



Infection Prevention Education

Curriculum for Children

How to use this curriculum: this curriculum is intended to be a guide for providing infection prevention education to children in pre-K through grade 12. The user of this guide should feel free to add, delete, or change aspects of the curriculum as appropriate to fit the culture and demographics of their student audience. The curriculum is divided into 3 lessons for each grade. The lesson plans include 5 sections:

1. **Standards:** the standards section contains the CDC Health Education Standards relating to infection prevention education. The standards are divided into Pre-K-Grade 2, Grades 3-5, Grades 6-8, and Grades 9-12. Students should be able to meet the standards for each age group by Grade 2, Grade 5, Grade 8, and Grade 12.
2. **Discussion Questions:** the discussion questions section includes examples of discussion questions that can be used by the instructor to introduce the lesson topic or to reflect on what has been learned in the lesson.
3. **Lesson:** the lesson section contains the information that should be taught to the students to meet the standards. The lesson is written in language that can be used to teach the students. Teachers should feel free to change the language or employ different learning techniques as needed.
4. **Activities:** the activities section contains examples of activities that can be used to reinforce the lesson and help make the health education sessions fun.
5. **Resources:** the resources section contains a list of resources that are needed for the activities as well as possible resources to aid in teaching. These can be found in the separate curriculum resource document.

Pre-K and Kindergarten

Fall Session Lesson Plan (30 minutes)

Standards

Students will be able to:

1. Identify proper steps for daily brushing and flossing teeth
2. State why hygiene is important to good health
3. Identify the benefits of personal hygiene practices such as washing hair and bathing regularly
4. State the steps for proper hand washing

Discussion Questions

Why do we wash our hands or brush our teeth?
When should we wash our hands?

Lesson

- **Explain** in simple terms the importance of personal hygiene – brushing teeth, bathing regularly, and washing hands helps our bodies stay happy and healthy because it helps to keep us free from germs that can hurt our bodies. Keeping our living environments clean through activities like laundry, sweeping, and dishes, is also important to staying healthy.
- **Describe** the steps to handwashing, bathing, and brushing teeth and state the situations in which these activities should be done.
 - o **Handwashing:** steps = 1. wet your hands with warm water 2. Lather up with soap 3. Scrub your hands for 20 seconds (sing Happy Birthday song twice). 4. Rinse your hands well under warm water. 5. Dry your hands with a clean towel. Handwashing should be done after playing with pets, after going to the bathroom, after sneezing or blowing your nose, before you eat or touch food, and after playing outside.
 - o **Brushing teeth:** steps = 1. put toothpaste on toothbrush 2. wet toothbrush with water 3. brush top teeth, bottom teeth, and front teeth 4. brush tongue 5. spit out toothpaste 6. rinse mouth with water. Teeth should be brushed after every time you eat food.
 - o **Bathing:** steps = 1. take off clothes 2. Get into shower 3. Use shampoo to wash hair 4. Wash face 5. Wash body with soap 6. Rinse off 7. Get out and dry 8. Put on clothes. Bathing should be done at least once or twice a week. Additional bathing should be done when you are dirty.

Activities

- Simulation: have children act out brushing teeth, washing hair, and cleaning skin. Have children wash hands while together saying aloud the handwashing steps.
- Coloring: have children color illustrated pictures of proper hygiene
- Sing along: have children sing along to songs such as “The Wiggles Handwashing Song” or “This is the Way We Brush Our Teeth”
- Steps to proper hygiene puzzle: give children illustrations of the different steps to each hygiene practice. Have children place steps in order and check their answers.

Resources

hygiene story books, illustrations of hygiene practices, hygiene supplies (soap, toothbrush and toothpaste, hair brush, etc.), coloring sheets, hygiene songs, hygiene puzzle pieces

Winter Session Lesson Plan (30 minutes)

Standards

Students will be able to:

1. Describe what it means to be healthy
2. Identify different ways that disease-causing germs are transmitted
3. Identify ways to prevent the spread of germs that cause common illness
4. Identify proper steps for treating a wound to reduce the chances of infection

Discussion Questions

What does it mean to be healthy?
What are germs?

