

Investigating Tooth Decay

WHAT YOU NEED



paper plate



small jar



tape



eggshell



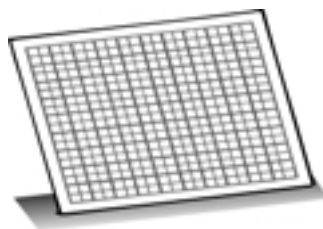
crackers



bread



goggles



graph paper

Find Out

Do this activity to see how tooth decay affects teeth.

Process Skills

Observing
Communicating
Predicting

Time

- 30 minutes to get started
- two weeks of observation

Although vinegar is nontoxic, it can stain clothing. You may want students to wear aprons or old shirts while they are working with the vinegar.



vinegar



WHAT TO DO

1. Place a cracker on the paper plate. Add vinegar.



Do not eat or touch the cracker.

2. **Observe** what happens.
3. Put an eggshell in the jar. Pour a small amount of vinegar into the jar. Half of the eggshell should

be covered in vinegar. Put a small piece of bread in the jar.



Do not eat or touch any of the substances in the jar.

4. **Draw** a picture of the eggshell on the graph paper. Based on what happened to the cracker, **predict** what will happen to the eggshell.
5. **Observe** the eggshell every day for two weeks. **Record** what happens in the chart and **color** in squares of the graph paper to show holes in the egg.
6. Compare your picture with others.



A dropper can be used to apply vinegar to the cracker.

Explain to students that this investigation models how tooth decay occurs. Tell students that the vinegar models saliva, the bread models food, and the eggshell models teeth (both teeth and eggshells contain a substance called calcium). Explain that after eating, food that is left in the mouth combines with germs in saliva. A sticky coating forms and clings to the teeth. The germs in the coating cause teeth to begin to decay.

Conclusions

1. How is the eggshell like a tooth?

An eggshell and a tooth are both made of a similar substance. Both teeth and

eggshells can be harmed.

2. How did the eggshell change? How can teeth change if they are not cared for?

The eggshell developed holes. Teeth can decay like the eggshell did. Teeth

can develop cavities.

New Questions

1. How could you have stopped the changes in the eggshell?

Possible answers include: The changes could have been prevented if the

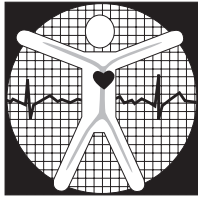
eggshell had been removed from the jar and wiped clean.

2. Write a new question you have about tooth decay.

Accept all questions.



Name _____



ACTIVITY

Using Teeth to Speak

Write your group's flash card letter(s).

Write a list of words that use your letter(s).

Word List:

Students should write five words that contain the letters printed on their flash cards.



Name _____

What Happened

① When could you speak your words clearly?

Words with the letters *f*, *l*, *v*, and *th* can be spoken most clearly when the teeth

are used.

② When couldn't you? Why not?

It was more difficult to speak the words clearly when the teeth were covered

with the lips. Without teeth, the sounds of most words are distorted.

Some letters and word sounds, such as *f*, *v*, and *th*, require teeth. Others use teeth but can be sounded in other ways—*l*, for instance, with the tongue on the roof of the mouth.

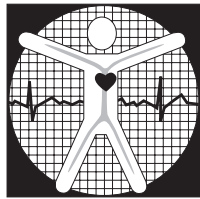
What If

Name some words made up of sounds that don't use teeth. Hint: Babies say them!

Vowels don't use teeth at all, nor do consonants such as *m* and *p*. That's why

babies can say "Mama" and "Papa."

Name _____

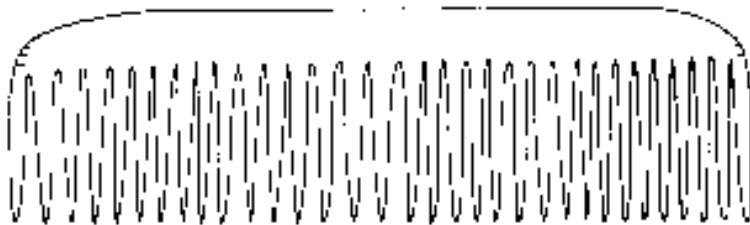


ACTIVITY

Flossing Teeth

Show how the cream cheese looked on the comb at first.

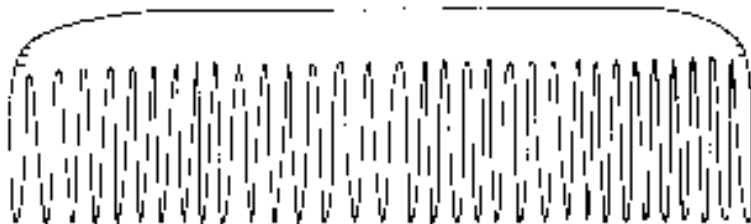
Use a crayon to **draw** the cream cheese on the comb.



