

Activity 5:  
Determining the Products of the Decomposition of  
Sodium Hydrogen Carbonate



What are the products of this decomposition reaction???

Come up with as many possible reactions as you can. For a reaction to be possible, the equation must be able to be balanced.

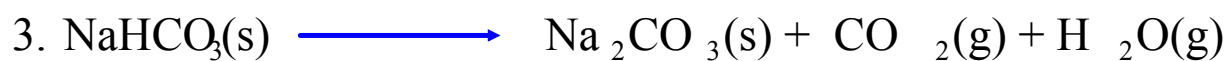
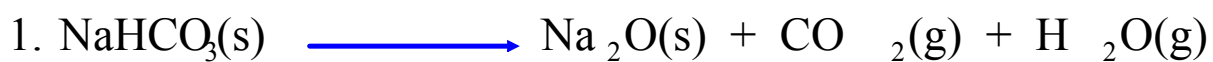
How could you confirm the correct equation *experimentally*??

1. Design an experiment to do this.
2. Create an observation table that you can record all needed information.

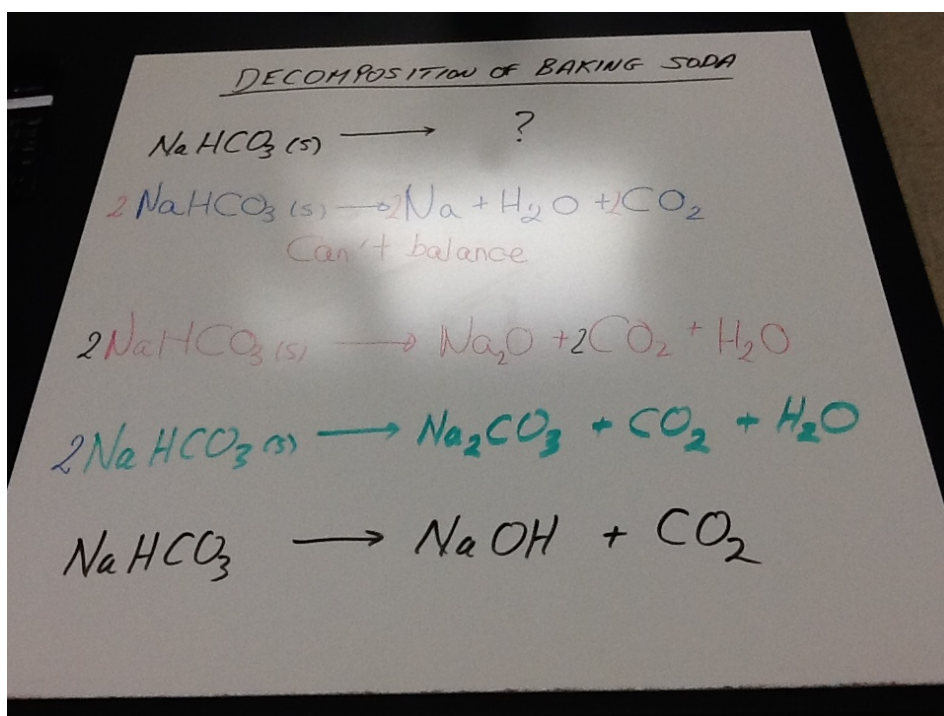
Possible reaction equations:



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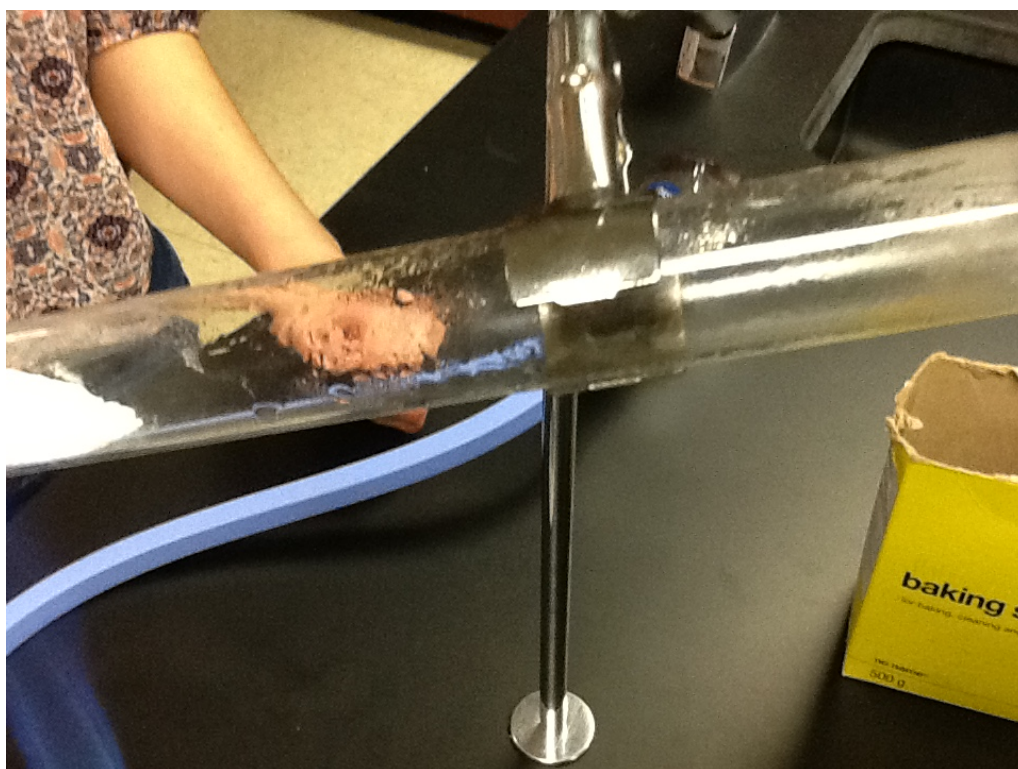
Groups use 2'x2' whiteboards (Home Depot) to brainstorm prior to designing their experiment.



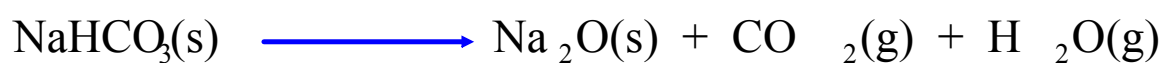
Decomposing the baking soda:



They observe that water is one of the products, eliminating one of their possible reactions.



They ensure that they evaporate all the water produced, leaving only a dry solid. This must be either sodium oxide or sodium carbonate. They can use stoichiometry to determine the theoretical yield then compare to the actual yield in their experiment.



m = \_\_\_\_\_

m = ?



m = \_\_\_\_\_

m = ?