

<p>WA State Health Standards</p>	<p>Standard 1: Students will comprehend concepts related to health promotion and disease prevention to enhance health. Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors. Standard 3: Students will demonstrate the ability to access valid information and products and services to enhance health. Standard 7: Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.</p>	
<p>Learning Outcomes <i>Students will...</i></p>	<p>K grade</p>	<ul style="list-style-type: none"> • Recognize basic hygiene practices. H1.W2.Ka • Understand germs can cause diseases. H1.W3.Ka • Identify ways germs are transmitted. H1.W3.Kb • Describe symptoms that occur when a person is sick. H1.W3.Kc • Identify trusted adults and professionals who can help promote health. H3.W5.K
	<p>1st grade</p>	<ul style="list-style-type: none"> • Describe basic hygiene practices. H1.W2.1 • Understand which elements of hygiene are essential to good health. H1.W2.Kb • Describe ways to prevent the spread of germs. H1.W3.1a • Understand differences between communicable and non-communicable diseases. H1.W3.1b • Identify where to locate trusted adults who can help promote health. H3.W5.1
	<p>2nd grade</p>	<ul style="list-style-type: none"> • Describe benefits of hygiene practices. H1.W2.2 • Understand bacteria and viruses are types of germs. H1.W3.2a • Describe differences between communicable and non-communicable diseases. H1.W3.2b • Identify characteristics of valid health information and services. H3.W5.2
	<p>3rd grade</p>	<ul style="list-style-type: none"> • Demonstrate effective hygiene practices. H7.W2.3 • Identify ways pathogens enter the body. H1.W3.3a • Explain how common childhood illnesses are treated. H1.W3.3c • Investigate resources from home, school, and community that provide valid health information. H3.W5.3
	<p>4th grade</p>	<ul style="list-style-type: none"> • Describe personal hygiene needs associated with the onset of puberty. H1.W2.4 • List ways to prevent debilitating or life-threatening diseases. H1.W3.4a • Identify ways to keep the immune system strong. H1.W3.4b • Investigate validity of health and wellness information, products, and services. H3.W5.4
	<p>5th grade</p>	<ul style="list-style-type: none"> • Explain how family, peers, media, and culture influence decision-making related to hygiene practices. H1.W2.5 • Understand relationship between disease prevention and quality of life. H1.W3.5a

	<ul style="list-style-type: none"> • Describe how heredity can affect personal health. H1.W3.5b • Demonstrate how to access valid information, products, and services. H3.W5.5
<p>Lesson Overview</p>	<ul style="list-style-type: none"> • Create a concept map on different aspects of hand washing. • Promote the practice of healthy behaviors. • Differentiate between communicable and non-communicable diseases • Understand the role of vaccines in preventing disease. • Determine effective and ineffective handwashing techniques. • Compose a presentation on the functions of the immune system.
<p style="text-align: center;">Vocabulary</p> <ul style="list-style-type: none"> • Communicable Diseases - a disease that can spread from one living thing to another, such as the flu or HIV. • Germ – A microorganism that causes disease. • Hygiene - Regular practices for maintaining essential elements of health. Examples included brushing teeth, flossing, bathing, and washing hands. Cultural practices and social norms for hygiene can vary significantly between countries, regions, and communities. • Immune System - a host defense system comprising many biological structures and processes within an organism that protects against disease. • Non-Communicable Diseases - a disease that cannot be spread from one living thing, or from the environment, to another living thing. Heart disease is an example of a non-communicable disease. • Pathogen - An infectious agent (such as a virus or bacterium) that causes a disease. • Symptom – A sign or indication of something. • Transmission - The process of spreading something, such as a disease, from one living thing to another. • Valid - Accurate, legitimate, authoritative, and evidence-based information, products, and services. • Virus - A small infectious agent that enters a cell and takes over normal functioning. • 	<p style="text-align: center;">Guiding Questions</p> <ul style="list-style-type: none"> • Why is it important prevent disease prevention? • What are some ways that disease prevention can be prevented? • If you are sic, what should you do to prevent spreading your sickness to others? • What can you do to avoid getting sick when someone around you is sick? • What type of activities do you do at home or school where you should wash your hands thoroughly afterwards? • If you’re feeling worried about getting sick, who could you talk with at home and in school?

Lesson Ideas

Activity: Hand Washing Concept Map (Worksheet Attached)

- Provide instruction on various aspects of hand washing, including instruction on the spread of bacteria and possible use of hand sanitizers.
- **Students Instructions** - After learning about how to wash our hands and the importance of washing hands properly, you show what you have learned by completing a hand washing concept map.
- **Requirements** - Students receive a copy of the hand washing concept map to fill in responses to questions. Students show understanding of when, how, and what of washing hands as well as what precautions can be taken in a situation where appropriate hand washing facilities are not available.