Show how the comb looked after you used the paper towel.



Show how the comb looked after you used the yarn.



The second and third comb should look like they have less cream cheese than the first. The third comb should look like it has the least amount of cream cheese.

Name _____

What Happened

- ① Did the paper towel clean all the cream cheese from the comb?

The paper towel cleaned most of the cream cheese, but not all of it.

- ② How did the yarn help clean the comb?

The yarn helped clean the comb in the hard-to-reach places.

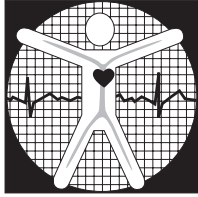
What If

How is this activity like brushing and flossing your teeth?

Brushing (like wiping with the paper towel) cleans the surface of teeth, but

flossing (like using the yarn) removes food that is caught between the teeth.

Name _____



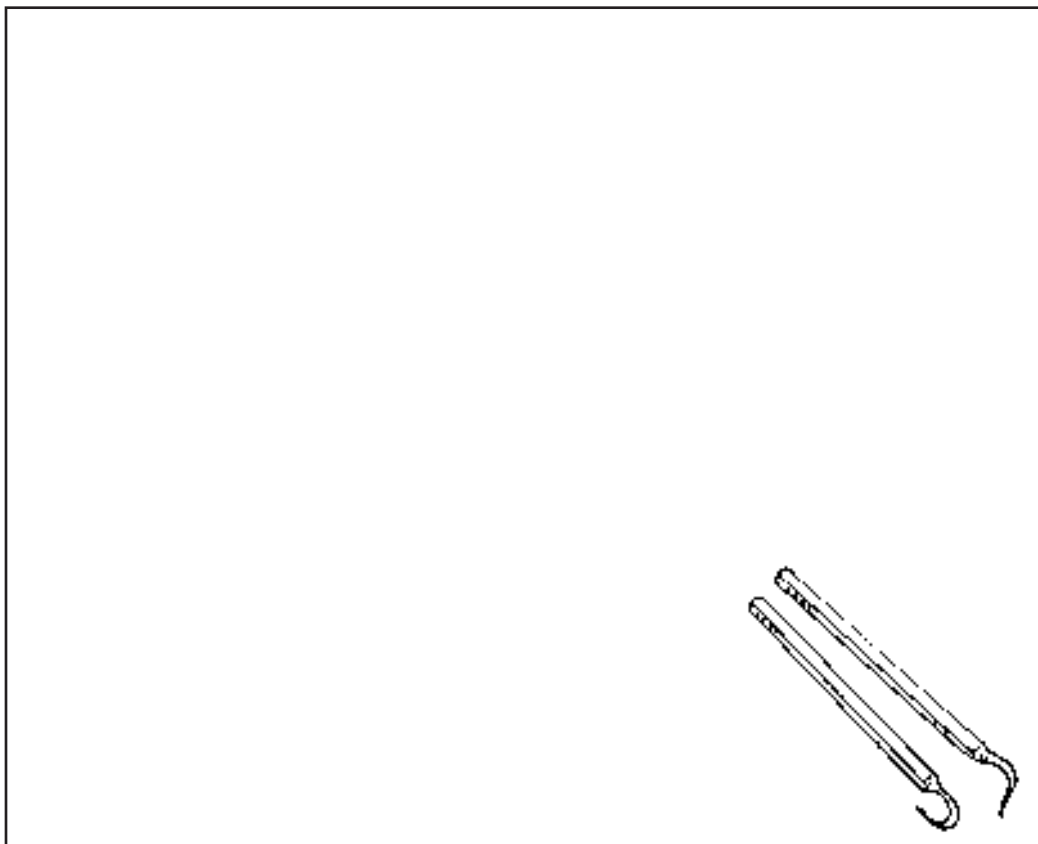
ACTIVITY

Fixing Teeth with Fillings

Draw the tooth you made.

Draw a cavity in the tooth.

Color in the cavity with a yellow crayon.



Student drawings will vary but should show a tooth with a cavity that has been colored in.

Name _____

What Happened

① Why was the yellow clay put in the hole?

The yellow clay filled up the hole, just as a dental filling fills up a cavity in a tooth.

② How was this activity like a dentist fixing a cavity?

The hole was cleaned, and a filling was put in the hole—much like how a

dentist fixes a cavity.

What If

What would happen if the hole in the tooth got bigger and bigger?

If the hole got too big, the tooth would not be able to hold the filling. The

dentist might have to remove the tooth.
