

CONNECTICUT CARES-ABOUT ORAL HEALTH



**An Oral Health Curriculum
Prepared by
The Connecticut State Dental Association**

April 2008



Connecticut Cares-About Oral Health



Message to teachers or classroom presenters:

Connecticut Cares-About Oral Health is an oral health education packet that can be used as part of an interdisciplinary approach to educating students about oral health and overall health. The Connecticut State Dental Association has aligned the lesson objectives with the **Healthy and Balanced Living Curriculum Framework.**

Lesson Module 1: Pre-kindergarten
Happy Tooth, Healthy Tooth

Lesson Module 2: Grades K-1
Dazzle, Sparkle, and Smile

Lesson Module 3: Grades 2-3
Your Mouth-What's Happening? What's Changing?

Lesson Module 4: Grades 4-5
A Smile to Value

Lesson Module 5: Grades 6-8
Watch Your Mouth!

Lesson Module 6: Grades 9-12
Oral Health Matters



Lesson Modules for Grades K-12 present oral health/health education lessons in a scripted plan to guide teachers or presenters with the basic concepts and topics relating to oral health and healthy behaviors. Each lesson can be used as a stand alone lesson or in combination with recommended supportive activities and class materials. Related subject areas are listed with each module along with Lesson Objectives and Essential Questions.



Introduction



This Oral Health Curriculum is designed to integrate oral health education into the current health curricula of Connecticut's schools. In June 2006, the Connecticut State Department of Education (SDE) published the **Healthy and Balanced Living Curriculum Framework**. The Framework is a resource that can be used by individual school districts to design and implement their own health curriculum. While the Framework is a comprehensive health curriculum, it does not include specific oral health information.

This Oral Health Curriculum is intended to fulfill the vision of the Oral Health Improvement Plan for Connecticut 2007-2012. That is: "Connecticut's children and adults will have good oral health as part of their overall health and well-being." Specifically it will address Goal I. Increase integration of oral health promotion into all aspects of public health.

We have endeavored to outline a basic framework to help teachers know what to do, how to do it, and when to do it. We tried to identify and focus on the key issues and trends important to the maintenance of good oral health over a lifetime, emphasizing the fact that most oral health problems are preventable. The curriculum progresses from Pre-K, when children are under control of parents, proceeding through elementary and middle school. It culminates at the high school, when students are becoming young adults able to make decisions for themselves. Each module builds on previous modules. Teachers may want to refer to modules from other age groups. We kept in mind the limited time available in the school schedule, trying to present the age-appropriate material in one or two class periods.

We reviewed many existing curricula and drew largely on the following:



Smile Smarts! – American Dental Association:

www.ada.org/public/education/teachers/smilesmarts/index.asp



Texas Tattletooth program:

http://www.dshs.state.tx.us/dental/teachers_guide.shtm



Missouri Department of Health and Senior Services:

www.dhss.mo.gov/oral

The Pre-K module was developed by Tunxis Community College Department of Dental Hygiene students as part of their education experience.

Participants on the Oral Health Curriculum Committee included:

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We would like to recognize the contributions from Carol Dingledey, Executive Director of the Connecticut State Dental Association, and Donna Balaski, DMD, Connecticut State Department of Social Services.



Title: Happy Tooth, Healthy Tooth

A Pre-kindergarten oral health lesson plan

Approximate Time: Story and Activities – 20minutes. Lesson and Activity repetition is advised.

Purpose: To provide evidence based, age appropriate information and activities about the importance of keeping teeth clean and healthy.

Lesson Objectives: At the conclusion of this lesson, student will be able to:

1. Identify healthy behaviors that affect oral/overall health
2. Demonstrate good oral health practices to improve oral/overall health
3. Differentiate between healthy and unhealthy food choices

Materials:

The Story of Happy Tooth: This can be printed with supportive pictures or diagrams. Props can be made for children to wear during the story to act out the story content. A felt board can be made with a healthy tooth, unhealthy tooth, and germs. Children's names can be inserted into the blank to personalize the story.

Two buckets and food selection props: Healthy and Unhealthy foods for children to identify and differentiate between before placing the items into labeled buckets.

Tooth Models or stuffed animals with teeth and children sized toothbrushes

Essential Questions:

1. Why are teeth important?
2. What can be done to keep our teeth and bodies healthy?

Content:

Read the attached story: **The Story of Happy Tooth.** Ask children to act out parts and use appropriate props that can be made out of felt. A felt board can also be used.

Provide buckets depicting a happy and sad face. Provide food items that are presented in the story and identified as healthy (happy) or unhealthy (sad) for children.

Provide tooth models and child sized toothbrushes for children to work in small groups demonstrating tooth brushing methods as learned from the story.

Photos included of props used for this lesson.

Reference:

The Story of Happy Tooth, lesson content and activities were developed by Dental Hygiene Students from Tunxis Community College and reprinted with their permission-2008.

THE STORY OF HAPPY TOOTH

Pg1: Once there was a tooth named HAPPY TOOTH. He was very happy most of the time. He belongs to a little (girl/boy) named _____ who took very good care of him.

Pg.2: Happy tooth knew a secretSHHHHHHH! Hiding inside _____'s mouth were..... Yucky Plaque Germs! Plaque is yellow or white and sticks to your teeth every day after you eat and is full of germs.

Pg. 3: Happy tooth and his friends needed to be brushed in the morning, after snacks and before bed – baby teeth too, so your grown up teeth come in healthy.

Pg.4: But one day, _____ was busy playing and he/she forgot to brush! Yucky Plaque Germs tiptoed in very quietly, thinking that no one would notice. When these plaque germs sit on your teeth they make holes in your teeth called cavities. They also make your nice healthy gums turn red and puffy.

Pg.5: But SUDDENLY, _____ remembered! She had forgotten to brush her teeth with toothpaste. Quickly, she rushed to the sink and brushed the top, bottom, inside and outside of her teeth----- and even her tongue!!!!

