

Acknowledgements

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Oral Health Education accessed the following resources when preparing this manual:

- Crest Care School Program: A Dental Health Unit for Grade One Students – Teacher’s Guide
- Colgate “A Global Oral Health Education Program – Teacher’s Guide for Third Grade”
- National Institutes of Health “Open Wide and Trek Inside”
- Texas Department of Health “Tattletooth II” Series
- www.askeric.org/virtual/lessons
- www.themeday.com – lesson plans

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Why Teach Oral Health?

Healthy children have the greatest opportunity to achieve their academic potential.¹ Healthy teeth and gums contribute in many ways to our daily lives. A healthy mouth promotes overall health, self-esteem, language development, social development, self-confidence, and conveying of emotions.

Poor oral health can have a direct impact on a student's learning, causing a decrease in school performance. Dental discomfort and infection may reduce a student's concentration and often results in increased absence from school. Poor oral health contributes to impaired speech development, reduced self-esteem, and poor social relationships.

"School-aged children often miss school because of dental problems... Those who do attend school with dental problems frequently report pain, fever, swelling, and lethargy, and they are often inattentive and distracted in the classroom. In addition, decayed or missing teeth can cause embarrassment." A true solution to children's dental problems, "...will require the cooperative efforts of all who work with children, including teachers, school nurses, child care workers, and parents."²

As a teacher, you play a critical role in helping your students achieve good oral health. This manual is intended to assist you with this role. Oral health education can enable students to make well-informed healthy choices, build life-long dental health habits and attitudes, and develop behaviours that contribute to their overall health and well-being.

1 Calgary Rocky View Comprehensive School Partnership. **Comprehensive School Health implementation and resource manual**. Calgary Health Region, 2001.




2 Amschler, D. **A Hidden Epidemic – Dental Disparities Among Children**. *Journal of School Health*. 2003 Jan; 73 (1): 38-40.

The Oral Health Education Teacher Resource

The *Oral Health Education Teacher Resource* has been developed by the Calgary Health Region to provide “user-friendly” lesson plans and activities, to assist teachers in addressing the general outcomes outlined in Alberta Learning’s *Program of Studies in Health and Life Skills*. This *Teacher Resource* also integrates oral health concepts into Alberta Learning’s Science and Language Arts Programs of Study.



Each K-3 lesson is designed to support one or more of the following general health outcomes, as quoted from the *Program of Studies in Health and Life Skills*:

Health Outcomes






-  **Wellness Choices Outcome** – Students will make responsible and informed choices to maintain health and to promote safety for self and others.
-  **Relationship Choices Outcome** – Students will develop effective interpersonal skills that demonstrate responsibility, respect and caring in order to establish and maintain healthy interactions.
-  **Life Learning Choices Outcome** – Students will use resources effectively to manage and explore life roles and career opportunities and challenges.

Each K-3 lesson may also support one or more of the following general outcomes for Science and Language Arts:

Science Outcomes

-  **Scientific Inquiry Outcome** – Students will use the process of scientific inquiry by asking questions, proposing ideas, observing, experimenting and interpreting evidence that is gathered.
-  **Problem Solving Outcome** – Students will use the process of scientific problem solving by identifying what is needed, proposing ways of solving the problem, trying out ideas and evaluating how things work out.











Language Arts Outcomes

-  **Exploring Thoughts and Experiences** – Students will listen, speak, read, write, view and represent to explore thoughts, ideas, feelings and experiences.
-  **Comprehension** – Students will listen, speak, read, write, view and represent to comprehend and respond personally and critically to oral, print and other media texts.
-  **Managing Information** – Students will listen, speak, read, write, view and represent to manage ideas and information.
-  **Artistry and Clarity** – Students will listen, speak, read, write, view and represent to enhance the clarity and artistry of communication.
-  **Respect, Support and Collaborate** – Students will listen, speak, read, write, view and represent to respect, support and collaborate with others.

How to Use the Teacher Resource

The *Oral Health Education Teacher Resource* is designed to help teachers meet the learning outcomes for oral health as specified or implied in Alberta Learning's Health and Life Skills curriculum. In addition, the lessons may be used to present or reinforce concepts from the Science and Language Arts curricula.

Icons, pictured below, are used to represent the general outcomes for Health and Life Skills, Science and Language Arts. To help distinguish which outcomes a lesson addresses, these icons will be found at the bottom of the introduction page for each lesson.

Health					
	Wellness	Relationship	Life Learning		
Science					
	Inquiry	Problem Solving			
Language Arts					
	Exploring Thoughts and Experiences	Comprehension	Managing Information	Artistry and Clarity	Respect, Support and Collaborate

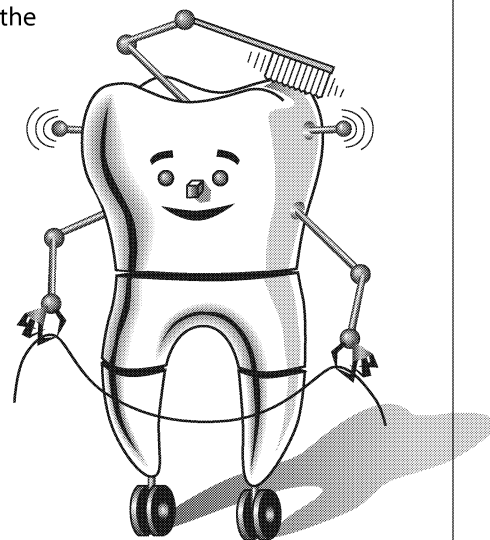
At the start of each grade there are two charts. One is a Health and Life Skills Curriculum Chart, which lists the general and specific outcomes from the Health and Life Skills curriculum that each lesson addresses. The other chart is the Integration of Curricula Chart, which lists the outcomes for Health and Life Skills, Science, and Language Arts that each lesson addresses.

The lessons are in an order that has the first lesson as an introduction lesson, the next few lessons as focusing on dental concepts, and the last lessons often being review lessons. But teachers may decide on the order and may choose to do only some lessons.

Lessons can be modified to be appropriate for each class, as abilities of the students may be different from the start to the end of the school year.

Before beginning a lesson, teachers are encouraged to read the Background Information, which provides current oral health information that will assist in teaching the lesson. In addition, web site references have been included at the end of the Background Information to help teachers and students access more information or activities, if desired.

Robo-Tooth, the mascot for this Teacher Resource, can be found throughout the pages. Robo-Tooth, a very smart robot, has much to tell students about taking care of their teeth. As a tooth, Robo-Tooth knows about the important functions that teeth serve and the importance of keeping them healthy. Robo-Tooth comes well equipped with a toothbrush and floss, always ready to clean away plaque germs!



Oral Health Background Information

The following information is intended to provide teachers with a general overview of basic dental concepts. Teachers are encouraged to read the Background Information, as it provides current oral health information that may assist in teaching. Before beginning a lesson, it may be helpful to review the specific information that pertains to the lesson activity.

Web sites are listed at the end of the Background Information. Teachers can use these web sites to access more information and expand on these basic dental concepts, if more information is desired.

Two Sets of Teeth

Primary Teeth

Primary teeth, also called baby teeth, begin to form before birth and start to erupt when a baby is about six or seven months old. By age three, children should have 20 primary teeth.

Between the ages of five and eight (Grades K to 3), children begin to lose their primary front teeth. The back primary teeth may remain in the mouth until a child is about twelve to fourteen years of age (up to Grade 9). Usually by age fourteen, children will lose all of their 20 primary / baby teeth. However, all children grow and develop at a different rate.

Primary teeth are lost when pressure from erupting permanent teeth cause the roots to dissolve. As the roots dissolve, the crowns of the primary teeth become loose and then they fall out. Many people feel that primary teeth require little care since they will be replaced. However, primary teeth do require routine preventive care and treatment services as necessary, so they are not lost prematurely.

Primary teeth are important for chewing, speech, and appearance, as well as to retain space for the permanent teeth and to serve as a foundation for the development of the jaw.

Permanent Teeth

Permanent teeth are meant to last a person's lifetime. These teeth begin to erupt between five to eight years of age. Therefore, in these early years, children need to begin developing life-long dental skills and habits to maintain healthy teeth and gums for their entire life.

Generally, the first permanent teeth to erupt replace the front primary teeth when children are between five to eight years old (Grades K to 3). About the same time, the first permanent molars, also known as the six-year molars, erupt behind the last primary teeth. By age fourteen (Grade 9) children will usually have 28 permanent teeth. The remaining 4 molars, often called wisdom teeth, can erupt starting at age sixteen to early adulthood. Counting the 4 wisdom teeth, an adult would have 32 permanent teeth.

Permanent teeth serve the important functions of helping us to chew, talk, and smile. The loss of any permanent teeth can be detrimental to these functions.

Oral Health Background Information

Children need to begin developing life-long dental skills and habits to maintain healthy teeth and gums for their entire life.

The Six-Year Molars

Six-year molars do not replace primary teeth but erupt behind the last primary molar. Because a primary tooth does not fall out as this tooth is erupting, these permanent molars are often mistaken as primary teeth. Therefore, students need to be aware of the importance of caring for these permanent teeth in order to maintain them for life. They need to be reminded, and assisted by parents, to reach the toothbrush back to these important teeth.

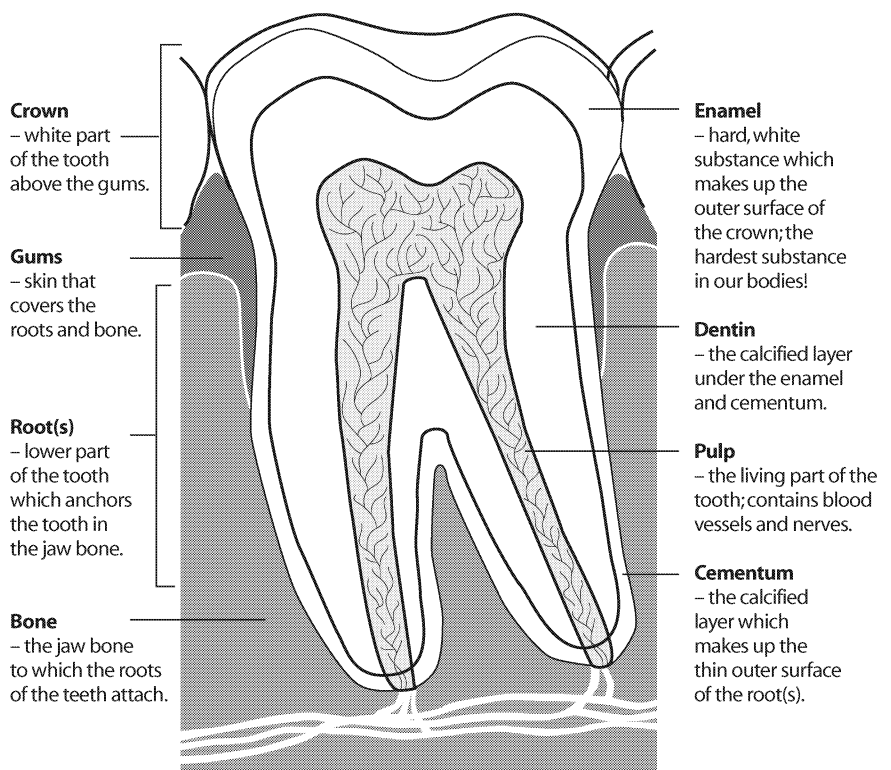
Structure and Function of Teeth

Teeth are the first step in the digestive system. Each tooth is uniquely shaped to perform different functions for eating.

Structure

All teeth have a basic structure regardless of their shape.

Structure of Teeth



Oral Health Background Information


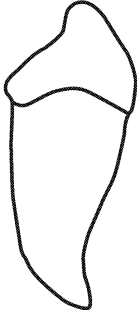
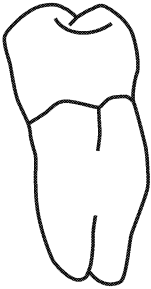
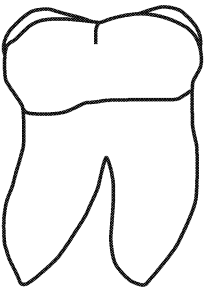
Teeth serve the important functions of helping us to chew, talk and smile.

Function

There are 4 different types of teeth, each shaped differently depending on their specific job for eating.

Types of Teeth and Their Jobs

Shape and Name

Incisor	Cuspid or Canine	Bicuspid or Premolar	Molar
			
Position front	corner	side	back
Job cutting	holding and tearing	holding and tearing, chewing and grinding	chewing and grinding
Numbers 8 – primary 8 – permanent	4 – primary 4 - permanent	0 – primary 8 - permanent	8 – primary 12 - permanent

Note: The 8 primary molars are replaced by the 8 permanent bicuspid. The 12 permanent molars do not replace any primary teeth but erupt behind them.

Oral Health Background Information

Even young children may get gingivitis.

This disease is preventable and is easily reversed by brushing thoroughly twice a day and flossing daily.

Plaque: Destroyer of Teeth and Gums

Plaque is a constantly forming film of bacteria that sticks to the tooth surfaces and along the gumline. Plaque forms in our mouths regardless of whether we are eating or not – plaque forms all the time.

Plaque may cause two diseases in our mouths: gingivitis and cavities.

Gingivitis

Gingivitis is a disease of the gums caused by toxins accumulating around the gumline. When plaque collects and is not removed by brushing and flossing, toxins are produced which irritate the gums.

If a person has gingivitis, their gums may be:

- Red in colour
- Puffy / inflamed / swollen
- Bleeding easily with brushing

Healthy gums are:

- Light pink or light brown in colour (not red)
- Flat and tight around teeth
- Not prone to bleeding easily

Even young children may get gingivitis. This disease is preventable and is easily reversed by brushing thoroughly twice a day and flossing daily. However, if red, swollen, bleeding gums do not improve, then a professional cleaning is required by the dental hygienist at the dental office.

Periodontal disease, or periodontitis, is an advanced form of gum disease that is more serious than gingivitis. It involves irreversible damage to gums and the destruction of supporting bone and periodontal ligaments, resulting in the loss of permanent teeth.

Cavities

Cavities, or tooth decay, are holes in the teeth caused by frequent exposures of the tooth surface to acid. Plaque digests sugars and starches in foods to produce acid. This acid attack can last for at least 20 minutes, dissolving some of the tooth surface. Repeated acid attacks break down the tooth surface to form a cavity.

Plaque works with foods in this process:

Plaque + sugar / starches = ACID

Repeated acid attacks + teeth = CAVITIES

Oral Health Background Information

When choosing a snack, select nutritious foods rather than sticky, sugary treats.

Cheese is a highly recommended snack that helps prevent cavities.

Save sweets and treats for special occasions; do not include as part of regular daily meals and snacks.

Healthy Foods

Children should learn early in life that they can make healthy food choices to help ensure good overall and dental health. Learning how and why to make the best food and snack choices will help their teeth and bodies grow and develop in a healthy way.

Sugary foods such as cookies, cake, and candy are not the only foods that cause cavities. Other foods containing sugars and starches – like chips and crackers, breads and cereals, even fruits – can play a role in tooth decay. The starches break down into sugars and the same acid is produced by the plaque.

Frequency and Consistency

The more frequently foods containing sugars and / or starches are eaten in a day, the more often the teeth will be exposed to the cavity-causing acid. The effects of this acid are cumulative, with more enamel being dissolved with each exposure. The duration of the acid attack is affected by the length of time it takes to consume and on the retentiveness of these sugary / starchy foods. An acid attack begins as soon as a sugary / starchy food is eaten, and it lasts for at least 20 minutes after eating is completed. Foods that are consumed slowly over a long period of time, such as sipping a can of pop throughout the day, will extend the length of the acid attack. As well, sugary / starchy foods that are retentive, such as sticky candies, will cause the acid attack to last as long as the food is stuck on the teeth. For this reason, sugary / starchy, sticky foods are the most harmful to teeth.

It is not realistic to give up eating every food which contains sugars and / or starches. In fact some of these foods – such as fruits, and breads and cereals – are nutritious food choices and are needed as part of a healthy, balanced diet. So instead of eliminating these foods, here are some things to keep in mind:

1. When choosing a snack, select nutritious foods rather than sticky, sugary treats. Encourage raw vegetables, cheese, popcorn, nuts, and fruits. Cheese is a highly recommended snack that helps prevent cavities.
2. Save sweets and treats for special occasions; do not include as part of regular daily meals and snacks. While children need snacks as part of their daily diet, it is important to remember that snacks do not mean treats.
 - Snacks ≠ treats
 - Snacks = nutritious, delicious foods
 - Treats = sugary / starchy, with little or no nutrients
3. When eating sugary / starchy foods, it is best to save them and eat them with meals and brush afterwards.

Oral Health Background Information

Candy rewards can increase the risk of tooth decay.

4. If brushing immediately after eating is not possible, then choosing to do one of the following can help to prevent cavities:

- Rinse with water (helps rinse out the sugar / starch).
- Eat a piece of cheese (neutralizes the acid).
- Chew sugar-free gum, especially gum with Xylitol (weakens the acid and removes the food).

Is Candy Rewarding?

Using candy as a reward can contribute to children's tooth decay. More sugar eaten throughout the day increases the number of acid attacks on the teeth. Consider low cost, non-food rewards such as stickers, pencils, sugar-free gum, extra privileges, or verbal praise. If candy is given, encourage children to save the treat until lunchtime and to rinse with water immediately after eating the candy.

Oral Health Background Information

Brushing should take at least 2 minutes of time and needs to be done at least every morning and night.

Until children are at least 8 years old, parents should brush their children's teeth and gums at bedtime.

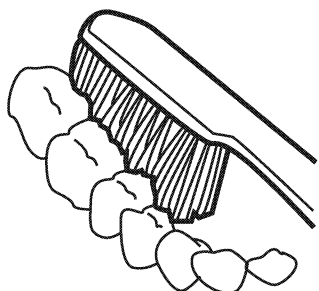
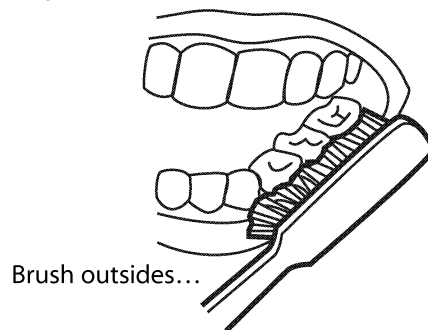
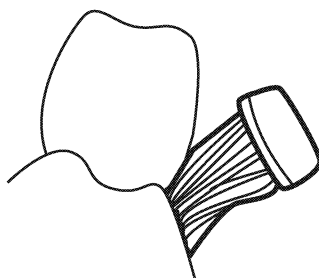
Healthy Teeth and Gums

The best way to keep a mouth healthy is to thoroughly remove plaque everyday. Brushing and flossing are the most effective methods for removing plaque.

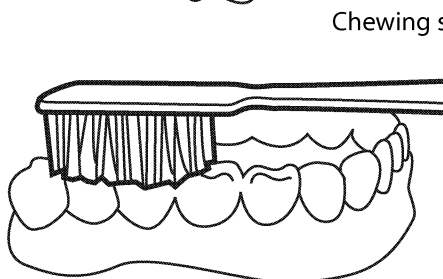
Brushing

Brushing removes plaque from the teeth, gums, and tongue. When placing the toothbrush, the bristles should be directed at a 45-degree angle to the teeth, pointing toward the gums. One recommended toothbrushing method is to move the brush in small circular motions, counting 10 circles in each spot. Only light pressure should be used – hard scrubbing should be avoided. All areas need to be brushed – the outside (cheek side), the inside (tongue / palate side), and the tops (chewing surfaces) of the teeth. Brushing should take at least two minutes of time. The tongue should also be gently brushed.

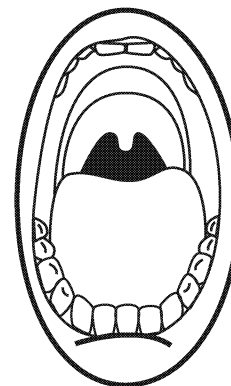
Brush both teeth and gums, holding the bristles at a 45-degree angle



Insidess...



Chewing surfaces...



Tongue

Oral Health Background Information

Fluoride toothpaste prevents cavities by making tooth enamel stronger.



Reminders:

- **Use no more than a pea-sized amount**
- **Do not swallow**
- **Spit out after brushing**
- **Keep out of reach of young children**

Brushing needs to be done at least every morning and every night. Until children are eight years old, their manual dexterity may not be fully developed so they need to have an adult help with brushing, at least once in the day, preferably at bedtime.

Ideally, children should brush their teeth after every time they eat, but this is not realistic. If children eat sugary / starchy foods at school and are not able to brush, encourage them to have a drink of water to help rinse out the sugar / starch.

Choosing A Toothbrush

Dental health professionals recommend using soft-bristled toothbrushes to remove plaque effectively from the teeth and gumline, while avoiding tooth abrasion and gum trauma. Toothbrushes come in a variety of sizes. Children should use toothbrushes small enough to access every tooth surface.

Manual toothbrushes and electric toothbrushes are both effective. Both require manual dexterity and proper technique to effectively remove plaque. Electric toothbrushes do not automatically brush children's teeth. However, advantages of using an electric toothbrush include:

- Motivation for children to brush due to the fun nature and novelty of the electric toothbrush.
- Some electric toothbrushes have timers to encourage children to brush longer.
- Some electric toothbrushes may be helpful for children with physical disabilities.

Toothpaste

Fluoride in toothpaste strengthens tooth enamel, making the tooth surfaces more resistant to cavity-causing acid. Brushing every morning and night with a fluoride toothpaste helps to prevent cavities. Toothpaste does not clean the teeth – the mechanical action of a toothbrush and floss removes plaque.

A pea-sized amount of toothpaste, or less, should be used on the toothbrush. Children under six years of age should have an adult dispense the toothpaste. Toothpaste should be spit out and not swallowed, and should be kept out of the reach of small children.

