

## TOOTHPASTE WITH A TWIST

### PURPOSE:

To allow students to produce a “marketable” product used by most people every day and is made from minerals. The abrasive and cleansing compounds found in toothpaste, calcium carbonate and sodium bicarbonate, are minerals.

### MATERIALS NEEDED:

Calcium carbonate	Water
Sodium bicarbonate (baking soda)	Plastic Spoons
Small plastic cups	Eye Droppers
Sticks for stirring	
Assorted food colors and flavorings	
Optional Items: Hydrogen peroxide, fluoride, sugar, diatomite	
Have some commercial toothpaste samples available.	

### INSTRUCTIONS:

Basic recipe for toothpaste is:

Place 1/2-teaspoon calcium carbonate and 1/4-teaspoon sodium bicarbonate in small plastic cup. Add just enough water (with eye dropper) to make a paste. Have the students taste the basic recipe and discuss possible improvements. Divide the class into groups of 4 and let the groups come up with some solutions to make the basic recipe more appealing to others. Remember, the purpose is to produce the most “marketable” toothpaste. Each group is responsible for one recipe. (As the samples are quite small, only small amounts of color and flavoring are needed.) Each group will keep a record of their recipe and submit it with the sample for judging. The judges who will determine the winner can be another class, parents, etc.

Have a prize for the winning sample.

### REVIEW:

How did the homemade toothpaste compare to commercial products? What mineral is added to toothpaste to fight cavities? How many of the commercial toothpastes had minerals in them? Have the students compare the prices of commercial toothpaste in relation to the number of mineral ingredients. Which were more expensive? Have the class develop an advertising campaign for the winning toothpaste. This can be a slogan, jingle, rap, or a song that will help sell their toothpaste. Have a prize for the winning ad campaign.



# TOOTHPASTE WORKSHEET

Group No. \_\_\_\_\_ Product Name \_\_\_\_\_

Basic Recipe: 1/2 tsp. Calcium carbonate, 1/4 tsp. Sodium bicarbonate, water to form paste.

Added:

_____	_____
ingredient	amount
_____	_____
ingredient	amount
_____	_____
ingredient	amount

Flavoring: \_\_\_\_\_ Color(s) \_\_\_\_\_

## AD CAMPAIGN:

Slogan (if any) \_\_\_\_\_

15 second ad:

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