

**[14] Breakdown (Pages B-19-B-21)**

When we chew, we are breaking our food up into smaller pieces and increasing the surface area of the food. This allows the chemicals in your digestive system to be more efficient. In this lab, we are looking at the effect of increased surface area on digestion. To test this, we will be changing the number of pieces that the tablet will be in when it reacts with the vinegar. Our model of the digestion system looks like this:

<b>MATERIAL / PROCESS</b>	<b>REPRESENTS</b>
Antacid tablet	Food
Breaking the tablet	Mechanical Breakdown
Adding Vinegar	Chemical Breakdown

**Variables present in the lab**

*w, check the type of variable each one is.*

Independent variable - we change this to see the results of the change

Dependent variable - this is the data we measure and expect to see the change in

Control variable - this is what we want to keep the same throughout the whole experiment

<b>VARIABLE</b>	<b>INDEPENDENT?</b>	<b>DEPENDENT?</b>	<b>CONTROL?</b>
Amount of vinegar			
Size of particle			
Amount of tablet			
Container used for reaction			
Time to complete reaction			
?			

We are going to be experimenting with 4 different combinations of a ½ tablet.

**Procedure**

1. Break up the tablet into the correct number of pieces (or powder).
2. Put the tablet in one of the large (lettered) cups in the SEPUP trays.
3. Add 5mL of vinegar.
4. Time how long it takes for the reaction to take place. Write this in your data table.
5. Write your observations in your data table.
6. Repeat steps #1-5 with all of the combinations.
7. Clean your tray and clean up your area.

We are collecting both quantitative data and qualitative data. Quantitative has to do with numbers and actual measurements. Qualitative is more about observation than actual data.



involved in the digestive system.	<input type="checkbox"/> I use actual evidence and data from the experiment to explain the results of the experiment.	<input type="checkbox"/> My answer includes some incorrect information.	
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