Flossing

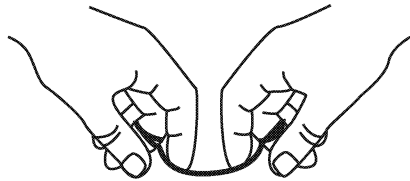
Daily flossing can help prevent cavities and gum diseases like gingivitis. Since toothbrush bristles cannot clean all tooth surfaces, flossing is needed once a day to remove plaque and food from between the teeth and under the gumline.

Parents should be flossing their children's teeth. Children may begin to floss on their own starting at age ten (Grade 5), and even then they may still need adult help.

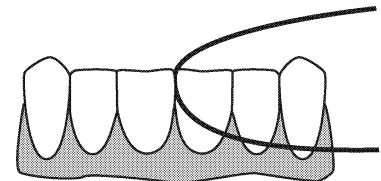
Oral Health Background Information

Flossing is needed once a day to remove plaque and food from between the teeth and under the gumline.

Fluoride is a mineral that helps prevent cavities.



Pinch floss with thumbs and index fingers, to help guide the floss.



Curve the floss in a "C" shape and gently move up and down the side of each tooth.

Protecting Teeth

Fluoride

Fluoride is a mineral that helps prevent cavities in three ways:

1. Fluoride becomes part of the tooth structure, making the tooth enamel stronger and therefore more resistant to acid attacks.
2. Fluoride is retained in the saliva and inhibits the plaque bacteria from producing acid.
3. When a tooth surface is slightly damaged by acid, a cavity can be reversed if the enamel is repaired by fluoride. Fluoride enhances the remineralization process which binds minerals, such as calcium, back into the tooth structure, preventing cavities.

Fluoride works on the inside of the teeth – systemically – when teeth are forming and growing under the gum. It also works from the outside of the teeth – topically – after the teeth have erupted into the mouth. The systemic sources of fluoride include water (natural or added through water fluoridation), fluoride supplements, and some foods and drinks. Topical fluoride is found in most toothpastes, some mouthwashes and is also applied by a dental health professional in a school or office setting.

Calcium

Teeth are composed of many minerals, one of which is calcium. Calcium helps build strong bones and teeth. It is initially incorporated into teeth as they grow and develop. But after teeth have formed, calcium is still important as it can restore tooth minerals that are lost due to acid attacks.

Oral Health Background Information

Sealants can help protect teeth from cavities for many years.

The mouth is the most frequently injured area of the body among children and young adults when playing sports.

Calcium is found in milk products, some fruits and vegetables, and some legumes and nuts. Cheese is an excellent source. It not only provides calcium, but cheese also increases the secretion and alters the composition of saliva, neutralizing both plaque and acids and increasing the clearance of food from the mouth. Therefore eating a piece of cheese with a meal, dessert, or snack, is recommended to help prevent cavities.

Sealants

Dental sealants are thin protective plastic coatings applied to the chewing surfaces of the molars by dental health professionals. They act as a physical barrier, filling the pits and grooves where food and bacteria can stick and cause cavities. Although they help protect the chewing surfaces, it is still important to brush these areas thoroughly. Sealants do not protect areas in between the teeth, therefore it is important to floss these surfaces.

Permanent molars can be sealed as soon as they erupt – between the ages of five and seven (Grades K to 2) for the first molars and ages eleven and fourteen (Grades 6 to 9) for the second molars. Sealants can help protect teeth from cavities for many years. However, they can wear down over time and should be checked during regular dental visits.

Smile Protectors

The mouth is the most frequently injured area of the body among children and young adults when playing sports. Mouthguards work like shock absorbers for the mouth. They provide a cushion to redistribute the force from impacts that could break or loosen teeth, dislocate the jaw or cause a concussion. They also protect the lips, cheeks, and tongue, so they are not accidentally bitten.

Mouthguards are available commercially from sports stores and custom-made by dental offices. Commercial mouthguards are pre-formed for a person to fit at home. Mouthguards from a dental office give the best protection and comfort, as they are specifically designed for each individual. Children need to replace their mouthguards regularly because as their mouths grow, teeth are lost and new teeth erupt.

Anyone active in sports should wear a mouthguard to help prevent painful and costly mouth injuries.

Mouth injuries can also happen in instances other than when playing sports. It is important to keep teeth safe, to prevent them from getting hurt or broken. If teeth are not protected they may chip, break or be knocked out. This may cause mouths to be hurt and damaged teeth can make chewing, speaking, and smiling more difficult.

Oral Health Background Information

Mouthguards from a dental office give the best protection and comfort, as they are specifically designed for each individual.

Ways to Keep Teeth Safe

- Wear safety gear for playing sports and practices – like mouthguards, helmets, and face shields.
- Be aware of others around you – don't swing bats or kick balls when others are unaware or within reach.
- Always wear your seatbelt.
- Don't use your teeth as tools – teeth are not meant for opening bags or holding things such as pencils, eyeglasses, etc.
- Don't push others at the water fountain or on playground equipment.

A Knocked-Out Tooth!

If a permanent tooth (not a primary tooth) is knocked out, it is possible for that tooth to be put back in its place and to heal so that the tooth can be saved. It is important to act quickly when a permanent tooth is knocked out, in order to have better success in saving the tooth. The actions to be taken are described as follows:

If it is a primary tooth:

- Leave it out
- Instruct child to inform their parent, who should discuss with dentist at next dental appointment

If it is a permanent tooth:

- Find the tooth
- Handle by the crown only, not the root portion
- Choose one of the following, depending on whether it is possible to reinsert the tooth:
 1. Reinsert Tooth
 - Gently rinse off tooth, if necessary, without over handling
 - Try to reinsert into tooth socket
 - Have child bite on clean piece of cloth or gauze, to hold tooth in place
 - Have child see a dentist as soon as possible
 - OR
 2. Unable to Reinsert Tooth
 - Keep tooth moist in cool milk or water
 - Have child take the tooth and see a dentist as soon as possible

Oral Health Background Information

Dental checkups and cleanings should be scheduled regularly – at least once a year, or as often as the dentist recommends.

A Visit to the Dental Office

By the time children are in school, they should have had a few visits to a dental office. Dental checkups and cleanings should be scheduled regularly – at least once a year, or as often as the dentist recommends. Regular dental checkups help to find tooth and gum problems early, making them easier to fix. A dental visit also provides services, such as fluorides and sealants, to help prevent cavities. As well, these appointments are opportunities to learn how to take care of the teeth and gums, and for parents and children to ask questions.

Some children may be worried about having a dental appointment. Explanations about the dental office and equipment and the roles and responsibilities of dental health professionals will help children understand what to expect when visiting the dentist and dental hygienist.

There are a variety of dental health professionals who work as a team to promote life-long dental health habits and positive attitudes to help you keep your teeth for a lifetime!

Web Site References

See these web sites for more information.

If more information is desired about any of the topics in the Background Information, these web sites are good references:

www.ada.org

A site full of information, as well as animations, about different oral health topics.

- Developed by the American Dental Association

www.adha.org

Clicking on *Patient Education* brings up a variety of dental topics about which this site offers information.

- Developed by the American Dental Hygienists' Association

www.askadentalhygienist.com

Under the *Oral Health* section, many current dental topics are explained and discussed.

- Developed by the Alberta Dental Hygienists' Association

www.cda-adc.ca

The *Your Oral Health* section has information about various dental topics. One topic includes *Information for Parents and Teachers*.

- Developed by the Canadian Dental Association

www.cdha.ca

The *Oral Care Centre* section contains facts and tips, and information about frequently asked questions.

- Developed by the Canadian Dental Hygienists' Association

www.parentsplace.com

Click on *Dentist*, under *ask the expert*, and information about many different dental topics can be accessed.

- Developed by iVillage

www.umanitoba.ca/outreach/wisdomtooth

This site contains information about a variety of dental topics.

- Developed by the University of Manitoba, School of Dental Hygiene

<http://yourhealth.calgaryhealthregion.ca>

Under the *Health Topics* section, click on *Dental Health Mouth and Teeth*. This will provide access to information about various dental topics.

- Developed by the Calgary Health Region

Web Site References

For more lesson plans and activities, try these web sites.

Have your students check out these interactive web sites for fun ways to learn about oral health.

Many web sites also contain great ideas for classroom lesson activities and computer games for students to play, which focus on dental health education. Some of these web sites have been listed under Optional Activities in the lessons for this manual, when the web site activities reinforce the lessons taught. Here are some web sites to try:

www.abcteach.com/directory/theme_units/science/teeth

This site contains print-off sheets for puzzles, songs, and tooth-shaped storybooks.

- Developed by teachers

www.ada.org

Under the *Animations & Games* section, many different computer games can be accessed for students of various ages.

- Developed by the American Dental Association

www.adha.org/kidstuff/index.html

Here you can locate commonly asked questions, access games for students to play or locate other neat links.

- Developed by the American Dental Hygienists' Association

www.atozteacherstuff.com/lessonplans

This site has a variety of lesson plans, when the word "Dental" is typed in as the search word. The lesson plans are labeled for the grade(s) they are most appropriate for.

- Developed by a teacher, for teachers

www.bmcc.org/Headstart/Dental

This site contains several lesson plans, which address a variety of different dental topics.

- Developed by the Head Start Bureau of the U.S. Department of Health and Human Services

www.colgate.com

The Colgate Company has developed a site where a variety of different activities can be accessed by clicking on *Kids World*. Options include: Brushing charts, artwork, colouring pages, Toothman and Tell the Tooth games, fun facts, and other kids links. Have a look and enjoy the variety of this site!

- Developed by the Colgate-Palmolive company

www.colgatebsbf.com

This is another site from Colgate. It features games, activities, and facts for kids in Kindergarten to Grade 3. Along with oral health information the activities incorporate skills of art, social studies, cultural awareness, etc.

- Developed by the Colgate-Palmolive company

Web Site References

Some of these web sites are listed under Optional Activities, specific for each lesson.

www.crestkids.com

This site has a variety of interactive computer games that teach and reinforce dental health concepts.

- Developed by Proctor and Gamble

www.dupagehealth.org/health_ed/dental_month.html

A web site with a variety of activities organized into different dental topics.

- Developed by the DuPage County Health Department

www.educate.org.uk/teacher_zone

Typing in the word "dental" in the *Search* section, will provide access to some science lesson plans which focus on dental health. There are also some worksheets that can be printed.

- Developed by Schoolsnet

www.healthyteeth.org

This oral health education site provides information about a variety of topics. Topics include: teeth and gums, prevention, cavities, braces, experiments and activities, tobacco, and a visit to the dentist.

- Developed by the Nova Scotia Dental Association

www.jbutler.com

Click on the *United States* version and then on the *Kids Stuff* section and it will bring you into a site where there is information, games and printable activities.

- Developed by Sunstar Butler

www.kinderhive.net/teeth.html

A site filled with activities, books, videos, and songs that can be used to teach a dental health lesson.

- Developed by a teacher

www.liberty.k12.ga.us/techconnect/dental.htm

An excellent summary of many great web sites that can be accessed for: information, activities, lesson plans, and resources.

- Developed by Liberty County Technology Office

www.mndental.org

A web site with classroom activities for preschool to grade 12, as well as games and colouring sheets. The section titled *Sip All Day Get Decay* has excellent information and interactive activities which show how soda pop can affect teeth.

- Developed by the Minnesota Dental Association

Web Site References

www.sdcoe.k12.ca.us/smiles/activities.html

This site contains dental storybooks, puppets and songbooks to make.

- Developed by the San Diego County, Office of Education

www.sportsdentistry.com

This site is helpful to access more information or pictures about mouthguards and what to do if a tooth is knocked out.

- Developed by Sports Dentistry Online

www.teachingheart.net/teeth.html

This web site has instructions for several activities, as well as songs and poems and books to read, that can reinforce dental concepts.

- Developed by a teacher

www.thesmilestones.com

A site with interactive computer games, short stories to read, and songs.

- Developed by John Poulter

www.themeday.com/toothday_theme_home.htm

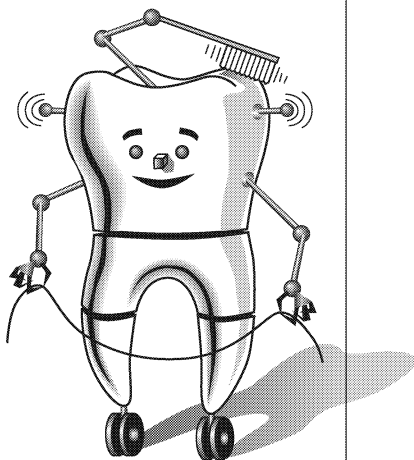
This site contains dental health lesson plans that are integrated into other subjects, links to other web sites, and lists of storybooks that have dental themes.

- Developed by a teacher

www.wku.edu/~melanie.franks/unit.html

This web site contains several lesson plans for dental health lessons.

- Developed by a teacher



Health and Life Skills Curriculum Chart

This chart shows which oral health lessons for Grade Two are designed to meet the general and specific outcomes in the Health and Life Skills curriculum. Numbers (e.g. W-2.2) are listed which correspond to the specific outcomes as outlined in the curriculum.

General Outcomes	Specific Outcomes	Lessons
Wellness Choices		
W-2.2	Examine the need for positive health habits	1, 2, 3, 4, 5, 6, 7, 8, 9
W-2.3	Demonstrate appreciation for own body	1, 2, 3, 5, 6, 7, 8
W-2.5	Classify foods according to <i>Canada's Food Guide to Healthy Eating</i> , and apply knowledge of food groups to plan for appropriate snacks and meals	3
W-2.9	Describe and apply safety rules when using physical activity equipment	5
Relationship Choices		
R-2.4	Develop communication strategies to express needs and seek support	4, 5
R-2.5	Demonstrate ways to show appreciation to friends and others	4
R-2.6	Develop strategies to show respect for others	3, 4, 5, 7
R-2.8	Recognize and value strengths and talents that members bring to a group	3, 4, 5
Life Learning Choices		
L-2.1	Demonstrate organizational skills	2, 4, 7, 9
L-2.3	Apply the decision-making process for age-appropriate issues	2, 3, 4, 5
L-2.4	Recognize that it takes time and effort to accomplish goals	2, 8, 9
L-2.5	Recognize, acknowledge and respect that individuals have similar and different interests, strengths and skills	3, 4
L-2.6	Recognize that each individual has many roles in life	4

Integration of Curricula Chart

Each oral health lesson for the Grade Two level addresses more than one general health outcome and is integrated with other curricula. This chart identifies all of the general outcomes for Health and Life Skills, Science, and Language Arts, which are covered in each oral health lesson. Under the general outcomes for Health and Life Skills, numbers are listed (e.g. W-2.2) which refer to the specific health outcomes each lesson addresses, as outlined in Alberta Learning's Program of Studies in Health and Life Skills.

Oral Health Lessons	Health and Life Skills			Other Curricula	
	Wellness	Relationship	Life Learning	Science	Language Arts
1	W-2.2 W-2.3				Exploring Thoughts & Experiences Comprehension
2	W-2.2 W-2.3		L-2.1 L-2.3 L-2.4	Inquiry	Exploring Thoughts & Experiences Comprehension Managing Information
3	W-2.2 W-2.3 W-2.5	R-2.6 R-2.8	L-2.3 L-2.5	Inquiry Problem Solving	Exploring Thoughts & Experiences Comprehension Managing Information
4	W-2.2	R-2.4 R-2.5 R-2.6 R-2.8	L-2.1 L-2.3 L-2.5 L-2.6		Exploring Thoughts & Experiences Managing Information Artistry & Clarity
5	W-2.2 W-2.3 W-2.9	R-2.4 R-2.6 R-2.8	L-2.3	Problem Solving	Exploring Thoughts & Experiences Comprehension Artistry & Clarity
6	W-2.2 W-2.3			Inquiry	Comprehension Managing Information Respect, Support & Collaborate
7	W-2.2 W-2.3	R-2.6	L-2.1	Inquiry	Managing Information Artistry & Clarity Respect, Support & Collaborate
8	W-2.2 W-2.3		L-2.4	Inquiry	Exploring Thoughts & Experiences Managing Information Artistry & Clarity
9	W-2.2		L-2.1 L-2.4		Exploring Thoughts & Experiences Comprehension Artistry & Clarity

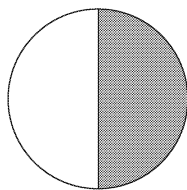
Clean Teeth Are Happy Teeth

General Outcome Wellness Choices

Specific Outcome
Students will demonstrate appreciation for own body.

Dental Outcome
Students will discuss why their teeth are important and why it is necessary to clean their teeth regularly.

Time: 30 minutes



Materials

- Photocopy of **I am Robo-Tooth** enlarged, for "Dental Health Centre"
- Designated "Dental Health Centre" area in the classroom (can be chosen during class time; optional to maintain throughout the school year)
- Large lettered title "Teeth are Important" (made ahead by the teacher)
- Copy of "Robo-Tooth Meets Bac-Teria" – for teacher's use only
- Photocopies of **All About My Teeth** – 1 copy for each student
- Crayons / pencil crayons / markers

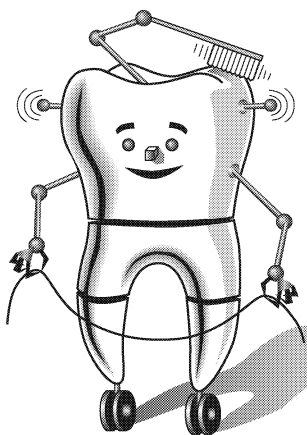
Activity

- Review with the students what they have learned in previous grades about taking care of their mouths:
 - Teeth are important because they help us: chew, talk, smile / look nice.
 - To keep our teeth healthy we need to: brush our teeth at least twice a day, floss between our teeth once a day, eat healthy foods, wear a mouthguard when playing sports, and visit the dentist.
- Hold up enlarged picture of **I am Robo-Tooth**.
 - Ask students if any of them have seen Robo-Tooth before.
 - Explain to students that Robo-Tooth is a very smart robot who knows a lot about teeth. Robo-Tooth has come to visit the class to help the students learn more about their teeth.
- Have students choose a special place in the classroom for the "Dental Health Centre."
 - Hang enlarged picture of Robo-Tooth and large lettered title "Teeth are Important" in this designated area.
 - Advise students that there will be on-going projects that will support the "Dental Health Centre."
- Read "Robo-Tooth Meets Bac-Teria" to the students.
- Review the story by asking students the following questions:
 - Robo-Tooth and all of Sam's teeth are very busy because they help Sam do three different things. Do you remember what those three things are?
(They help Sam chew, talk and smile.)
 - One day Sam stopped doing something and this made Robo-Tooth worried. What did Sam stop doing?
(Brushing her teeth.)
 - When Sam stopped brushing many visitors arrived in Sam's mouth. Robo-Tooth talked to two of these visitors. What were the names of these two visitors?
(Bac and Teria)



Clean Teeth Are Happy Teeth

Bacteria, called plaque, can make cavities in our teeth.



- Bac and Teria may be names that you have not heard before. But if you say their two names together, it makes a word which you may have heard of. What is that word?
(Bacteria)
 - How would you describe bacteria?
(Bacteria are so tiny that we cannot see them unless we use a microscope; we sometimes call them germs.)
 - Bac and Teria said that they were going to group together to form a sticky layer on Sam's teeth. This happens in our mouths too. What is the film of bacteria called?
(Plaque)
 - Bac and Teria said there were many places for them to hide in Sam's mouth. Where are the places plaque can hide in our mouths?
(Tops of the teeth, sides of the teeth, in between the teeth, along the gums.)
 - Robo-Tooth heard Bac and Teria planning to do something to Sam's mouth. What were they planning to do?
(Dig a hole in one of Sam's teeth; make a cavity.)
 - Sam told her mom that her mouth was not feeling very good. Sam's mom took her somewhere to have her mouth checked. Where did they go?
(The dental office)
 - What did the dentist tell Sam?
(That she had no cavities; there was a lot of plaque on her teeth; the plaque would start making cavities and make her gums sick if she did not start taking care of her mouth.)
 - Sam also saw the dental hygienist. What are the two ways that Sam was shown, by the dental hygienist, how to remove the plaque from her teeth?
(Brushing and flossing)
 - How did Sam and Robo-Tooth feel when Sam brushed and flossed her teeth?
(They both felt clean and were happy.)
- Emphasize to students that they should remember that plaque can make holes, called cavities, in their teeth if they do not look after their mouths.
 - Distribute a copy of **All About My Teeth** to each student.
 - Have students draw a picture of themselves, showing their teeth, in one of the following situations:
 - Eating their favourite food
 - Talking to a friend
 - Smiling with their family
 - Brushing the plaque from their teeth
 - Having a parent floss their teeth
 - Having their teeth cleaned at the dental office
 - Hang pictures in the "Dental Health Centre" area of classroom.

Clean Teeth Are Happy Teeth

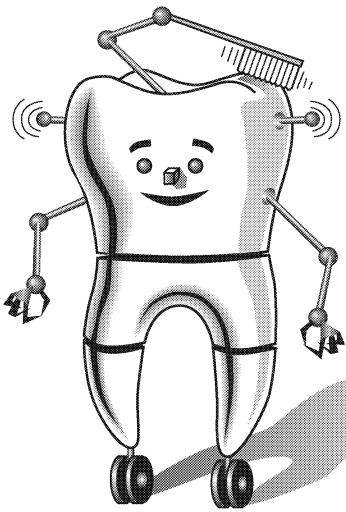
Optional Activities

- Have students make puppets of the characters in the story, and use these puppets to act out their own version of a section of the story. For example, students can make a dentist puppet and a Sam puppet and act out when the dentist talks with Sam. Or, students could make puppets of Robo-Tooth and one of the plaque germs and act out the two of them talking. Students can choose to work either individually or in groups for this activity.
- If students have access to computers, have them visit www.colgatebsbf.com. They can click on *KIDS*, and then on *Grades 2-3*. Then select *Fun Games*, and click on *Attack of the Plaque Monsters*. This will bring students to a fun game. The object of this game is to clean plaque off of some teeth.