Pg.6: _____ knows that he/she must brush her teeth with a small smear of toothpaste at least two times a day---in the morning and the MOST important time is before she goes to bed! Happy Tooth jumped for joy! By brushing with toothpaste, _____ had made sure that Happy Tooth was strong and clean.

Pg.7: Now Happy Tooth reminded _____ to visit the dentist every year for a check-up. The dentist is Happy Tooth's best friend. The dentist reminded _____ never to share her/his toothbrush with family or friends.

Pg.8: Happy Tooth also helped _____ remember that he/she should choose snacks that are healthy which will help her/him grow tall and strong, and make her/his teeth happy and healthy. Snacks such as peanut butter, carrots, broccoli, popcorn, cheese, yogurt, apples, grapes, pears, peaches, oranges, strawberries, and peppers. And always drink lots of water and milk.

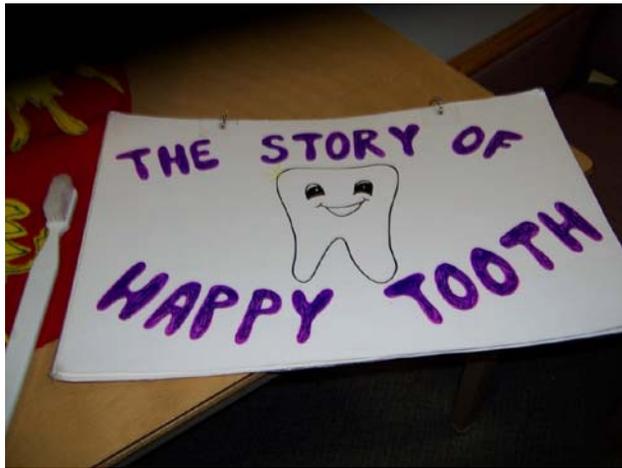
Pg.9: _____ knows that choosing unhealthy snacks will not make her grow tall and strong, and can make cavities in her teeth and then her teeth will be sad. Unhealthy snacks are: candy, potato chips, chocolate, cupcakes, cookies, and soda.

Pg. 10: Everything is great again. Happy Tooth has never been happier!!! And he is smart too, just like you!!! He knows that we can all take care of our own teeth and it will make us feel happy and healthy.

THE END



Photos below show recommended props.



Title: Dazzle, Sparkle, and Smile



Grades: K-1

This lesson is designed as a stand-alone lesson or to supplement your health education curriculum.

Lesson and group discussion requires about 15-20 minutes. Content can be divided into multiple lessons. Suggested supportive activities included.

Related Subject Areas:

Science

Math

Purpose: To provide evidence-based, age appropriate information and activities about the importance of keeping teeth clean and healthy.

Lesson Objectives: At the conclusion of this lesson, students will be able to:

1. Explain the importance of keeping their teeth clean and healthy
2. Identify daily practices that promote good oral health/overall health
3. Demonstrate correct methods of tooth brushing and flossing (optional activity)
4. Appreciate oral health as part of overall health

Materials:

ADA activity sheets

Magazine cut outs of foods and snacks

Materials listed with suggested activities.

Essential Questions:

1. Why do we need to keep our teeth clean and healthy?
2. How can we keep our teeth and body healthy?

Content Delivery: Guided Questions to assess student knowledge and value of oral health.

1. Why is it important to keep our teeth clean? Relate to keeping our bodies clean. What do we do to keep our bodies clean? Why is it important to have clean hands, bodies, and clothes? To stay healthy, feel good about yourself, and to look and smell nice. ***Clean teeth and mouth are parts of a clean body.***
2. What is on your dirty hands that can make you or others not healthy? **Germs-Bacteria.** The germs and bacteria that form on your teeth can make them not healthy and affect the health of your body. These germs-bacteria are called **Plaque.** ***Plaque is a film of bacteria (germs) that is growing on your teeth all of the time. Plaque on your teeth can make them feel sticky and dirty.***
3. How do you keep your teeth and gums clean? (Brush and floss) When you brush your teeth how do they feel? They feel nice, smell and taste good. When you do

- not brush your teeth before going to bed, how do they feel in the morning? (fuzzy, furry, and dirty) That is because of the plaque on your teeth. ***Brushing your teeth removes plaque.*** Brushing after meals and before bedtime with toothpaste helps to remove most of the plaque on your teeth.
4. What are some other ways to keep our mouths and teeth clean and healthy? Flossing, eating healthy foods and snacks, drinking or rinsing our mouths with water, and brushing with a very small pea-sized amount of toothpaste with fluoride. Fluoride is a mineral that helps to keep our teeth healthy and strong. Always spit out the extra toothpaste in your mouth. Ask a grown-up to help you with brushing and flossing your teeth. It is also important to brush your tongue to keep your mouth healthy.
 5. ***Remember, it is time to get a new toothbrush when the bristles get worn and bent.**
***A small toothbrush will help reach all of the surfaces of your teeth- top and bottom, front and back, inside and outside.**
***Tooth brushing: Brush the front, back, and top parts of all teeth. Move the brush back and forth gently, being sure to brush where the teeth meet the gums.**
 6. Plaque not only makes our teeth dirty, it can also give us bad breath.
 7. Plaque can also make our teeth unhealthy by causing **cavities**. **Another term for cavities is Tooth Decay.** **Plaque + Sugary Foods = Acid** Tooth decay happens when plaque and sugar make acid. The acid eats a hole in a tooth, causing a cavity. When you visit your dentist, he or she will check your teeth for cavities. **Have dental visits regularly to help you keep your teeth and body healthy.**
 8. Take responsibility with your family to fight tooth decay. Avoid sugary, sticky foods and snacks. Name some sugary and sticky foods. If you are going to eat something sticky or sugary, brush your teeth right after to prevent the acid from causing tooth decay. If you cannot brush, rinse your mouth with water. This helps to remove food from your teeth and wash away some of the sugar.

Supplemental Activities and Materials: Support discussion with the following activity sheets. Students can then complete the sheets.

