

Hygiene Lesson Plan: Tooth Brushing, Handwashing, and Mouth Covering

Objective

The objective of this lesson is to teach elementary and middle school-aged students about hygiene. Teaching the students about how to properly brush their teeth can improve dental health, and reduce long-term health problems. Teaching the students about how soap works, how germs spread, and proper handwashing techniques can reduce the spread of germs. The lesson is to be provided to the Sidewalk School located in Reynosa, Mexico. Begin the session with personal introductions and an introduction to the subject to be discussed.

Introduction

Understanding wear plaque is hard to reach and how to properly brush teeth with toothpaste can drastically improve and maintain dental hygiene. Dental hygiene is important for whole body health: our mouths work to allow us to eat nutritious food, and to protect the rest of our bodies from germs. Mouths function as one of our first defenses from the outside world. Maintaining a healthy mouth means it can defend our bodies properly.

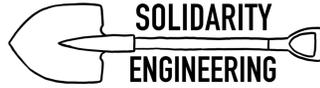
Handwashing is a reliable and effective method of reducing the spread of germs. Germs are responsible for infections and disease, so reducing the spread of germs thereby reduces the spread of infections and disease. Germs from other humans and from animals can spread directly, through the air, or by contaminated surfaces. The surfaces of objects can be contaminated when they are touched by other contaminated objects or unwashed hands, or when someone sneezes or coughs on them. Germs from unwashed hands can be transferred to objects that we all touch, like door knobs, handrails, tables, and toys. People touch their eyes, nose, and mouth without realizing it. Germs can enter the body through the eyes, nose, and mouth and cause illnesses. Germs can be passed through food if the food was prepared or eaten with unwashed hands. Handwashing with soap removes germs from our hands and helps prevent the spread of infections and diseases.

As we've discussed, germs can also spread through the air. This means when we cough and sneeze it is important to prevent our breath and the water droplets within it from going too far and spreading to people and objects around us. To do this, always cough and sneeze into the crevice of your elbow, and, if you cough or sneeze into your hands, wash them immediately!

Note: the Enamel Demonstration requires 1 week to complete

Key Terms

- Gérmenes: pequeños organismos vivientes que pueden causar enfermedades e infecciones. Estos incluyen bacterias, virus, hongos y protozoarios.
- Infección: es el proceso de transmitir o introducir un germen o enfermedad.
- Enfermedad: es un cambio en un organismo vivo (persona o planta) que no permite que funcione de manera normal; padecimiento



- Transmitir: transferir, pasar o esparcir de una persona o lugar a otra.

Plaque Finding & Toothbrushing Demonstration (time: 5 minutes)

Purpose: show where plaque collects on your teeth and how to properly and effectively brush to remove it

Materials needed:

- Plaque disclosing tabs (\$6.00, 1 pack)
- Toothbrush (\$0.20, 1)
- Toothpaste (\$2.00, 1 tube)
- Water
- Optional: mirror

Teacher In-depth Procedure

Step #	Activity	Materials needed
1.	Explain that the tablet highlights the plaque in your mouth that brushing teeth removes.	
2.	Show the “before” by smiling in front of the students. Follow plaque disclosing tab instructions to discolor plaque in your mouth. Show the “after” effects of the plaque disclosing tab, so the kids can see where plaque is in your mouth.	Plaque disclosing tab
3.	Wet toothbrush, put toothpaste on toothbrush, and begin brushing teeth. Make sure to move the bristles away from your gums, where plaque collects, and limit the side-to-side motion that can damage gums. Spit and rinse. Repeat if necessary.	Toothbrush, water, toothpaste
4.	Show the “after” effects of brushing your teeth.	

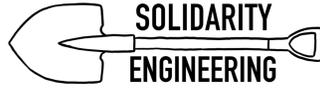
Follow-up Questions:

1. Did you know all that plaque is in our mouths?
2. Where was the plaque in my mouth? At the tips? Near my gums?
3. What other places do you think plaque stays that we can see very well?
4. Why is it important to brush your teeth? What happens when we swallow? Where does the stuff from our mouths go?