Robo-Tooth Meets Bac-Teria

This is the story of Robo-Tooth, a tooth similar to those that you could find living in the mouths of most any student. This Robo-Tooth lives in the mouth of a girl named Sam.

Robo-Tooth is one of the happiest teeth in Sam's mouth. Robo-Tooth is a molar tooth and has a special place at the back of Sam's mouth. Sam also has front teeth that she uses to bite into and cut delicious food. The food is then moved to the back of Sam's mouth where Robo-Tooth and the other molar teeth chew the food. The front teeth also help Sam say lots of different sounds clearly. They help Sam say fun rhymes, such as, "Timothy Talbot's teeth totally twinkle!" And when it comes time to smile – Robo-Tooth, along with all of Sam's teeth, straightens up and puts on a bright sparkle and shine for everyone to admire. Robo-Tooth feels so proud when people tell Sam, "What a beautiful smile you have!"



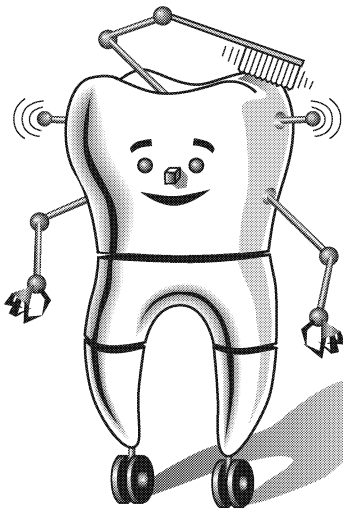
One day, Robo-Tooth heard a frightful sound. It's a sound that no healthy tooth likes to hear. Robo-Tooth heard Sam say "No!" when her mom asked her to brush her teeth. Robo-Tooth was upset to hear that same "No!" after Dad said, "Time to brush." Even when Sam's dad said, "Please!" The next morning when Mom got out the toothbrush, "No!" was all Sam said. This continued for several days.

Then, when Robo-Tooth didn't think matters could get any worse, they did! Many visitors arrived and started to set up tents so they could stay in Sam's mouth. "Who are you and what are you doing here?" Robo-Tooth asked these visitors. "I'm Bac," said one. "And I'm Teria," said the other. "We are moving in because Sam stopped brushing, which makes this a great place for us to live. Our motto is - we move in when the brush moves out!" "But you can't," said Robo-Tooth, "because there is no room." "Don't worry," said Bac, "there are lots of places for us to set up our tents. We all join together to make a layer of bacteria, called plaque, and then we hide on the tops and sides of the teeth, in between the teeth, and along the gums," explained Teria.

Robo-Tooth Meets Bac-Teria

By the end of the week, Sam's mouth was full of plaque bacteria and Robo-Tooth was very worried. Robo-Tooth did not feel well because he was now covered in a fuzzy coating and Sam had bad breath. When Sam smiled, Robo-Tooth could barely put on a sparkle, let alone a shine. Robo-Tooth heard Bac and Teria plotting to dig a hole in one of Sam's teeth. "No way! Sam will clean you away before you even start that cavity!" warned Robo-Tooth. But he was worried that Sam had forgotten about her teeth.

Something was happening to Sam, too. Her mouth was not feeling as healthy as usual. Her teeth felt fuzzy, rough and coated. Sam told her mom about this and her mom took her to the dental office for a checkup. The dentist told Sam that she did not have any cavities, but she had a lot of plaque on her teeth. The dentist explained that all of the plaque in Sam's mouth was going to start making cavities and make her gums sick if she did not start taking care of her mouth. Sam also spent some time with the dental hygienist, who showed Sam how to brush and floss to clean away the bacteria, so that she could keep her teeth and gums healthy.

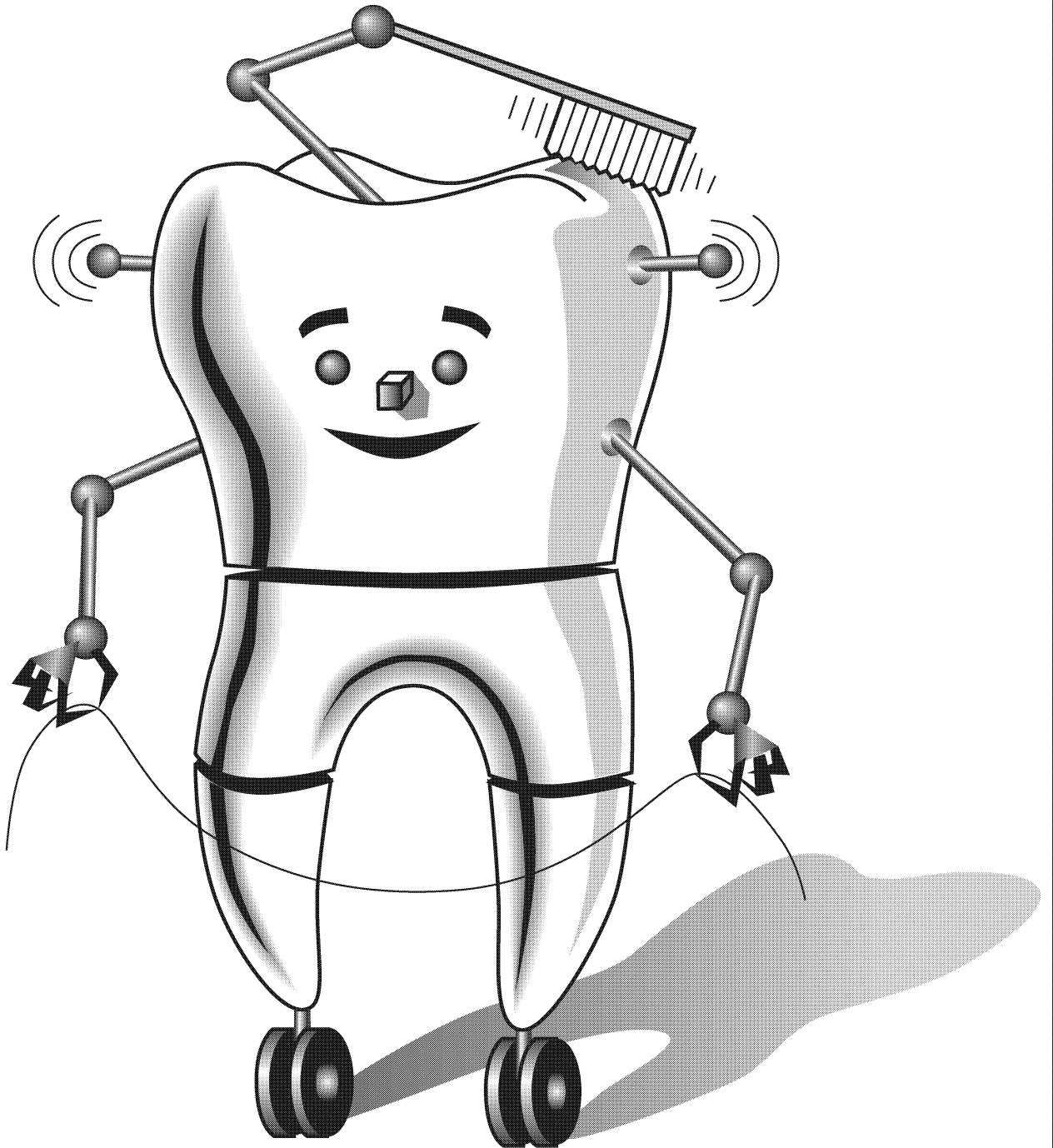


Phew – just in time! Robo-Tooth was so happy to be washed and cleaned. The more Sam brushed, the stronger Robo-Tooth felt. By the time Sam was done, the only unhappy ones were Bac and Teria because they had to find a new place to live.

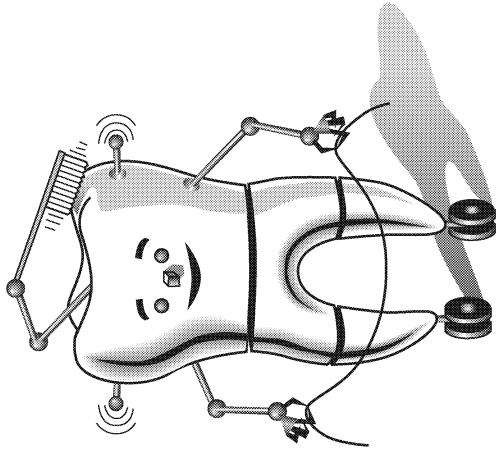
Robo-Tooth was happy because he could sparkle and shine. But Sam was happiest of all, because her mouth felt healthy and clean.

(Enlarge for hanging in "Dental Health Centre.")

I am Robo-Tooth



All About My Teeth



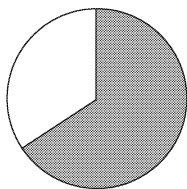
Brush Away the Plaque

General Outcome
Wellness Choices

Specific Outcome
Students will examine the need for positive health habits.

Dental Outcome
Students will examine the need for daily brushing and flossing.

Time: 40 minutes



Materials

- Chalkboard and chalk / whiteboard and marker
- Items for mustard tile demonstration:
 - White tile or white dinner plate (porcelain or plastic)
 - Toothbrush
 - Mustard
 - Napkin / paper towel
 - Plastic knife or spoon
- Option – **I am Robo-Tooth** picture enlarged (found in Lesson 1)
- Photocopy of **Mouth Model** – make 1 copy for brushing demonstration; teacher should cut out, and glue or tape together, ahead of class time (may take 5-10 minutes)
- Option – teacher to bring 1 toothbrush, for use on paper mouth model
- Option – borrow plastic mouth model and toothbrush from local health centre (to be used instead of paper mouth model for brushing demonstration)
- Option – ask each student to bring a clean new toothbrush in its package to class
- Photocopies of **Flossing with Robo-Tooth** – 1 copy for each student
- Photocopies – 1 copy for each student of handouts (can be printed back-to-back):
 - **How Does Robo-Tooth Brush?**
 - **Robo-Tooth's Weekly Brushing Chart**
- Area of classroom designated as “Dental Health Centre” – as set up in Lesson 1
- Option – photocopies of **Toothbrushing Award** – as needed

Activity

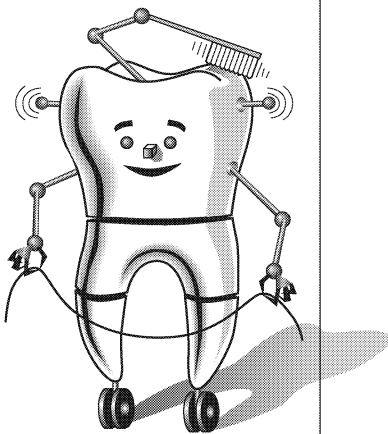
- Explain to students that today's lesson is about toothbrushing. They are going to talk about the importance of toothbrushing and will spend some time practicing a special brushing method.
- Ask students why they need to brush their teeth.
(*To clean our mouths; to remove food and germs / bacteria; to prevent cavities; to prevent bad breath.*)
- Review with students that there are bacteria that grow in their mouths that make a layer on their teeth, and can be harmful to their teeth and gums if they do not clean this bacteria away every day. Do they remember what this film of bacteria is called?
(*Plaque*)
- Write the word “plaque” on the chalkboard or whiteboard.



Brush Away the Plaque

Plaque lives and grows in our mouths all the time.

Plaque can harden if it is not cleaned away every day.



- Explain to students that plaque lives and grows in their mouths all the time. When they brush thoroughly every day, they will have just a small amount of plaque in their mouths, which can be seen only by using a microscope.
- Explain to students that when they do not brush thoroughly every day, they will have more plaque on their teeth and may be able to see it by looking in the mirror. How would they describe what they would see?
(A yellowish coating on their teeth.)
- Explain to students that they are now going to pretend that they can see plaque.
 - Show students the white tile and explain to them that you want them to pretend this is a tooth. How do they think the tile is similar to a tooth?
(It's white; it's hard.)
 - Place the tile on top of a napkin and spread a thin layer of mustard over the tile, using the plastic utensil.
 - Have students look at the tile and explain to them that the coating of mustard on the tile is similar to a coating of plaque on their teeth.
 - Use a toothbrush to brush the mustard off of one small section of the tile. Ask students to discuss what has happened.
(The mustard has been cleared away from the spot that was brushed.)
 - Instruct students to look at the tile and to explain why the whole tile is not cleaned free of mustard.
(The whole tile was not brushed; the mustard is only cleaned away from the spot that was brushed.)
 - Ask students if they think this happens to their teeth if they only brush parts of their teeth.
(Yes, we only clean the plaque away from the places the toothbrush touches.)
 - Use the toothbrush to brush the rest of the mustard off of the tile until the tile is clean. Comment to students about how shiny and clean the tile now looks.
 - Option – leave some of the mustard on the tile and allow it to dry. Show students how difficult it is to remove the dry mustard, if it brushes away at all. Discuss with students that plaque can be more difficult to remove if it stays on their teeth long enough to harden and so they should brush their teeth at least 2 times a day, so the plaque does not have time to harden. If any plaque does harden they need to have it cleaned off by the dental hygienist in their dental office.
- Explain to students that even if they cannot see plaque on their teeth, they may be able to feel it.
 - Have students use their tongues to feel around their teeth.
 - Ask students to describe how their teeth feel where the plaque is.
(Rough, fuzzy, coated, slimy)

Brush Away the Plaque

Plaque grows on all sides of the teeth and especially likes to hide along the gums.

Move the toothbrush in small circles to remove plaque from the teeth and gums.

- If any students can remember how their teeth felt after they had them cleaned at the dental office, have them describe the feeling and compare this with how their teeth feel today.
(After teeth are cleaned at the dental office they feel very smooth, not rough or coated with plaque.)
- Explain to students that each tooth has five sides that they need to clean – the outside, the inside, the top with chewing bumps, and the two in-between sides.
- Explain to students that plaque can grow on any of the five sides and especially likes to hide along the gums, so when they are brushing they need to make sure their toothbrush touches along the gums.
- Introduce students to Robo-Tooth as described in Lesson 1, if students are not familiar with Robo-Tooth. Option – use enlarged picture of **I am Robo-Tooth** for this introduction.
- Explain to students that Robo-Tooth has a special way of brushing to tell them about.
 - Explain that Robo-Tooth says that moving the toothbrush in small gentle circles is a good way to remove plaque from the teeth and gums, and they should make 10 circles in each area that is brushed.
 - Ask students to hold their pointer finger up and to draw small imaginary circles in the air. Have them count to 10 with you, while they are making circles in the air. Option – can anyone count to 10 in a different language?
 - Explain that Robo-Tooth says to brush the outsides, the insides, and the chewing bumps of their teeth and to gently brush their tongues.
 - Explain that Robo-Tooth says it is good to follow a pattern when brushing the outsides and insides of the teeth; a pattern of: back, corner, front, corner, back.
 - Have students point, on the outside of their faces, to the areas to be brushed: back, corner, front, corner, back.
- Bring out paper mouth model that was made ahead of time, or use plastic mouth model and brush that were borrowed. Explain to students that you are going to use this mouth model to show them how Robo-Tooth brushes.
- Explain to students that they will be following along with you as you demonstrate on the mouth model.
 - If students have brought toothbrushes to class, ask them to get their toothbrushes and explain that they will be brushing along with you. Note: if students are brushing in class, they will occasionally have to swallow their saliva. As toothpaste is not being used, explain to students that they can swallow as needed.

Brush Away the Plaque

Take at least 2 minutes to brush the plaque from the outside, the inside and the chewing surfaces of the teeth.

Remember to gently clean your tongue.

Teeth should feel smooth to the tongue after brushing away the plaque.

- If students did not bring toothbrushes, explain that you want them to count along with you.
- Explain to students that now they are ready to brush.
 - Using a toothbrush or your pointer finger, demonstrate on the mouth model, brushing the outside surfaces of the top teeth first. Start at the last back tooth on the right side and brush your way along the surfaces until you reach the last back tooth on the left side. Follow the pattern of back, corner, front, corner, back – count to 10 in each area, making very small circles with the brush angled (45-degrees) toward the gums.
 - Open the mouth model and brush the inside surfaces of the top teeth. Again, start on one side and brush until you reach the last back tooth on the other side. Continue to follow the pattern – back, corner, front, corner, back – counting to 10, making small circles, and angling the brush.
 - Open the mouth model and brush the chewing surfaces of the top back teeth. Count to 10 on both the right and left sides.
 - Repeat the above instructions for the bottom teeth – outside, inside, and chewing surfaces.
 - Remind students that at home they should clean their tongue using a gentle sweeping motion.
 - Have students carefully place their brushes back into the packages, for returning home.
- Explain to students that their teeth should feel different to their tongues after they brush.
 - If students have brushed along with you, have them use their tongues to feel their teeth again. Discuss how their teeth feel now that they have brushed away the plaque.
(Smooth, slippery)
 - If students did not brush but only followed along with you, encourage them to use their tongues to feel their teeth after they brush tonight to see how different their teeth feel.
- Explain to students that they may use toothpaste when they brush at home. Fluoride in toothpaste makes teeth stronger and helps prevent cavities. Toothpaste does not clean the teeth – brushing cleans the teeth.
 - Discuss that they should use only a small amount of toothpaste, i.e. the size of a small green pea, or the size of the fingernail on their smallest finger.
 - Discuss that toothpaste should be spit out and not swallowed.
- Ask students how many minutes they should take to brush their teeth.
(At least two minutes, so that the plaque is cleaned away from all places where germs can hide.)

Brush Away the Plaque

Floss cleans plaque and food from between the teeth where the toothbrush cannot clean.

Brush every morning and night to remove plaque from your teeth.

- Ask students to think of ways they could time the two-minute brushing. *(Use egg timer; set stove or microwave timer; ask parent to watch clock; brush while listening to one of their favourite songs – most songs are at least two minutes long.)*
- Emphasize that brushing at night before bed is very important. Why do the students think this is important? *(It is important to have clean mouths when we sleep – even when we sleep, the plaque germs can harm our teeth if we have not brushed the germs away.)*
- Explain to students that even though they are getting to be big boys and girls, until they are at least 8 years old, they need a parent / adult to help them brush their teeth before they go to bed. Removing all of the plaque along the gums and reaching the new back teeth can be difficult, so students need help from their parents. The new back teeth are “adult” teeth and must last all their life.
- Explain to students that besides brushing there is something else they should do to clean their teeth. Do they know what that is? *(Flossing)*
 - Explain to students that floss cleans plaque / germs and food away from places their toothbrushes cannot clean. Do they know where floss cleans? *(In between our teeth)*
 - Ask students how often they need to floss in one day. *(Once a day)*
 - Explain to students that flossing will be hard for them to do at their age so they must have their parents help them with flossing.
 - Give each student a copy of **Flossing with Robo-Tooth**. Explain to students that they should take this handout home and show it to their parents, who can help them floss their teeth.
- Explain to students that even though they need to get their parents to floss and brush their teeth at night, they should start to be responsible for remembering that their teeth must be brushed and flossed every day.
- Give each student a copy of the double-sided handout **Robo-Tooth’s Weekly Brushing Chart** and **How Does Robo-Tooth Brush?**
 - Explain that the brushing chart will help them remember to brush their teeth every morning and night. For each morning that they brush their teeth, they should colour in a sun for that particular day. For each night that they brush their teeth, they should colour in a moon. The instructions on the back are for their parents.
 - Tell students that at the end of the three weeks, they should have a parent sign their brushing chart and then bring it back to class.
 - Returned brushing charts can be hung in the “Dental Health Centre” area.

Brush Away the Plaque

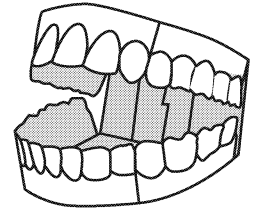
A Toothbrushing Award can be given to students who return a completed brushing chart.

- Option – make copies of the **Toothbrushing Award** and fill them out for each student who returns a completed brushing chart.