Sample Response:

Hand washing is the single most important prevention step for reducing the spread of disease. Hands should always be washed upon exiting animal areas and before eating or drinking.

HOW

Wet hands with running water; place soap in palms; rub together to make a lather; scrub hands vigorously as you say the ABC song. Dry hands with a clean towel. Do not dry hands on clothing.

WHEN

After touching animals.
Before eating.
After using rest rooms.

WHY

It is the single most important prevention step for reducing the spread of disease.

WHAT

Use hot water if possible. If only cold water is available, use a soap that works effectively in cold water. If there is no sink, running water that has some pressure and volume will work if there is soap available. Hand sanitizers can work if no other hand washing station is available.

K-2

Activity: Stop the Spread of Disease (Individual Activity)

- **Materials:** Students will need paper labeled with behaviors, construction paper, pencils, markers or crayons, and a stapler.
- **Instruction:** Explain how personal health choices and behaviors play an important role in disease prevention.

In this activity, you will make a Stop the Spread of Disease book. On each page of your booklet is listed a general healthy behavior that works to stop the spread of disease. Draw a picture of that healthy behavior and print information that explains your drawing so that students your age can understand your explanation. When your booklet is finished, make a cover and write a title on it.

Students will make booklets to promote healthy behaviors. They should include the following:

- Hand washing
- Proper coughing technique
- What to do if you begin coughing, have a headache, or start to sneeze.
- When to tell parents, teachers, or school nurses about how you feel.
- Other behaviors you think are important to stop the spread of disease.

K-2

Students booklet should include the following:

1. A book cover with a title.
2. A page for each healthy behavior. List the behavior, draw a picture of the behavior, and tell about your behavior.

Each page of the booklet should list one healthy behavior, illustrate the behavior, and include information about the behavior. Students assemble their work into a booklet with cover pages of two sheets of construction paper. They design a cover and give their booklet a title. If time permits, the students could read their booklets to other students. Teachers may want to include pages on how diseases spread.

- **Sample Response:**

Cover and Title

**The Stop the Spread Train*

Drawing of a train with five cars, each one representing one health behavior. The behavior is listed on the side of each car.

Healthy Habit One: Washing hands before eating will prevent the children from getting germs in their mouth or on their food from dirty hands.

Healthy Habit Two: **When you cough, do it right. Cough into your clothes on your arm.*

Healthy Habit Three: **Tell you teacher, nurse, or parent. If you have a fever or you're sneezing or coughing, tell someone who can help.*

Healthy Habit Four: **Use a hand sanitizer. When there is no place for hand washing use a hand sanitizer.*

K-5	<p>Activity: Communicable and Non-Communicable Diseases (Group Discussion)</p> <ul style="list-style-type: none">• Materials Spray bottle• Introduction: Say, "Let's brainstorm: What is disease?" Record student's ideas. In brainstorming, students will come up with many ideas about disease. Some concepts that you want to discover are that:<ul style="list-style-type: none">○ Disease is caused by bacteria, virus, fungi, protozoa.○ Students may have already learned about single celled organisms. You may wish to ask them to reflect on some of their science lessons.○ Additional background information should have been acquired before fifth grade through personal experience - i.e. illness such as a cold or chicken pox, food poisoning, fungus on bad food items. <p>Disease is defined as "an illness or condition that prevents the body from functioning normally.</p> <ul style="list-style-type: none">• Directions: Ask students to raise their hand if they have ever had a cold (choose talking points afterwards)• Talking Points:<ul style="list-style-type: none">○ "Most colds are caused by viruses. Viruses are germs that cause disease. Viruses are very tiny and cannot be seen without a microscope. There are hundreds of types of viruses. There are actually over 200 types of viruses that can cause the common cold! Other viruses cause the flu, mumps, chicken pox and even polio. Many viruses that cause disease can live in the air or on the surfaces of things around us. You can catch the flu or a cold just by being around someone who has the disease. You can also catch the disease by touching silverware, a glass, or even a tissue that an infected person has used.○ Most diseases caused by viruses last only a few days or weeks. The body fights off the disease and destroys it. There are not medicines available to cure all viruses. Most medicines can only help with the symptoms. Vaccines however, can prevent some diseases. Years ago polio was a deadly disease caused by a virus. Scientists invented a vaccine to protect against many viruses. You were probably vaccinated for polio, and other diseases like chicken pox, measles and mumps before you started school. This is one of the reasons we don't often hear about epidemics in our country anymore.• Directions: Ask students: "How does a virus spread?"• Talking Points:
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- A virus can spread many ways...they can travel through the air, in contaminated food or water, or infected body fluids like blood. Let's look at several ways a virus might travel through our classroom."

