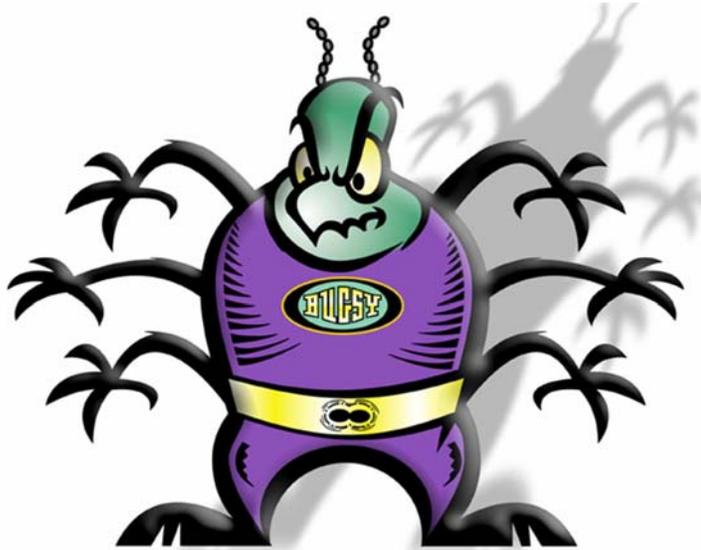


WASH YOUR HANDS



GRADE TWO Lesson Plan

GRADE



2

Not All Bugs Need Drugs

Suggested Time: 50 minutes

Overview

Students will learn that medications can help you get better when you are sick or injured. Physicians and pharmacists know which medication is best. Because medications are powerful, they need to be stored safely, taken according to the instructions, and only taken with adult supervision. Coloring sheets and a game illustrate the principle that the proper medication depends on what is making you sick. Handwashing technique is reviewed because it prevents illness and the need for medications. **Note:** If time is an issue, this unit can be divided into shorter sessions.

Curriculum

- W-2.6 Safe and Responsible Use of Medications – Students will determine safe and responsible use of medications.

Learning Outcomes

Students will learn that:

- Medications can help you get better when you are sick or hurt
- The right medication depends on what is making you sick
- Your doctor and pharmacist know which medication is best
- Medications are powerful and should be safely stored (as in a locked cupboard)
- Medication should be taken as directed and only with an adult

 Lesson Plan		 Material Checklist
<ul style="list-style-type: none"> • Medications 	20 minutes	<p><u>Material Downloads</u></p> <ul style="list-style-type: none"> ✓ Picture of Bugsy ✓ Bacteria and Virus pictures ✓ Handwashing Video ✓ Bacteria and Virus coloring sheets ✓ Crossword and Word Search activity sheets ✓ Handwashing with a Buddy instruction sheet ✓ Not All Bugs Need Drugs instruction sheet ✓ How to Wash Your Hands poster ✓ Twinkle, Twinkle song poster ✓ Handwashing Checklist <p><u>Teacher Supplied Material</u></p> <ul style="list-style-type: none"> ✓ Washrooms with soap and paper towels
<ul style="list-style-type: none"> • Medications and Germs 		
<ul style="list-style-type: none"> • Good and Bad Bacteria 		
<ul style="list-style-type: none"> • Not All Bugs Need Drugs 		
<ul style="list-style-type: none"> • Handwashing Video 	5 minutes	
<ul style="list-style-type: none"> • Not All Bugs Need Drugs Coloring Sheets and Game • Crossword and Word Search 	25 minutes	
<ul style="list-style-type: none"> • Helping Hands 		

Teacher Information

Safe use. Medications are used to treat disease and injuries. They are powerful compounds that have strong effects on the body. Because medications are so potent, they can be harmful if not used properly. Here are some rules for medication use to protect yourself and others:

- Read the labels carefully and take medications only as directed.
- To prevent access by children or others who may not use medications properly, store them in a locked cupboard. Ask for childproof caps on medications that require storage elsewhere (e.g. a refrigerator).
- Children should only take medications with adult supervision.
- Prescription medication is just for you and is only for your current illness. Do not share prescription medication or take left over portions of previous prescriptions.

Responsible use. There are thousands of medications and each one has a specific purpose. Doctors and pharmacists know which medication is best. The doctor decides if prescription medication is needed based on symptoms, history, physical examination, and tests. Pharmacists can help with instructions about how to take medications and when choosing medication that does not need a prescription.

The correct medication depends on what is making you sick. Respiratory infections, which are very common among school-age children are a good example. The majority of respiratory infections, such as colds, influenza, and most sore throats and coughs, are caused by viruses. Pneumonia, which is one of the most serious respiratory infections, can be caused by either viruses or bacteria.

