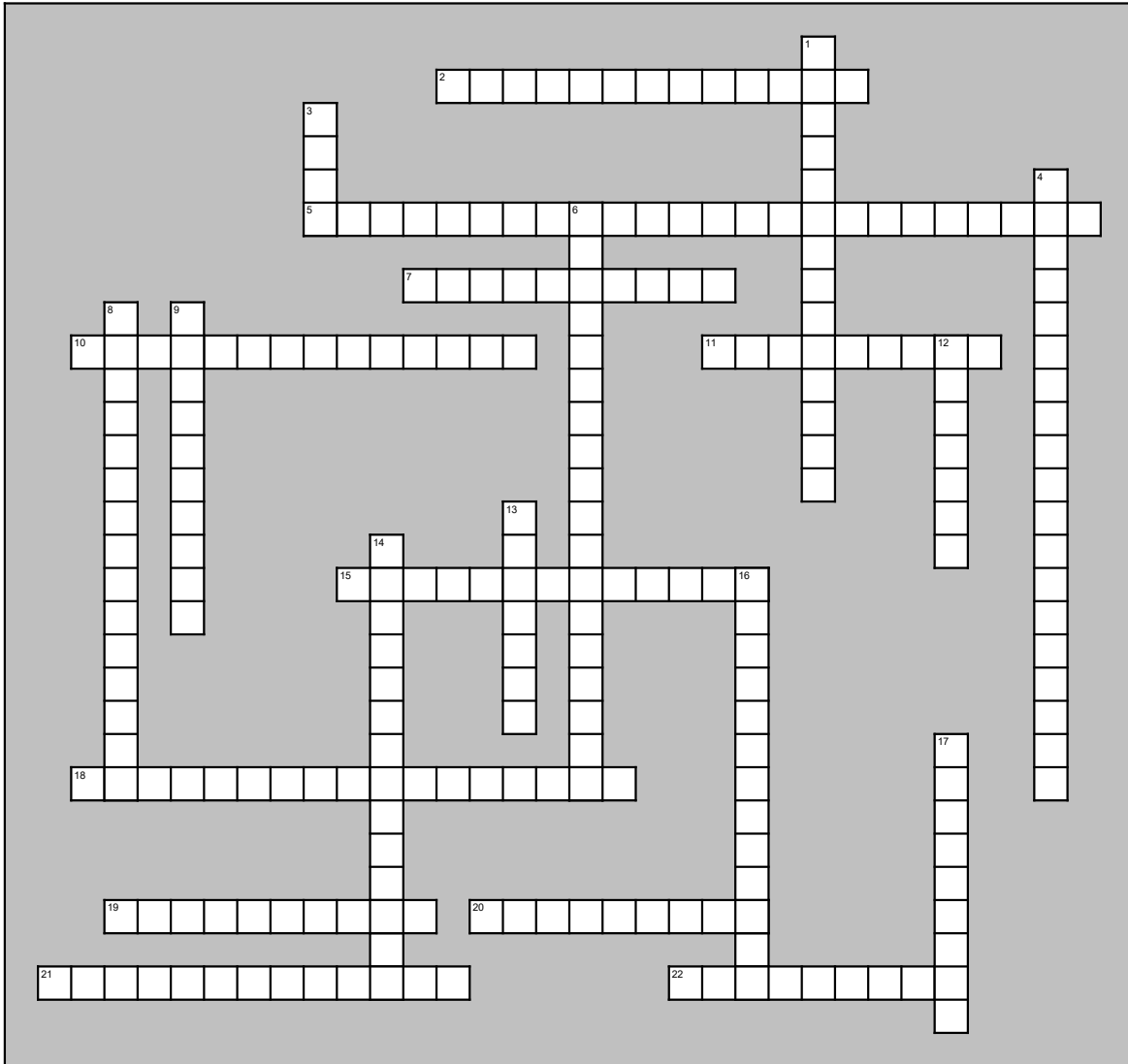


# Crossword



## Across

2. Only has one path (loop) for current to flow. Adding resistors (bulbs) dims the circuit. Any break in the circuit will stop the flow of electricity.
5. The process of generating a current by moving an electrical conductor through a magnetic field or moving a magnet in and out of a coil of wire.
7. Inversely related to current, but needed for electricity to flow. The opposition to the flow of charge in a material. Measured in ohms. Thickness, length, and temperature affect it.
10. A region that has a very large number of atoms with aligned magnetic fields. Iron, cobalt, nickel.
11. Device that converts mechanical energy into electrical energy by rotating a coil of wire in a magnetic field. AC or DC.
15. A push or pull in nature based on the electrical charges between objects. Like charges repel; unlike charges attract each other.
18. The behavior of electric charges, including how charges transfer between objects. Charge can be transferred by friction, conduction (contact), and induction. Contrasted to electric current.
19. Metals easily allow the flow of electricity. Copper, silver are good ones.
20. Occurs when a pathway through which charges can move forms suddenly, allowing a transfer of charge. Static electricity often will \_\_\_\_\_ by induction. e.g. lightning will \_\_\_\_\_ when charges build up from friction.
21. Flows in one direction. DC. Used in flashlights and battery-operated devices.
22. Objects come close to each other, but do not touch, yet electric charges can be transferred.

## Down

1. A switch that opens when current in a circuit is too high, preventing overloading. Must be reset before the circuit can be used again.
3. Prevents current overload in a circuit. A wire in the center melts if too much current passes through it, stopping the flow of current.
4. The difference in voltage between two place in an electric field. Measured in volts.
6. Type of current that flows in opposite directions (regularly reverses its direction). Most electrical generation produces this (AC). Used the most in our homes and industry.
8. Two or more paths (loops) through which charges can flow independently. Voltage is the same throughout the circuit. If a break occurs in one loop, the other loop(s) can continue to operate since they are connected to the same potential (voltage source).
9. Materials that resist the flow of electricity. Wood, plastic, rubber, air.
12.  $V = IR$  ... voltage = current x resistance. volts = amp x ohms.
13. The continuous flow of electrons (contrasted to static electricity). Measured in amperes (amps).
14. An excess of electrons produces a net negative \_\_\_\_\_. An deficiency of electrons produces a net positive \_\_\_\_\_.
16. A force applied to or around a charged atom, molecule or object. This goes towards a negative charge and away from a positive charge.
17. The transfer of excess charge through a conductor to Earth. Wires are used in outlets and wiring as an easier path for current to flow to the ground rather to our body.