- How to brush your teeth
- Old and New Toothbrushes
- Adult and Child size toothbrushes
- Choosing nutritious foods and snacks that are healthy for teeth- Nutrition curriculum
- Graphing activity: What color toothbrush do you use?
- Students can create collages using the pictures of a happy and sad tooth. They can demonstrate healthy and unhealthy care of their teeth, mouths, and body based on the lesson content above. Magazine pictures, student drawings, and/or written words or phrases can be used to capture the messages from the lesson.

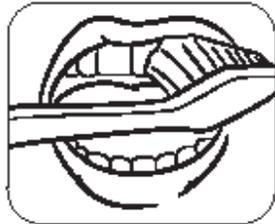


THE IMPORTANCE OF BRUSHING

Source: <http://science.education.nih.gov>

References: Smile Smarts!-American Dental Association **Smile Smarts!** – American Dental Association www.ada.org/public/education/teachers/smilesarts/index.asp

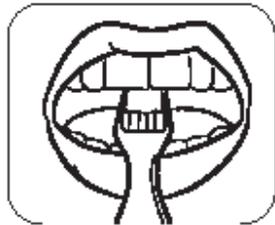
How to Brush



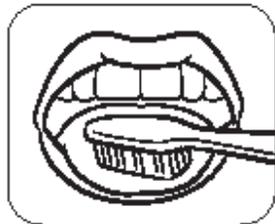
- Place the toothbrush at a 45-degree angle to the gums.



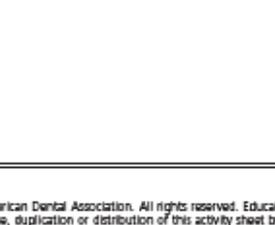
- Move the brush back and forth gently in short strokes.



- Brush the outer surfaces, the inside surfaces and the chewing surfaces of all teeth.



- To clean the inside surface of the front teeth, tilt the brush vertically and make several up-and-down strokes.

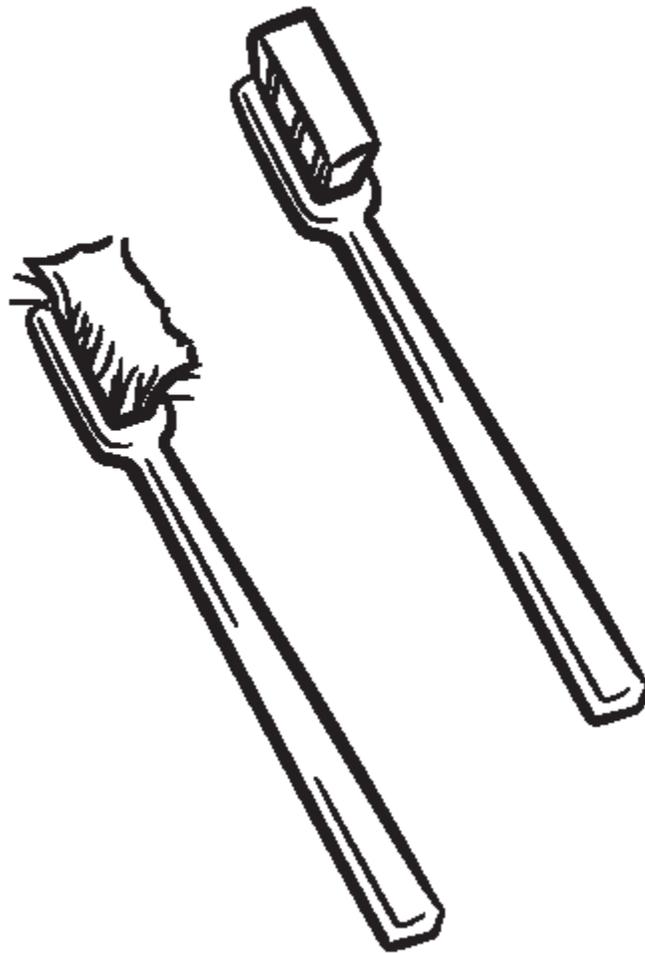


- Brush your tongue to remove bacteria and keep your breath fresh.



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Old & New Toothbrushes



Adult and Child-Size Toothbrushes

Which one would be easiest for him to use?

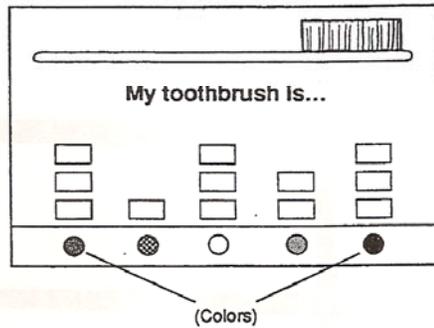


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Math - Graphing

During math, have students graph:

1. Colors of toothbrushes
2. Favorite brands of toothpaste
3. Number of toothbrushes in your house



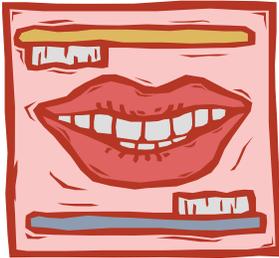
Snack Time

1. Using a pocket folder, have the students classify food cards into HAPPY TOOTH SNACK (good for teeth) or SAD TOOTH SNACKS (bad for teeth). Put a happy face on the back of the good snack cards as a self-checking method. (Tooth pattern page)



2. Give each student Worksheet 4.1

Title: Your Mouth – What’s Happening??? What’s Changing???



Grades 2 & 3

This lesson is designed as a stand-alone or to supplement your health education curriculum. Age Relevant oral health topics are introduced in this module.

Lesson and group discussion requires about 15-20 minutes. Content can be divided into multiple lessons. Suggested supporting activities, and hands-on classroom demonstrations are included to supplement the various content topics.

Related Subject Areas:

Mathematics
Science
Language Arts
Art

Purpose:

To provide evidenced-based, age appropriate information and activities about the importance of healthy choices in maintaining and protecting one’s teeth and mouth.