Lesson

- **Define** what it means to be healthy: health is when our bodies and our minds feel good and work well
- **Define** germs: germs are a group of tiny invaders that can make our bodies sick. They are tiny organisms, or living things, that can cause illness. They can enter into our bodies without us noticing – they are so small that you need a microscope to see them. When germs get into our body they make us feel sick.
- **Explain** in simple terms how germs can be transmitted: germs get passed around and every time we touch another person, animal, or object we touch new germs and spread our own germs. Some of these germs can then make us sick if we don't protect ourselves.
- **Explain** in simple terms how to protect yourself and others from germs: we can protect ourselves from germs by washing our hands, getting immunizations, maintaining good proper hygiene, cleaning surfaces, washing fruits and vegetables, drinking clean water, cleaning our scrapes and cuts, and staying home when we are sick.

Activities

- Glo germ activity: 1. apply glo germ lotion to children's hands 2. use blacklight to show children "germs" on their hands 3. have children wash hands 4. use blacklight on hands again to see if all the "germs" are gone
- Pet germ craft: have children use Crayola modeling dough to mold their interpretation of what a germ looks like. When the mold dries, have children decorate it with various materials. Have the children display their pet germs by the sink to remind them to wash their hands.
- Coloring: have children color illustrated pictures of germs and of proper steps to protecting themselves from germs.

Resources

Germ story book (ex: germs are not for sharing), glo germ kit, modeling clay, germ coloring sheets, plush microbes

Spring Session Lesson (30 minutes)

Standards

Students will be able to:

1. Explain that foods and water can contain germs that can cause illness
2. Identify food and water safety strategies that can control germs that cause foodborne illness

Discussion Questions

What are some of your favorite foods?
Did you know that food and water can sometimes make us sick?

Lesson

- **Explain** in simple terms that food and water can make us sick: even though our bodies need food and water, sometimes food and water can have germs that can make our bodies sick.
- **Describe** food and water strategies to prevent foodborne/waterborne illness: we can protect ourselves from getting sick from food and water by washing our hands before eating and eating with utensils and making sure our water is clear and clean.

Activities

- **Food Prep Practice:** have children practice washing a fruit or vegetable before eating it
- **Coloring:** have children color illustrated pictures of proper food preparation and clean water
- **Clean water vs. dirty water:** have children put dirt in a cup and fill cup with water. Have them compare this cup with a clean cup of water. Explain that they should not drink water if it looks like the cup with dirt in it.

Resources

Fruits or vegetables (ex: apple, carrots, etc.), coloring sheets, food preparation books, cups and water

Grades 1 and 2

Fall Session Lesson (30 minutes)

Standards

Students will be able to:

1. Identify proper steps for daily brushing and flossing teeth
2. State why hygiene is important to good health
3. Identify the benefits of personal hygiene practices such as washing hair and bathing regularly
4. State the steps for proper hand washing

Discussion Questions

Why do we wash our hands or brush our teeth?
When should we wash our hands?

Lesson

- **Explain** in simple terms the importance of personal hygiene: brushing teeth, bathing regularly, and washing hands helps our bodies stay happy and healthy because it helps to keep us free from germs that can hurt our bodies. Explain that keeping our living environments clean through activities like laundry, sweeping, and dishes, is also important to staying healthy.
- **Describe** the steps to handwashing, bathing, and brushing teeth and state the situations in which these activities should be done.
 - o **Handwashing:** steps = 1. wet your hands with warm water 2. Lather up with soap 3. Scrub your hands for 20 seconds (sing Happy Birthday song twice). 4. Rinse your hands well under warm water. 5. Dry your hands with a clean towel. Handwashing should be done after playing with pets, after going to the bathroom, after sneezing or blowing your nose, before you eat or touch food, and after playing outside.
 - o **Brushing teeth:** steps = 1. put toothpaste on toothbrush 2. wet toothbrush with water 3. brush top teeth, bottom teeth, and front teeth 4. brush tongue 5. spit out toothpaste 6. rinse mouth with water. Teeth should be brushed after every time you eat food.
 - o **Bathing:** steps = 1. take off clothes 2. Get into shower 3. Use shampoo to wash hair 4. Wash face 5. Wash body with soap 6. Rinse off 7. Get out and dry 8. Put on clothes. Bathing should be done at least once or twice a week. Additional bathing should be done when you are dirty.