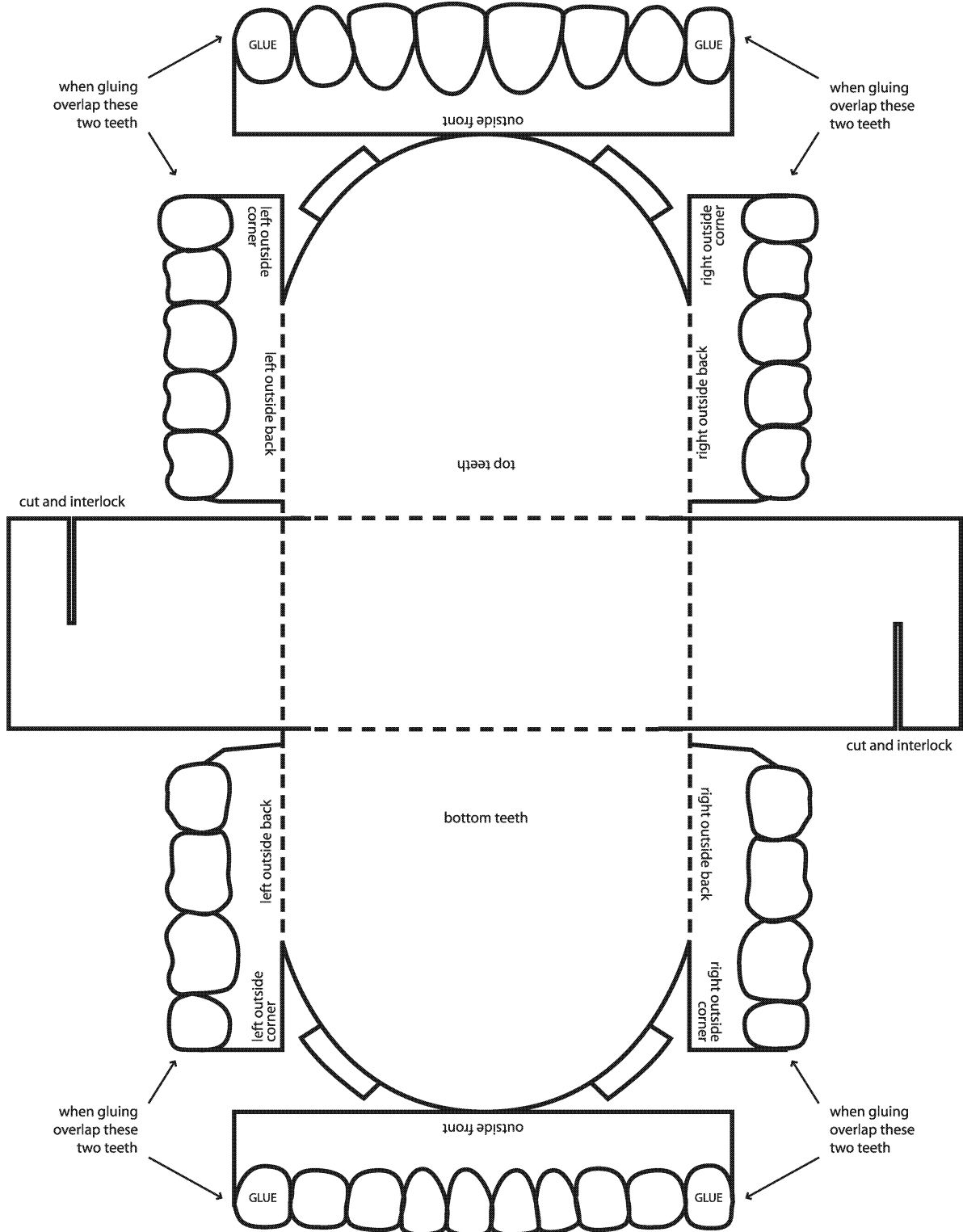
Optional Activities

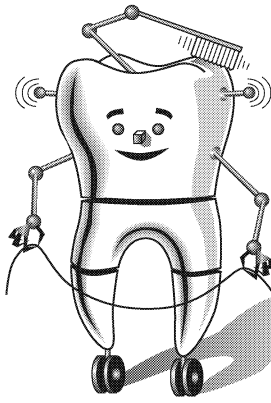
- Make extra copies of **Robo-Tooth's Weekly Brushing Chart** for additional weeks of brushing.
- Instead of doing the mustard tile as a demonstration, have the students participate in the activity. Students can be divided into small groups, with each group having their own tile, a paper towel, a plastic knife or spoon, some mustard and a toothbrush. Once the mustard is on the tile, students can take turns brushing the mustard off with each student brushing a small section. As this can be messy, students should be cautioned that they need to be very careful with the mustard so that they do not get it on anything but the tile. (You may want to have students wear painting shirts.)
- To make the tile more visually like a tooth, an outline of a tooth could be drawn on the tile using a permanent marker, after the students have described how the white tile is similar to a tooth. When the mustard is put on the tile, it could be painted on the crown of the tooth with most of the mustard placed along where the tooth would meet the gums.
- Access some extra activities about plaque by visiting www.dupagehealth.org/health_ed/plaque.html, and clicking on *What is Plaque?*

For teacher's use only – to be used for toothbrushing demonstration



Mouth Model

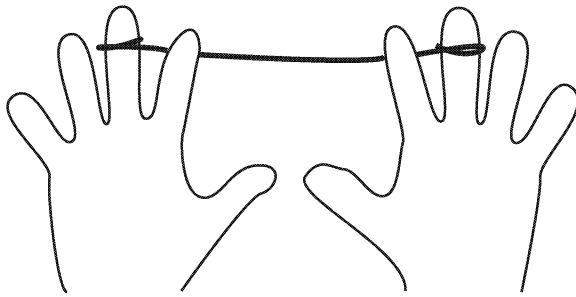




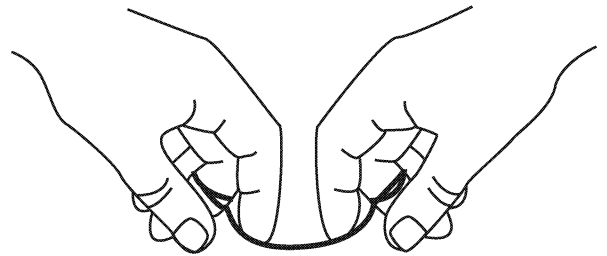
Flossing with Robo-Tooth

Flossing removes harmful dental plaque from between your teeth and under your gums, where the toothbrush does not clean. Floss once a day to keep your teeth and gums healthy.

Holding Floss

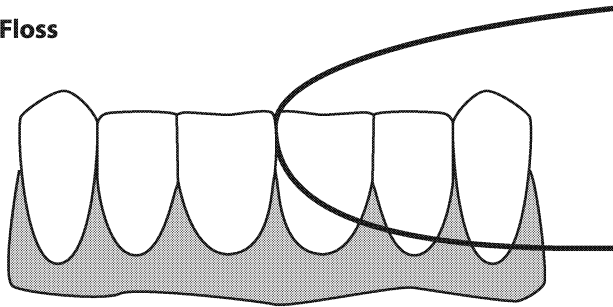


Wrap 30 – 45 cm (12 – 18 inches) of floss around the middle fingers of your hands, until there is about 8 cm (a few inches) of floss between them.

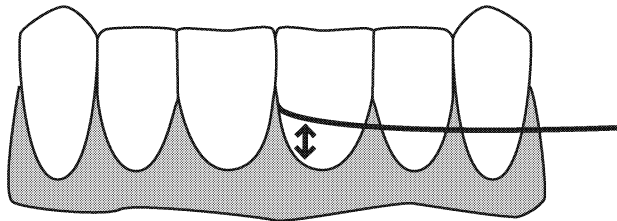


Hold the floss between your thumbs and index fingers. The fingertips should be about 1 cm (1/2 inch) apart.

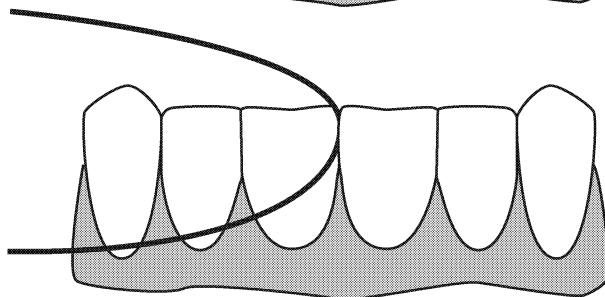
How to Floss



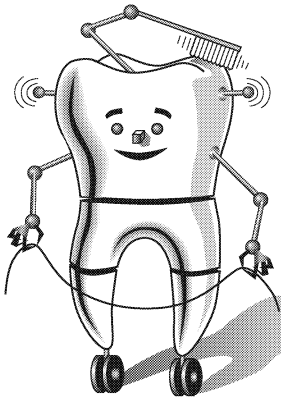
Gently guide the floss between your teeth, using a short back and forth motion. Never snap the floss into the gum. Bend the floss around the tooth in a "C" shape.



Gently move the floss up and down on the side of the tooth and slightly under the gum.



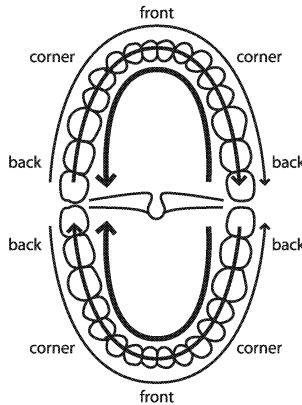
Bend the floss the other way onto the next tooth, and move the floss up and down. Floss both sides of each tooth, moving to a clean area of floss before guiding the floss in between the next teeth.



How Does Robo-Tooth Brush?

PARENTS:

Until children are at least 8 years old, parents should brush their children's teeth at bedtime. When helping your child, brush all surfaces of their teeth and gently along their gums following these simple instructions.

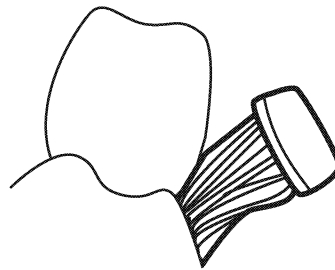


Brush outside, inside, and chewing surfaces of the teeth.

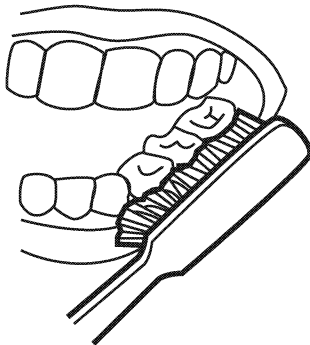
Follow a pattern on the top and bottom.

Brush both teeth and gums.

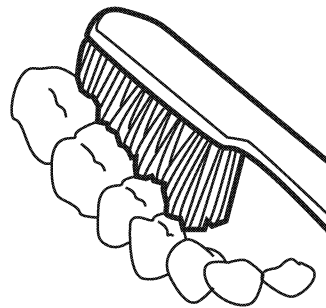
Hold the toothbrush bristles at an angle (45°) against the gums.



Move the toothbrush in small circular motions, counting to 10 for every two teeth.

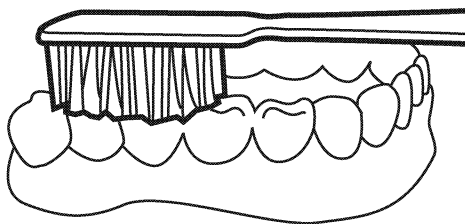


Brush the outsides of the teeth along the gums, following the order of back → corner → front → corner → back.

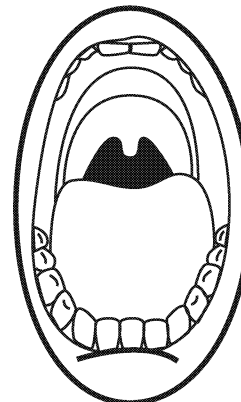


Brush the insides of the teeth along the gums, following the order of back → corner → front → corner → back.

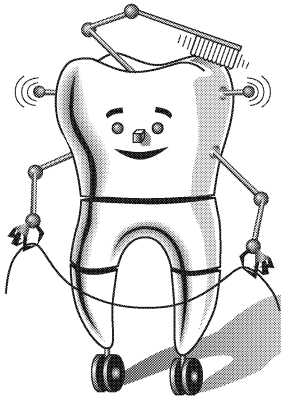
Brush the chewing surfaces of the teeth.



Remember to gently brush the tongue.



- Use no more than a pea-sized amount of fluoride toothpaste.
- Parents should dispense the toothpaste. Keep out of reach of small children.
- Toothpaste should be spit out and not swallowed.



Robo-Tooth's Weekly Brushing Chart

Circle or colour the sun or moon when you brush your teeth!
Sun for morning and moon for bedtime. Have parent sign and return to teacher.

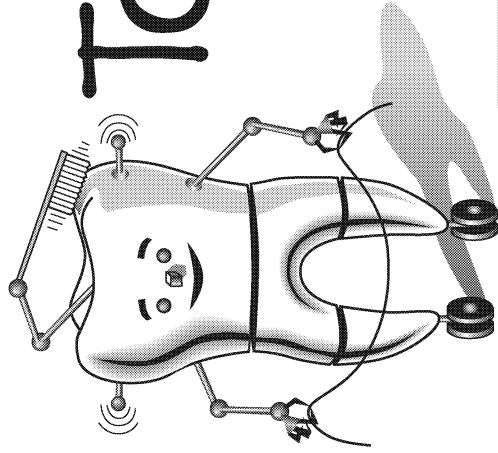
Oops! If you forget to brush, do not circle or colour.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week 1							
Week 2							
Week 3							

Until children are 8 years old, parents should brush their children's teeth and gums at bedtime.

Student's Name _____

Parent's Signature _____



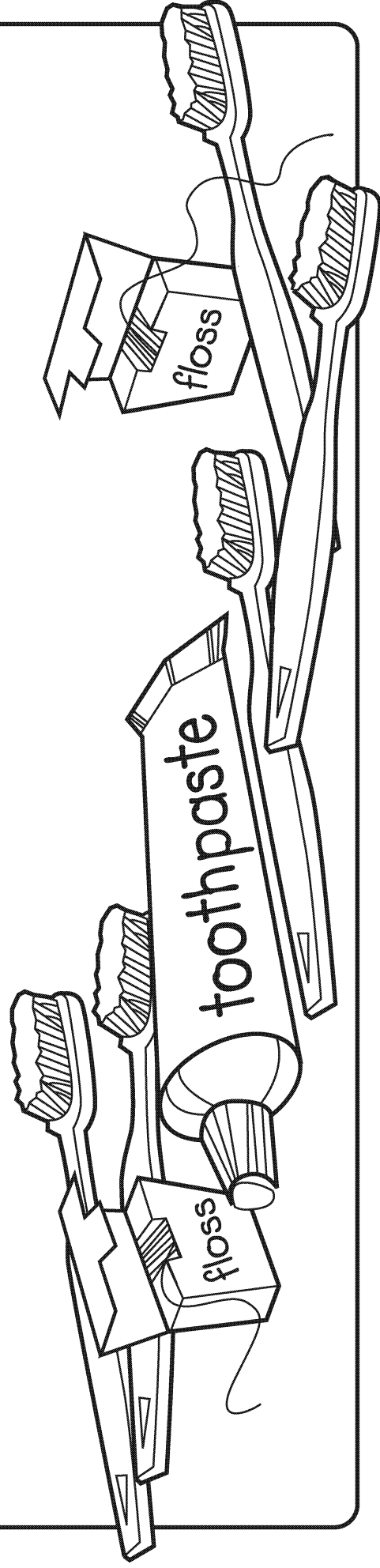
Toothbrushing Award

Presented To

For Brushing Every Morning and Night for Three Weeks

Teacher

Date



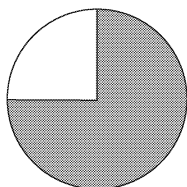
Food Groups and Your Teeth

General Outcome Wellness Choices

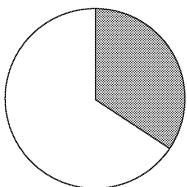
Specific Outcome
Students will classify foods according to Canada's Food Guide to Healthy Eating and apply knowledge of food groups to plan for appropriate snacks and meals.

Dental Outcome
Students will examine the role foods play in the tooth decay process.

Day 1, Time: 45 minutes



*Day 2, Time: 20 minutes
(about one week later)*



Materials

- Photocopy of **I am Robo-Tooth** picture enlarged (found in Lesson 1)
- Area of classroom designated as "Dental Health Centre" – as set up in Lesson 1
- Overhead projector
- Copy of **Chain of Decay** – photocopied onto an overhead transparency
- Option – clock or timer
- Copy of **Food Groups** – photocopied onto an overhead transparency
- Large lettered title "Snacks That Make Me Smile" (made ahead by teacher)
- Items for mobiles:
 - 4 coat hangers
 - Scissors
 - Yarn
 - Magazines and / or grocery store flyers
- 2 photocopies of **Day 1 Snacks** – for teacher's use only
- 2 photocopies of **Day 2 Snacks** – for teacher's use only
- Photocopies of **Chain of Decay Activity Sheet** – 1 copy for each student
- Copy of **Chain of Decay Activity Sheet – Answer Key** – for teacher's reference only

Activity

Day One

- Explain to students that today's lesson is going to be about how different foods affect their teeth.
- Introduce students to Robo-Tooth as described in Lesson 1, if students are not familiar with Robo-Tooth.
 - Use enlarged picture of **I am Robo-Tooth** for this introduction.
 - Hang picture in "Dental Health Centre" area.
 - Explain to students that besides knowing about teeth, Robo-Tooth also knows about healthy foods for teeth. Robo-Tooth has come to visit the class to help the students learn about choosing healthy foods for a snack project.
- Explain to students that certain foods work with the plaque / germs in their mouths to cause cavities / holes in their teeth.
 - Ask students what plaque is.
(*Germs / bacteria that live in our mouths that cause problems for our teeth and gums if we don't clean these germs away every day.*)
 - Ask students what types of foods work with plaque to cause cavities.
(*Sweet, sugary and sticky foods, candy, etc.*)
 - Ask students to list some foods with sugar.
(*Candy, chocolate, pop, etc.*)
 - Ask students how they can tell if a food has sugar in it.
(*You may taste it or you can see the sugar on the food.*)

HEALTH

SCIENCE

LANGUAGE ARTS



Food Groups and Your Teeth

Read the label to see if a food contains sugar.

Plaque + Sugar = Acid

Acid + Time = Cavity

- Explain to students that a good way to tell if a food contains sugar is to read the label on the food. They can have an adult help with reading the label since sugar has many different names.
- Use the **Chain of Decay** overhead, with only the top half of the equation showing, to discuss the following with students:
 - Read to students the equation “Plaque + Sugar = Acid.”
 - Explain to students that when sugar is added to plaque in their mouths, a chemical is made which can cause cavities in their teeth. Do they know what the chemical is?
(Acid)
 - Ask students what acid does to things that it touches.
(It burns or eats a hole in things.)
 - Explain to students that the acid that is made when sugar is added to plaque lasts in their mouths for a certain number of minutes, if they do not clean their mouths right away. Do they know how many minutes the “acid attack” lasts?
(20 minutes)
 - Relate this 20 minutes to something that students are familiar with. For example, a 20-minute “acid attack” is longer than their recess break. Option – use a clock or timer to demonstrate a 20-minute time period.
 - Explain to students that this acid in their mouths can eat holes in their teeth, called cavities.
 - Ask students if they think that this means that they get a cavity every time they eat a food that has sugar in it.
(No, you don’t get a cavity right away as it takes time to get a cavity.)
- Uncover the lower half of the **Chain of Decay** overhead.
 - Read to students the equation “Acid + Time = Cavity.”
 - Review with students that every time plaque and sugar combine in their mouths, acid is made.
 - Explain to students that it takes several “acid attacks,” over a period of time, before they get a cavity. Each time they eat a food with sugar, acid is formed which weakens their teeth. If the acid weakens their teeth too much then they get cavities.
- Explain to students that if they do not want to get cavities, the best thing they can do is break a link in this “chain of decay.” To do this, they need to get rid of plaque or sugar, or limit the length of time or number of times an “acid attack” occurs in their mouths. Refer to the **Chain of Decay** overhead while discussing the following with students:
 - They can break the plaque part of the “chain of decay” by cleaning plaque away from their mouths at least twice a day. How would they clean the plaque away?
(Brush and floss thoroughly.)

Food Groups and Your Teeth

When you cannot brush after eating a sugary food, have a drink of water, eat a piece of cheese, or chew sugarless gum.

- They can break the sugar part of the “chain of decay” by not eating foods with sugar. What could they eat instead of eating foods with sugar?
(Healthy foods instead of sugary ones.)
- They can break the acid part of the “chain of decay” by limiting the length of time and number of times they get an “acid attack.”
 - If they eat a food with sugar in it, acid will be made. But if they get rid of this sugar and acid quickly, they can limit the length of time the acid stays on their teeth so it does not stay on their teeth long enough to make the teeth weak. To get rid of the sugar and acid, they need to clean their mouths right after they have eaten. What is the best way for them to clean their mouths after eating?
(Brush thoroughly.)
 - Explain to students that brushing their teeth after eating these foods is the best way to limit the length of time of the “acid attack.” So if they are going to eat a food with sugar, it is best to eat it at home when they can brush their teeth immediately afterward. But sometimes they are not at home and cannot brush their teeth right away. What do they think they should do then to prevent cavities?
(They can have a drink of water, eat a piece of cheese, or chew sugarless gum after eating the food.)
 - They can limit the number of times there is an “acid attack” on their teeth by eating healthy foods instead of sugary foods, or eating the sugary foods with a meal so that they do not get a separate “acid attack” for every food they eat.

- Explain to students that they are now going to spend some time talking more about the sugar part of the “chain of decay” and how that link can be broken by eating healthy foods.
- Explain to students that one way to choose healthy meals and snacks is to follow *Canada’s Food Guide to Healthy Eating*.
 - Show **Food Groups** overhead.
 - Review with students each of the 4 main food groups by discussing: the name of each group, the number of daily servings needed, and examples of foods in that group, including foods from diverse cultures.
 - Review with students the “Other Foods” category by explaining that these foods do not fit into the 4 main food groups. These foods can provide taste and enjoyment but may not be very nutritious, so they should eat these foods only sometimes and in small amounts. The exception to this is water, which students should drink often throughout each day.
 - Point out to students that foods in the “Milk Products” category are especially good for teeth because they contain calcium, which helps build strong bones and teeth.

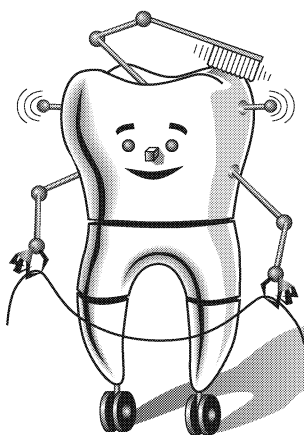
Food Groups and Your Teeth

Choosing healthy snacks, from the 4 food groups, can help to break the “chain of decay.”

