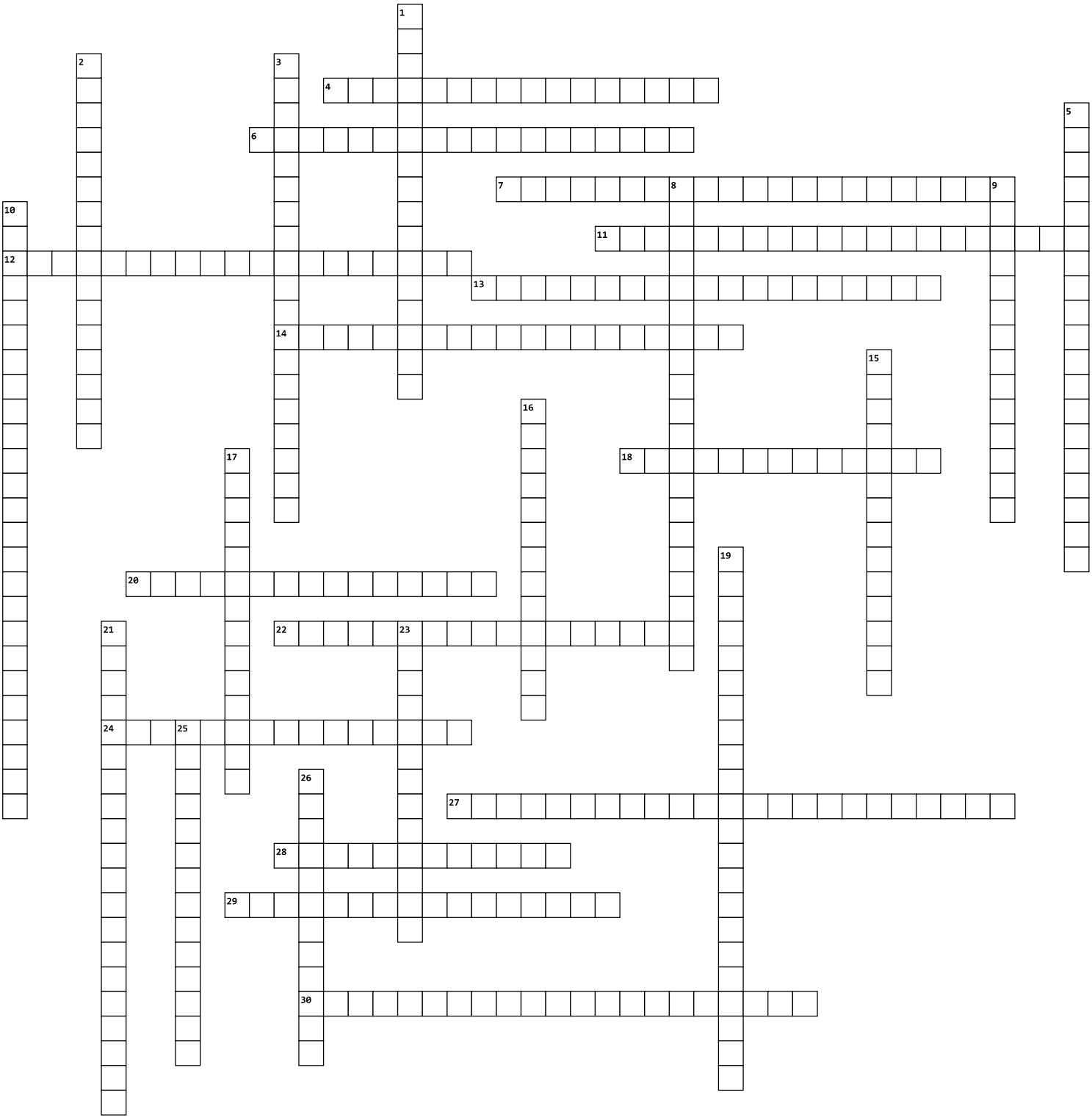
# Electric field and charges



## Across

**4.** The process by which a charge is redistributed in a conductor.

**6.** The electric potential energy per unit charge at a point in a field.

## Down

**1.** The mechanism by which an object gains or loses electric charge.

**2.** A proportionality constant in Coulombâ€™s law.

**7.** A surface where the electric potential remains constant.

**11.** The work done to move a unit charge between two points.

**12.** The force exerted by one charge on another due to electrostatic interaction.

**13.** A vector that describes the orientation of electric dipoles in a material.

**14.** The principle that the total charge in an isolated system remains constant.

**18.** The measure of electric field lines passing through a given surface.

**20.** A device that stores electrical energy in an electric field.

**22.** A conducting sphere that can hold charge uniformly on its surface.

**24.** A pair of equal and opposite charges separated by a small distance.

**27.** A phenomenon that prevents external electric fields from affecting the inside of a conductor.

**28.** A single, localized electric charge.

**29.** Energy stored due to the relative position of charges in an electric field.

**30.** A vector quantity that represents how electric displacement occurs in materials.

**3.** A property of a material that affects the electric field within it.

**5.** The principle that electric charge exists in discrete packets.

**8.** Imaginary lines that represent the direction and strength of an electric field.

**9.** The force experienced per unit charge in an electric field.

**10.** A state where there is no net movement of charge within a conductor.

**15.** A capacitor consisting of two parallel conductive plates.

**16.** A law that relates the electric flux through a closed surface to the charge enclosed.

**17.** Charge distribution over a conducting surface.

**19.** A measure of the strength of an electric dipole.

**21.** The phenomenon where a material loses its insulating properties under a high electric field.

**23.** The fundamental law describing the force between two charges.

**25.** Amount of electric charge per unit volume or area.

**26.** The electric field produced by an electric dipole.