Takeaways

- Brushing our teeth is important even when we can't tell how dirty they are
- Our mouths are on the frontline for defense against what we put in them, and in us

Enamel Demonstration (time: 1 week prep; 5 minutes demonstration)



Purpose: show how different drinks affect our teeth

Materials needed:

- 3 Jars with lids (, ,)
- 3 hard boiled eggs
- Milk
- Vinegar
- Cola (sugary soda)
- Small ladle/spoon
- Paper plate

Teacher In-depth Procedure

Step #	Activity	Materials needed
1.	Prep: Fill each jar $\frac{3}{4}$ way with one liquid: one jar with milk, one jar with vinegar, one jar with coca-cola.	3 jars, milk, vinegar, cola
2.	Prep: Place one hard boiled egg in each jar, close the jar with lid tightly, and wait 1 week.	3 hard boiled eggs, lids to jars, <i>time</i>
3.	With the students, explain what you did for steps 1 and 2, and explain that the shell of an egg is actually very similar to our teeth. Ask the student to hypothesize: What do you think the milk will do to the egg shell? What do you think the vinegar will do? What do you think the cola will do?	
4.	Open the jars, remove the eggs, and place them on the plate. Have the students observe and vocalize their observations.	ladle/spoon, plate

Follow-up Questions:

1. Were our hypotheses correct?
2. What happened to the eggshells? What did the milk do? What did the vinegar do? What did the cola do?
3. Did you know these same effects happen to your teeth?
4. What do you think you can do to prevent this from happening to your teeth?

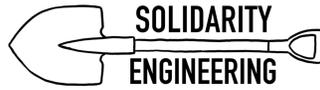
Takeaways

- Various substances affect the enamel of our teeth differently: watch out for sugary and acidic foods/drinks and be sure to brush your teeth after eating/drinking them!

Glitter/Germ Spreading Activity (time: 15-20 minutes, depending on class size)

Purpose: shows how germs are spread

Materials needed:



- Glitter (\$7.46, 1 large bottle)
- Baby oil (\$4.00, 1 bottle)
- Cup/ball (or an object to pick up that can easily be washed) (ball \$1.97, 1)
- Hand soap (\$1.98, 1 pump bottle)

Teacher In-depth Procedure

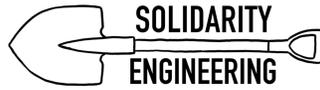
Step #	Activity	Materials needed
1.	Explain that the glitter represents germs.	
2.	Have all participants rub baby oil on their hands	Baby oil
3.	Have one person (or a couple for large groups) sprinkle glitter on their hands	Glitter
4.	Have the participants interact (shake hands, high-five, etc.) and take turns picking up the cup/object.	Cup/object
5.	Pause: see where the glitter is! Continue: have participants continue interacting until the “germs” are sufficiently spread	
6.	Ask the students, “will the glitter come off when you wash their hands with only water?”	
7.	Have the participants wash their hands with water only. Ask, “did the glitter come off?”	Water
8.	Ask the students, “will the glitter come off when you wash your hands using soap?”	
9.	Have the participants wash their hands using soap (for 20 seconds). Point out how long it takes while washing to get the glitter off.	Water, hand soap

Follow-up Questions

1. What did we learn about how germs are spread? Where did “germs” end up?
2. What did washing our hands without soap do?
3. What did washing out hands with soap do?
4. How long did washing our hands take to get the “germs” off?

Takeaways

- To have students understand how germs are spread
- To have students understand that germs are on all types of surfaces
- To have students understand the importance of washing their hands regularly



- To have students understand how touching objects, others, or themselves, especially their eyes, nose, and mouth, with unwashed hands can lead to transmission of germs (that can cause infections and disease)

Milk-soap Demonstration (time: 10 minutes)

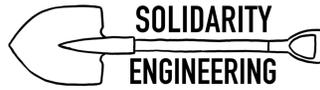
Purpose: shows how soap interacts with germs

Materials needed:

- Milk (whole or 2%) (\$1.28, 1 pint)
- Large, waterproof plate (1-3) (\$0.49, 1 pack)
- Food coloring (lots of colors: 2-5) (\$1.98, 1 four pack)
- Dish soap (\$1.24, 1 small bottle)
- Cotton swabs (\$0.98, 1 pack)

