

Lesson Title:	Electric Field PhET Hockey Simulation
Standards (TEKS):	5C
Learning Objectives:	<ul style="list-style-type: none"> • Use knowledge of Coulombs law by mastering levels in a computer simulation. • Recognize that charges exert forces, both attractive and repulsive.

AGENDA	KEY POINTS
1. PhET Simulation 2. Exit Check-in	Coulomb's law is similar to the universal gravitation equation, as they are both inverse square law relationships. When two charges have the same sign (positive or negative), the force between them is repulsive because like charges repel. When two charges have opposite signs, the force between them is attractive.

Time	Learning Activity
45	Students will begin by observing what happens when different charges are placed near the hockey puck. They will master levels 1 and 2 and draw their diagrams and explain their strategies. Guiding Questions <ol style="list-style-type: none"> 1. How do you know if the electric force is attractive or repulsive in the simulation? What evidence do you have? 2. How does the distance between the two charges influence the size of the electric force? 3. How does the amount of charge influence the size of the electric force? 4. How has your strategy evolved as you've moved through the levels? 5. What are the limitations of this simulation? 6. What modifications would you make to this simulation?
10	Students will complete a 3 – 2 -1 exit ticket 3 – Things they learned 2 – Things I found interesting 1 – Question I still have