- Explain to students that eating foods from the 4 main food groups can help to break the “chain of decay” because it limits sugar.
- Explain that whenever they eat food they need to think of the “chain of decay,” especially at snack time when they are not able to brush or clean their mouths afterward.
- Bring out title “Snacks That Make Me Smile.”
 - Hang in “Dental Health Centre” area.
 - Explain to students that this title will help remind them of a snack project they will be working on as a class.
- Explain to students that you want them to be more aware of the snacks that they bring to school and to choose healthy snacks, to break the “chain of decay” and stop cavities.
- Tell students that they are going to work on a special snack project that will help them choose snacks which are healthy for their teeth. First, you are going to list the snacks they brought to school today. Then on another day (as determined by the teacher) you will ask them to list the snacks they brought that day and see if more of the snacks are from the 4 food groups.
 - Keep the **Food Groups** on the overhead so students can look at it during this discussion.
 - Have a few students volunteer to tell you what snack they have with them today.
 - Have the whole class participate in choosing which food group each snack belongs to. (Be sure that students who have brought sweet “Other Foods” know that they should not feel ashamed of this because these foods are still okay to eat. But emphasize to them that there are healthier choices they can make, and that these sweet “Other Foods” are best eaten at home when they can brush their teeth after eating them.)
 - Ask students what they can do at school after eating their snack food, especially sugary snacks from the “Other Foods” category, to break the “chain of decay.”
(*Have a drink of water to help stop an “acid attack.”*)
 - Tell students that while they are making mobiles you will be making a list of the snacks each of them brought today.
- Explain to students that you want them to make healthy food mobiles.
 - Divide students into four groups.
 - Assign each of the groups one of the 4 main food group categories. (Do not assign a group to the “Other Foods.”)
 - Distribute a coat hanger, yarn, scissors, and magazines to each of the groups.

Food Groups and Your Teeth

Healthy snacks are good for both your teeth and your body.



- Have students work in their groups to find pictures from the magazines for their specific food group. Encourage students to look for a variety of foods, including some from diverse cultures. They should cut out the pictures, and attach them with yarn to the coat hanger.
 - Have groups hang their completed mobiles in the classroom.
- While students are making their mobiles, call students up one at a time. Using a copy of **Day 1 Snacks**, record the student's name, the snack food they brought today, and ask the student to tell you in which food group that snack belongs and place a check mark under that food group category.
 - When each student's information has been recorded, add up the total number of snacks that were brought from each of the food group categories and announce the totals to the students.
 - Remind students that on another day (tell students the day you have chosen) you will be asking them again about the snacks they have brought to school and you want to see if they can bring healthy snacks from the 4 food groups that will help make them smile.
 - Explain to students that the goal of this project is to have all of them bring in snacks from the 4 food groups and not from the "Other Foods" category, unless it is water.
 - Encourage students to think about the snack they brought today and if it was an "Other Food" to think about a food from one of the 4 food groups that they could bring for Day Two of the snack project. Have the class list some examples of foods that could be brought. (*Cheese, grapes, kiwi, carrots, yogurt, pepperoni stick, etc.*)

Day Two (one week later or date chosen by teacher)

- Explain to students that today is the day to check and see if they have made any changes to the foods they have brought for snacks.
 - Remind students that the goal of this project is to help them break the "chain of decay" by eating healthy foods.
 - Show the **Chain of Decay** overhead.
 - Review the equations on the overhead with the students.
- Review with students that foods from the 4 main food groups are foods which help to break the "chain of decay" because they limit sugar.
 - Show **Food Groups** overhead.
 - Review with students each of the 4 main food groups and the "Other Foods" category.
- Tell students that they are now going to work on the second part of their snack project.
 - Keep **Food Groups** on the overhead so students can look at it during this discussion.
 - Have a few students volunteer to tell you what snack they have with them today.

Food Groups and Your Teeth

Encourage students to bring healthy snacks to school.

- Have the whole class participate in choosing which food group each snack belongs to.
- Tell students that you will again be putting each of their snacks on a list. You will call them up one at a time, and while they are waiting their turn they will be doing a word puzzle.
- Distribute a **Chain of Decay Activity Sheet** to each student.
 - Explain to students that they need to complete the sentences on this sheet.
 - In the small blank spaces they need to print the word that goes with the picture that is above the space.
 - In the lines at the bottom, they need to list four things they can do to keep their teeth healthy after they have eaten a food.
 - Students can colour the handout if they wish.
- While students are working on their activity sheets, call students up one at a time. Using a copy of **Day 2 Snacks**, record the student's name, the snack food they brought today, and ask the student to tell you in which food group that snack belongs and place a check mark under that food group category.
 - Have the copy of **Day 1 Snacks** available and discuss with each individual student whether there were differences in their snacks for the two days. Praise the students who improved or chose healthy snacks on both days. For students who did not improve, encourage them to make healthier choices in the future.
 - When each student's information has been recorded, add up the total number of snacks that were brought from each of the food group categories and announce the totals to the students.
 - In discussion with the students, compare and contrast the totals for the **Day 1 Snacks** and those of the **Day 2 Snacks**.
- When students have completed their **Chain of Decay Activity Sheet**, use the **Chain of Decay Activity Sheet – Answer Key** to review the answers with the students. Instruct students to take completed handouts home to show to their families.
- Encourage students to bring healthy snacks for the remainder of the school year.

Optional Activities

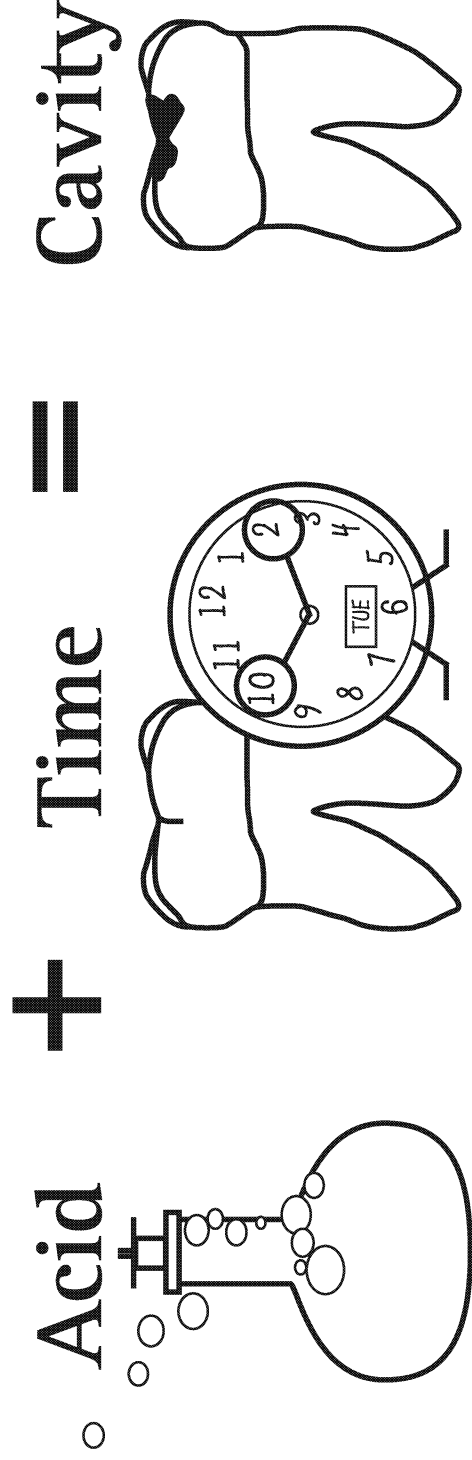
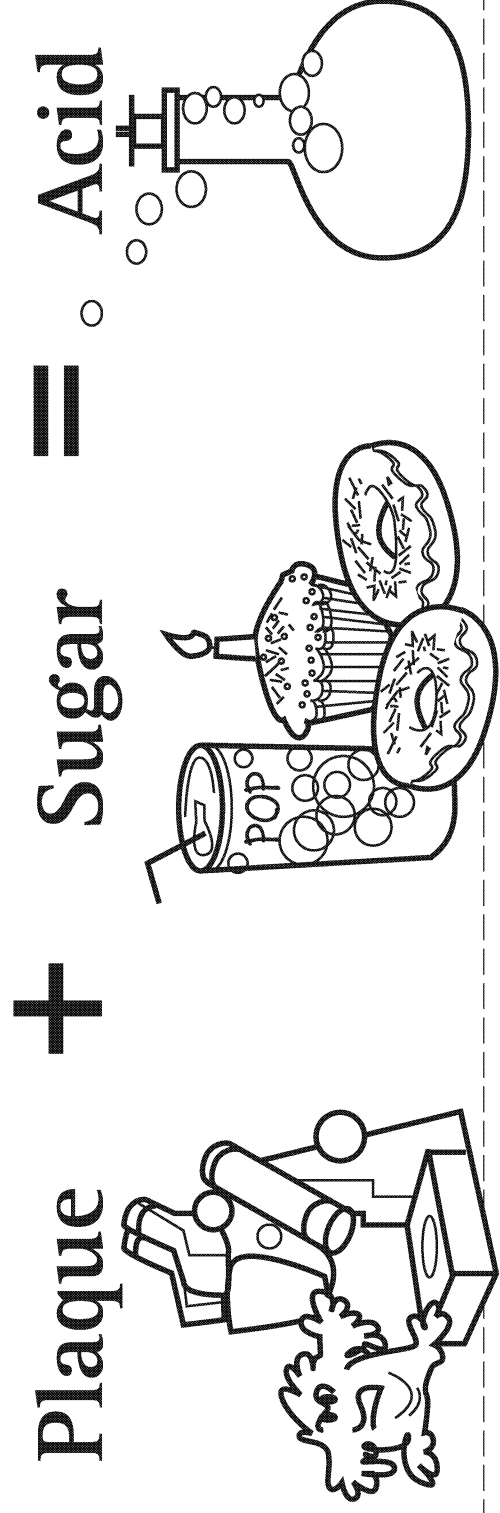
- When totals have been calculated for the **Day 1 Snacks** and **Day 2 Snacks**, make a graph as a class or have students use the numbers to make their own graphs. Use these graphs when discussing and comparing the totals for each food category. Also, totals can be used for addition and subtraction exercises to discover the differences in numbers of snacks in each food group that were brought on the different days.

Food Groups and Your Teeth

Enjoy a variety of foods from each food group every day.

- Instead of recording the snacks for only two days, print off more sheets and record them for a week or longer. The sheets could be posted in the classroom and students can be responsible for recording their own snacks. Or choose to continue the Day Two activities for 4 days; one day for each main food group. Remind students to bring a snack corresponding to the food group that is designated for each particular day.
- Instead of telling the students the date when you are going to make the second check of their snacks, tell them that it will be a surprise check. Explain that it will happen in the next week (or whatever specified period of time), but you will not tell them which day it will happen.
- Have each group of students present their mobile to the class before it is hung on display. The groups should talk about the different pictures of food that are on their mobile.
- Instead of making mobiles, students could work in groups to make posters or collages with the pictures of the foods they find in the magazines.
- For a visual activity on how acid affects teeth, visit www.dupagehealth.org/health_ed/dental_month.html and click on *The Effect of Acid on Teeth*.
- To expand on the concept of the chain of decay and how foods affect this chain, visit www.dupagehealth.org/health_ed/dental_month.html and click on *Healthy Snacks*.
- To access copies of *Canada's Food Guide to Healthy Eating*, visit www.hc-sc.gc.ca/hpfb-dgpsa/onpp-bppn/food_guide_rainbow_e.html. Scroll down the page to find colour or black and white versions for printing. Or click on *Order Publications* under *Quick Links* to receive copies in the mail.
- To find some information about culturally diverse foods, access *Cultural Adaptations of Canada's Food Guide to Healthy Eating* by visiting www.nutritionrc.ca/guide.html. This site contains food guides which are written in 9 different languages and feature culturally specific foods.

Chain of Decay



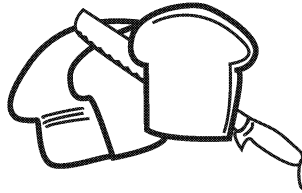
Food Groups

Adapted from *Canada's Food Guide to Healthy Eating*

Grain Products

5-12 servings per day

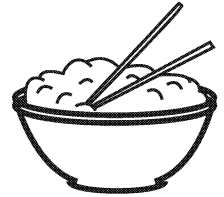
Examples of 1 Serving



1 slice of bread



30g cold cereal



1/2 cup rice

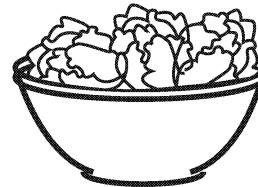
Vegetables and Fruit

5-10 servings per day

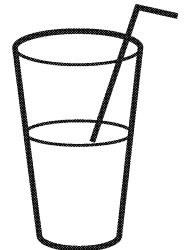
Examples of 1 Serving



1 medium size vegetable or fruit



1 cup salad



1/2 cup juice

Milk Products

Children 4-9 years: 2-3

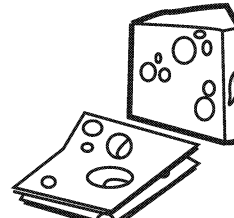
Youth 10-16: 3-4

Adults: 2-4

Examples of 1 Serving



1 cup of milk



2 slices of cheese

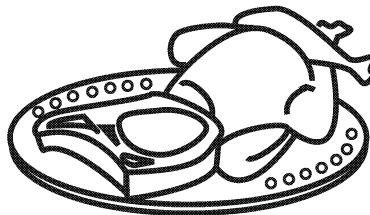


3/4 cup of yogurt

Meat and Alternatives

2-3 servings per day

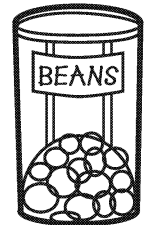
Examples of 1 Serving



50-100g of meat, poultry or fish



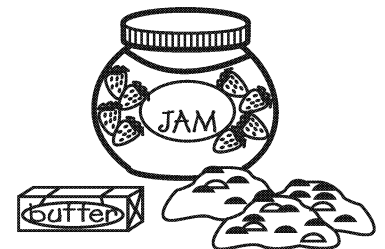
2 tbsp peanut butter



1/2-1 cup beans

Other Foods

Other foods and beverages that are not part of the 4 food groups can be enjoyable. Some of these foods are higher in fat or Calories and may not provide many nutrients. If you choose to eat these foods, eat them only sometimes and in small quantities.



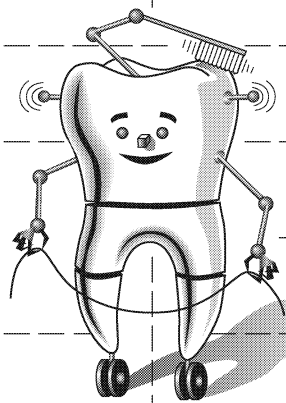
butter

jam

cookies

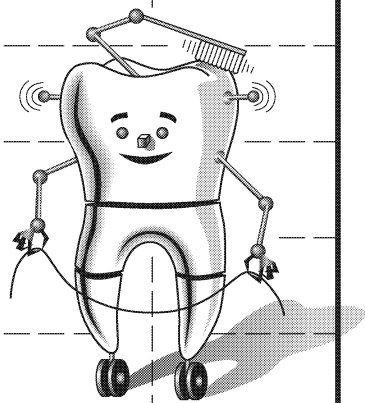
Day 1 Snacks

Name	Snack	Grain Products	Vegetables and Fruit	Milk Products	Meat and Alternatives	Other Foods

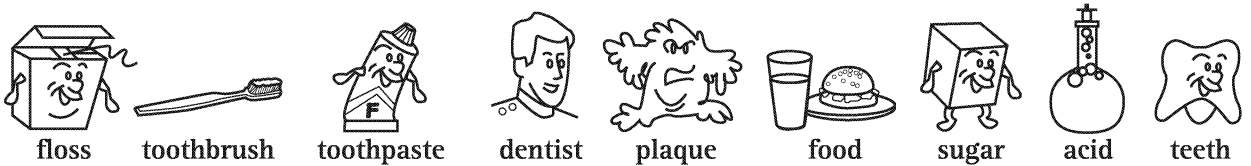


Day 2 Snacks




Name	Snack	Grain Products	Vegetables and Fruit	Milk Products	Meat and Alternatives	Other Foods








Chain of Decay Activity Sheet







Write the word under the picture as you follow the story.




When  mixes with  it can make cavities in your .


 and  work together to make . The longer they




work together, the more the  can make cavities in your .

By using your  and  in the right way, the 

can be removed. Be sure the  you use has fluoride in it.

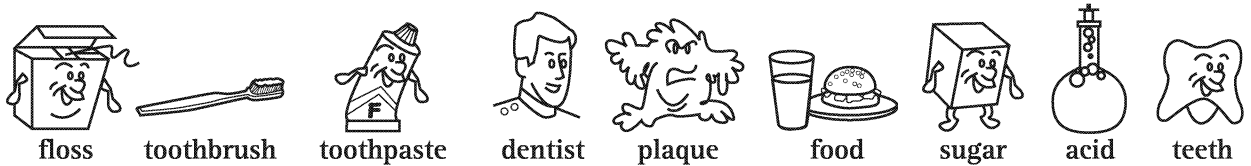
Visiting the  and eating healthy  also keeps your 

happy. When you snack, be sure to try to choose  that does not




have . But remember if you eat  with a lot of ,






1. _____
2. _____
3. _____
4. _____





Chain of Decay Activity Sheet










Write the word under the picture as you follow the story.

When  sugar mixes with  plaque it can make cavities in your  teeth.

 Sugar and  plaque work together to make  acid. The longer they work together, the more the  acid can make cavities in your  teeth.

By using your  toothbrush and  floss in the right way, the  plaque can be removed. Be sure the  toothpaste you use has fluoride in it.

Visiting the  dentist and eating healthy  food also keeps your  teeth happy. When you snack, be sure to try to choose  food that does not

have  sugar. But remember if you eat  food with a lot of  sugar, try to:

1. brush your teeth
2. rinse with water
3. eat some cheese
4. chew sugarless gum

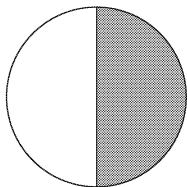
Robo-Tooth Asks Questions

General Outcome
Relationship Choices

Specific Outcome
Students will develop communication strategies to express needs and seek support.

Dental Outcome
Students will feel comfortable asking questions during a dental visit.

Time: 30 minutes



Materials

- Option – photocopy of **I am Robo-Tooth** (found in Lesson 1)
- Chalkboard and chalk / whiteboard and marker
- Students' notebooks
- Photocopies of **Robo-Tooth's Friendly Helpers** – 1 copy for each student
- Copy of **Robo-Tooth's Friendly Helpers – Answer Key** – for teacher's reference only

Activity

- Gather students for an “on the carpet” discussion.
- Explain to students that they are going to spend some time talking about people who help them.
- Ask students to list some people who help them.
(Parents, brothers, sisters, friends, teachers, babysitter, etc.)
- Explain to students that some people have jobs which give them opportunities to help people. Ask students who the worker is who can help them in the following situations:
 - Who can help you when your stomach or throat hurts?
(Doctor)
 - Who can help you find books in the library?
(Librarian)
 - Who can help you learn to read and write?
(Teacher)
 - Who can help you to have healthy teeth?
(Dentist)
- Ask students to raise their hands if they have ever visited a dental office.
 - Have some students take turns talking about their experiences at the dental office. (Downplay painful experiences and focus on positive ones.)
 - Ask students when they should go to the dental office.
(At least once a year for a check-up and cleaning, and as soon as possible if a tooth is broken or hurts.)
- Explain to students that Robo-Tooth has some friends who work in the dental office and wants to tell the students about these dental friends.
 - Introduce students to Robo-Tooth as described in Lesson 1, if students are not familiar with Robo-Tooth. Option – use enlarged picture of **I am Robo-Tooth** for this introduction.
 - Explain to students that there are different workers in the dental office. The workers may be men or women, and they all work together with you to help you keep your teeth healthy and strong.

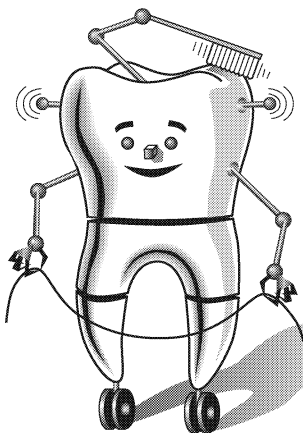
HEALTH

LANGUAGE ARTS



Robo-Tooth Asks Questions

Dental staff will answer questions about your teeth.



- Ask students to raise their hands if they have any family, friends, or neighbours who work in a dental office.
- Explain to students that these dental workers also have roles and responsibilities outside the dental office (i.e. they may also be a parent, brother, sister, friend, etc.)
- Ask students to tell you about the following workers at the dental office and what they do in their role at the dental office:
 - Dentist (*Checks your teeth to see if they are healthy. Looks for cavities and fixes teeth.*)
 - Dental Hygienist (*Cleans and polishes teeth for adults and children. Checks your gums. Takes X-rays and applies fluoride. Teaches you how to keep your teeth and gums healthy.*)
 - Dental Assistant (*Takes you to the dental room and sets up the dental tools. Works with the dentist. Sometimes polishes children's teeth. Teaches you how to keep your teeth and gums healthy.*)
 - Receptionist (*Greets you, answers the phone, takes messages, and makes appointments for you.*)
- Explain to students that when they go to the dental office, the dental workers will talk to them about their teeth and help them learn more about taking care of their teeth.
- Explain to students that when they go to the dental office they may have questions about their teeth or about what is going to happen during their appointment.
 - Ask students if they think it would be okay to ask questions. (*Yes*)
 - Ask students which of the dental workers could answer their questions. (*Any of the dental workers, they are all there to help.*)
- Explain to students that it is good to ask questions, if they have any, because asking questions can help them learn and can help them express their feelings and needs. But, there are some things they should remember when asking questions.
 - Remind students that questions usually start with question words. Ask students to list these words. (*Who, what, when, where, why and how.*)
 - Remind students that it is not polite to interrupt someone if they are talking. So if they want to show respect to a person by not interrupting them, when should they ask their question? (*After that person is finished talking.*)

Robo-Tooth Asks Questions

Asking questions helps students express their feelings and needs.

Role-playing can help children ask their dental questions.