Antibiotics are medications that work against bacteria, but not against viruses. Bacteria are larger and more complex than viruses. Antibiotics work against bacteria by targeting the life processes within the bacterial cell. In contrast, viruses do not carry out any life processes that antibiotics can target. That is why antibiotics work against bacteria but not against viruses.

If all the life on earth was gathered together, 60% would be bacteria. In fact, one study has estimated that our bodies actually have more bacterial cells than human cells. Most bacteria are not harmful and are essential to life. They protect our skin against disease causing germs and help in our intestines with digestion. It is important to use antibiotics wisely so that these helpful bacteria are not harmed.

Researchers have not yet found medications that will cure viral infections like colds and influenza, so it is important to protect yourself in other ways. An annual flu immunization will most often protect against influenza. On a daily basis, the best way to protect yourself and others is to wash your hands.

Preventing illness is an important aspect of responsible use of medications. The best practice is to not get sick in the first place. Proper diet, daily exercise, and regular handwashing help adults and children stay healthy.

Note: Some of these activities also fit with Science Curriculum 2-1 and 2-2.

Lesson

Introduce Buggy

Materials: Picture of Buggy

Introduce Buggy to the class and explain that Buggy is here to help them learn about medications when you are sick. Buggy will be pointing out important messages as we go along. Buggy knows a lot about medications and how they should be used. Buggy especially knows about medications for “bugs”. Not bugs in your garden! Medications for bugs like me! Bugs or germs that can make you sick.

Note: Graphic can be downloaded to an overhead or viewed on line from a projector or SMART Board.

Medications and Germs (20 Minutes)

Medications

? *How many of you know the word “medication”? What do you think it means?*

Sum up: Medications are pills or liquids or ointments. They contain powerful medicines that can help you get well.

? *What do medications do?*

Sum up: Medications help you get better if you are sick or injured. Some medications, like penicillin, cure disease. Other medications, like acetaminophen, can make you feel better.

? *If we have questions about medications, who can help?*

Sum up: Doctors and pharmacists know a lot about medications. They can help if you have questions about whether you need medications or how to take them.

? *Because medications are powerful, they need to be used carefully. What are some things you can do to use medications safely?*

Sum up:

- Medications should only be taken according to the directions on the label.
- The doctor or pharmacist will give you instructions on how to take the medicine and it is important to do what they tell you.
- Medication that your doctor gives you is only for you and not to be shared with anybody else.
- Medications should only be taken with the help of an adult.
- It is very important to keep medications in a safe place, like a locked cupboard.



BUGSY SAYS MEDICATIONS ARE POWERFUL! USE THEM AND STORE THEM WITH CARE.

Medications and Germs

Materials: Bacteria and Virus Overheads

Explain to students that today they will be learning about different kinds of germs and that the right medication depends on what kind of germ is making them sick. Use the overheads to show students what bacteria and viruses look like.

? *Do you remember what germs are?*

Sum up: Germs or bugs are tiny living things. They are so small that you can't see them except with a microscope.

? *What do germs do?*

Sum up: Germs can make you sick. When you are sick with a germ it is called an infection.

? *Have you ever had an infection? What kind of infection did you have?*

Sum up: Repeat answers given by students. Colds, influenza, "stomach flu", chickenpox, ear infections, sore throats, and pneumonia are all caused by germs. Sometimes germs cause cuts to become infected too.

? *Did you know that there are different kinds of germs? Have you heard of viruses? bacteria?*

Sum up: Some infections are caused by viruses and some are caused by bacteria.

? *Here are some pictures of viruses and bacteria. What are some of the differences you can see between viruses and bacteria?*

Show the coloring sheets.

Sum up:

- The bacteria are big and the viruses are small.
- The bacteria have more things inside of them than viruses.
- Bacteria are smooth and rounded. Viruses are geometric (like snowflakes) and have arms or bumps on their surface.

? *Here are the pictures of germs again. Which are viruses? Which are bacteria?*

Show individual images in random order. Ask students whether each image is a bacterium or virus.

Sum up: Viruses and bacteria are different. Bacteria are larger, rounded, and have many things inside of them. Viruses are smaller, have arms or bumps on their surface, and have fewer things inside of them.



BUGSY SAYS BACTERIA AND VIRUSES ARE DIFFERENT.

Not All Bugs Need Drugs

Remind the students that there are differences between viruses and bacteria. Some infections are caused by viruses and some are caused by bacteria.

? *How many of you have been to the doctor when you were sick?*

Sum up: If you are sick and go to the doctor, the doctor will figure out what is making you sick and decide whether you need medication or not. Sometimes you won't need medicine from the doctor for your infection.

? *Does anybody know what an antibiotic is?*

Sum up: Antibiotics are medications that are given by your doctor if you have an infection that is caused by bacteria. Antibiotics work against bacteria to make you better. But antibiotics don't work against viruses.

