



Essential Standard

6.PCH.1 Understand wellness, disease prevention, and recognition of symptoms.

Clarifying Standard

- 6.PCH.1.2 Differentiate between communicable and chronic diseases
- 6.PCH.1.3 Recall symptoms associated with common communicable and chronic diseases
- 6.PCH.1.4 Select methods of prevention based on the modes of transmission of communicable diseases.

Review

- *Communicable diseases are those that are infectious and transmitted by another person or an animal, like a mosquito or tick.*
- *Chronic diseases are usually caused by one's lifestyle, like diet and nutrition, and worsen over time.*

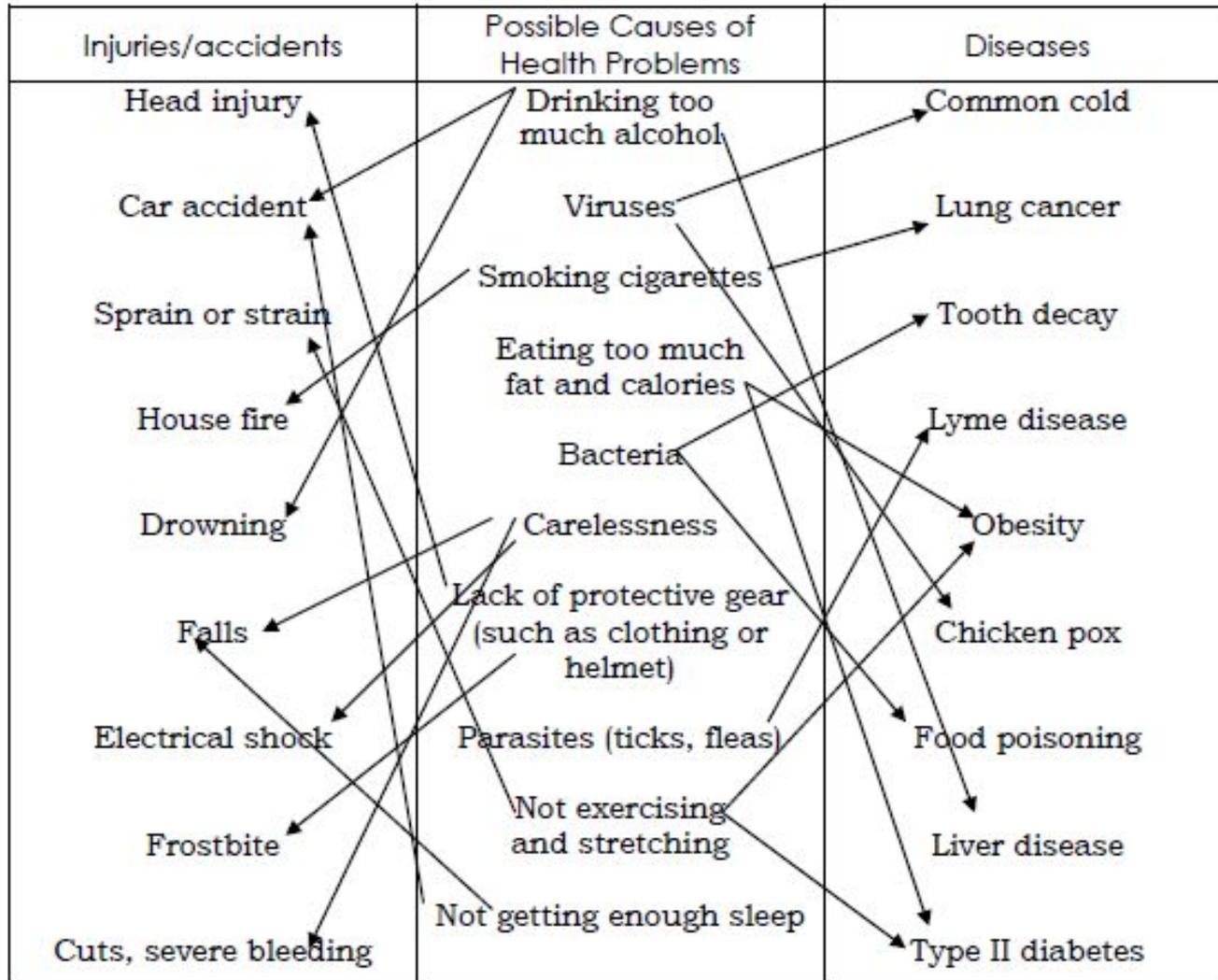
Cause and Effect: Health Problems

In the middle column on this page, there are possible causes of health problems. In the left-hand column, there is a list of diseases. On the right, there is a list of injuries. Draw arrows to the health problems which can be caused by the items in the middle column.

Injuries/accidents	Possible Causes of Health Problems	Diseases
Head injury	Drinking too much alcohol	Common cold
Car accident	Viruses	Lung cancer
Sprain or strain	Smoking cigarettes	Tooth decay
House fire	Eating too much fat and calories	Lyme disease
Drowning	Bacteria	Obesity
Falls	Carelessness	Chicken pox
Electrical shock	Lack of protective gear (such as clothing or helmet)	Food poisoning
Frostbite	Parasites (ticks, fleas)	Liver disease
Cuts, severe bleeding	Not exercising and stretching	Type II diabetes
	Not getting enough sleep	

Teacher's Key for Cause and Effect: Health Problems

In the middle column on this page, there are possible causes of health problems. In the left-hand column, there is a list of diseases. On the right, there is a list of injuries. Draw arrows to the health problems which can be caused by the items in the middle column.



Chronic or Communicable?

Watch the clip and decide, chronic or communicable.

- Which one?
- Which one?

Focus:

- *In our lesson today, we will learn about communicable diseases and how they are different from chronic diseases.*