Activities

- Good Hygiene, Bad Hygiene Game: on flashcards, write 10 good hygiene habits (ex: brushing teeth after meals, flossing each night, bathing when dirty) and 10 bad hygiene habits (ex: putting toys in mouth, not brushing teeth). Present a card and have children go to one side of the room if it is a good habit, and the other side of the room if it is a bad habit.
- Steps to proper hygiene puzzle: give children illustrations of the different steps to each hygiene practice. Have children place steps in order and check their answers.
- Hygiene charades: have one child pick a card from a bag that contains an action for hygiene (ex: brushing teeth, bathing, coughing into a sleeve, washing hands). Have the child then act out the habit without using any words. The other children will guess what action that the child is acting out.

Resources

hygiene story books, illustrations of hygiene practices, hygiene supplies (soap, toothbrush and toothpaste, hair brush, etc.), coloring sheets, hygiene songs, hygiene puzzle pieces, habit flashcards

Winter Session Lesson (30 minutes)

Standards

1. Describe what it means to be healthy
2. Identify different ways that disease-causing germs are transmitted
3. Identify ways to prevent the spread of germs that cause common illness
4. Identify proper steps for treating a wound to reduce the chances of infection

Discussion Questions

What does it mean to be healthy?
What are germs?

Lesson

- **Define** what it means to be healthy: health is when our bodies and our minds feel good and work well
- **Define** germs: germs are a group of tiny invaders that can make our bodies sick. They are tiny organisms, or living things, that can cause illness. They can enter into our bodies without us noticing – they are so small that you need a microscope to see them. When germs get into our body they make us feel sick.
- **Explain** in simple terms how germs can be transmitted: germs get passed around and every time we touch another person, animal, or object we touch new germs and spread our own germs. Some of these germs can then make us sick if we don't protect ourselves.
- **Explain** in simple terms how to protect yourself and others from germs: we can protect ourselves from germs by washing our hands, getting immunizations, maintaining good proper hygiene, cleaning surfaces, washing fruits and vegetables, drinking clean water, cleaning our scrapes and cuts, and staying home when we are sick.

Activities

- Glo germ activity: 1. apply glo germ lotion to children's hands 2. use blacklight to show children "germs" on their hands 3. have children wash hands 4. use blacklight on hands again to see if all the "germs" are gone
- Pet germ craft: have children use modeling clay to mold their interpretation of what a germ looks like. When the mold dries, have children decorate it with various materials. Have the children display their pet germs by the sink to remind them to wash their hands.
- Coloring: have children color illustrated pictures of germs and of proper steps to protecting themselves from germs

Resources

Germ story book (ex: germs are not for sharing), glo germ kit, modeling clay, germ coloring sheets, plush microbes

Spring Session Lesson (30 minutes)

Standards

Students will be able to:

1. Explain that foods and water can contain germs that can cause illness
2. Identify food and water safety strategies that can control germs that cause foodborne illness

Discussion Questions

What are some of your favorite foods?
Did you know that food and water can sometimes make us sick?

Lesson

- **Explain** in simple terms that food and water can make us sick: even though our bodies need food and water, sometimes food and water can have germs that can make our bodies sick.
- **Describe** food and water strategies to prevent foodborne/waterborne illness: we can protect ourselves from getting sick from food and water by washing our hands before eating and eating with utensils and making sure our water is clear and clean.

Activities

- Food Prep Practice: have children practice washing a fruit or vegetable before eating it
- Coloring: have children color illustrated pictures of proper food preparation and clean water
- Clean water vs. dirty water: have children put dirt in a cup and fill cup with water. Have them compare this cup with a clean cup of water. Explain that they should not drink water if it looks like the cup with dirt in it.

Resources

Fruits or vegetables (ex: apple, carrots, etc.), coloring sheets, food preparation books, cups and water

Grades 3, 4, and 5

Fall Session Lesson (30 minutes)

Standards

Students will be able to:

1. Describe the benefits of personal health care practices such as tooth brushing and flossing, washing hair, and bathing regularly
2. Explain how hand washing and covering a cough and sneeze are effective ways to prevent many infectious diseases

Discussion Questions

What does personal hygiene mean?
How can personal hygiene help us stay healthy?

