**Evaluating Antacids**

Antacids contain a base that neutralises some of the excess hydrochloric acid in your stomach.

**Aim:** To evaluate how effective different antacids are at reducing acidity.

**Equipment:**

* 0.1 M Hydrochloric acid
* 250 mL beaker
* liquid universal indicator or pH meter
* eye dropper/ pipette
* different antacid tablets
* mortar and pestle
* safety glasses
* stirring rod

**Method:**

1. Pour 20 mL of hydrochloric acid into the beaker.
2. Measure the pH of the solution by putting two to three drops of universal indicator in it.
3. Record observations in the table below.
4. Crush an antacid tablet with the mortar and pestle. Add the crushed antacid tablet to the hydrochloric acid, stirring until it dissolves completely.
5. Determine the new pH of the solution using the new colour of the solution.
6. Rinse out the beaker, then repeat steps 1-5 with another antacid tablet.

**Results:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Tablet 1 | Tablet 2 | Tablet 3 |
| Colour of universal indicator before antacid added |  |  |  |
| pH of solution before antacid added |  |  |  |
| Colour of universal indicator after antacid added |  |  |  |
| pH of solution after antacid added |  |  |  |

**Discussion:**

1. Name the acid that is in your stomach.
2. Explain how this acid can cause the pain known as heartburn.
3. Analyse your results and determine which antacid tablet was most effective.
4. Explain how antacids work to stop heartburn.
5. Heartburn has nothing to do with the heart. Propose a reason why it got this name.
6. What could you change to make this experiment more valid?