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Crash Course Physics #26: Electric Fields

Name: _____ Date: _____

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1. An _____ is a measurable effect generated by any charged object that exerts forces on other charges around it.
2. The equation for an electric field is the electric _____ divided by the test charge.
3. Electric field lines always point _____ from a positive charge and toward a negative charge.
4. The closer a test charge is to a source charge, the greater the _____ of the electric field.
5. Electric field lines must never _____ because this would mean the field acts in two directions at once.
6. A pair of equal and opposite charges spaced a small distance apart is called an electric _____.
7. The principle of _____ says that electric fields from multiple sources can be added together.
8. A uniform electric field can be created using two oppositely charged parallel _____.
9. This setup of parallel charged plates is called a _____ and is used to store electric charge.
10. When excess charges in a conductor have stopped moving, the system is in _____ equilibrium.
11. At electrostatic equilibrium, the electric field inside a conductor is _____.
12. Excess charge in a conductor distributes itself along the _____ of the object.
13. In a charged hollow conductor with a positive particle inside, the inside surface becomes _____ charged.
14. The _____ law is used to calculate the electric force between two charges.
15. Any positive test charge placed in an electric field will move in the direction of the _____.

Crash Course Physics #26: Electric Fields KEY

1. An **electric field** is a measurable effect generated by any charged object that exerts forces on other charges around it.
2. The equation for an electric field is the electric **force** divided by the test charge.
3. Electric field lines always point **away** from a positive charge and toward a negative charge.
4. The closer a test charge is to a source charge, the greater the **magnitude** of the electric field.
5. Electric field lines must never **cross** because this would mean the field acts in two directions at once.
6. A pair of equal and opposite charges spaced a small distance apart is called an electric **dipole**.
7. The principle of **superposition** says that electric fields from multiple sources can be added together.
8. A uniform electric field can be created using two oppositely charged parallel **plates**.
9. This setup of parallel charged plates is called a **capacitor** and is used to store electric charge.
10. When excess charges in a conductor have stopped moving, the system is in **electrostatic** equilibrium.
11. At electrostatic equilibrium, the electric field inside a conductor is **zero**.
12. Excess charge in a conductor distributes itself along the **surface** of the object.
13. In a charged hollow conductor with a positive particle inside, the inside surface becomes **negatively** charged.
14. The **Coulomb's** law is used to calculate the electric force between two charges.
15. Any positive test charge placed in an electric field will move in the direction of the **field**.

15 Questions

Answer Key Included

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