Lesson Objectives: At the conclusion of this lesson, students will be able to:

1. Identify shapes of the teeth and their function
2. Explain the process of dental decay
3. Recognize the importance of fluoride in preventing decay
4. Explain sealants as a method of protecting teeth against decay
5. Appreciate oral health as part of overall health

Essential Questions:

1. Why do teeth have different shapes?
2. Why are primary (baby) teeth important?
3. How do cavities begin in teeth?
4. How does fluoride help to prevent cavities, and how do we get it?
5. How do sealants protect teeth against cavities?

Content Delivery: Guided Questions to assess student knowledge and value of oral health.

- What are the layers of teeth? The enamel. It is the outside layer. It functions as a hard, protective cover. It is the hardest substance in our body, even harder than bone. The dentin. It is the layer underneath the enamel. It makes up the largest part of a tooth. It is hard, but not as

hard as enamel. The pulp. It is the soft space inside the tooth, underneath the dentin. It contains blood vessels and nerves. A handout can be passed to the students so they can visualize and understand the different layers of the teeth.

- What is the difference between biting and chewing? We bite with our front teeth, which is the reason they are thin and have an edge. We chew with our back teeth, which are big and broad, so food can be chewed into small pieces so we can swallow it. This can be related to scissors cutting up paper to smaller pieces, and sandpaper rubbing an item into smaller pieces.
- How many people have lost teeth or have loose teeth? How many have gotten new teeth in the back of their mouths? Ask students to raise their hands in answer to both questions. Instruct students in the number of primary (20) and permanent (32) teeth each has. Math exercises can include: addition and subtraction, math word problems, graphs as to how many students in the class have lost primary dentition, and how many teeth each student has lost, and graphs of how many students have gotten new teeth in the back, and how many students have loose teeth. This can be an ongoing graph, designed to continually engage the teacher and students' interest.
- Why are baby teeth important? Our baby teeth hold space for our permanent teeth, so that when they are ready, they will come in straight. They are space savers! We lose our baby teeth to make room for our adult teeth because we need bigger, stronger teeth to last the rest of our lives. Math exercises can be used to help students determine how long permanent dentition will be in their mouths from the time of tooth eruption.
- Why is it necessary to keep our teeth clean? Explain to students that cavities result from not keeping teeth clean on a daily basis, as well as not eating the right foods (This should be a review from the oral health curriculum for grades K & 1. Example: Bacteria produce plaque; bacterial plaque + sugar = acid; acid + tooth = cavities). Students can learn that cavities can begin on the top of teeth and in-between the teeth. In addition, Science experiments can include: the apple in the pencil to see how decay progresses. Before teaching this lesson, collect four unbruised apples. Puncture one apple per day for the next week by inserting a pencil (or nail) into the skin of the apple. Remove the pencil after puncturing. Label each apple by placing the number one on the first apple punctured, two on the second apple, etc. Be sure that you puncture the apples to the same depth each day. As you teach about decay, cut each apple through the decayed places so the students can see the process of decay. Draw a large tooth on a paper towel with a crayon or permanent marker. Using a black watercolor marker, make a heavy dot on the tooth to represent a cavity. Add a drop of water to the cavity to represent another acid attack. After a few minutes, look at the tooth & see how the "cavity" has spread. A "garbage garden": Children place approximately one inch of dirt in a clear plastic cup, then place bits of food from their lunch kits or cafeteria on top. This is sealed with a clear plastic wrap & set in a warm place. Students can see how "decay" progresses daily & keep a chart of their observations. Students must understand that the mold in the cups is not growing in their mouths. The mold is breaking down the bits of food. Point out that the odor results from the decay process. Bad breath can also be a symptom of decay. Conduct a demonstration to show the effect of acid on tooth enamel. You will need an empty eggshell, water, acetic acid (white vinegar), and two cups. Place half an eggshell in a cup of water and the other half in a cup of vinegar for twenty-four hours. The shell placed in vinegar will be soft. Have the students feel the shells and discuss

what happened. Explain that acids in the mouth eventually dissolve minerals in tooth enamel, making it soft, just as the vinegar dissolved minerals in the egg shell. **Make sure that students know that cavities CANNOT go away by themselves. They MUST be fixed by a dentist!!!**

- What is **gingivitis**? That is when bacteria attack your gums! Some signs of gingivitis are gums that are red, sore, puffy and bleeding. Sometimes the gingiva become sore when infected with gingivitis and sometimes they are not sore. Gingivitis is the first state of a disease called periodontal disease. Periodontal disease causes the loss of even more teeth than dental caries (cavities). Bacterial Plaque + gingiva (gums) = gingivitis. Plaque really builds up on teeth around and under the gum. The bacteria in the plaque produce poisons that irritate the gingiva. As plaque continues to build up, the bacteria nearest the tooth die and harden into a layer called tartar or calculus. Calculus (tartar) also irritates the gingiva. Healthy gingival are pink, stippled or slightly dimpled like orange peels, and fit tightly around the teeth. They do not bleed when you brush or floss. Students can examine their own gums for signs of gingivitis with hand mirrors, and discuss.
- Where do we find fluoride? It is found naturally in some areas in the water. Teachers can bring in examples of: toothpaste, bottled water with fluoride and fluoride rinses. Since so many students drink bottled water, it is important to point out to these students with developing dentition that fluoride in water is important to protect the baby teeth and to make the developing permanent teeth stronger. Students should be drinking fluoridated water, especially if: they drink well water at home and/or bottled water is the only water they drink. One exercise to illustrate this is the tool used for food freezing that sucks out all the air, and preserves the “health” of the food, in not allowing it to spoil for a long period of time. This could be a science experiment. It would show that the fluoride coats the tooth to protect it. In addition, at this time, a comparison could be made to fertilizer on a plant, which allows it to grow more strongly. This would be for fluoride ingested via water for growing “new” permanent teeth, which are now developing.
- What is a sealant? It is a clear, tinted or tooth-colored plastic coating that a dentist can apply to the chewing surfaces of teeth. This sealant can protect the chewing surfaces of the back teeth and can prevent decay from developing. The molars have natural grooves and depressions where plaque and food particles can collect. The bristles of a toothbrush sometimes fail to reach these tiny pits and fissures, because some are too small for even **one** toothbrush bristle to reach inside! This is where sealants help. The dentist can carefully clean the chewing surfaces of your teeth and then apply a sealant. **Sealants are not designed to replace brushing, flossing and seeing the dentist on a regular basis.** Studies have shown that sealants can effectively reduce tooth decay, and are approved by the American Dental Association. Have students blow into a zip-top bag and seal it. What did they just do? They sealed air in a bag. We put food in a bag, store things in it in the refrigerator, and this keeps the air out of foods. The sealant will help keep the plaque and acid away from the chewing parts of our teeth just as the bag can keep odors and dryness away from our food. A science sealant experiment: Materials: rubber cement, chalk, food coloring, paper towel. Have students work in small groups. Give each group a paper towel, a piece of chalk, a bottle of rubber cement, and some food coloring. Have the students paint one end of the chalk with rubber cement and give it a minute to dry. Then have them lay the chalk on the paper towel. Have the students carefully drop one drop of food coloring on the uncoated end of the chalk. Discuss what happens. The food coloring is absorbed. Have them place one