- Explain to students that once they ask a question, they should show the person that they are listening to the answer. How can they show they are listening?
(Do not talk while the person is answering; give the person time to answer the question; listen carefully to what they are saying; look at the person while they are talking to you.)
- Ask students what they could do to show appreciation to someone for answering their question.
(Say "thank you.")
- Explain to students that if they think ahead of time about the questions they want to ask, it will be easier to ask their questions. Ask students what questions they would like to ask when they visit the dental office.
 - Have students list some questions they can ask the dental workers. For example:
 - I have been trying to wiggle this tooth out for a long time. Do you think it will fall out soon?
 - Do I have any cavities?
 - Are my gums healthy?
 - I have not been here before. Could you tell me what you are going to do?
 - Do I need braces?
 - Why do you wear a mask and gloves?
 - I am missing school right now. Could you write a note for my teacher?
 - Write questions on the chalkboard or whiteboard.
 - Have students copy into a notebook one question they would like to ask at their next dental visit.
- Have students work in pairs to role-play some scenarios about going to the dental office and asking questions. In each scenario, one student will be a dental worker and the other student will be the patient with the question. After acting out a scenario, the students should switch roles in their pairs so that they each have a chance to be the patient asking the questions. Teacher can choose to have students role-play a situation involving one of the questions they just listed, or scenarios such as:
 - A Grade Two student is at the dental office. He / she has a wiggly tooth and wants to ask the dental worker when they think this tooth will fall out.
 - The dental worker gives the patient a blue toothbrush, but the patient really wants a red one. Have the patient politely ask if they can have a different colour toothbrush.
 - The patient wants to know what types of food are healthy for his / her teeth. Have him / her ask the dental worker about this.
 - A patient is at the dental office. They want to ask the dental worker to tell them what they should do to take good care of their teeth.

Robo-Tooth Asks Questions

Students can ask their parents about the date for their next dental visit.

- Remind students that dental workers want to help them so they can ask questions, like they just acted out, the next time they have a dental appointment.
- Explain to students that dental workers will help them learn about their teeth and help them keep their teeth healthy and strong.
 - Ask students who should be responsible for cleaning their teeth every day at home.
(They should be; they should get help from a parent until they are at least 8 years old.)
 - Explain to students that they should work as a team with their parents, to take care of their teeth between visits to the dental office.
- Distribute a copy of **Robo-Tooth's Friendly Helpers** to each student.
 - Explain to students that hidden in the puzzle are words of people who can help students.
 - Have students find each word in the puzzle, marking the word by either circling the entire word, or circling each letter in the word separately.

Optional Activities

- Have students make a note in their agenda books to ask their parents about the date for their next dental visit.
- As a class, write a letter to send to a dental office. Include in the letter questions that the students want to ask the dental staff. Mail the letter and when a response is received, read the responding letter to the class.
- Invite a dental professional to come and talk to the class. During the visit, students can ask the dental professional some of the questions that they formed during the discussion in this lesson. They can also ask the dental worker about:
 - His / her job responsibilities, duties and roles.
 - What he / she feels is important for students to do to have healthy teeth.
- Arrange a class tour to a local dental office. Each student should prepare at least one question to ask the dental staff during the tour.
- If students have computer access, have them visit www.ada.org. Click on *Animations & Games*, and then on *Visit the Dentist with Marty*. Students can listen to and read along with this interactive story, as Marty takes a trip to the dentist.

Robo-Tooth's Friendly Helpers

D	A	S	S	I	S	T	A	N	T	Z
N	O	M	L	L	R	W	D	P	R	A
R	W	C	N	D	M	I	S	R	V	P
T	E	E	T	H	E	D	A	I	X	R
N	M	L	L	O	I	N	E	N	H	E
A	E	I	A	L	R	L	T	C	S	C
D	W	B	L	R	L	A	M	I	I	E
U	B	R	O	T	H	E	R	P	S	P
H	E	A	L	T	H	Y	N	A	T	T
M	C	R	N	A	A	I	U	L	E	I
T	A	I	A	H	R	T	R	O	R	O
E	P	A	R	E	N	T	S	C	S	N
A	I	N	U	G	A	R	E	I	M	I
C	R	E	F	R	I	E	N	D	I	S
H	Y	G	I	E	N	I	S	T	L	T
E	E	W	E	E	C	H	A	I	E	J
R	O	B	O	T	O	O	T	H	X	C

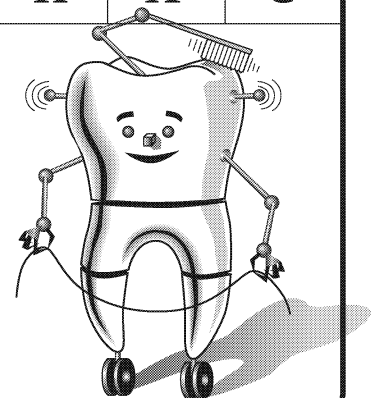
Find the following 16 words and circle them:

dentist
RoboTooth
principal
nurse

hygienist
teacher
doctor
sister

receptionist
friend
parent
brother

assistant
librarian
teeth
smile

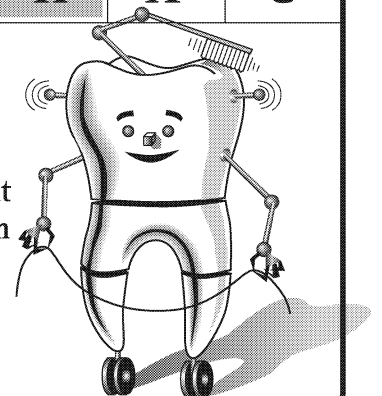


Robo-Tooth's Friendly Helpers

⁷ D	¹³ A	S	S	I	S	T	A	N	T	Z
N	O	M	L	L	R	W	D	³ P	R	A
R	W	C	N	¹ D	M	I	S	R	V	P
¹⁵ T	E	E	T	H	E	D	A	I	X	⁹ R
N	M	¹⁴ L	L	O	I	N	E	N	H	E
A	E	I	A	L	R	L	T	C	⁸ S	C
D	W	B	L	R	L	A	M	I	I	E
U	¹² B	R	O	T	H	E	R	P	S	P
H	E	A	L	T	H	Y	⁴ N	A	T	T
M	C	R	N	A	A	I	U	L	E	I
⁶ T	A	I	A	H	R	T	R	O	R	O
E	¹¹ P	A	R	E	N	T	S	C	¹⁶ S	N
A	I	N	U	G	A	R	E	I	M	I
C	R	E	¹⁰ F	R	I	E	N	D	I	S
⁵ H	Y	G	I	E	N	I	S	T	L	T
E	E	W	E	E	C	H	A	I	E	J
² R	O	B	O	T	O	O	T	H	X	C

Find the following 16 words and circle them:

- | | | | |
|--------------|--------------|-----------------|---------------|
| 1. dentist | 5. hygienist | 9. receptionist | 13. assistant |
| 2. RoboTooth | 6. teacher | 10. friend | 14. librarian |
| 3. principal | 7. doctor | 11. parent | 15. teeth |
| 4. nurse | 8. sister | 12. brother | 16. smile |



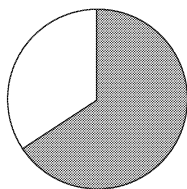
Tooth Safety

General Outcome
Wellness Choices

Specific Outcome
Students will describe and apply safety rules when using physical activity equipment.

Dental Outcome
Students will discuss ways they can keep their teeth safe in different situations.

Time: 40 minutes
(Extra time may be required to complete comic strips)



Materials

- Photocopy of **I am Robo-Tooth** picture enlarged (found in Lesson 1)
- Area of classroom designated as “Dental Health Centre” – as set up in Lesson 1
- Large lettered title “Ways To Keep My Teeth Safe” (made ahead by teacher)
- Chalkboard and chalk / chart paper and marker
- Chart paper with **Ways To Protect Teeth** copied onto it (made ahead by teacher)
- A few samples of age-appropriate comics (teacher to collect ahead of time from newspapers, magazines, comic books, the library or the Internet)
- Photocopies of **My Comic Strip** handout – 1 copy for each student
- Crayons / pencil crayons / markers

Activity

- Explain to students that they are going to spend some time talking about keeping their teeth safe.
- Introduce students to Robo-Tooth as described in Lesson 1, if students are not familiar with Robo-Tooth.
 - Use enlarged picture of **I am Robo-Tooth** for this introduction.
 - Hang picture in “Dental Health Centre” area.
 - Explain to students that Robo-Tooth knows a lot about taking care of teeth and has come to visit the class today to help them learn about keeping their teeth safe.
- Bring out title “Ways To Keep My Teeth Safe.”
 - Hang in “Dental Health Centre” area.
 - Have students read the words.
 - Point to the word “safe” in the title. Ask students what it means to keep something safe.
(To protect it, to stop it from getting hurt or broken.)
- Ask students to give reasons as to why it is important to keep teeth safe.
(If teeth are not kept safe they might chip, break or fall out. This may cause our mouths to hurt, and damaged teeth can make chewing, speaking and smiling more difficult.)
- Explain to students that they can injure their teeth when they are doing different activities throughout the day. Have students list examples of how their teeth can be injured when doing the following (write students’ responses on the board or chart paper):
 - When playing sports?
(They could be hit in the mouth by a puck, ball, bat, etc.)
 - When playing outside?
(They may fall when riding a bike, skateboard or rollerblades, etc.)

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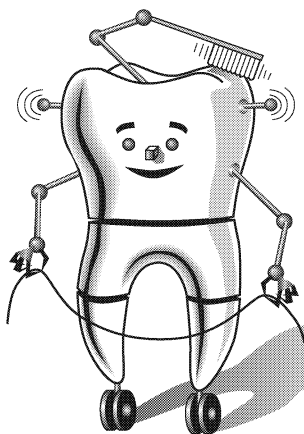
LANGUAGE ARTS



Tooth Safety

Many mouth injuries can be prevented.

To protect teeth, wear a mouthguard when playing sports.



- At school?
(Being pushed by someone when at the water fountain or on the playground equipment; chewing on pencils; using teeth to tear open bags, etc.)
- When riding in the car?
(Bumping your teeth when the car has to stop suddenly.)
- Explain to students that these injuries can be prevented. Have students list examples of how they can prevent their teeth from being injured when doing the following (write students' responses on the board or chart paper):
 - When playing sports?
(Wear mouthguards, helmets, and faceshields; don't swing bats or kick balls when others are unaware or within reach, etc.)
 - When playing outside?
(Wear a helmet when riding a bike, skateboard or rollerblades, etc.)
 - At school?
(Don't push others at the water fountain or on the playground equipment; don't chew on pencils or use your teeth as tools, etc.)
 - When riding in the car?
(Wear your seatbelt.)
- Hang up chart paper which has **Ways to Protect Teeth** copied onto it. Review each of the points with the class. Tell students that they will be role-playing some of these situations.
- Ask a few students to role-play some scenarios about preventing mouth injuries. Students can choose to role-play a situation involving one of the points listed on **Ways To Protect Teeth**, or scenarios such as:
 - One student pretends to be a coach of a team and instructs his / her players about the safety gear, especially mouthguards, they will need to wear to be able to play on the team.
 - Three students are riding in a car to go to the store. One student forgets to put on his / her seatbelt. The other two students remind this student to put on the seatbelt and why it is important for his / her safety.
- Explain to students that it is important to protect their teeth from injuries. However, tooth injuries may still happen.
 - Ask students what they think they should do if they have an injury with their teeth.
(The best thing to do is to tell an adult immediately, who may call your dentist.)
 - Discuss your school's procedures for what students should do in the event of an injury.
- Ask some students to role-play what to do for a mouth injury, following school procedures in scenarios which take place at school. Students can

Tooth Safety

If students have a mouth injury, they should tell an adult immediately.

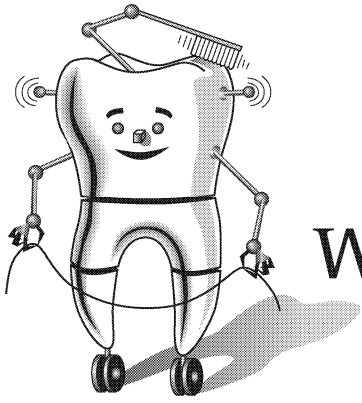
If teeth are injured, have your dentist check them.

choose to role-play a situation involving one of their favourite sports, or scenarios such as:

- Four students are pretending to kick a ball around the soccer field. One student kicks the ball towards another student, who is not paying attention and gets hit in the face with the ball. Two students stay to help their friend and the other student goes to get help from an adult.
 - Three students are playing on the tire-swing at the playground during recess time. Another student comes running up because he / she wants to join them on the swing. He / she gets too close before the swing stops and so the swing bumps him / her in the mouth. Two students stay to help their friend and the other student goes to get help from an adult, or students follow the school's procedures regarding injuries.
- Explain to students that they are now going to make their own comic strips about keeping teeth safe.
 - Show the students the samples of comic strips and / or comic books.
 - Discuss with students how comics are different from story books, magazine or newspaper articles and other written materials. Explain that in a comic strip, different parts of the story are shown in separate boxes.
 - Distribute a copy of **My Comic Strip** to each student.
 - Have students design their own comic strip about either preventing a mouth injury, or what to do if a mouth injury happens. Students can use Robo-Tooth as a character in their comic strips, or they can make up their own character(s).
 - Once comic strips are completed, display them in the "Dental Health Centre" area.

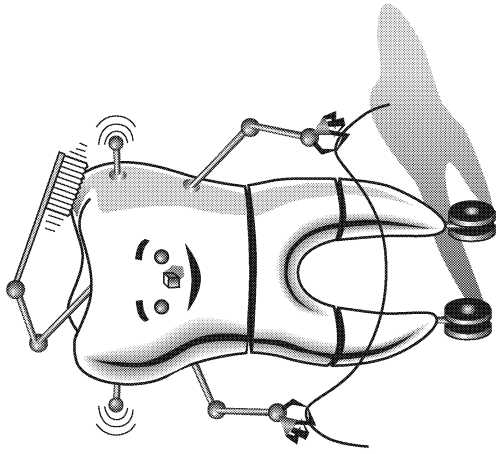
Optional Activities

- Have students share their comic strips with the rest of the class.
- Instead of making comic strips, students could make posters about preventing mouth injuries. They could draw their own pictures or cut and paste pictures from magazines or newspapers. Hang the posters throughout the school.
- Discuss with students what to do if their tooth is knocked out, as explained in the *Oral Health Background Information*.
- For more activities about tooth safety, visit www.bmcc.org/Headstart/Dental and click on *Keeping Teeth Safe*.
- To expand on the concept of mouthguards, visit www.dupagehealth.org/health_ed/dental_month.html and click on *Mouthguards*.



Ways to Protect Teeth

- Wear safety gear for playing sports.
- Be aware of others around you.
- Don't push others.
- Always wear your seatbelt.
- Don't use your teeth as tools.



My Comic Strip

Draw a picture in each of these boxes to create your comic strip about keeping your teeth safe or what to do if a mouth injury happens.

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Protecting Our Teeth

General Outcome Wellness Choices

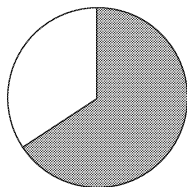
Specific Outcome

Students will examine the need for positive health habits.

Dental Outcome

Students will examine how fluoride and sealants can protect their teeth from cavities.

Time: 40 minutes



Materials

- Photocopy of **I am Robo-Tooth** enlarged (found in Lesson 1)
- Chalkboard and chalk / whiteboard and marker
- Small plastic bag with zip-type seal
- A small blunt object for demonstrating the seal of the plastic bag (an item such as an eraser, a piece of chalk, etc.)
- Items for group work (one of each item for every 2 to 4 students):
 - Piece of chalk
 - Paper towel
- Clear nail polish (a glue stick could be substituted, but the result is not as dramatic)
- 1 bottle of food colouring
- Paper or students' notebooks
- Photocopies of **Robo-Tooth Talks About Sealants** – 1 copy for each student

Activity

- Explain to students that they are going to spend some time talking about protecting their teeth.
- Ask students what it means to “protect” something.
(*To keep it safe; to stop it from getting hurt or broken.*)
- Ask students to give reasons why it is important to protect their teeth.
(*So our teeth do not get cavities and do not get injured or hurt. If we protect our teeth, they will stay healthy, and healthy teeth can do their jobs of chewing, speaking and smiling.*)
- Explain to students that they can protect their teeth from being injured or hurt, and they can also protect their teeth from getting cavities.
 - Ask students to list some things they can do to protect their teeth from getting injured or hurt. (This should be a review of Lesson 5. However if Lesson 5 was not taught, then use sections of it to discuss ways to keep teeth safe.)
(*Wear mouthguards, helmets and face shields when playing sports; don't push others at the water fountain; don't use your teeth as tools; wear a seatbelt when riding in the car, etc.*)
 - Ask students to list some things they can do to protect their teeth from getting cavities.
(*Brush, floss, eat healthy foods, limit sugary foods and drinks, visit the dentist regularly.*)
- Explain to students that there are other things that can help protect their teeth from cavities. Today they are going to learn about fluoride and sealants.

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Protecting Our Teeth

Fluoride and sealants help protect teeth from cavities.

Fluoride makes tooth enamel stronger.

- Introduce students to Robo-Tooth as described in Lesson 1, if students are not familiar with Robo-Tooth.
 - Use enlarged picture of **I am Robo-Tooth** for this introduction.
 - Explain to students that Robo-Tooth knows a lot about protecting teeth and has come to visit the class to help them learn about fluoride and sealants.

- Discuss fluoride with students:
 - Write “fluoride” on the board.
 - Explain that fluoride is a mineral which is found in most toothpastes, many foods, in some drinking water, and at the dental office.
 - Ask students if they think toothpaste with fluoride helps to clean their teeth or make their teeth stronger.

(Makes their teeth stronger. Note: Many students will say it cleans the teeth, but it is the action of a toothbrush that removes the plaque and not the toothpaste.)
 - Explain to students that toothpaste with fluoride helps to protect their teeth because it makes their teeth stronger, and when their teeth are strong it is harder for acid to make a hole / cavity in their teeth. In this way, fluoride helps to break the “chain of decay.” (This should be a follow-up of Lesson 3. However, if Lesson 3 was not done then use sections from that lesson to explain the concept of the “chain of decay.”)
 - Ask students if they think they should use a lot of toothpaste or just a little bit of toothpaste on their toothbrush.

(Just a little bit – that is all we need and we do not want to waste it.)
 - Explain to students that they should think of the size of a small green pea, and when they are putting toothpaste on their toothbrush they should use only a pea-sized amount.
 - Explain to students that many types of toothpaste taste good. Ask them if they think they should swallow toothpaste.

(No. Do not swallow toothpaste. It is important to spit toothpaste out. Fluoride is for our teeth and not our tummies.)

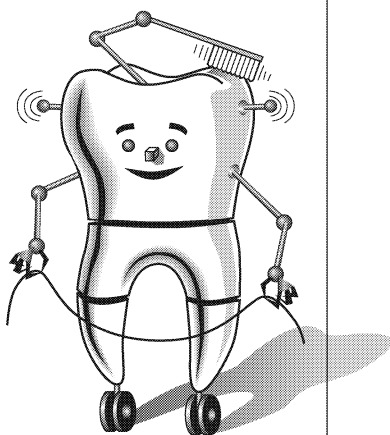
- Introduce the concept of a “seal” to students by doing the following demonstration:
 - Show students a zip-type bag and demonstrate sealing it closed.
 - Ask students to explain what you just did to the bag.

(Sealed the bag closed.)
 - Ask students if they could put anything into the bag now that it is sealed.

(No)
 - Attempt to put an object into the bag while it is still sealed (a blunt item such as an eraser, piece of chalk, etc.).
 - Explain to students that the seal is stopping the object from going into the bag.

Protecting Our Teeth

Sealants are plastic coatings that are painted on the chewing surfaces of teeth.



- Open the zip-type seal, place the object into the bag and re-seal it.
 - Ask students if they think this object can come out of the bag if you hold it upside down.
(No)
 - Hold the bag upside down and show students that the object does not come out. Ask students why this happens.
(The seal stops the object from coming out.)
 - Explain to students that this bag is sealed and a seal helps stop objects from going in and out.
 - Ask students what a bag like this is used for.
(To put food in it; for lunches; store foods in the refrigerator; keep the air out of foods.)
 - Discuss with students that these kinds of bags are used to store food, and other things. The bags keep food from drying out, keep odors from getting into our foods, and keep our food fresh so it does not turn rotten or get mouldy. So these bags are used because they seal out things that we do not want to get into our foods.
- Discuss sealants with students:
 - Explain to students that they can have a seal put on their teeth that can help to keep out germs that cause decay / cavities in their teeth. These tooth seals have a special name called “sealants.”
 - Write “sealant” on the board.
 - Ask students to say what word they see in “sealant.”
(Seal)
 - Explain to students that a sealant is a clear or white plastic coating that a dental professional can paint on the chewing bumps of teeth. Sealants can help to keep the plaque and acid away from that part of the teeth, just as the bag can keep odors, dryness and mould away from food. This is how a sealant can help to protect teeth from cavities.
 - Ask students to use their tongues to feel the chewing surfaces / tops of their back teeth. Ask students how those teeth feel.
(Bumpy, rough, full of ridges and grooves / high parts and low parts.)
 - Explain to students that teeth are not completely smooth, and the chewing surfaces of their back teeth have many grooves and ridges. These grooves are places where plaque can easily hide, and students may miss them when they brush. A sealant can help because it covers up some of the grooves, so the plaque and acid are sealed out from that spot.
 - Explain to students that sealants only protect the chewing surfaces of teeth but do not protect in between the teeth.
 - Ask students if they think that sealants will protect someone's teeth so much that they can stop brushing and start eating lots of sugary snacks.
(No, sealants help protect our teeth but we still need to brush and limit sugary foods.)

Protecting Our Teeth

Sealants help protect the grooves of teeth from cavities by keeping out the food, plaque and acid.

