Acids and Carbonates

# Aim

To investigate the effect of acids on carbonates

# Hypothesis

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# Equipment and Materials

* 12 x test tubes
* 6 x delivery tube with stopper
* Test tube rack
* Test tube holder
* Spatula
* Limewater (calcium hydroxide solution)
* Dilute sulfuric acid
* Dilute hydrochloric acid
* Copper carbonate
* Calcium carbonate
* Potassium carbonate

# Diagram of Equipment

# Procedure

1. Into a clean test tubes, pour in limewater to a depth of 2cm.
2. Place three spatulas of copper carbonate into another clean test tube.
3. Pour in dilute acid (either sulfuric or hydrochloric) until it covers the solid (approximately 3 cm in depth). Carefully shake the test tube to mix the acid and carbonate well. Record your observations.
4. Stopper the mouth of the test tube (containing carbonate and acid) with the delivery tube and dip the longer end of the delivery tube into the test tube containing limewater. Record your observations.
5. Pour the contents of the test tube away and wash the test tube. Repeat steps 1 to 4 with other carbonates and record your observations in the table provided.

# Results and Observations

Table 1. Reaction of various carbonates with dilute hydrochloric and sulfuric acid

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| **Name of Carbonate** | **Name of Acid** | **Observation** | **Colour of solution at the end of the experiment** |
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Answer the following questions in your book:

1. What did you observe in step three?
2. What did you observe when the delivery tube was placed in the limewater?
3. Name the gas produced in step four?
4. What can you conclude about the property of acids in their reaction with carbonates?
5. What is the purpose of adding baking powder when baking a cake?
6. Some buildings and stone statues are made of marble, which contains calcium carbonate. What happens to these buildings and statues when acid rain falls on them?