- *From this handout, you can see communicable diseases were the leading causes of death in the past.*
- *Just a few years ago, doctors believed we could eliminate infectious or communicable diseases as significant health problems.*
- *One success story was smallpox, which is thought to be completely eliminated.*
- *Currently the diseases called chronic (or lifestyle) are the leading killers.*
- *But there is a new challenge for scientists, doctors and the public at large: what we call “emerging infections.”*

Then? Now? The Future?

The chart below shows the leading causes of death in the past (100 years ago), today, and what might occur in the future.

THEN (100 years ago)	NOW	FUTURE
Small pox	Heart disease	Chronic diseases will continue to be the leading causes of death for the near future.
Tuberculosis	Cancer	
Influenza	Stroke	The “big unknown” for scientists will be the effect of “emerging infections” such as bird flu, SARS, West Nile virus, MRSA, ebola, and mad cow disease.
Whooping cough	Respiratory diseases	
Typhoid	Accidents	
Diphtheria	Diabetes	
Tetanus	Alzheimer's	
	Influenza/ pneumonia	
	Nephritis and other kidney ailments	
	Septicemia (blood poisoning)	

Disease Definitions

- **Communicable disease:**
 - A disease that is spread from one living organism to another or through the environment, often through “contaminated” (unclean or polluted) water.
 - Other terms for these diseases are “contagious” (They can be caught from others.) and “infectious” as they are caused by pathogens that multiply in the body and damage cells.
- **Chronic disease:**
 - An illness which is ongoing.
 - These diseases are also referred to as “degenerative” (loss of function in the organs or tissues) (because they break down organs).
 - They may be “progressive”, meaning the person will continue to get worse unless there is medical care.
 - Today, these conditions often result from “lifestyle”: one’s behavioral choices, like food, physical activity and safety practices.

