

Acid & Base Questions

1. What happens to acids in water?
2. What happens to bases in water?
3. Why are solutions of acids & bases often good conductors?
4. What part of an acid's chemical formula is responsible for its acidic properties?
5. What polyatomic ion most commonly appears in bases?
6. Identify each of the following substances as an acid or a base:
 - a. Calcium hydroxide
 - b. NaHCO_3
 - c. H_3PO_4
 - d. KOH
 - e. H_2SO_4
 - f. NaOH
7. Water can dissociate into the hydrogen ion and the hydroxide ion according to the following reaction:
 $\text{H}_2\text{O} \rightarrow \text{H}^+ + \text{OH}^-$
 - a. What would you classify water as (acidic, basic or other)?
 - b. Why is water considered a conductor of electricity?
8. Do you agree with the following statements? Explain.
 - a. Stomach acid can dissolve metals. (ie if you swallow a penny your stomach acid can dissolve it)
 - b. All acids are dangerous.
 - c. We all contribute to the production of acid rain
 - d. Medications for heartburn work by cooling the stomach.
9. Teeth can be damage by acid erosion. What foods could contribute to this problem? How can it be avoided?
10. The fluid inside an alkaline battery can be corrosive.
 - a. Describe a chemical test that you could perform to determine if the substance is an acid or a base.
 - b. What safety precautions must you take when conducting this test?
11. The ingredient list for Coke contains: water, sugar, colour, phosphoric acid, flavor and caffeine. Why must they add so much sugar (about 12 teaspoons per can)?