? *Do antibiotics work against bacteria?* Yes

? *Do antibiotics work against viruses?* No

? *What are some of the diseases caused by viruses?*

Most diseases that affect your nose and throat are caused by viruses. Some examples are colds, influenza and most sore throats and coughs.

? *What are some of the diseases caused by bacteria?*

Pneumonia is a very serious illness that can be caused by bacteria. Some skin infections are also caused by bacteria.

? *Has anyone ever had to take an antibiotic when they were sick?*

Sum up: Infections that are caused by bacteria can be treated with an antibiotic. If the infection is caused by viruses, antibiotics will not work to get rid of the infection. So sometimes your doctor will not give you medication when you are sick, but will tell you what you can do to feel better.

? ***So what can you do if you have an infection caused by a virus?***

Sum up: Stay home and rest, get plenty of sleep, and drink lots of liquids. The pharmacist can suggest medications to help you feel better. To keep your germs from spreading to someone else, wash your hands. Ask other people in your home to wash their hands too.



BUGSY SAYS NOT ALL BUGS NEED DRUGS.

Good and Bad Bacteria

? ***Did you know that not all bacteria are bad?***

Sum up: Explain to students that not all bacteria are bad for you. There are good bacteria and bad bacteria.

? ***Did you know that everyone has bacteria on their skin?***

Sum up: Everyone has bacteria on their skin. (Pretend to inspect the skin on your arm.) They are so small that you can't see them, but they live there all of the time. These are "good" bacteria. The good bacteria help keep out the bad bacteria that can make you sick.

? ***Did you know that everyone has bacteria inside of them?***

Sum up: We all have good bacteria in our intestines. (Pat your tummy.) We need these good bacteria to help us digest our food.

So you see that not all bacteria are bad for you. Many are important for our bodies to be healthy.



BUGSY SAYS MOST BACTERIA ARE GOOD.
ONLY A FEW ARE BAD AND CAN MAKE YOU SICK.

? ***What would happen if you took an antibiotic but your infection was caused by a virus?***

Sum up: Antibiotics don't work against viruses, so they wouldn't make you get better. Besides the antibiotic would work against all those good bacteria you have on your skin and in your intestines.

So taking medications when you don't really need them can have bad effects on your body.

This is one reason why it is important to only take medications according to the instructions from your doctor and pharmacist.

Don't share your medications with anyone else.



BUGSY SAYS USE MEDICATIONS CAREFULLY.

Handwashing Video (5 minutes)

Materials: Handwashing Video or DVD on request

Remind students that handwashing keeps us well. If you stay well, medications aren't needed.

Inform students that they are going to see a handwashing video that will show them the proper way to wash their hands. Tell them to pay close attention to the video, because later they will be pairing up with a buddy and will need to know all the steps.

Note: Some students may have seen this video previously. For those students, ask them to use the video to make sure they remember all the steps of good handwashing. The video is included for all grades (K-Grade 3) to reinforce previous learning and as catch-up for students who have not seen it before.

Play the video. Then review the steps.

1. Wet your hands.
2. Apply soap.
3. Rub your hands together.
4. Rinse your hands.
5. Dry your hands with a paper towel.
6. Use the towel to turn off the tap and let yourself out the door.

Last, don't forget to leave the washroom neat and tidy!

Ask students what they remember from the video about the parts of the hands that need to be scrubbed. If students have trouble remembering, show the video again.

Sum up and demonstrate by imitating the video: Palms, between the fingers, backs of hands, thumbs, wrists, fingertips and nails. This step should take about 20 seconds, or the time it takes to sing the Twinkle, Twinkle song.

Review the song. Ask the students to practice rubbing all the parts of their hands: palms, between fingers, backs, thumbs, wrists, and fingertips and nails as they sing.

Activities

Responsible and Safe Use of Medication Activities (25 minutes)

Not All Bugs Need Drugs

See: Not All Bugs Need Drugs Game instruction sheet

Use: Bacteria and Viruses coloring sheets

Coloring sheets include three bacteria shapes, three virus shapes and one coloring sheet of medication (an antibiotic capsule). The bacteria and virus shapes are outline versions of the images used in the Medication and Germs section above. Coloring sheets are passed out at random so that students will be coloring either a bacteria shape or virus shape, and one student will color the medication shape.

The game illustrates the principle that the right medication depends on what is making you sick. Students will identify which type of germ they have colored, group themselves accordingly in the classroom, and will act out what happens when the antibiotic touches them.

Crossword and Word Search

Use: Buggy Crossword
Buggy Word Search

Crossword puzzle and word search repeat key words and messages. Clues focus on germs, illnesses, medications and handwashing.