Communicable Diseases

- Are spread through...
 - Direct Contact
 - Indirect Contact
 - Airborne Transmission

How Diseases Spread, How to Prevent

Note-taking Guide

Direct Contact

Examples of Spread of Illness	How to Prevent

Indirect Contact

Examples of Spread of Illness	How to Prevent
1. Contaminated objects	
2. Another organism	
3. Contaminated food	
4. Contaminated water	

Airborne Transmission

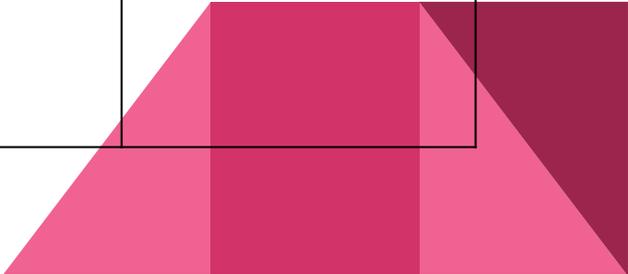
Examples of Spread of Illness	How to Prevent



How Diseases Spread, How to Prevent

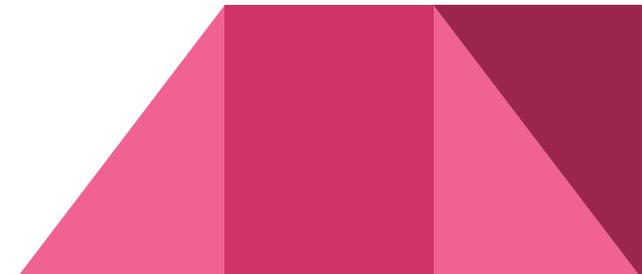
Direct Contact

<i>Examples of Spread of Illness</i>	<i>How to Prevent</i>	<i>Is it communicable?</i>
Stepping on a nail and getting tetanus	Receive tetanus shots and keep cuts clean	NO
An unborn child getting infected from mother during pregnancy	Extra precautions taken by women who are pregnant	
An animal bite or scratch	Avoid animals unknown to you; seek medical care for animal bite	NO



Indirect Contact

<i>Examples of Spread of Illness</i>	<i>How to Prevent</i>	<i>Is it Communicable</i>
<p>Contaminated objects</p> <ul style="list-style-type: none">● Sharing school materials with another child● touching doorknobs or desktops touched by someone who is ill.	<ul style="list-style-type: none">● Avoid touching your face or rubbing your eyes.● Stay home when sick.● Avoid others who are sick.● Get sufficient rest and sleep.● Wash hands often (especially before eating food and after using restroom)	YES



Indirect Contact

<i>Examples of Spread of Illness</i>	<i>How to Prevent</i>	<i>Is it Communicable</i>
<p>Other organism (vectors)</p> <ul style="list-style-type: none"> ● Being bitten by mosquitoes, ticks, fleas, or flies. ● Diseases include <ul style="list-style-type: none"> ○ malaria, ○ hantavirus <ul style="list-style-type: none"> ■ (a pathogen spread through the feces and urine of rodents) ■ is a lung disease that causes respiratory distress ○ Lyme disease, ○ Rocky Mountain spotted fever. 	<ul style="list-style-type: none"> ● Check body and clothing for parasites such as ticks when coming in from outside. ● Report the bite of any insect to an adult. ● Wear insect repellent 	<ul style="list-style-type: none"> ● Diseases include <ul style="list-style-type: none"> ○ malaria, <ul style="list-style-type: none"> ■ No person to person but can get from a mosquito that bit an infected person ○ hantavirus, <ul style="list-style-type: none"> ■ There is no evidence of person-to-person transmission in the United States ○ Lyme disease <ul style="list-style-type: none"> ■ No ○ Rocky Mountain spotted fever. <ul style="list-style-type: none"> ■ No

Indirect Contact

<i>Examples of Spread of Illness</i>	<i>How to Prevent</i>	<i>Is it Communicable</i>
<p>Contaminated food</p> <ul style="list-style-type: none">● Happens when food is improperly handled or stored or not cooked well enough.● Diseases include<ul style="list-style-type: none">○ salmonella,○ botulism,○ Ecoli.	<ul style="list-style-type: none">● Wash hands before eating or preparing food.● Keep cold food cold and hot food hot.● Do not eat perishable foods not been refrigerated for two hours. W● Wash foods before eating	<ul style="list-style-type: none">● salmonella - yes<ul style="list-style-type: none">○ Those infected can also be a source by transmitting the bacteria from person to person or person to object through unwashed hands● botulism<ul style="list-style-type: none">○ no● Ecoli<ul style="list-style-type: none">○ <i>E. coli</i> doesn't typically spread between people through coughing, kissing, or other normal, everyday interactions between friends and family○ However, you can pass the bacteria to another person if you fail to take proper hygiene measures

