

Lesson plan for *Molecule Polarity*:

<http://phet.colorado.edu>

Learning Goals: Students will be able to:

- Define bond polarity and molecular polarity
- Explain the relationships between bond polarity and molecular polarity
- Identify tools/representations to approximate bond and molecular polarity (*the periodic table, electronegativity, molecular shape, lone pairs, Lewis diagram, Ionic/covalent character*)
 - Use these common tools to approximate and compare polarity
- Use standard notation to indicate polarity
- Identify the bonds between atoms as nonpolar covalent, moderately polar covalent, very polar covalent, or ionic. **The simulation uses “ionic character” for “very polar”. Students may need help with this; see the introduction below.**

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Background:

Students will have done Build a Molecule 1 PhET and Molecular Shapes 1 PhET.

Molecular Polarity Introduction:

I will talk about the fact that the sim uses “Ionic Character” as a label for “very polar covalent”; many college texts use the “ionic character” notation. I will remind students that this sim deals only with molecules, not ionic compounds. [Tips for Teachers](#) are provided by the PhET team.

Lesson: In college prep chemistry, the students will work in pairs during class or as homework.

Post-Lesson: I plan to use clicker questions included in this activity. For some of the questions, if I saw that the distribution of answers was great, I demonstrated the sim to help students after the first clicker response before I made any comments. Then I would have a “re-vote”. This stimulated lots of discussion between votes.