

The Bare Essentials of Polarity Cartoon (from Living By Chemistry)

Name/Pd: _____

1. How does the cartoon define a "polar molecule"?
2. Use your own words to define electronegativity as you understand it, after reading the first two pages of the cartoon.
3. Interpret the picture at the bottom of page 1. Explain how the iceberg, penguins, and polar bears represent trends in electronegativity.
4. What is the artist trying to represent when there are two polar bears arm wrestling together, or two penguin's arm wrestling together?
5. What 3 types of bonds are represented on page 3 of the cartoon? What happens to the bonding electrons in each type?

Bond Type	What happens to bonding electrons?

6. Explain why there are four scoops of ice cream in the illustration of O_2 on page 3.
7. What do the six scoops of ice cream represent in the illustration of N_2 on page 4?

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8. Describe what you think is happening to the penguin in the CO_2 molecule in the illustration on page 4.
9. Name three things that the picture of CO_2 on page 4 illustrates about the molecule.
10. Describe what you think is happening to the penguins in the H_2O molecule in the illustration on page 4.
11. Explain what you think the crossed arrow represents in the cartoon.
12. What are the two definitions of "dipole" given in the cartoon?
13. What does electronegativity have to do with polarity?

Summing Up Questions:

1. Is the bond between hydrogen and iodine in an HI molecule polar? Explain your reasoning.
2. How would the atoms in HI be portrayed in the comic book - as polar bears, penguins, or both? Explain.
3. Using polar bears and penguins, create an illustration showing the oxygen dibromide, OBr_2 , molecule. (Hint: You may wish to start with a Lewis structure).

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