Lesson

- **Define** personal hygiene: hygiene is a term for various practices that help preserve a person's well-being and health through acts of cleanliness. Personal hygiene practices include tooth brushing and flossing, washing hair, bathing regularly, and washing our hands. It also includes protecting others from our germs by covering a cough and sneeze with either our elbows or a tissue and by keeping our living environments clean through activities like dusting, mopping, laundry, and dishes. This helps to prevent our germs from entering the environment and making other people sick.
- **Explain** why personal hygiene is beneficial: when we take care of our bodies through brushing and flossing our teeth, washing our hair and bathing regularly, and washing our hands, we remove dirt, germs, and other substances that we have accumulated on our bodies throughout the day. By doing this, we protect our bodies from illness and it helps us look, feel, and smell good.

Activities

- Steps to proper hygiene puzzle: give children illustrations of the different steps to each hygiene practice. Have children place steps in order and check their answers.
- Hygiene Schedule: give each child an empty daily schedule with morning, afternoon, and evening sections. Have children fill the schedule in with visual icons that represent all of the different things they do to take care of their hygiene. Examples include bathing, brushing teeth, brushing hair, laundry, dishes, and cleaning their rooms.
- "Tips for Good Hygiene" Sign: have students create signs for good personal hygiene that can be hung up in their homes/dorms to remind themselves and others how to have good personal hygiene.

Resources

Hygiene books, hygiene puzzle pieces, hygiene schedule, paper, art supplies, hygiene supplies (soap, toothbrush and toothpaste, hair brush, etc.)

Winter Session Lesson (30 minutes)

Standards

Students will be able to:

1. Explain the difference between infectious diseases and non-infectious diseases
2. Describe ways that common infectious diseases are transmitted
3. Describe the symptoms that occur when someone is sick
4. Describe the importance of seeking help and treatment for common infectious diseases

Discussion Questions

What are infectious diseases and how are they transmitted?
What happens when you get sick?

Lesson

- **Define** germs: germs are a group of tiny invaders that can make our bodies sick. They are tiny organisms, or living things, that can cause illness. They can enter into our bodies without us noticing – they are so small that you need a microscope to see them. When germs get into our body they make us feel sick. There are 4 different types of germs – bacteria, viruses, fungi, and protozoa.
 - o **Bacteria:** bacteria are tiny, one-celled creatures that get nutrients from their environment to live – sometimes their environment is our body. When some bad bacteria get into our bodies and use our bodies' environments for nutrients, we get an infection. Some examples of infections caused by bacteria include strep throat, ear infections, cavities, and pneumonia. Not all bacteria are bad however, some bacteria help our bodies to digest nutrients in our intestines and some bacteria can be used by scientists to create vaccines to protect us from bad bacteria.
 - o **Viruses:** viruses are organisms that need to be living inside cells in order to grow and reproduce. They live inside living things such as plants, animals, or people. When viruses get inside people, they can make people sick. Some diseases caused by viruses include chickenpox, measles, and the flu.
 - o **Fungi:** fungi are multi-celled plant-like organisms that get their nutrients from plants, animals, and people. They especially like living in damp, warm places and many fungi aren't dangerous. However sometimes they can cause illness such as athlete's foot.
 - o **Protozoa:** protozoa are one-celled organisms that like to live in moist environments and spread diseases through water. Infectious protozoa can lead to infections causing diarrhea, nausea, and belly pain.
- **Explain** in simple terms how germs harm our bodies: when infectious germs invade our bodies, they start to live off of our environment. They use nutrients and energy and can produce toxins that act like poisons to our bodies. The toxins produced by bad germs are often what cause symptoms of infection such as fevers, sniffles, rashes, coughing, vomiting, and diarrhea.
- **Explain** in simple terms how germs are spread: germs can be spread through a variety of ways including through the air through coughs or sneezes and through contact with the

environment (objects, animals, insects, food, water), people, or bodily fluids (blood, sweat, saliva, feces, etc.). Contact spread can be direct, such as when people shake hands or indirect, like when people touch something that already has germs on it such as a doorknob. We can protect ourselves from the spread of germs through proper hygiene including handwashing and teeth brushing and through vaccines.

- **Define** infectious vs. noninfectious diseases: When people are infected with a bad germ, they have an infectious disease. This means that it is a disease that can be spread to others. People can also have noninfectious diseases that can't be spread to other people such as diabetes, heart disease, and cancer.
- Define symptoms of illness: when bad germs make us sick we can have a variety of **symptoms**. These include fever, cough, sneezing, stomach ache, vomiting, nausea, diarrhea, headache, fatigue, and pain in certain parts of our body. When someone experiences these symptoms, they should stay home from school or work and rest that day to give their body time to heal and protect others from illness. If the symptoms don't get better within a day, it is a good idea to go to the doctor and see what is wrong.