drop of food coloring on the coated end. Then describe what happened. The rubber cement acts as protection for the chalk. It would not let the food coloring through. The sealant acts much like this when it is applied to your tooth. It won't let the acid through the enamel of the tooth; it seals your tooth. A sealant art project: Have students draw a large picture of a tooth on a sheet of white construction paper. Students then trace over every line with a liberal amount of glue. The glue must be clear when it dries. Put the drawings aside to dry. After the glue outlines have dried, have the students color the drawings with pastel chalks. The entire sheet should be colored. Students will note that the chalk adheres to the paper, but not to the outlines made with glue. In a similar manner, the sealant covers the chewing surfaces of the teeth, like glue.

Supplemental Activities and Materials: Support discussion with the following activity sheets:

- There are several activity sheets from Texas Tattle Tooth Program, the ADA Smile Starts and Missouri Department of Health and Senior Services Division of Community and Public Health Oral Health Program, which can easily be downloaded.

References:

- **Smile Smarts!** – American Dental Association
www.ada.org/public/education/teachers/smilesmarts/index.asp
- **Texas Tattletooth program**
http://www.dshs.state.tx.us/dental/teachers_guide.shtm
- **Missouri Department of Health and Senior Services**
www.dhss.mo.gov/oral



Title: A Smile to Value



Grades: 4-5

This lesson is designed as a stand alone lesson or to supplement your health education curriculum. Age relevant oral health topics are introduced in this module.

Lesson and group discussion requires about 20-30 minutes. Content can be divided into multiple lessons. Suggested supported activities are included to supplement the various content topics.

Related Subject Areas:

Science
Language Arts

Purpose: To provide evidenced-based, age appropriate information, and activities about the importance of healthy choices in maintaining and protecting one's teeth and mouth.

Lesson Objectives:

1. Explain the importance of taking responsibility for personal oral health/health behaviors
2. Differentiate between safe and harmful oral health/health behaviors
3. Discuss the use of oral health products and services in maintaining good oral health/overall health

Essential Questions:

- What is the importance of personal responsibility to maintain good oral health/overall health?
- What products and services are available to protect the health of my teeth and mouth?
- How can I validate fact from fiction regarding family, peer, and cultural beliefs regarding oral health/health?

Content Delivery: Guided questions to assess student knowledge and value of oral health. Stress the importance of student analysis regarding the validity of health information available through media, technology as well as family, peer, cultural beliefs.

1. What does the term “valuable” mean to you? What are the characteristics of something with “value”? Relate to a Healthy Body. Students can create a list or brainstorm with the teacher what phrases or terms apply to the value of a healthy

body. (Feel good, enjoy activities, looks good, participate in sports, etc.) Relate to Healthy Teeth: (Chew food, Lasts a long time, Help to talk, smile, etc.) Healthy teeth and mouths are valuable and must be taken care of just like our bodies. At this time in your physical growth and development your first set of teeth, (primary) are coming out and being replaced by a permanent set of teeth that are meant to last a lifetime. They must be valued and cared for.

2. What are some of the ways that you can take care of your teeth to prevent injuries and to keep them healthy? (Brush, floss, fluorides, nutritious foods, drink water, dental/dental hygiene visits, mouth guard for sports and activities, avoid habits like tobacco use, chewing on hard objects, etc.) Students can work in small groups to identify the various methods of care and prevention. Groups can discuss family, peer, and cultural beliefs that apply to the care of teeth and mouths as part of healthy bodies. How does the use of tobacco products affect the mouth/body? Mouth guards protect the jaw from injury and are used for any contact sport or activity including cheerleading, baseball, hockey, etc. Your dentist can make one for you of soft, molded plastic to fit over your teeth.
3. What happens to teeth when they are not cared for? (Cavities, gum disease, injuries such as broken or lost teeth, injuries to the jaw, gums, and tongue.) What are cavities and what can be done by you, your family, and healthcare professionals to prevent getting cavities? (A cavity is tooth decay, which occurs when germs and bacteria cause an infection. This leads to a small hole in the tooth that can continue to get larger and spread to other teeth if not properly cared for resulting in the possibility of losing one or more teeth.)
Plaque: Write the word on the board and ask students to define plaque and what role it plays in tooth decay. Sugars and germs in plaque mix to form an acid. $SUGAR + BACTERIA = ACID$. When we eat, the PH in our mouths lowers for about 20 minutes allowing this acid to break down the minerals on the teeth creating cavities. As this process is repeated, tooth decay can continue to occur.
***Activity to demonstrate the effect of plaque and acid on the tooth surface: Place a TUMS tablet in each of two paper cups. Cover on tablet with vinegar; cover the other with water. Wait five minutes and empty the liquid out of the cups. What has happened to the tablets? The one in the vinegar has dissolved much faster than the one in plain water because vinegar is an acid. Both the Tums tablet and a tooth contain calcium, and calcium dissolves more readily in acid than water. (Suggestion: Using the scientific method format, describe the experiment to students. Following inserting tablet into solutions, ask students to write what they think will happen to the TUMS tablet after five minutes. When the solution is drained from each cup, students can write about the results and discussion.)** Source- Smile Smarts! – American Dental Association.
www.ada.org/public/education/teachers/smilesarts/index.asp
4. What can you do to prevent cavities? (Tooth brushing, Floss, fluoride toothpaste and rinses, chewing gum with xylitol, dental visits including exams, education,

