

## High School Physical Science, March 30-April 17

**Resource Used:** HMH Science Dimensions: Forces, Motion, and Fields

<p><b>Topic:</b> Electric and Magnetic Forces</p>
<p><b>What Your Student is Learning:</b></p> <p>Electric and magnetic (electromagnetic) forces can be attractive or repulsive, and their sizes depend on the magnitudes of the charges, currents, or magnetic strengths involved and on the distances between the interacting objects. Forces that act at a distance (electric, magnetic, and gravitational) can be explained by fields that extend through space and can be mapped by their effect on a test object (a charged object, or a ball, respectively).</p>
<p><b>Background and Context:</b></p> <p>This packet should be completed in about 20 (45-minute) sessions or 10 (90-minute) sessions. Students can continue to work in the “Electric and Magnetic Forces” packet, reading the text, discussing the ideas with you or a classmate by phone, text, or email, and answering the questions in a notebook. <a href="#">Click here to access the Physical Science Learning Packet.</a></p> <p>In High School, students should engage in science each day for 45 minutes or every other day for 90 minutes. Below is a suggestion for how you might want to break up the work, but if you haven’t started yet, just start with the first week and go forward from there!</p> <ul style="list-style-type: none"><li>- Week of March 16th: Lesson 1, Magnetic Forces</li><li>- Week of March 23rd: Lesson 2, Electric Forces</li><li>- <b>Week of March 30th: Lesson 3, Fields</b></li><li>- <b>Week of April 13th, Lesson 4, Electromagnetism</b></li></ul>
<p><b>Ways to Support Your Student:</b></p> <p>Encourage your students to talk or write about their ideas before, during, and after completing the activities. Tell them not to worry about being wrong or not knowing; science is about revising ideas over time based on new information. Students might call or video chat their classmates to discuss these ideas together as well. They should encourage each other to use evidence from the text to support their ideas.</p>
<p><b>Additional Resource for Parents:</b></p> <p><a href="#">Tips for Busy Parents</a> who want to support their childrens’ science learning.</p> <p>Answer keys for the Lesson Checks on student pages 109-111, 127-129, 145-147, and 165-167 as well as the Unit Review on pages 169-172 are <a href="#">available here.</a></p>
<p><b>Online Resources for Students:</b></p>

### Electric and Magnetic Forces

Khan Academy has a few units related to what you are learning, including:

- [Electric Charge, Field and Potential](#)
- [Circuits](#), and
- [Magnetic Forces, Magnetic Fields, and Faraday's Law](#)

Additionally, you can try some of the simulations below:

- [Magnets and Electromagnets](#)
- [Electric Field Hockey](#)
- [Magnet and Compass](#)