Activities

- Heads Up! Germs: make flashcards with different categories of germs, methods for protecting ourselves from germs, and symptoms of illness. Have students choose a card and put it on their head without looking at it. Students will then walk around and ask each other a question about the term on their head with the goal of eventually guessing what it is.
- Germ Puff Ball: take embroidery floss and a fork and wrap the floss around the edges of the fork. Tie a small piece of floss around the middle in a knot and fluff out the puff ball by gently pulling at the threads. Glue on googly eyes. Practice blowing the germs from hands to simulate how germs can spread from one person to another.
- Glo germ activity: 1. apply glo germ lotion to children's hands 2. use blacklight to show children "germs" on their hands 3. have children wash hands 4. use blacklight on hands again to see if all the "germs" are gone

Resources

Glo germ kit, Heads Up! Flashcards, plush microbes, germ puff ball craft supplies

Spring Session Lesson (30 minutes)

Standards

Students will be able to:

1. Describe how foodborne and waterborne illnesses can spread at school or in the community
2. Describe how to keep food and water safe from harmful germs

Discussion Questions

What are foodborne and waterborne illnesses?

How can you prevent getting sick from food and water?

Lesson

- **Define** foodborne and waterborne illness: foodborne and waterborne illnesses are illnesses caused by food and water contaminated with bacteria, viruses, parasites, or toxins.
- **Explain** how foodborne and waterborne illnesses can spread at school or in the community: foodborne and waterborne illnesses can be extra dangerous because they can easily be spread to a large number of people. Think about a school where everyone drinks from the same water source and eats the same food for lunch – if one that water or food becomes contaminated with a harmful germ, it can spread to all of the people in the school who drank the water or ate that food. Therefore, it is very important to take action to prevent foodborne and waterborne illness.
- **Describe** how to keep food and water safe from harmful germs: There are many actions we can take to remove or prevent entry of harmful germs in food and water and prevent illness. These actions include drinking clean water that has been either boiled or filtered, washing fruits and vegetables, washing our hands before preparing and eating food, cooking meat well, eating with utensils, and storing food properly.

Activities

- **Story:** read “Let me tell you how dad got sick” graphic novel with children and discuss afterwards.
- **Sign Making:** have children make promotional signs to put in kitchens, around the school, etc. about preventing foodborne and waterborne illnesses.
- **Trivia:** split children into teams and test them on trivia about foodborne and waterborne illnesses.

Resources

Trivia cards, posters, art supplies, food safety activity book, “Let me tell you how dad got sick” graphic novel

Grades 6, 7, and 8

Fall Session Lesson (30 minutes)

Standards

1. Summarize the benefits of good hygiene practices for promoting health and maintaining positive social relationships
2. Summarize the ways that common infectious diseases are transmitted
3. Summarize health practices to prevent the spread of infectious diseases that are transmitted by food, water, air, indirect contact, and person-person contact
4. Explain ways to prevent the spread of germs that cause infectious diseases such as HIV by safe sex, not touching blood, and not touching used hypodermic or tattoo needles

Discussion Questions

What are some of the hygiene procedures that you do in the morning when you wake up?
Why do you do them?
What are some ways to prevent the spread of infectious disease?

Lesson

- **Define** personal hygiene: hygiene is a term for various practices that help preserve a person's well-being and health through acts of cleanliness. Personal hygiene practices include tooth brushing and flossing, washing hair, bathing regularly, and washing our hands. These practices keep us looking, smelling, and feeling good. Personal hygiene also includes protecting others from our germs by covering a cough and sneeze with either our elbows or a tissue and by keeping our living environments clean through activities like dusting, mopping, laundry, and doing dishes. This helps to prevent our germs from entering the environment and making other people sick.
- **Explain** practices to prevent the spread of infectious diseases:
 - o **Airborne**: cover sneezes and coughs with a tissue or your elbow.
 - o **Contact** (direct/person-person or indirect): regularly clean objects and surfaces. practice good personal hygiene. wash hands often. – after using the bathroom, before preparing or eating food, after working outside or doing dirty tasks, after blowing your nose/coughing/sneezing, after touching a pet, and after caring for a sick person. Wash and bandage all cuts. Do not pick at healing wounds or blemishes. Don't share dishes/glasses/eating utensils with others. Avoid direct contact with napkins, tissues or other similar objects used by others. Take precautions to prevent insect bites such as wearing insect repellent, wearing clothes to cover skin, using screens or mosquito nets when sleeping, drain any standing water to prevent mosquitos from breeding, and avoid going outside during peak insect hours. Stay at home when you are sick.
 - o **Bodily fluids** (blood, feces, secretions, etc.): practice safe sex by using condoms and through regular STI checks. Do not touch blood or other bodily fluids of another person