- Emphasize to students that sealants can help to protect our teeth from cavities but a person who has sealants still needs to take care of their teeth by brushing and flossing and eating healthy foods.
- Explain to students that they are going to do an experiment to get a better idea of how sealants work.
 - Divide class into small groups of two to four students.
 - Give each group a paper towel and a piece of chalk.
 - Explain to students that they are going to seal one end of the chalk.
 - Have students pass the chalk around to each group member so they can feel the chalk before it is sealed.
 - Rotate through each group and coat one end of the chalk with the nail polish.
 - Have one student in each group hold the chalk in the air by the non-coated end and allow time to dry.
 - Once the nail polish has dried, have the students pass their piece of chalk around to each group member so that they can feel the sealed end.
 - Tell students that you are going to come around and put food colouring on each piece of chalk, on the unsealed end.
 - Emphasize to students that it will be important to be careful with the food colouring, since it could stain their clothing or fingers.
 - Rotate through each group and carefully place one drop of food colouring on the uncoated end of the chalk.
 - Have students discuss, within their group, what happened to the chalk.
 - Tell students that now you are going to come around and put food colouring on each piece of chalk, on the sealed end.
 - Rotate through each group and carefully place one drop of food colouring on the coated end of the chalk.
 - Have students observe the food colouring on the coated end of the chalk. Then dab the coated end into the paper towel and observe the chalk again and discuss, within their group, what happened to this end of the chalk.
 - Once all groups have discussed what happened to the sealed end of their chalk, have the students as a class discuss their findings, comparing what happened to the sealed end to what happened to the unsealed end.
(On the unsealed end, the food colouring soaked into the chalk. On the sealed end, the colouring did not soak in.)
 - Explain to students that the nail polish sealed the one end and protected it from the food colouring. This is similar to what a sealant does when it is applied to our teeth.
 - Ask students what sealants protect our teeth from.
(Germs, bacteria, plaque, sugar, acid.)
 - Explain to students that sealants help break the “chain of decay” by stopping acid from soaking into a sealed part of a tooth, just like the sealed end of the chalk stopped the food colouring from soaking in.

Protecting Our Teeth

Fluoride and sealants help break the “chain of decay” by making teeth more resistant to acid.

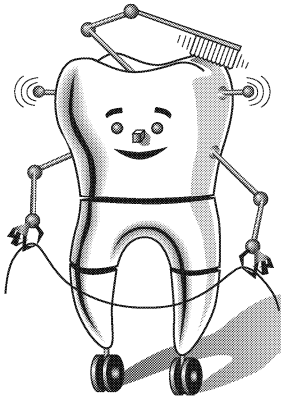
If the acid cannot touch the tooth surface, then the acid cannot make holes, or cavities, in our teeth.

- Have students clean up and put away their materials.
- Explain to students that you want them to write some sentences about what they learned today.
 - Have students take out a piece of paper (or their Health or Science notebook.)
 - Instruct students to write about 3-5 sentences about protecting their teeth. Explain to students that their sentences should include some new vocabulary words that you will write on the board.
 - Put vocabulary words on the board:

- Sealant	- Cavities
- Coating	- Fluoride
- Acid	- Toothpaste
- Protect	- Sugar
- Grooves	- Teeth
- Plaque	- Tooth
 - Give students some examples of what they could write. Examples such as:
 - Fluoride can make my teeth stronger. I use a toothpaste with fluoride. I use only a pea-size of toothpaste. Sealants protect my teeth from cavities. Sealants keep out acid and plaque.
 - I can protect my teeth with fluoride. Fluoride makes my teeth stronger. I can also protect my teeth with sealants. Sealants are for the grooves of my teeth.
- Distribute a copy of **Robo-Tooth Talks About Sealants** to each student to take home to their parents.

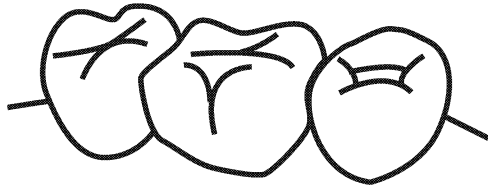
Optional Activities

- If pieces of chalk are not available, use paper towel for the experiment. Apply the nail polish or glue stick onto the paper towel, covering a small area about 3 cm in diameter. One drop of food colouring can be placed on this coated area, when dry. Another drop can be placed directly on the paper towel, representing the unsealed end.
- The activity of the chalk experiment can be completed by the teacher only, with the students observing the demonstration.
- To find more information about fluoride and sealants, and to access further activities, visit www.dupagehealth.org/health_ed/dental_month.html and click on *Fluoride or Sealants*.
- For an activity that demonstrates how a sealant fills in the grooves and pits of teeth, visit www.burke.k12.nc.us/dentalhealth/html/activities.html and scroll down to *Seal it!*

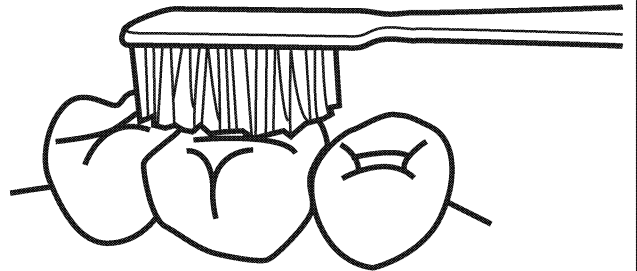


Robo-Tooth Talks About Sealants

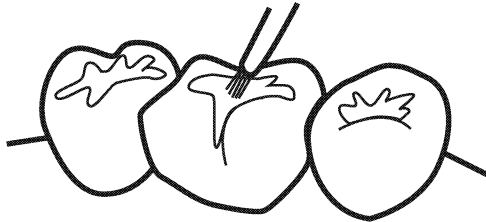
Sealants help protect the chewing surfaces of the teeth from cavities by sealing the deep pits and grooves from plaque germs, food and acid.



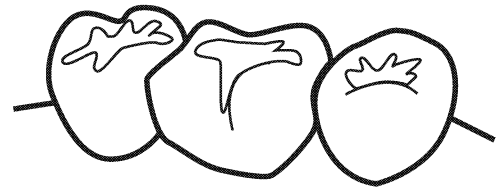
The chewing surfaces of the back teeth have many ridges and deep pits and grooves.



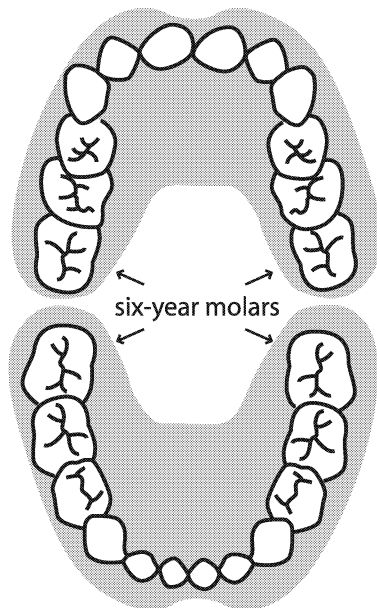
The deep grooves of the molars are difficult to clean with a toothbrush.



Sealants are thin plastic coatings painted on the chewing surfaces of healthy back teeth.



Sealants help to keep out the germs and food that cause cavities.



Children should get dental sealants on their permanent molars as soon as they come in and before they have cavities. The first permanent molars – often called six-year molars – come in between the ages of 5 and 8.

Ask your dental health professional about sealants for your child's teeth.

Counting My Teeth

General Outcome

Life Learning Choices

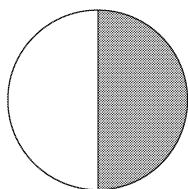
Specific Outcome

Students will demonstrate organizational skills.

Dental Outcome

Students will know how many primary and permanent teeth they have.

Time: 30 minutes



Materials

- Photocopy of **I am Robo-Tooth** enlarged (found in Lesson 1)
- Overhead projector
- Copy of **Primary and Permanent Teeth** - photocopied onto an overhead transparency
- Photocopies – 1 copy for each student of handouts (can be printed back-to-back):
 - **I Can Count Teeth**
 - **Tooth Math**
- Pencils
- Small items for counting to be used as a representation for teeth (e.g. plastic game tokens, popcorn kernels, beans, etc.). Have enough of these items so that each student would get approximately 24.

Activity

- Discuss with students that their teeth will have changed a lot since they were born. What changes have they noticed?
(*They have lost some teeth and grown some new teeth.*)
- Explain to students that when they were born they probably did not have teeth, but when they were a few months old their first set of teeth started to grow into their mouths.
 - Ask students if they know what this first set of teeth is called.
(*Baby teeth or primary teeth.*)
 - Tell students that by the time they were about 3 years old they would have had all of their primary teeth in their mouths. Do they know how many primary teeth each person grows?
(20)
 - Ask students what has started to happen and will continue to happen to their primary teeth as they grow older.
(*They become loose and fall out.*)
- Explain to students that they are supposed to lose their primary / baby teeth, but a new set of teeth replaces them. They should never lose this second set of teeth.
 - Ask students if they know what this second set of teeth is called.
(*Adult or permanent teeth.*)
 - Tell students that by the time they are about 20 years old, they should have all of their permanent teeth in their mouth. Do they know how many permanent teeth each person grows?
(32)
 - Ask students to raise their hands if they have new front teeth that have grown, or started to grow, into their mouths.
 - Explain to students that these are permanent front teeth.



Counting My Teeth

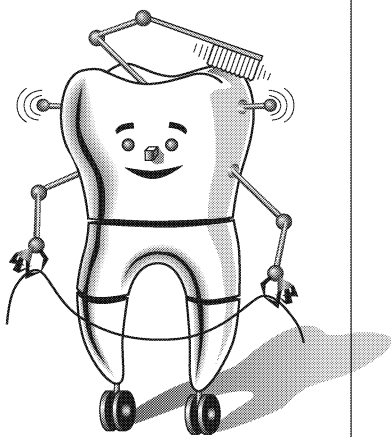
In the first set of teeth there are 20 primary teeth.

There are 32 permanent teeth which are meant to last a lifetime!

- Ask students to raise their hands if they have any new teeth that have grown, or started to grow, in the back of their mouths.
- Explain that these back permanent teeth grow in behind the baby teeth on either side of their mouths, and probably started to grow when they were about 6 years old. These teeth are the six-year molars and it is important to remember to reach them with their toothbrush.
- Ask students if they think these new teeth should get loose and fall out.
(No. This is the last set of teeth we get; they are called permanent teeth because they are supposed to last forever.)
- Ask students what might happen if they lost one of their permanent teeth.
(They would have an empty space in their mouth because another tooth would not grow in. This can make chewing, talking and smiling difficult.)
- Introduce students to Robo-Tooth as described in Lesson 1, if students are not familiar with Robo-Tooth.
 - Use enlarged picture of **I am Robo-Tooth** for this introduction.
 - Explain to students that Robo-Tooth knows a lot about primary and permanent teeth and has come to visit the class to help the students learn about these two sets of teeth.
- Show the top half of the **Primary and Permanent Teeth** overhead.
 - Point out the “Primary Teeth,” explaining that this is looking at a person from the side so only half of the primary teeth are seen here.
 - Point out the “Permanent Teeth” and show that most of them grow from underneath the primary teeth, but some of the back teeth grow in behind the primary teeth.
- Show the lower half of the **Primary and Permanent Teeth** overhead.
 - Point to the lower diagram of the “Primary Teeth.” Explain to students that this is looking at a mouth from the front, when it is open wide showing all of the primary teeth. Count the 20 primary teeth – 10 on the top and 10 on the bottom.
 - Point to the lower diagram of the “Permanent Teeth.” Explain to students that this is a mouth showing all of the permanent teeth. Count the 32 permanent teeth – 16 on the top and 16 on the bottom.
- Explain to students that at their age they may not have the same number of teeth that is shown in the diagrams and each of them may have a different number of teeth. They will likely have a mixture of both primary and permanent teeth in their mouths because they may have lost some primary teeth and may have grown some new permanent teeth. They will continue to lose their primary teeth until they are about 12 years old.

Counting My Teeth

It is important to keep primary teeth healthy, even though these teeth will fall out.



- Explain to students that everyone loses teeth at different times.
 - Tell students that those who have not lost any teeth yet will probably lose their first tooth soon.
 - Ask students if it is okay to tease another student if that student has not lost any teeth yet.
(No. Teasing is not okay; teasing can hurt someone and make them sad; everyone grows at different times.)
- Tell students that they are going to spend some time counting the number of teeth in the class.
 - Distribute a copy of the double-sided **I Can Count Teeth** and **Tooth Math** worksheet to each student. Instruct students to look at the **I Can Count Teeth** side.
 - Refer students to “Step 1 – Make some estimations”:
 - Have each student guess how many teeth they think they have in their mouth. Students should record this estimate on their worksheet.
 - Have each student guess how many teeth they think are in the whole class. Students should record this estimate on their worksheet.
 - Refer students to “Step 2 – Discover the real numbers of teeth”:
 - Instruct students to use their tongues, not their fingers, to count how many teeth are in their own mouths. (If students need help with this, options are to use mirrors for this activity or to have the teacher count a student's teeth, or have students work in pairs to count each other's teeth. When using these options, students should open their mouth wide, counting should be done by visually seeing the teeth, without physically touching inside the mouth.) The students should record the actual number of teeth they have on their worksheet.
 - Show students the items you brought for counting (i.e. beans, popcorn kernels, etc.). Instruct each student to count out the same number of these items as they have teeth, and to place the counted items on their desk.
 - Explain to students that you now want them to figure out the total number of teeth that are in the class by adding together the total number of counting items that have been gathered by each student. Guide students to put items into groups of 10. They will have to work together as a class to combine their leftover items with other student's items to continue making groups of 10.
 - Once all of the counting items are laid out, count up the total number and this should represent the total number of teeth in the class.
 - Have students record the total number of teeth on their worksheet.

Counting My Teeth

As students keep growing their mouths will keep changing.

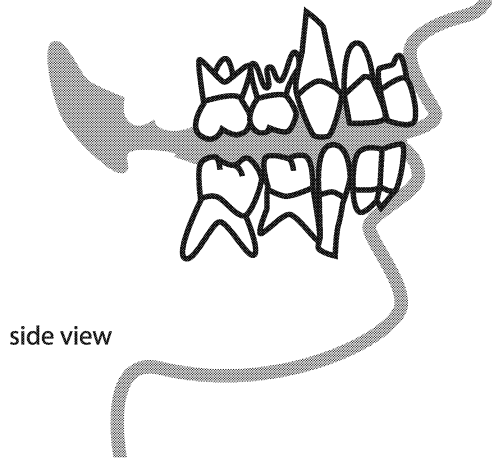
- Refer students to “Step 3 – Calculate the differences”:
 - Instruct students to figure out the difference between their estimated number and the actual number of teeth in their mouths. Students should record this difference on their worksheet.
 - Encourage students to attempt the “Bonus Question” by figuring out the difference between their estimated number and the actual number of teeth in the whole class. Students should record this difference on their worksheet.
 - Explain to students that as they keep growing their mouths will keep changing.
 - Ask students if they think it is important to keep their baby or primary teeth healthy even though these teeth are going to fall out. *(It is important because these teeth help us chew, talk and smile and they help guide our adult teeth into the right places when they start growing.)*
 - Ask students how they can keep their teeth healthy. *(Brush at least twice a day, floss, eat healthy foods, visit the dental office, protect teeth from injuries, protect teeth from cavities with fluoride and sealants.)*
 - Explain to students that they are now going to count more teeth.
 - Have students turn the double-sided worksheet to the **Tooth Math** side.
 - Have students solve each tooth problem, using the counting items to help if needed.
 - Instruct students to take their handouts home to have their parents help check their work. Students should tell their parents what they learned today about primary and permanent teeth.
- Optional Activities**
- Using a chalkboard, whiteboard or piece of chart paper, make graphs of some of the numbers that are calculated. For example, make a graph showing how many students in class have 18 teeth right now, how many have 19 teeth, etc.
 - Instead of having students count the number of teeth in their class by grouping their counting items in multiples of 10, ask students to think of different ways they could count all these “teeth.”
 - Have students decorate a paper pocket so they have a special place to put the baby teeth they lose. Have students decorate an envelope or print off the paper tooth pocket from www.sdcoe.k12.ca.us/smiles. Click on *Student Activities for Fun*, and then on *My Tooth Packet*.

Counting My Teeth

- Arrange to have a parent bring a baby to class and have the students discuss the differences they notice between the baby's mouth and their mouths. How many teeth does the baby have?
- Encourage students to ask a dental professional to show them their primary and permanent teeth on their x-rays, during their next dental visit.
- If the concept of the tooth fairy is appropriate with your students:
 - Discuss the tooth fairy and students' experiences with putting a tooth under their pillow. Then have students write a short story (about 5 - 10 sentences long) about what they think the tooth fairy does with all those primary / baby teeth, and draw a picture of what they think the tooth fairy looks like.
 - Borrow books from the library about the Tooth Fairy. Some examples are: *What do the fairies do with all those teeth?* by Michel Luppens and Philippe Beha, *The Tooth Fairy* by Sharon Peters, and *Tooth Fairy Magic* by Joanne Barkan.

Primary and Permanent Teeth

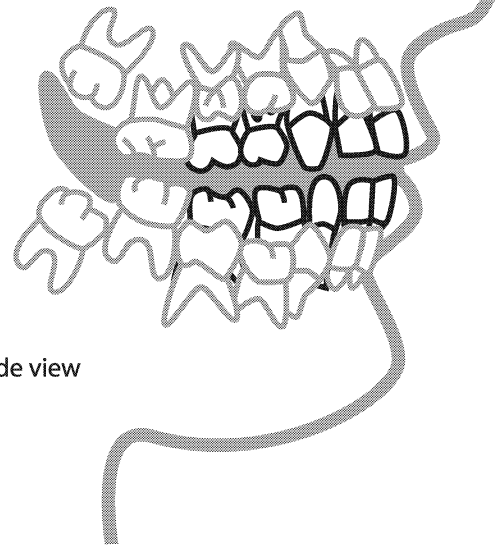
Primary Teeth



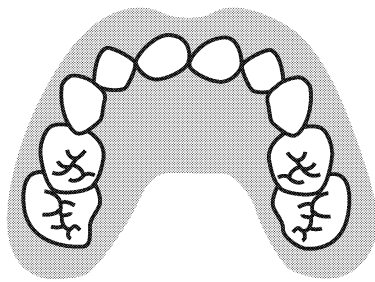
side view

Permanent Teeth

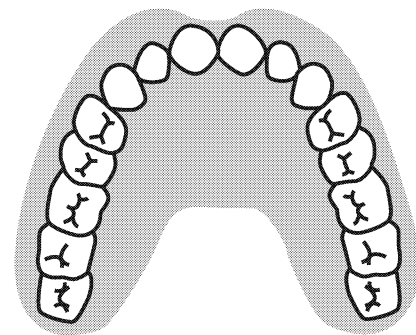
growing under the Primary Teeth



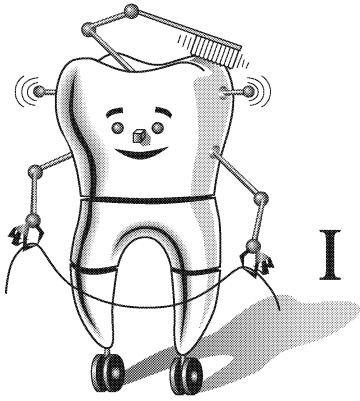
side view



top view



top view



I Can Count Teeth

Step

1

Make some estimations:

I think I have _____teeth in my mouth.

I think that there are _____teeth in my class.

Step

2

Discover the real numbers of teeth:

There are really _____teeth in my mouth.

There are really _____teeth in my class.

Step

3

Calculate the differences:

I thought that there were _____teeth in my mouth.

There are really _____teeth in my mouth.

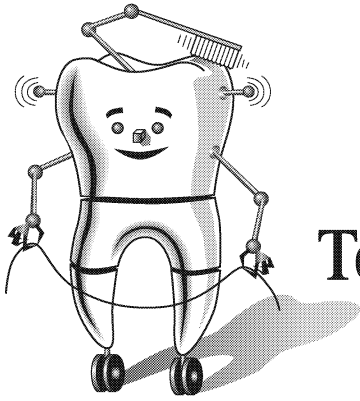
My guess was off by _____teeth.

Bonus Question:

I thought that there were _____teeth in my class.

There are really _____teeth in my class.

My guess was off by _____teeth.



Tooth Math

1

Maria lost 2 teeth last month and 3 teeth this month. How many teeth has she lost altogether?

2

The tooth fairy had 9 teeth in her magic tooth bag. When she was flying through the air, 1 tooth fell out. How many teeth does she have in her bag now?

3

A baby has 4 teeth and then she grew in 2 more. How many teeth does she have now?

4

A dog had 7 teeth in his mouth and then he lost 3 of them. How many teeth does he have now?

5

John lost 5 teeth and his sister lost 3 teeth. How many teeth did they lose altogether?

6

BONUS

Sunny's mom has 32 teeth, his brother has 17 and Sunny has 21. How many teeth do they have altogether?

Facts About Teeth

General Outcome Wellness Choices

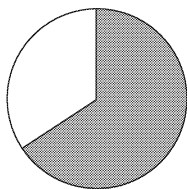
Specific Outcome

Students will demonstrate appreciation for own body.

Dental Outcome

Students will recognize that teeth are an important part of the body and their permanent teeth should last a lifetime.

