

3.2 Grade 9

CONCEPT 2

Opposite charges attract each other, and like charges repel each other.



Activity

Charge the Tape

1. Cut cellophane tape into two 10 cm pieces. Fold over about 5 mm at the end of each piece to make handles.
2. Stick the two pieces of tape on your desk.
3. Hold the pieces of tape by their handles and quickly pull the tape off the desk.
4. Slowly bring the pieces of tape near to each other.
5. Describe what happens as the pieces of tape approach each other. Suggest a possible explanation.

law of electric charge the law stating that opposite charges attract each other, and like charges repel each other

Long before scientists knew what positive charges and negative charges were, they knew how charges interacted with each other. Two important properties of charges are summarized in the **law of electric charge**, which is stated in the box below.

The Law of Electric Charge

1. Opposite charges attract each other.
2. Like charges repel each other.

Connect to Investigation
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The law of electric charge applies to all individual charges. This means that a negative charge does not just attract another positive charge. Instead, every negative charge attracts every positive charge. In the same way, every negative charge repels every other negative charge, and every positive charge repels every other positive charge. When you bring together objects that have an excess of either positive charges or negative charges, you see the overall result of all these different attractions and repulsions.

Extending the Connections

Applying Properties of Electrical Charges

People who work in jobs where they are exposed to nuclear energy carry a small device that measures exposure to radiation. This device makes use of electrical charges. What other types of technologies depend on the properties of electrical charges?