and immediately wash your hands after contact with your own bodily fluids or if you accidentally come in contact with someone else's. Never use used hypodermic or tattoo needles.

- **Food and water:** rinse all meat, poultry, fish, fruits, and vegetables under water before cooking or serving them. Wash hands with soap and water before and after handling raw meat. Separate raw foods and cooked foods and don't use the same utensils or cutting boards that were used to prepare the raw meat without washing between uses. Cook foods thoroughly using a meat thermometer. Defrost foods only in the refrigerator or microwave. Drink clean water by filtering or boiling before drinking.
- **Explain** the benefits of vaccinations: getting your vaccinations can prevent most serious infections. While vaccines may cause some common side effects such as a temporary sore arm or a low fever, they are overall safe and effective.

Activities

- Glo germ activity: 1. apply glo germ lotion to children's hands 2. use blacklight to show children "germs" on their hands 3. have children wash hands 4. use blacklight on hands again to see if all the "germs" are gone
- Epidemic! The handshake game: play this game with the children to exemplify the way that infectious disease can quickly spread
- Hygiene promotion signs: have children create signs for different spaces that encourage good hygiene practices

Resources

Glo germ kit, Epidemic! The handshake game supplies, art supplies, posters, books about germs and hygiene

Winter Session Lesson (30 minutes)

Standards

Students will be able to:

1. Explain the difference between infectious, noninfectious, acute and chronic diseases
2. Summarize the symptoms of someone who is sick or getting sick
3. Describe the importance of seeking help and treatment for common infectious diseases

Discussion Questions

What are symptoms people can have when they are sick?
What do you do and who do you go to for help when you are sick?

Lesson

- **Define** disease categories: diseases can be divided into 2 main categories based on whether or not they are infectious and how long they last
 - o **Infectious vs. noninfectious:** When people are infected with a bad germ, they have an infectious disease. This means that it is a disease that can be spread to others. People can also have noninfectious diseases that can't be spread to other people such as diabetes, heart disease, and cancer.
 - o **Acute vs. chronic:** people can be sick with either acute or chronic illnesses. Acute illnesses are those that come on rapidly and are characterized by distinct symptoms that require urgent or short-term treatment and get better once they are treated. Example of acute illnesses include the stomach flu, a broken bone, or pneumonia. A chronic illness is a slow and long developing syndrome that doesn't go away with treatment. Examples of chronic illness include asthma, diabetes, and epilepsy.
- **Explain** symptoms of illness: when bad germs make us sick we can have a variety of symptoms. These include fever, cough, sneezing, stomach ache, vomiting, nausea, diarrhea, headache, fatigue, and pain in certain parts of our body. When someone experiences these symptoms, they should stay home from school or work and rest that day to give their body time to heal and protect others from illness. If the symptoms don't get better within a day, it is a good idea to go to the doctor and see what is wrong.
- **Describe** the importance of seeking help and treatment for illness: it is important to ask for help and visit the doctor when you are sick. This helps to treat the illness early and prevent it from getting any worse.

Activities

- name those symptoms game: have children divide into groups. Read aloud a common infectious disease (ex: pneumonia, stomach flu, strep throat) and have each group write down the associated symptoms. The group with the most correct symptoms written down after one minute gets points.
- Disease posters: have children research an infectious disease of their choosing and create a poster educating others about the symptoms and treatments of the illness.
- Illness invention game: have children work in groups to design their own infectious disease. Have them think of the name, how it is spread, the symptoms, and treatments.

Resources

Books about illness, name those symptoms game disease cards, illness invention game worksheet, art supplies, posters

Spring Session Lesson (30 minutes)

Standards

Students will be able to:

1. Describe food and water safety strategies that can control germs that cause foodborne and waterborne illness

Discussion Questions

What are foodborne and waterborne illnesses?