- **Visual Demonstration:**

- Fill a spray bottle with water.
- Say, "The liquid in the bottle represents the cold or flu viruses." Turn the nozzle so it faces the chalkboard, a counter top or a window. Squeeze the trigger on the bottle and spray some of the water.
- Say, "Did you see the water coming out of the bottle? Cold and flu viruses spray into the air in a similar way when a person with a cold or flu sneezes or coughs. If someone nearby breathes in the viruses, that person may catch a cold or flu.
- Say, "Look at the wet marks (wherever you sprayed)." "The moisture represents the viruses that land on nearby surfaces. Even after the moisture has dried some viruses may remain. If a healthy person touches a surface that has the viruses, and then touches his or her eyes, nose, or mouth, the viruses can enter the healthy person's body and make them sick. This is an example of one way that a virus can be transmitted."

- **Check for Understanding:**

"How can a person with a cold or the flu avoid spreading viruses?"

- Have students discuss prevention and hygiene techniques such as washing hands well and often, sneezing/coughing into their sleeves, discarding of tissues, etc.

"How can a healthy person keep from getting cold or flu viruses?"

- Have students discuss the importance of getting enough sleep, eating in a healthy way, getting enough exercise, not touching used tissues, etc.

3-5

Activity: You are the Teacher (individual activity)

- **Materials:** Students will need paper labeled with behaviors, construction paper, pencils, markers or crayons, and a stapler. Pictures or real examples of such things as tissue paper, soap, disinfecting wipes, alcohol-based hand cleaners will help bring realism to the poster.
- **Instruction:** Explain how personal prevention choices and behaviors play an important role in disease prevention.

In this activity, students will choose one of the following safe behaviors and create a poster and what you would say to someone else about why this behavior is important. Draw a picture of that healthy behavior, include any prevention materials to be used, and print information that explains your drawing so that students your age can understand your explanation. When your poster is finished you are going to share it with the rest of the class.

Choose one of the following:

1. Communicable disease is spread by coughing or sneezing.
2. Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it.
3. Wash your hands with soap and water, especially after you cough or sneeze.
4. Alcohol-based hand cleaners called sanitizers are also effective.
5. Clean your desk with disinfecting wipes often.
6. Avoid touching your eyes, nose, or mouth.
7. If you think you are becoming sick or you are speaking to someone who sneezes or coughs, keep a social distance away from that person.
8. Stay home if you get sick.

Sample Response:

I keep my world clean of viruses because I use Disinfecting Wipes.

Poster of a student cleaning their desk with wipes.

I would use this product because it cleans almost all germs and kills the flu virus.

3-5

Activity: How Vaccines Work

Students will need to have previous instruction on how germs can make us sick, how the immune system works, and how vaccines prevent certain diseases.

Materials: Markers or crayons, a pen, or a pencil.

Instruction: Prior to the lesson develop a lock and key model of the class activity by using a real germ and sickness like chicken pox. You may wish to invite the school nurse or another health care professional to provide further discussions on prevention and control of disease.

Sample Response:

Germs Make Us Sick

1. Draw and label your germ.
 - Flu Germ
2. How is the germ transmitted or spread?
 - Coughing and sneezing
3. Draw symptoms of the infection
 - Fever
 - Sore throat
 - Cough
4. Explain how the disease can be prevented by the use of a vaccine.
 - A flu shot with vaccine can block most flu germs from making someone sick.
5. Draw a picture of an antigen (germ) and the antibody (fighter cell) using the lock and key concept.
6. Describe and share your example with the class.