dental cleanings, fluoride treatments and sealants, and healthy nutrition choices.)
** If you get a cavity, a dentist must repair it. Refer to handouts included in module to demonstrate tooth brushing technique and frequency, floss, and replacing a worn toothbrush.

5. What are sealants? Students may have these already on their molars. Ask them to describe the process to the class. (Plastic coatings placed on the chewing surface of the back teeth to protect the pits and grooves from plaque and help to prevent tooth decay. ***Activity to demonstrate the benefits of sealants. Repeat TUMS experiment, this time wrapping one of the TUMS in plastic wrap and securing with clear tape. Place both wrapped and unwrapped TUMS in cups with vinegar. Wait five minutes. Pour off liquid and remove the tape and plastic from the TUMS tablet. The plastic has “protected” the tablet from the acid. Continue with scientific method format if desired.**
6. What is fluoride and how is it used to prevent tooth decay? Refer to http://www.pgschoolprograms.com/oral_care/crest_eggsperiment (See Supplemental Activities and Materials for student investigation.)
7. Nutrition- Refer to www.mypyramid.gov for more information.
8. Does anyone in the class have braces? Why are braces needed for some people? (Straighten teeth) How does this help to keep teeth/body healthy and prevent disease? (Chew foods better, speak clearly, brush and floss easier, prevent jaw pain) Write the term “Orthodontics” on the board. This means having your teeth straightened and aligned for improved health. An “Orthodontist” is a dentist specializing in straightening teeth and treating “malocclusion”. Occlusion is the way that teeth fit together when closing your mouth. Students can close their mouths, open their lips, and look at the student next to them. Malocclusion occurs when teeth do not come together when you close your mouth, overlap other teeth, or have large spaces between teeth. This can also affect the shape of your face, your profile and the way your lips come together. The position of your teeth can be “inherited”. What does this mean? What are some other things about us that are “inherited”? You have no control over your jaw size or tooth size. Sometimes the position of our teeth has been caused by an accident or injury such as losing a baby or Primary tooth early. Primary teeth hold the place for most permanent teeth to grow in. Other injuries that can cause malocclusion are finger or thumb sucking, and biting your fingernails or lips.

Supplemental Activities and Materials: Support discussion with the following activities.

Dentist Visit Graphing Activity: Conduct a survey to determine how many times during the current school year students have visited a dentist and what they had done.

Internet Search: Investigate the source and use of fluorides in tooth decay prevention. What is fluoride? Where is it found? How is it used to prevent tooth decay?

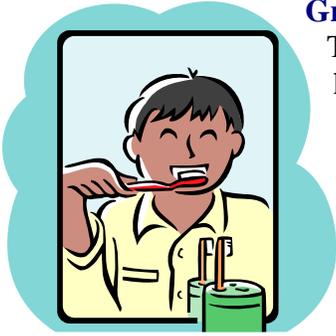
References:

- **Smile Smarts!** – American Dental Association
www.ada.org/public/education/teachers/smilesmarts/index.asp
- **Texas Tattletooth program**
http://www.dshs.state.tx.us/dental/teachers_guide.shtm
- **Missouri Department of Health and Senior Services**
www.dhss.mo.gov/oral



Title: Watch Your Mouth!

Grades: 6-8



This lesson is designed as a stand alone lesson or to supplement your health education curriculum. Age relevant oral health topics are introduced in this module.

Lesson and group discussion requires about 20-30 minutes. Content can be divided into multiple lessons. Suggested supporting activities, hands-on classroom demonstrations and student activity sheets are included to supplement the various content topics.

Related Subject Areas:

Science

Language Arts

Purpose: To provide evidenced-based, age appropriate information, and activities about factors that can affect oral and dental health.

Lesson Objectives:

1. Explain the importance of taking responsibility for oral health/overall health
2. Distinguish between safe, risky, or harmful behaviors affecting personal health
3. Promote healthy behaviors with accurate information

Essential Questions:

1. Which unhealthy behaviors should be avoided to protect the health of our teeth and bodies?
2. What is required to keep teeth, gums, and other oral structures healthy for a lifetime?

Content Delivery: Guided questions to assess student knowledge and value of oral health.

In addition to daily dental health care, what are some ways that teens can protect their smiles?



Recognizing and eliminating behaviors that can harm teeth: What are some choices that you may have to make-either now or as you get older-that can affect your teeth and mouth? Examples include: mouth piercing, mouth jewelry, smoking, chewing tobacco, eating too much junk food and drinking too much soda and sports drinks, and not

visiting the dentist. Don't chew on hard objects like pencils, ice cubes or hard candy. Your teeth are made to last a lifetime, but all of these can chip or crack your teeth.



Mouth jewelry can result in infections and damage teeth and gums. Many of you may see celebrities, musicians, and sports figures with mouth jewelry including grillz, piercings, and tongue studs. You might think pierced lips and tongues are attractive, or you might not, but you probably don't know just how dangerous these piercings can be. What do you think can happen to your teeth and mouth from piercings and other mouth jewelry? (List on chalkboard: mouth sores and infections; chipped or cracked teeth; you can choke.) That's a good start, but it gets worse! Your mouth contains millions of bacteria, and infection and pain often occur with mouth piercing. Your mouth and tongue can swell up large enough to close off your airway. Piercing can also cause nerve damage and uncontrollable bleeding. You can choke on parts that come off in your mouth, and you can crack your teeth if you bite down on the jewelry. Mouth piercing is a decision that goes way past looking fashionable- it can have a big effect on your health!



