

HOW DO YOU SPELL RELIEF? A.N.T.A.C.I.D.S LAB

Your Task is to design an experiment to show which antacid will provide you with the best relief from “heartburn”

Collect some DATA

Generic Name	Brand Name
aluminum hydroxide and magnesium carbonate	Gaviscon
aluminum hydroxide and magnesium hydroxide	Maalox, Mylanta
calcium carbonate	Rolaids, Tums

Antacids are available without a prescription in liquid, chewable tablet, chewing gum, and dissolving tablet forms to be taken by mouth. Liquid antacids may relieve symptoms faster than other forms of antacids.

- Antacids make stomach juices less acidic (neutralize stomach acid).
- Antacids with alginic acid (such as Gaviscon) contain a foaming agent that floats on top of the stomach contents. This may help keep stomach juices from coming in contact with your esophagus.
- Antacids that contain simethicone (such as Maalox Anti-Gas or Mylanta Gas) may break down gas bubbles in your stomach. This may help reduce burping that might push stomach acid into your esophagus.

Examine the table below, looking at the ingredients decide which of the antacids will work the best, explain your hypothesis. As you complete this section consider how you might prove your hypothesis. (EXPERIMENTAL DESIGN)

DRUG NAME:	GAVISCON	MAALOX	TUMS
PHARMACOLOGICAL CLASS:	Antacid.	Antacid.	Antacid.
GENERIC DESCRIPTION:	Aluminum hydroxide 160mg, magnesium carbonate 105mg; chew tabs.	Aluminum hydroxide 225mg, magnesium hydroxide 200mg;	Calcium (as carbonate) 500mg; chew tabs; peppermint or assorted fruit flavors.
INDICATIONS:	Heartburn, indigestion, reflux.	Heartburn, acid indigestion, sour stomach, upset stomach.	Acid indigestion, heartburn, upset or sour stomach.
ADULTS:	2–4 tabs	2-4 tabs	2–4 tabs
CHILDREN:	Not recommended.	Not recommended.	Not recommended.
WARNINGS/PRECAUTIONS:	Renal dysfunction. Sodium restricted diet.	Impaired renal function (aluminum/magnesium forms).	Hypoparathyroidism.
INTERACTIONS:	Reduces absorption of tetracyclines, others.	Reduces absorption of tetracyclines, possibly other drugs.	Calcium blocks absorption of tetracyclines. May affect absorption of other drugs. Absorption blocked by corticosteroids, foods such as rhubarb, spinach, bran.
ADVERSE REACTIONS:	Diarrhea, constipation.	N/A	Hypercalcemia, hypercalciuria.

LAB SHEET

Hypothesis **TEACHER CHECK**

Why do you think your hypothesis is correct? (Refer to Data)

Procedure (Step by step) Pay close attention to amounts of chemicals. **TEACHER CHECK**
WHAT ARE YOU MEASURING? VARIABLES (dependent, independent)

Data (Collect the same data for all trials.)

CONCLUSION: (Remember, if we are really looking at the effectiveness of an antacid, what are some things that you know about the stomach that might affect the results you obtained? Would there be a way to modify your procedure to make this experiment more accurate?)