*Time: 40 minutes
(Extra time may be required for students to complete their pictures and sentences)*



Materials

- Overhead projector
- Copy of **Parts of the Tooth** – photocopied onto an overhead transparency
- Transparency pen
- Copy of **Parts of the Tooth – Answer Key** – for teacher's reference only
- Copy of **Primary and Permanent Teeth** (found in Lesson 7) – photocopied onto an overhead transparency
- Resources for research; items such as:
 - Books and magazines about animals and their teeth; teacher to either collect these ahead of time, or take students to library during class time
 - Internet access
- Paper
- Pens / pencils
- Crayons / pencil crayons / markers
- Area of classroom designated as “Dental Health Centre” – as set up in Lesson 1

Activity

- Tell students that they are going to begin today's lesson by playing a game of “Simon Says.” (If students are not familiar with this game, explain how the game works.)
 - Ask students to stand up beside their desks to play the game, and instruct them that they will need to sit down if they make a move that is not preceded by “Simon Says.”
 - Play the game, using different body parts:
 - i.e. Simon says, “Touch your nose.”
 - Simon says, “Tug gently on your ear.”
 - “Touch your elbow.” (Have any students that do this action sit down, since it was not preceded by “Simon Says.”)
 - Simon says, “Touch your toes.”
 - End the game with Simon says, “Point to your teeth.”
- Explain to students that the game is now finished, so they can all take their seats. Tell them that it is great that they know the names for the parts of their bodies, but now they are going to talk about the parts of their teeth.
- Use the **Parts of the Tooth** overhead to discuss the following with students:
 - Explain to students that this is a picture of a tooth and that just as the parts of our bodies have names, the parts of a tooth have names also.
 - Explain to students that there are two outside parts of the tooth – the top part and the bottom part.

HEALTH

SCIENCE

LANGUAGE ARTS



Facts About Teeth

The crown is the part of the tooth above the gums.

The root is the part of the tooth below the gums.

- Point to the top section of the tooth and ask students if they know what this part is called. (Note: you may need to give students a hint by saying that it has the same name as the item that kings and queens may wear on their heads.)

(Crown)

- Write "Crown" on the appropriate line of the transparency, indicating that this is the name of the top section of the tooth.
- Explain to students that the crown of a tooth is the part of the tooth that they can see when someone smiles at them or when they look in their own mouth.
- Point to the bottom section of the tooth and ask students if they know what this part is called. (Note: you may need to give students a hint by saying that it has the same name as the part of a tree that grows under the ground.)

(Root)

- Write "Root" on the appropriate line of the transparency, indicating that this is the name of the lower section of the tooth.
- Ask students what other things have roots.
- Explain to students that the roots of a tree help to hold the tree firmly in the ground. Ask the students what they think the root of a tooth does.

(It holds the tooth firmly in our mouths.)

- Explain to students that they do not see the roots of their teeth because the roots are covered by a special skin in their mouths. Ask students if they know what that skin is called.

(The gums)

- Emphasize to students that the crown of a tooth is above the gums and the root is below the gums.
- Discuss with students that their gums are important because they protect the roots of their teeth. With their permanent teeth, their gums help to keep these teeth for a lifetime. So it is important to take care of their gums so they stay healthy. Ask students how they can take care of their gums.

(Brush gently along where teeth and gums meet; floss every day; eat healthy foods; visit the dental office regularly to have your gums checked and teeth cleaned.)

- Explain to students that all teeth have crowns and roots, whether they are primary or permanent teeth.
- Show overhead of **Primary and Permanent Teeth.**
 - Show the side view and the top view of the "Primary Teeth." Remind students that as they grow, this first set of teeth will become loose and fall out.

Facts About Teeth

Teeth are different sizes and shapes to help with eating.

- Ask students how many primary teeth each person grows.
(20 in total – 10 on the top and 10 on the bottom.)
 - Show the side view and the top view of the “Permanent Teeth.” Review with students that these are called permanent teeth because they are meant to last a lifetime.
 - Ask students how many permanent teeth each person grows.
(32 in total – 16 on the top and 16 on the bottom.)
 - Point out that different teeth have different shapes from the front of the mouth to the back.
- Tell students that you want them to feel the shapes of their teeth by using their tongues. You want them to feel their back teeth, corner teeth and front teeth. As the students are feeling their teeth, ask them:
 - Do all of your teeth feel the same?
(No)
 - Which of your teeth feel the sharpest?
(Corner teeth)
 - Which of your teeth feel the biggest?
(Back teeth)
 - Which teeth have many edges?
(Back teeth)
 - Which teeth have only one edge?
(Front teeth)
- Explain to students that their teeth are different sizes and shapes to help with eating. Some teeth cut the food, some hold the food, and others grind it into small pieces.
 - Ask students what their teeth help them do besides eating.
(Talking and smiling / looking nice.)
 - Ask students if they know who else has teeth besides people.
(Animals)
 - Explain to students that there are differences in the teeth animals have compared to the teeth people have. The differences might be in the size and shape or number of teeth, or whether they get both primary and permanent teeth. Each type of animal has unique teeth because of the food they eat, or what they use their teeth for.
 - Explain to students that they are going to be researchers and learn more about animal teeth.
 - Divide students into small groups.
 - Instruct students to work together in their groups and to choose an animal that their group would like to learn about. To have a variety of animals that are researched, each group should choose a different animal.

Facts About Teeth

Each type of animal has unique teeth suited to the different foods they eat and how they use their teeth.

- Explain to students that they can use a variety of resources for this project. Make books and magazines available to students by either distributing ones that were collected ahead of time and having students share, as necessary, or take students to the library to find their own books. Groups could also use the Internet to look up information, if access is available to the class.
- Have each group read about and look at pictures of their chosen animal. They should look for information about: the number and shape of the animal's teeth, whether the animal grows more than one set of teeth, and the types of food this animal eats or how they use their teeth.
- Distribute paper to each student and have crayons / pencil crayons / markers available.
- Have each student draw their own picture of the animal their group researched, showing its teeth and the food the animal eats.
- Have each student write 3-5 sentences about their animal, its teeth and the food it eats. Students can include an interesting fact about the teeth.

Examples:

- A beaver has 2 big front teeth. It uses them to chew on trees. It also likes to eat leaves, twigs and some plants. The front teeth keep growing. Chewing trees helps stop these teeth from growing too long.
- A shark has many teeth. The teeth are very sharp. It uses them to catch and eat fish. It has 2 or 3 rows of teeth. Sharks lose and grow new teeth all their lives.
- Display students' projects in the "Dental Health Centre" area.

Optional Activities

- Have students read the sentences they wrote about their animals' teeth, and share their pictures with the rest of the class.
- Have animal research projects completed entirely as group projects. Each group of students can work together to do the research, make 1 picture for their group, and write sentences for the group.
- If the concept of primary teeth having roots is confusing to students, because they only see the crown of these teeth when the primary teeth fall out, discuss with students what happens to the roots of these teeth. Explain that the permanent teeth grow underneath the primary teeth, and as the permanent teeth grow, they push on the primary teeth. This pushing causes the root of a primary tooth to dissolve, which then causes that tooth to become loose and fall out. Usually by the time it is loose enough to fall out, the root of that primary tooth has completely dissolved and so only the crown falls out.

Facts About Teeth

- Arrange a class trip to a zoo or farm before students draw their pictures. During the trip, encourage the students to observe the animals' teeth and the food they eat. After the trip, have each student draw a picture and write sentences, as described in the lesson, about one of the animals they saw.
- Arrange to have a "Bring an Animal to School Day." Students who have an animal at home, which would be safe to have in the classroom, can bring that animal to school and tell the class about that animal's teeth. They can tell their classmates about what their animal eats and what they do to take care of their animal's teeth.
- If students have access to computers, have them visit <http://smilekids.deltadentalca.org/games.html> and click on *Play TeethMatch*. For this game, students are asked to match a set of teeth with the animal they think the teeth belong.
- For some interesting facts about animal teeth visit <http://smilekids.deltadentalca.org/index.html> and click on *Healthy Teeth*. Or visit https://commerce.jbutler.com/kidsstuff_page.asp, click on *Amazing Facts* and then on *Tooth Facts*.

Parts of the Tooth

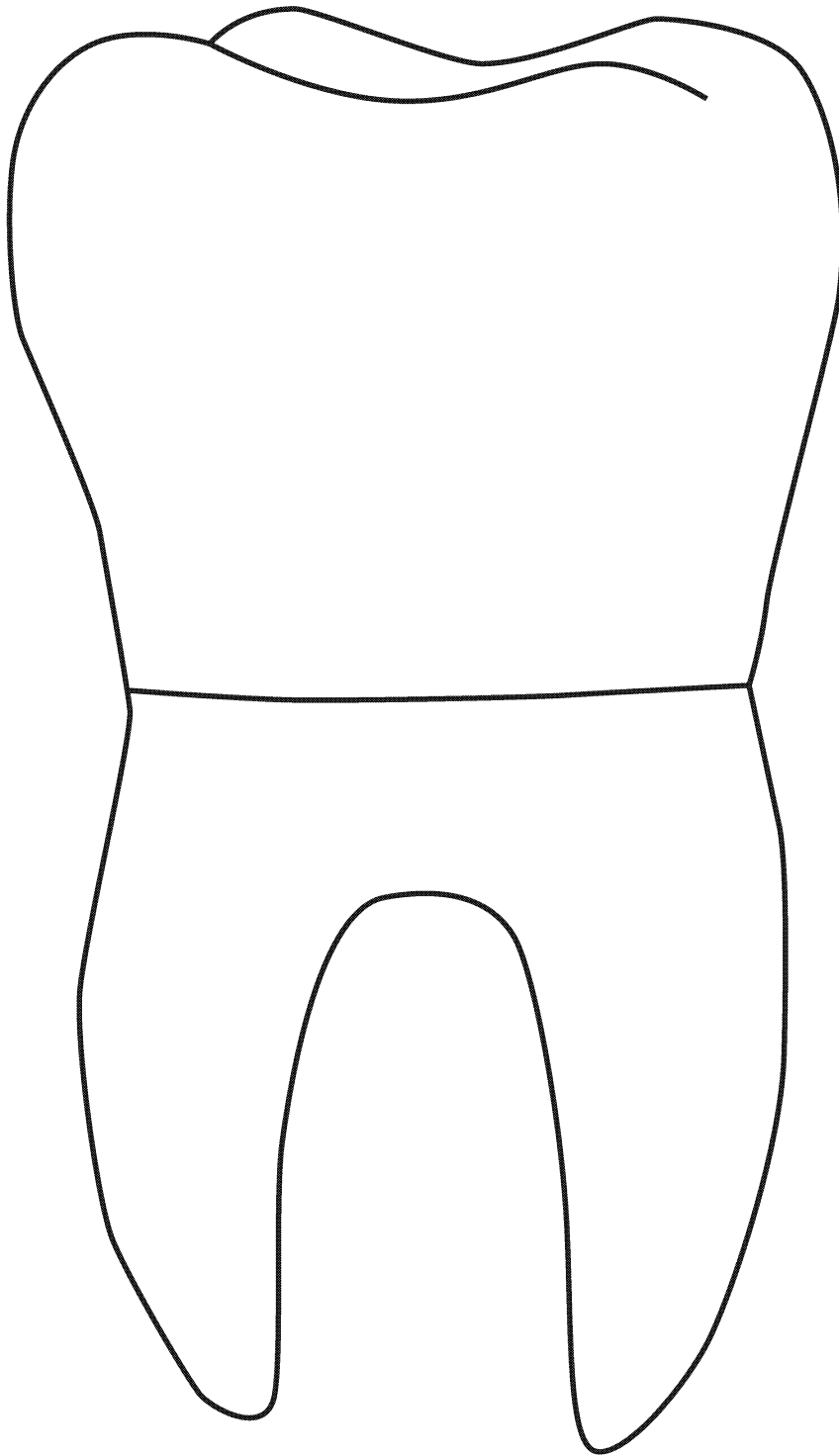
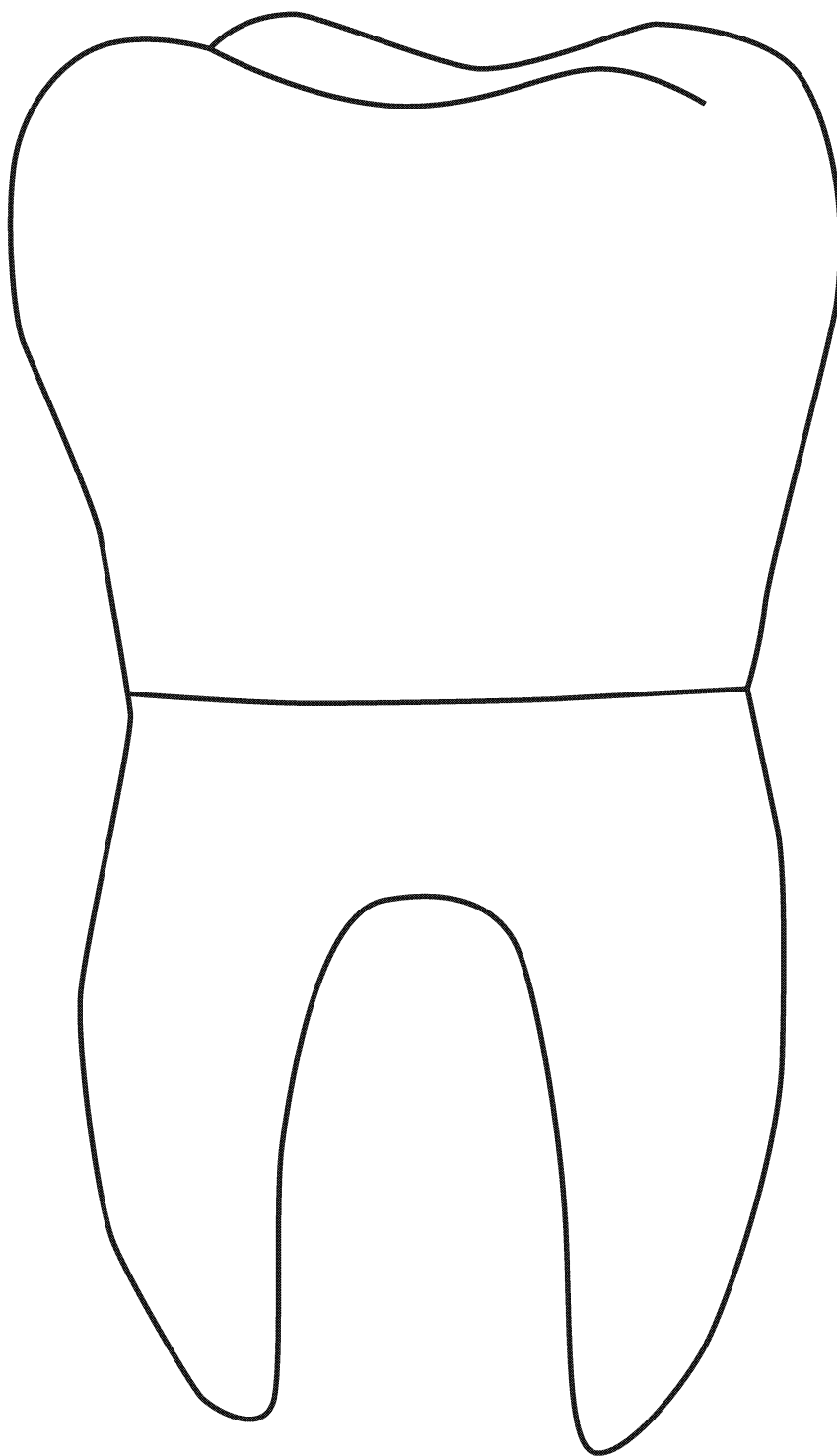


Diagram illustrating the parts of a tooth, with labels indicated by brackets and dashed lines for identification.

Labels to be placed on the right side of the diagram:

- Top section (Crown): _____
- Middle section (Neck): _____
- Bottom section (Root): _____

Parts of the Tooth



Crown

Root

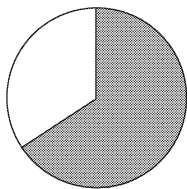
Tooth Adventure Book

General Outcome
Life Learning Choices

Specific Outcome
Students will recognize that it takes time and effort to accomplish goals.

Dental Outcome
Students will demonstrate an understanding of dental concepts.

Time: 40 minutes
(Extra time may be required for students to complete their books)



Materials

- Photocopy of **I am Robo-Tooth** enlarged (found in Lesson 1)
- Sample of children's book(s) containing examples of the sections that are listed on the **Contents of a Book** handout; teacher to either collect these ahead of time, or take students to library during class time
- Chart paper with **Contents of a Book** copied onto it (made ahead by the teacher)
- Paper
- Pencils or pens
- Crayons / pencil crayons / markers
- Yarn
- Area of classroom designated as "Dental Health Centre" – as set up in Lesson 1

Activity

- Explain to students that they are going to use the information they have learned about having healthy mouths to write a storybook.
- Introduce students to Robo-Tooth as described in Lesson 1, if students are not familiar with Robo-Tooth. Use enlarged picture of **I am Robo-Tooth** for this introduction.
- Review with the class how to have and maintain a healthy mouth. Items to review:
 - Brush thoroughly at least twice a day.
 - Use a fluoride toothpaste.
 - Chew sugarless gum when you cannot brush.
 - Floss at least once a day.
 - Choose healthy foods for most meals and snacks.
 - Limit sugary foods.
 - Protect teeth from injuries.
 - Visit your dental office at least once a year.
 - Sealants can protect our teeth from cavities.
 - Cheese is healthy for our teeth.
- Show students the sample book(s) and explain that books are made up of different parts.
 - Bring out chart paper which has **Contents of a Book** copied onto it.
 - While referring to the list on the chart paper and showing examples from the sample book(s), discuss each of the items with students:
 - Cover / Title Page - it includes the name of the story, usually a picture and the name of the person who wrote the story.
 - Dedication - is often a few words describing a person who is special to the person who wrote the story. This special person may be someone who helped the writer / author learn about the topic of their story. This is often inside the cover page.

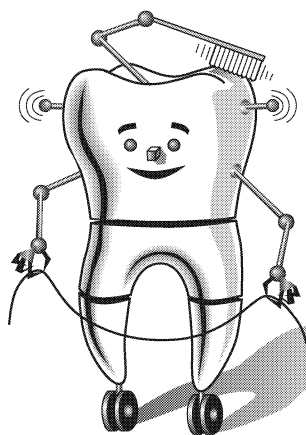
HEALTH

LANGUAGE ARTS



Tooth Adventure Book

Students can dedicate their book to someone who helps them keep their teeth healthy.

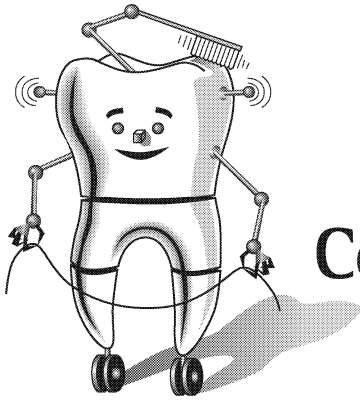


- Body / Story - this is the main part of the book. It contains the beginning, main part and ending of the story.
 - Illustrations - some stories have pictures that match with what is happening in the story.
 - Author's Biography - is often a few sentences describing the person who wrote the story. This is often found at the back of the book.
- Explain to students that they are going to each make their own book about Robo-Tooth's healthy mouth adventure. To make their books, each of them will create their own version of the 5 items listed on **Contents of a Book** and will assemble them together to make a book.
 - Explain to students that they are going to start their books by writing the Body / Story section first.
 - Distribute 1 or 2 pieces of paper to each student.
 - Have students write a story (10-15 sentences long) about Robo-Tooth on a healthy mouth adventure. Suggest topics to students, such as:
 - Robo-Tooth visits the dental office
 - Robo-Tooth eats healthy foods
 - Robo-Tooth brushes
 - Robo-Tooth wears safety gear when playing sports
 - After students have had some time to write their stories, explain to them that they also will be writing a Dedication in their books.
 - Distribute 1 piece of paper to each student, and explain that they will use this paper for their Dedication, so that it is a separate section from the Body / Story.
 - Have students think about who they want to dedicate their book to. Give them examples, such as: a parent or parents, a teacher, a friend, someone in their dental office, etc.
 - Have students think about why they want to dedicate their book to this person.
 - Have students write 1 - 2 sentences for their Dedication, including who the person is that the book is dedicated to and the reason for the dedication. For example: *This book is for my mom. She helps me brush my teeth.*
 - Explain to students that they also need to write a short Author's Biography for their book.
 - Distribute 1 piece of paper to each student, and explain that they will use this paper to write their Author's Biography, so that it is a separate section in their book.
 - Have students write 1-3 sentences for their Author's Biography. Students should include their name, and a couple of facts about themselves. For example: *John Lee is in Grade 2. He goes to Ace Elementary School. He was born in Hong Kong and loves to play hockey.*

Tooth Adventure Book

Students can share their books about Robo-Tooth's healthy mouth adventure with their families.

- Explain to students that the next thing they will make for their book is the Cover / Title Page.
 - Distribute 1 piece of paper to each student, and explain that they will use this paper for their Cover / Title Page.
 - Have students think of a title for their story. For example: *Robo-Tooth Gets Sealants*.
 - Have students make their Cover / Title Page by including:
 - The title of their story
 - A picture that relates to their story
 - Their name
 - Encourage students to colour their Cover / Title Page.
 - Explain to students that besides the picture on their Cover / Title Page, they can also draw other Illustrations for their stories, if they wish.
 - For those students who wish to draw other Illustrations, have them use another piece of paper for this.
 - At the discretion of the teacher, students may use class time for these Illustrations or may need to take the paper home to complete them.
 - Once students have completed their books, have them assemble their books together.
 - Explain to students that they should assemble the sections of their books in the same order as the **Contents of a Book** list.
 - Have students bind the pages together with yarn.
 - Display completed books in classroom "Dental Health Centre" area, or in the library for all of the staff and students to read.
 - After books have been displayed, have students take their books home and share their stories with their family.
- Optional Activities**
- Have students share their books with the rest of the class, showing each section and reading their story.
 - Have students write stories about themselves as the main character instead of Robo-Tooth, if not introducing Robo-Tooth to students.
 - Have students write their stories on paper in the shape of a tooth. A pattern for the tooth can be found at www.dupagehealth.org/health_ed/dental_month.html. Select *Tooth Project*, and then follow the instructions under *Story*.



Contents of a Book

1. Cover / Title Page
2. Dedication
3. Body / Story
4. Illustrations (optional)
5. Author's Biography