How can foodborne and waterborne illnesses be prevented?

Lesson

- **Define** foodborne and waterborne illness: foodborne and waterborne illnesses are illnesses caused by food and water contaminated with bacteria, viruses, parasites, or toxins. Foodborne illness is contracted by consuming contaminated food. Waterborne illness can be contracted by ingestion, dermal contact, or inhalation of contaminated water. Some examples of foodborne illnesses include norovirus, salmonella, clostridium perfringens, and E. coli. Some examples of waterborne illnesses include shigellas, pseudomonas, legionella, cholera, and cryptosporidium parasite.
- **Explain** food and water safety strategies to prevent illness: rinse all meat, poultry, fish, fruits, and vegetables under water before cooking or serving them. Wash hands with soap and water before and after handling raw meat. Separate raw foods and cooked foods and don't use the same utensils or cutting boards that were used to prepare the raw meat without washing between uses. Cook foods thoroughly using a meat thermometer. Defrost foods only in the refrigerator or microwave. Drink clean water by filtering or boiling for 1 minute before drinking.

Activities

- Foodborne Illness Simulation: follow foodborne illness simulation activity guide to have children work in groups and role play to determine the transmission of a particular foodborne pathogen.
- "Safely separate" experiment: perform "safely separate" experiment with the class to exemplify the importance of being careful with raw meats.
- Food and water hygiene signs: have children make signs for around their schools, homes, and community that educate people about food and waterborne illnesses and how to prevent them.

Resources

Food hygiene books, "safely separate" experiment supplies, foodborne illness simulation supplies, posters, art supplies

Grades 9, 10, 11 and 12

Fall Session Lesson (1 hour)

Standards

Students will be able to:

1. Summarize important health screenings, immunizations, checkups, and examinations necessary to maintain good health
2. Justify why it is important to seek help and treatment for common infectious diseases

Discussion Questions

What are some things you do to maintain your health?

When are some important times to seek medical help?

Lesson

- **Describe** the components and importance of health maintenance: taking steps to maintain our health helps us to take care of our bodies and prevent illness, which therefore improves our quality of life.
 - o **Health screenings:** there are certain health screenings that we should receive at different points in our life for certain illnesses or conditions. Health screenings are done on all people and help identify health problems before symptoms develop so that proper treatment can be given right away. This helps to identify illnesses or conditions when they are easier to treat therefore reducing their negative effects. Some health screenings we receive include blood pressure screenings, vision and hearing tests, scoliosis checks, height and weight measurements, and dental checks. When we get older we receive more screenings such as those for different types of cancer, heart disease, and diabetes.
 - o **Immunizations:** throughout our lives we receive immunizations. Vaccines work by helping to develop immunity to illnesses by imitating a type of infection (but not actually causing illness) – the vaccine causes the immune system to produce specialized immune cells that will remember how to fight the disease in the future. Babies (0-18 months) receive a variety of vaccines including those that protect against Hepatitis B, varicella, and meningitis. As we get older, we get more vaccines occasionally which can be either boosters of the vaccines we got as babies (boosters help to keep your body's immune cells active against the disease when it has been a long time since you first received the vaccine) or they can be new vaccines such as those against Human Papilloma virus and meningitis B. One vaccine that we should get every year is the flu vaccine.
 - o **Checkups and Examinations:** regular checkups and physical examinations with medical professionals is very important because they help prevent illness and keep us healthy. At checkups and examinations, we receive important health screenings, our vaccines, and our growth and development are tracked. It is also a time when we can ask any important health questions that we may have. When we are babies we have more

frequent checkups and exams, but after age 2 years old we should have a checkup once a year.

- **Explain** the importance of seeking help and treatment for infectious disease: while infectious diseases are often acute illnesses, when not treated quickly and properly they can harm our bodies and lead to chronic diseases. Therefore, when we get sick, it is important to seek out medical help and treatment to prevent further illness.

