

Shedding Light on Acids and Bases Episode 2: Acids and Carbonates Name: _____

Part A

1. Limestone and marble are made in large part of crystals of _____ (which has the chemical formula _____).
2. Write down the chemical formula of the following carbonates.

Name	Chemical Formula
sodium hydrogen carbonate (AKA bi-carb soda, baking soda, and sodium bi-carbonate)	
sodium carbonate	
potassium carbonate	

3. Describe the chemical reaction between hydrochloric acid and calcium carbonate.

4. Write the chemical equation for the chemical reaction between hydrochloric acid and calcium carbonate.
in words: _____
in symbols: _____
5. Write (in words) the general equation for the reaction between any acid and any carbonate.

Part B

6. What is a leavening agent? _____
7. Describe the reaction between bi-carb soda and vinegar. _____

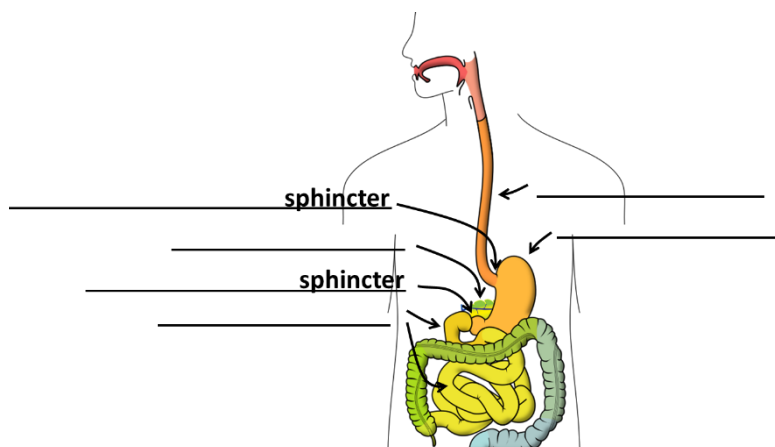
8. Why are pancakes filled with tiny bubbles? _____

Part C

9. Our stomach contains _____ acid which helps digest _____.
10. Why doesn't our stomach acid digest the stomach itself? _____

11. Partially digested food (along with the acid that it's in) is squeezed out into the small intestine, but the acid does not burn the small intestine. Why not? _____

12. Label the diagram.



13. What is heartburn? _____

Part D

14. The outer layer of a tooth is made of e_____. It can slowly be eroded by acids.

15. Most tooth decay is caused by b_____ that feed on the food that is stuck on or between our teeth. These b_____ produce l_____ a_____ that eats away at the e_____ and puts holes (c_____) in it.

16. Write down five ways of preventing tooth decay.

- (a) _____
 (b) _____
 (c) _____
 (d) _____
 (e) _____

Part E

17. Rainwater is ever so slightly acidic. Fill in the table below.

Four gases responsible for making rainwater acidic.	Acids formed as a result of these gases dissolving in the water (in the atmosphere).

18. Write down the two equations for the reactions that convert sulfur dioxide into sulfuric acid.

- (a) _____
 (b) _____

19. Though rainwater is slightly acidic anyway, the expression “acid rain” was used to describe the increased acidity of rainwater from about the middle of the 20th century. Briefly describe how acid rain came about and the effect that it had.



20. Coal-fired power stations now have “scrubbers” built into them. How do they remove the sulfur dioxide that is produced by the burning of coal? _____