Tobacco is very dangerous, not only for your teeth, but for your mouth and entire body. ALL tobacco is bad for your health, not just cigarettes and cigars. Smokeless tobacco, also called chew, snuff, dip or spitting tobacco, has become a very serious health problem for teens and young adults today. You know that smoking cigarettes can eventually kill you. You may not know that smokeless tobacco can cause mouth, tongue and lip cancer, and can be more addictive than cigarettes. Tobacco products also stain your teeth and cause gum disease and tooth loss. That certainly won't help your appearance any! Listen to these statistics: 1.) Approximately 28,000 people were diagnosed as having oral (mouth) cancer last year. Many of them probably thought they were safe because they used smokeless tobacco. Wrong! 2.) About 7,200 people will die from mouth cancer this year, caused by smokeless tobacco! AND-tobacco products cost a lot of money! Bottom line: There is nothing good to say about tobacco products. Never starting is your best defense against all the health problems related to tobacco.



Mouthguards. There is a good habit you can get into that will help protect your teeth from getting broken or knocked out. Does anyone know what I'm thinking of? I'll give you a hint. You use it for active sports. That's right! A mouthguard. How many of you have ever worn a mouthguard? A mouthguard is a piece of soft, molded plastic that

covers your upper teeth. Your dentist can make one that fits your teeth exactly, or you can buy an unshaped mouthguard that can be softened in boiling water and then shaped to fit over your teeth.

Why is it so important to use a mouthguard? (Because if you lose your permanent teeth, new ones will not grow in to replace them.) Do you know anyone who has had teeth knocked out during sports? Will those teeth ever grow back? Mouthguards also help prevent injuries to your lips, face and jaw. Wearing a mouth guard is very smart even if you don't think it's a great fashion statement!

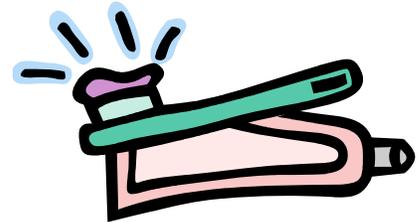
Handout Section:

Have students work individually or in pairs to complete the activity sheet *Watch Your Mouth! Crossword Puzzle*.

References:

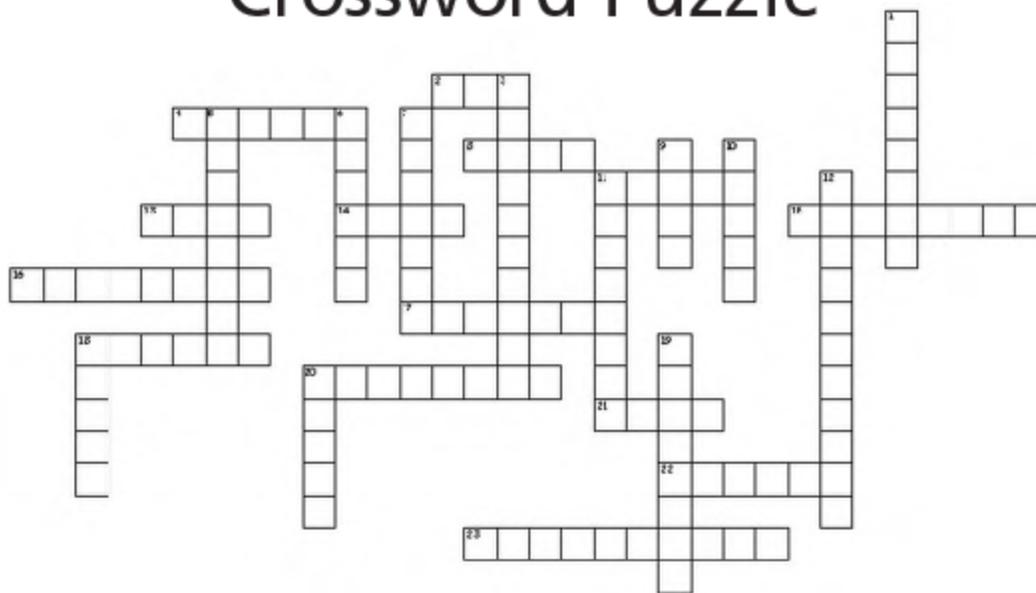
Smile Smarts! – American Dental Association

www.ada.org/public/education/teachers/smilesarts/index.asp



Watch Your Mouth!

Crossword Puzzle



Across

2. A food, deep yellow inside, belonging to the vegetables group
4. A primary cause of cavities and gingivitis
8. The innermost tissue of a tooth
11. With good personal and professional care, you should keep your teeth as long as you are ____.
13. The unit you are studying is about ____ health.
14. A liquid containing calcium
15. The thin, hard covering of the root of a tooth
16. Most dentists recommend a tooth brush with soft _____
17. A dangerous product that is bad for your total health
18. A food with a white inside, belonging to the vegetables group
20. A natural substance which can help prevent cavities
21. A member of the grains group, frequently eaten in Asian countries
22. A watery secretion that bathes teeth and promotes digestion
23. Used to remove plaque

Down

1. The most common dental disease among young people
3. Protects teeth during sports
5. The periodontal _____ holds the tooth in its bony socket.
6. The hard outer covering of a tooth
7. Coating that protects teeth from decay
9. The part of the mouth just outside the teeth
10. A good substitute for meat
11. The type of bone in which teeth are embedded
12. _____ disease can result in destruction of tissues surrounding the tooth.
18. A fuzzy-skinned member of the fruits group
19. The front teeth
20. Cleans between teeth



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Title: Oral Health Matters



Grades 9-12

This lesson is designed as a stand alone or to supplement your health education curriculum. Age relevant oral health topics are introduced in this module.

