

**TITLE**

**Act. 14 Breakdown**

**DATE**

**STANDARDS**

7.3.7

a, b, c, d, e, f, g, h, i, j, k

skills:

- make predictions/testable questions
  - collect quantitative data
  - incorporate variables - to change and control
  - keep accurate records in notebook
  - analyze data
  - communicate findings with graphs
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**VOCABULARY**

mechanical breakdown -

chemical breakdown -

variable -

control -

**MATERIALS**

## FOCUS QUESTION(S) – (Challenge)

Why is it important to chew your food?

## PURPOSE

- ✓ To show the effect of chemical breakdown on food particle **size**.

(You will show this by creating a model of chemical breakdown.)

## PART A - TESTING THE MODEL

<b>MATERIAL/PROCESS</b>	<b>REPRESENTS</b>
antacid tablet	food
breaking the tablet	mechanical breakdown
adding vinegar	chemical breakdown

## PART B - PREDICTION

(See step 6.)

- ✓ If \_\_\_\_\_ (size) \_\_\_\_\_ then \_\_\_\_\_ (time to break down) \_\_\_\_\_.
- ✓ (This is a cause and an effect.)

Write your prediction here:

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## PLANNING/PROCEDURE

(See step 6.)

What are the **variables** in your experiment?

-what is changing?

-what is staying the same?

What will be the **control** that you compare all other results to?

## PLANNING/PROCEDURE - continued

Record your procedure here. Number the steps.

### **DATA** **(See step 7.)**

What data will you collect? How will you organize it?

<b>CUP</b>	<b>AMOUNT OF FOOD (TABLET)</b>	<b>SIZE OF FOOD (TABLET)</b>	<b>AMOUNT OF STOMACH ACID (VINEGAR)</b>	<b>TIME TO STOP DIGESTING (CHEMICAL REACTION)</b>	<b>RANK/ ORDER OF TIME</b>	<b>OTHER OBSERVATIONS</b>
<b>A</b>						
<b>B</b>						
<b>C</b>						
<b>D</b>						
<b>E</b>						

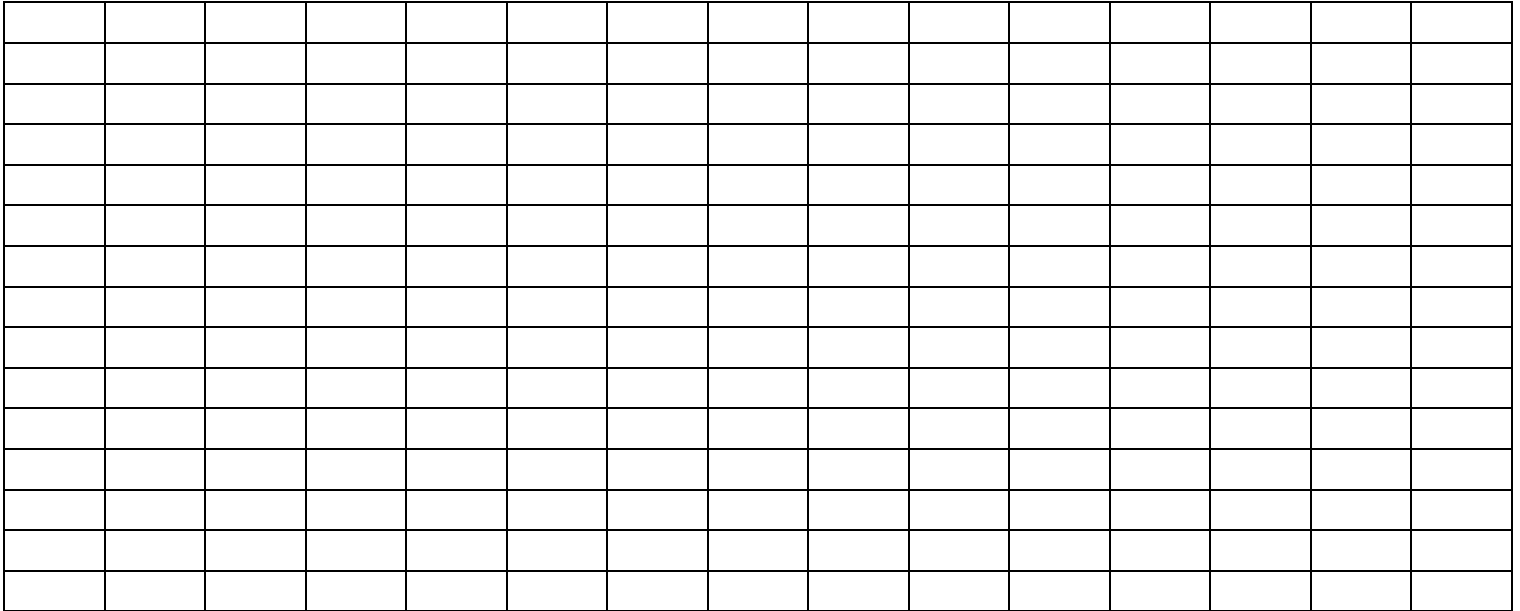


**BEFORE YOU CONDUCT YOUR EXPERIMENT, YOU MUST FIRST HAVE ME APPROVE OF YOUR PLAN!**

## CLAIMS AND EVIDENCE

(See step 10.)

Create a **BAR** graph of your data.  
Be sure to label your axes and title your graph.



AQ4 – How does the size of your food affect the speed at which chemical breakdown occurs?

Explain how your conclusions are based on the data collected during your experiment.

## MAKING MEANING CONFERENCE – NOTES FROM CLASS DISCUSSION

## CONCLUSION

- Our prediction was correct/incorrect because
- 
- 

## REFLECTION

AQ 5 – Besides preventing choking, why is it important to chew your food?

Pick at least one question to answer. Relate your answer to this investigation.

- ✓ What were YOUR OWN thoughts after the investigation?
- ✓ Was there anything you understood better?
- ✓ What connections did you make?

Pick at least one sentence stem to complete. Relate your answer to this investigation.

- This reminds me/us of \_\_\_\_\_ because \_\_\_\_\_.
- Now I/we think that \_\_\_\_\_ because \_\_\_\_\_.
- A problem I had during this investigation was \_\_\_\_\_. I think/know this happened because \_\_\_\_\_.
- I/we discovered that \_\_\_\_\_.

## NEXT STEPS/QUESTIONS

Pick at least one sentence stem to complete. Relate your answer to what you think the next investigations may be about.

- What would happen if \_\_\_\_\_.
- I think what we will do next is \_\_\_\_\_.
- I want to know more about \_\_\_\_\_ because \_\_\_\_\_.