

Preventing Holes in Teeth-Are beliefs justified?

Scenario

Everyone knows about the importance of cleaning teeth and the availability of toothpaste for this purpose. But did you know that toothpaste in the 18th century was often dangerous and caused tooth decay by rubbing off the enamel coating on teeth.



Today there are many suggested ways to prevent tooth decay. You may be aware of drinking water containing fluorides, or softeners, You may be aware also of toothpastes that include fluoride; or whitener, or antibacterial substances. Are they really helpful? To find out we need to know more of what causes tooth decay and how effective are the various treatments.



Your Tasks

Part A

As a group

1. Find out about the structure of teeth and what tooth-enamel consists of.
2. Carry out an experiment to determine what type of foods have the potential to damage the enamel.
3. Write a short report on tooth enamel and your findings. Explain the mechanisms by which the enamel is damaged. Include in your report what happens if the enamel is damaged or removed and how it is possible to protect your teeth?
4. What are the ingredients in toothpaste? Find out the active substances in different types of toothpaste and why they are present.



5. You probably know that most toothpastes contain fluoride compounds. What is the effect of fluoride compounds on teeth? Are there potential dangers? What ingredients of toothpaste have a potential danger to health? Prepare to make a short 5 minute presentation on this to the class.

Part B

6. Toothpastes have an abrasive action. The task of your group is to compare the abrasive effects of different toothpastes. Design an investigation for this and discuss it with your teacher before starting the experiment.
7. Record your results in a tabular format. Write a report that contains the conclusions you have reached.
8. Discuss ways to prevent holes in teeth and whether the claims of different ingredients in toothpaste are justified or a danger to health.