Activities

- BrainPop Vaccine Movie: show students a short, animated video on how vaccines work
- Magnets: have students create magnets for families to provide information on maintaining health and wellness of children
- Research: have students research a specific health screening or vaccine and present what information they found

Resources

Computer and projector, BrainPop website, magnets, art supplies, vaccine/health screening research worksheet, health maintenance books

Spring Session Lesson (1 hour)

Standards

Students will be able to:

1. Summarize how common infectious diseases are transmitted by indirect contact and person-person contact
2. Explain the relationship between IV drug use and transmission of bloodborne diseases such as HIV and hepatitis
3. Summarize ways to prevent the spread of germs that cause infectious diseases such as HIV by safe sex, not touching blood, and not touching used hypodermic or tattoo needles
4. Analyze how common foodborne and waterborne diseases are transmitted

Discussion Questions

What are some ways that diseases can be spread?
How can you protect yourself from infectious disease?

Lesson

- **Explain** the ways that infectious disease can be spread:
 - **Airborne:** infectious disease can be spread through the air in droplets that are released when a person coughs or sneezes – these tiny droplets can travel up to 6 feet and can spread germs by landing on surfaces or in another person’s eyes, nose or mouth. In rare cases, remains of the small droplets can be suspended in the air for hours and then may be carried by air currents farther away and other people may breathe in these droplets.
 - **Contact** (direct/person-person or indirect): germs can be spread through contact either directly/person-person or indirectly through contact with the environment (objects, animals, insects, food, water). Direct contact occurs when people shake hands, hug, or kiss. Indirect contact occurs when people come in contact with something that already has germs on it and then introduce those germs into their own body such as by touching a doorknob and then touching their eyes, nose or mouth or by sharing dishes and utensils with other people.
 - **Bodily fluids:** a sub-type of contact spread is through contact with bodily fluids. Bodily fluids include urine, saliva, breastmilk, semen and vaginal secretions. People come in contact with bodily fluids primarily during sexual intercourse and through contaminated needles (such as for IV drug use or tattoos).
 - **Food and water:** another sub-type of contact spread is through consumption of food and water. germs can also be spread through food and water contaminated with bacteria, viruses, parasites, and toxins.

- **Explain** practices to prevent the spread of infectious diseases:
 - **Airborne**: cover sneezes and coughs with a tissue or your elbow.
 - **Contact** (direct/person-person or indirect): regularly clean objects and surfaces. practice good personal hygiene. wash hands often. – after using the bathroom, before preparing or eating food, after working outside or doing dirty tasks, after blowing your nose/coughing/sneezing, after touching a pet, and after caring for a sick person. Wash and bandage all cuts. Do not pick at healing wounds or blemishes. Don't share dishes/glasses/eating utensils with others. Avoid direct contact with napkins, tissues or other similar objects used by others. Take precautions to prevent insect bites such as wearing insect repellent, wearing clothes to cover skin, using screens or mosquito nets when sleeping, drain any standing water to prevent mosquitos from breeding, and avoid going outside during peak insect hours. Stay at home when you are ill.
 - **Bodily fluids** (blood, feces, secretions, etc.): practice safe sex by using condoms and through regular STI checks. Do not touch blood or other bodily fluids of another person and immediately wash your hands after contact with your own bodily fluids or if you accidentally come in contact with someone else's. Never use used hypodermic or tattoo needles.
 - **Food and water**: rinse all meat, poultry, fish, fruits, and vegetables under water before cooking or serving them. Wash hands with soap and water before and after handling raw meat. Separate raw foods and cooked foods and don't use the same utensils or cutting boards that were used to prepare the raw meat without washing between uses. Cook foods thoroughly using a meat thermometer. Defrost foods only in the refrigerator or microwave. Drink clean water by filtering or boiling before drinking.

Activities

- Infection prevention posters: have students create posters that explain how infectious diseases are spread and how to prevent them
- Germ inspector: divide students into teams. Each team will create a hypothesis as to what surface of the school (ex: doorknob, desk, drinking fountain, dry erase board, cafeteria table, etc.) is most contaminated with germs. Each team will get an agar plate and a cotton swab to test their hypothesis. After an overnight incubation, determine as a class what surface has the most germs. Together brainstorm ways to reduce germs in the most contaminated areas.
- Glo germ activity: 1. apply glo germ lotion to children's hands 2. use blacklight to show children "germs" on their hands 3. have children wash hands 4. use blacklight on hands again to see if all the "germs" are gone

Resources

Posters, art supplies, agar plates and cotton swabs, glo germ kit, infection/pathogen books

Resources

Centers for Disease Control and Prevention. *Health Education Curriculum Analysis Tool, 2012*, Atlanta: CDC; 2012