Teacher In-depth Procedure

Step #	Activity	Materials needed
1.	Explain how soap cleans: helps remove substances from hands	
2.	Pour milk to cover the depth of the plate to about ¼ inch. Allow the milk to set.	Plate, milk
3.	Add one drop of each of the colors of food coloring to the milk. Keep the drops close together in the center of the plate of milk.	Food coloring
4.	Make a hypothesis: ask the students, “what will happen when the cotton swab touches the food coloring and milk?”	
5.	Test the hypothesis: touch the tip of the cotton swab to the top of the food coloring-milk mixture *be careful not to stir the mixture	Cotton swab
6.	Make a second hypothesis: ask the students, “what will happen when the soap touches the food coloring and milk?”	
7.	Test the hypothesis: place the dish soap on the end of the cotton swab, place this end in the middle of the food coloring-mixture, and hold it there for 10-15 seconds	Soap
8.	Add more soap to the cotton swab and repeat Step 7 in other places in the mixture- allowing the students to try.	



Follow-up Questions

1. What is happening?
 - a. Simplified: Milk contains proteins and fat. Soap weakens the chemical bonds holding the proteins and fat in the solution. Allowing this separation indicates that soap can
 - b. Full: Milk contains proteins and fat. Soap is bipolar: meaning it is polar on one end and nonpolar on the other. When added to milk, the polar, or hydrophilic, end dissolves in water, while the nonpolar, or hydrophobic, end attaches to the fat in the milk. This would happen without the food coloring, but we would not be able to see it. The food coloring is pushed to the side as the soap searches for fat to attach to, therefore the food coloring shows the path that the soap takes as it moves through the milk.
2. What did the cotton swab do? What does this mean for washing hands with just water?
3. What did the soap on the cotton swab do? What does this mean is happening when we wash our hands with soap?

Takeaways

- To have students understand the importance of using soap when washing their hands

Germ Hunt (time: 5-10 minutes)

Purpose: For students to understand what is on the surfaces around them and the surfaces that they touch

Materials needed:

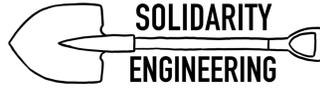
- Lysol wipes (\$0.50, 1 pack (one for each student))

Teach In-depth Procedure

Step #	Activity	Materials needed
1.	Explain that germs and dirt can be anywhere. They can be on the surfaces we touch everyday. Explain that the wipes kill germs. Explain the task of wiping down these surfaces, so they can see what comes off in their hunt for germs.	
2.	Distribute a wipe to every participant. Set a timer, and have them see how much they can find.	Lysol wipe
3.	Once the time is up, have the participants return and show each other their wipes.	

Follow-up Questions

1. What is on your wipe?
2. Is it cleaner or dirtier than you expected?
3. Did you know the surfaces you've been touching had this on them?



4. What can we do to make sure we do not ingest or spread the germs we pick-up from surfaces?

Takeaways

- Germs are all around us, and it is our job to make sure we don't contract or spread them.

Sneeze-tag (time: 10-30 minutes)

Purpose: the students understand how far germs can spread when we cough or sneeze

Materials needed:

- Squeeze bottles or spray bottles (\$0.97, 15 bottles)
- Water

Teacher In-depth Procedure

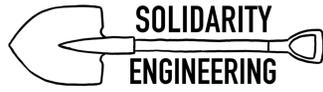
Step #	Activity	Materials needed
1.	Fill the bottles with water	Bottles, water
2.	Explain that when we sneeze or cough, our germs are spread out into the air and they can go way farther than we can see. Explain that the spray from the bottles represent the germs from our sneezes and coughs. Explain the rules of sneeze-tag: students have to keep moving until you say "freeze". After you say freeze, you say "sneeze" and each participant can spray their bottle one time, trying to get other participants wet. Say "un-freeze" and have them move around again. Repeat the "freeze", "sneeze" process until only one student is still dry. That's the winner! (or everyone is wet)	
3.	Demonstrate and have the students practice covering their mouths with the inside of their elbows.	
4.	Go outside, repeat the rules of the game if necessary, and play!	

Follow-up Questions

1. How far did your "sneezes" go?
2. Did everyone get "infected"? How long did it take?
3. Would covering our "mouths" have changed anything? If so, how?

Takeaways

- The students understand that covering their mouths with their elbows when coughing or sneezing is effective in reducing the spread of germs.



- The students understand that when we cover our mouths with our hands, we need to go wash our hands immediately- but this is not always an option, which is another reason why covering our mouths with our elbows is a better option.