3-5	<p>Activity: Handwashing Experiment (Individual and Group)</p> <ul style="list-style-type: none">• Materials: Cooking oil, cinnamon / nutmeg, soap, sink with cold and warm water, towels – preferably at location where there are a few sinks together, stopwatch (with seconds), handwashing experiment handout (1 per student).• Prep Locate sink area to be used for experiment.• Instruction:<ol style="list-style-type: none">1. Students will need to work in pairs so that if their partner is volunteering, they can make observations for both of them.2. Distribute handout.3. Read the top of the handout together. For every blank box in the table, you will need one person with “dirty” hands to wash their hands for that specific amount of time using that particular method. How many volunteers you have at a time will depend on how many sinks are available and/or the space available around each sink.• Procedures:<ol style="list-style-type: none">1. The first group of volunteers “dirties” their hands by covering them with oil and then rubbing in cinnamon / nutmeg. Decide who will wash for how long and with what method.2. Volunteers get ready to wash by wetting their hands (and squeezing soap onto them, if applicable), but NO scrubbing. If you only have 1 sink, you will obviously only be able to do cold or hot water people at the same time.3. The stopwatch operator indicates when to start and volunteers begin rubbing / scrubbing hands. Stopwatch operator should indicate the 5 second intervals, at which point that hand-washer should stop washing, rinse off, and wait until the last person is done.4. The class observes and notes the cleanliness factor of each volunteer’s hands using the handout provided.5. Volunteers may dry off and make their own observations or use their partner’s answers.6. Repeat process until all methods and lengths of time have been demonstrated.
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3-5	<p>Activity: The Immune System in Action Students will compose a presentation on the functions of the immune system.</p> <p>• Materials: For teacher and student reference:</p> <ol style="list-style-type: none">1. National Cancer Institutes <i>Understanding the Immune System</i> www.newscenter.cancer.gov/sciencebehind/immune/immune00.htm2. National Institute of Allergy and Infectious Diseases: The Immune System www.niaid.nih.gov/final/immun/immun.htm3. Medline Plus Medical Encyclopedia: Immune Response www.nlm.nih.gov/medlineplus/ency/article/000821.htm4. What's available in the school library? Ask your librarian! <p>• Prep: Determine length of time allowed for completion and set aside class time to view presentations.</p> <p>• Instruction:</p> <ol style="list-style-type: none">1. Students will research the functions of the immune system and compose a presentation actively illustrating an immune response.2. Encourage students to use correct terminology. Introduce key vocabulary that pertains to lesson and project.3. Students should be creative with the setting of their presentation. For example, they could use diagrams / photos that portray the immune system components as they actually are.4. Encourage creativity. Possible presentation mediums include: Claymation, cartoon / animation, Powerpoint, video with actors, or games
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Resources

- Handwashing: Clean hands saves lives:
<https://www.cdc.gov/handwashing/index.html>
- Good health habits fact sheet: <http://www.cdc.gov/flu/protect/habits.htm>
- Handwashing vs. sanitizers: http://www.cdc.gov/ncidod/EID/vol12no01/05-1371_app2.htm
- Info for children:
http://www.cdc.gov/germstopper/home_work_school.htm
- Posters that give good info:
http://www.cdc.gov/germstopper/materials/HealthyHabits_HR.pdf
- Swine flu and you - includes hand washing technique and how to use alcohol-based gels: http://www.cdc.gov/h1n1flu/swineflu_you.htm
- Misconceptions about the flu vaccines and "stomach flu":
<http://www.cdc.gov/flu/about/qa/misconceptions.htm>
- Types of influenza viruses. Includes how the flu virus can change and how it can be transmitted from animals to people:
<http://www.cdc.gov/flu/about/viruses/index.htm>
- University of Illinois flyer on hand washing and sanitizers with warning for adults to keep out of reach of small children:
<http://wellnessways.aces.illinois.edu/pdf/Hand%20Washing-How%20To%20Handout.pdf>
- World Health Organization (WHO) update on disease outbreaks:
<http://www.who.int/csr/outbreaknetwork/en/>
- National Cancer Institutes *Understanding the Immune System*
www.newscenter.cancer.gov/sciencebehind/immune/immune00.htm
- National Institute of Allergy and Infectious Diseases: The Immune System
www.niaid.nih.gov/final/immun/immun.htm
- Medline Plus Medical Encyclopedia: Immune Response
www.nlm.nih.gov/medlineplus/ency/article/000821.htm

Check for Understanding

Hand Washing Concept Map (K-2)

- How well can students complete the concept map with correct information?
- How well will students understand why they should wash their hands?
- How well can students understand when to wash their hands?
- How well can students understand how to properly wash their hands?
- How well can students understand what can be done when they are unable to wash their hands properly?

Stop the Spread of Disease (K-2)

- How well will students understand health information on healthy hygiene?
- How well can students demonstrate an understanding of individual responsibility as it applies to healthy behaviors?

Communicable and Non-Communicable Diseases (K-5)

- How well can determine differences and similarities of communicable and non-communicable diseases?

You are the Teacher (3-5)

- How well do students understand health information on healthy hygiene and prevention of the spread of disease?
- How well can students demonstrate an understanding of healthy behaviors as it applies to the prevention of the spread of disease?

How Vaccines Work (3-5)

- How well do students show an understanding of the health information about how vaccines work?
- How well can students explain the benefits about the following:
 1. Being responsible for your own health.

2. Avoiding a threatening situation.

Handwashing Experiment (3-5)

- How well can students observe their data and reach conclusions about which methods / lengths of time for handwashing are the most effective? Have them share their conclusions with the class.
- How well can students compare their findings with established health standards for handwashing and discuss differences or similarities?

The Immune System in Action (3-5)

- How well can students demonstrate their understanding of the immune system?