Helping Hands

See: Handwashing with a Buddy instruction sheet

Use: How to Wash Your Hands poster
Twinkle, Twinkle song poster
Handwashing Checklist

Handwashing prevents illness and the need for medications. The objective of this activity for the students is to practice the steps of good handwashing and receive help and feedback from their buddy.

Note that handwashing practice is a component of all parts (K - Grade 3) of this program. It is included here because the need for medications is reduced if children stay well by practicing regular handwashing. The handwashing exercise can be conducted concurrently with the coloring exercise above.

Post the How to Wash Your Hands poster and the Twinkle, Twinkle poster in the washroom ahead of time. Explain to the students that they will be going to the washroom with a buddy. Buddies should help each other to complete all the steps of handwashing properly including rubbing all parts of their hands with soap and timing this step by singing the Twinkle, Twinkle song. Review the steps if needed.

Distribute one Handwashing Checklist sheet to each pair of students. The sheet can be folded in half so there is a checklist on each side. A piece of cardboard can be inserted in between to make a firm writing surface. Students will need to take the checklist and a pencil or marker with them to the washroom.

Pair up the students and send them in small groups to the washroom. Buddies should take turns washing their hands. While one student washes, the other observes and records whether each step was completed. Remind students to use the posters in the washroom as visual cues. Buddies should help each other to complete all the steps of handwashing.

Collect the checklists and identify steps that seem difficult. Practical Solutions to Handwashing Problems may help to make handwashing easier for your students. Discuss problems with the class and ask students for suggestions and solutions.

Note: The coloring sheets and word game activities can be completed in the classroom while small groups of children are in the washroom practicing handwashing.

Recommended Children's Book

Berger, M. *Germs Make Me Sick*. New York: Harper Collins, 1995.

Ongoing Education

- Encourage students to share what they learned about medications with their parents and siblings.
- Arrange a field trip to a drug store and meet the pharmacist. Learn what the pharmacist does and the kind of help they can give you about medications.
- Consult the Do Bugs Need Drugs? website for more information about medications for children: <http://www.dobugsneeddrugs.org/parents/>
- For help with barriers to good handwashing technique, refer to Practical Solutions to Handwashing Problems.

PRACTICAL SOLUTIONS TO HANDWASHING PROBLEMS

Problem	Hygiene Principle	Solution
Soap or paper towels not available	Handwashing by students, teachers and staff is the best way to stop the spread of infections in schools.	Inform custodial staff and/or principal. Suggest that the school administration hold an information session for custodial staff about the importance of handwashing. Handwashing protects custodial staff too.
Taps go off automatically and water does not run long enough	Water needs to run long enough to rinse off soap and germs.	Have students wash hands with a buddy so they can assist each other with the tap. Students should use a paper towel to push in the tap if they have already washed their hands.
Warm water not available	Cold water is a deterrent to handwashing.	Discuss with school administration. If it is not possible to have warm water, use cold. Cold water is less comfortable but will work (with soap) to remove germs from the hands.
Children cannot reach the taps or sink	Handwashing is important for all children.	Provide a stool or step that does not tip.
Need to conserve water. Taps should not be left running.	Good handwashing technique includes using a paper towel to turn off the taps. This prevents recontamination of the hands from dirty taps.	Suggest that students get their paper towel before washing their hands so that it is available when they need to turn off the taps. The towel can be tucked under the arm or into a pocket until it is needed.
Paper towel dispenser is far away from the sink		
Paper towel dispenser has a lever or button	Hands can be recontaminated by touching the lever or button to dispense a paper towel.	Show students how to use an elbow or forearm to dispense the towel or suggest they get the paper towel before washing their hands.

Problem	Hygiene Principle	Solution
Wastebasket is not near the door	Hands can be recontaminated by touching the washroom door or handle. Good handwashing technique includes using the paper towel to open the washroom door. To avoid making a mess, it's best to have the wastebasket near the door.	Move the wastebasket close to the door or prop open the door. If neither are possible, suggest that students take the towel with them and throw it away in the classroom.
Handwashing takes too much time	Handwashing prevents illness and reduces absenteeism. In the long run it saves time.	Establish routine times for students to wash their hands. Before lunch and after recess are ideal. Teach good handwashing technique and remove barriers so that students become proficient.
Custodial staff concerned about the mess in the washroom	Washrooms should be neat and tidy.	Reinforce the final message of good handwashing with the students to properly throw away their paper towel in the wastebasket.
Don't know if antibacterial soap is in use	Plain soap does not promote antibiotic resistance and is equally effective in preventing the spread of germs.	Ask about the soap that is used in your school. Read the ingredients. If the soap contains "triclosan" it is antibacterial soap. Antibacterial soap has negative medical side effects and does not work any better than plain soap. If antibacterial soap is in use, suggest switching to plain soap. Plain soap is generally less expensive.

Acknowledgement

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