Lesson and group discussion requires about 20-30 minutes. Content can be divided into multiple lessons. Suggested supporting activities, hands-on classroom demonstrations, and a power point presentation are included to supplement the various content topics.

Related Subject Areas:

Science

Language Arts

Purpose:

To provide evidence-based, age-appropriate information and activities about factors that can affect oral health and overall health.

Lesson Objectives:

1. Recognize the importance of maintaining good oral health as part of overall health
2. Demonstrate the ability to make good oral health decisions to avoid oral health risks
3. Evaluate the impact of safe and unsafe oral health behaviors

Essential Questions:

1. How does maintenance of good health habits promote personal wellness?
2. How can good oral health decisions enhance the ability to be healthy for a lifetime?
3. What are the health risk behaviors that can cause health problems lasting into adulthood?

Content Delivery: Guided questions to assess student's knowledge and value of oral health.

1. What do you need to do to maintain good oral health habits? What parts of your mouth are included in oral health? (Regular brushing and flossing, regular dental visits twice a year, eating healthy, nutritious foods, protecting mouth from harm in sports or through oral piercings) Can you name all the parts of a **healthy mouth**? (Teeth, gums, tongue, oral tissues, lips, and throat) A healthy mouth is an

important part of total health. In adolescence, gingivitis can begin to occur, and may progress to periodontal disease if left untreated. Gingivitis causes red, swollen gums that bleed easily. The best way to avoid gingivitis is to **remove bacterial plaque** from the teeth and gums through regular brushing and flossing. How does plaque form on the teeth? Bacteria that normally inhabit the mouth multiply and form sticky colonies called plaque. The bacteria in plaque process sugars that produce acid and other by-products which lead to cavities and inflammation (gingivitis).

SUGAR + BACTERIA = ACID.

2. What are some other behaviors that can harm your teeth and gums? (Smoking, chewing tobacco, oral piercings, eating disorders, mouth injuries) Smoking or chewing tobacco is very harmful to your oral health. Tobacco is a drug that is very addictive. It contains nicotine which acts as a stimulant in the body. Tobacco affects the body, and the mouth, in many ways. Can you name some ways the body is affected by tobacco? (Sick more often, decreased sports performance, breathing problems, irritated gum tissue, bad breath, and oral cancer) The best way to keep health is to **avoid tobacco products**. Smoking and chewing tobacco can cause cancer. Of cancers in the mouth, throat, nose, and voice box, 75% are associated with the use of smokeless tobacco products. If you already smoke or use tobacco, there are resources to help you be healthy. Some resources are: www.tobaccofreekids.org and www.lungusa.org.

3. How do oral piercings impact your teeth and gums? Oral piercing is a popular form of body art in today's society. There can be serious reactions to piercing and mouth jewelry. How can oral piercings impact the body in an unhealthy way? (Pain, swelling, infection, gum recession, broken teeth and fillings, scar tissue, metal allergies) Jewelry can become loose and can be aspirated into the lungs or swallowed. What are some other complications that can occur? (A bacterial infection in the mouth can enter the bloodstream and affect the heart. Other complications may include hemorrhaging, brain abscess, and blood borne diseases such as hepatitis or HIV. These may be the result of the use of non-sterile instruments) There are ways teens can express their individuality in a positive way. Have the class discuss other ways teens can express themselves without oral piercings or mouth jewelry. *

4. Protecting your teeth during sports activities is very important. If you lose your permanent teeth, you cannot grow new ones. What is the best way to protect your teeth while participating in sports? (**Wear a mouthguard**) A mouthguard is a piece of soft, molded plastic that covers your upper teeth. You can buy an unshaped mouthguard that can be softened in boiling water and then shaped to fit over your teeth, or your dentist can make one that fits your teeth. Name some safety precautions you can take at home or at school to prevent injuries to the mouth and teeth? The most common tooth injuries are: chipped or fractured tooth, knocked-out tooth (avulsion), or teeth that are pushed into the gums (tooth intrusion). How should you respond to a knocked-out tooth? (Transport the tooth

in milk or saliva; have the tooth replanted within 15-20 minutes). The best motto is: Whatever you play, protect your teeth!

5. The health of your mouth affects the rest of your body. Nutrition plays an important role in the health of your teeth and impacts your overall health. Teens make many choices about their health habits, including dietary choices. A healthy diet can help **prevent dental diseases**; poor nutrition developed in the teenage years can affect your health into adulthood. What are some health problems that can occur from poor dietary choices? (Obesity, poor heart health, anorexia, bulimia, diabetes) Eating disorders (anorexia, bulimia, binge eating) impact the teeth and the body by depleting the body of essential nutrients. Bulimia can cause erosion of the tooth enamel due to frequent vomiting. How does a diet high in sugars and poor nutrients affect the body? (Excessive weight gain, build too much plaque on teeth, chronic gum disease may be a risk factor for diabetes) What is the best way to maintain a healthy weight? (**Balanced diet and regular exercise**) See www.mypyramid.gov

6. What is the link between oral health and diabetes? Gum disease can cause bacteria to enter the bloodstream. The bacteria can activate cells that produce inflammation throughout the body. Cells in the pancreas can be damaged or destroyed; these cells control blood sugar (insulin) and may trigger Type 2 diabetes – even in a healthy person without other risk factors for diabetes! What is the best way to have a healthy mouth and healthy body? Brush your teeth and floss regularly, have two dental visits each year, eat a balanced diet and get regular exercise!

7. There are many career opportunities in the dental professions. Students that wish to learn more can speak with their guidance counselor or may visit <http://www.explorehealthcareers.org/en/Index.aspx> or www.ada.org (Careers in Dentistry).

* Have the class construct a collage of healthy ways to express individuality without oral piercings.

References:

- **Smile Smarts!** – American Dental Association
www.ada.org/public/education/teachers/smilesmarts/index.asp
- **Texas Tattletooth program**
http://www.dshs.state.tx.us/dental/teachers_guide.shtm
- **Missouri Department of Health and Senior Services**
www.dhss.mo.gov/oral