Indirect Contact

<i>Examples of Spread of Illness</i>	<i>How to Prevent</i>	<i>Is it Communicable</i>
<p>Contaminated water</p> <ul style="list-style-type: none">● Drinking water from unclean sources or eating food prepared in unclean water.<ul style="list-style-type: none">○ Hepatitis A is an example	<ul style="list-style-type: none">● Be certain water source is not contaminated.● Do not drink from creeks, rivers or lakes	<p>Hepatitis A</p> <ul style="list-style-type: none">● Yes

Airborne Transmission

<i>Examples of Spread of Illness</i>	<i>How to Prevent</i>	<i>Is it Communicable</i>
<p>Pathogens for flu and tuberculosis are spread when an infected person coughs or sneezes; can travel 10'</p>	<ul style="list-style-type: none">● Stay away from sick people.● Have a flu shot yearly.● Stay home when you are sick.● Cough or sneeze into your arm.	<p>Yes</p>

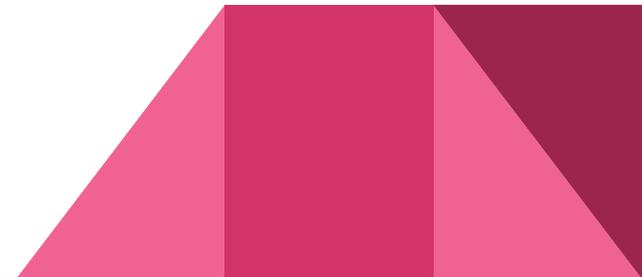
Common Communicable (Infectious) Diseases

Viruses	Bacteria	Fungi	Protozoa	Rickettsias
Cold	Foodborne illnesses (example, salmonella)	Athlete's foot	Malaria	Typhus
Influenza	Strep throat	Ringworm	Sleeping sickness	Rocky Mountain spotted fever
Polio	Tuberculosis		Trichomoniasis	
Mononucleosis	Lyme disease			
Hepatitis	Pinkeye			
Smallpox	Meningitis			
Rabies	Pneumonia			
Measles	Gonorrhea			
HIV/AIDS				
Herpes				



How can you reduce the transmission of Communicable Disease?

1. Wash your hands often. ...
2. Get vaccinated. ...
3. Use antibiotics sensibly. ...
4. Stay at home if you have signs and symptoms of an infection. ...
5. Be smart about food preparation. ...
6. Disinfect the 'hot zones' in your residence. ...
7. Don't share personal items.



We learned in our focus step that chronic diseases are the leading cause of death in our country. They are not spread from person to person; they develop because of risk factors such as heredity or lifestyle or a combination of both. The top three causes of death are chronic diseases – or are caused by chronic disease – heart disease, cancer,

stroke – and three others are among the ten leading causes of death (diabetes, Alzheimer's, and kidney ailments). There are other chronic illnesses which compromise the quality of life such as asthma, arthritis, and osteoporosis.

Chronic Diseases: How to Prevent

Chronic Illness	Risk Factors	How to Prevent
Cardiovascular Disease (diseases of the heart and circulatory system, can cause heart attack or stroke)	Heredity, being male, smoking, diet high in fat and cholesterol, high blood pressure, lack of physical activity, overweight/obesity.	
Cancer (the uncontrolled growth of abnormal cells)	Heredity, exposure to radiation (sun, tanning beds), obesity, lack of physical activity, high-fat diet, tobacco use or exposure to secondhand smoke, certain infectious illnesses	
Diabetes Type II (the inability of the body to metabolize sugar because of lack of insulin)	Family history, obesity, diet high in fat and calories, physical inactivity	
Alzheimer's (degeneration or break down of the brain)	Cause is not known, risk factors include age and family history	
Asthma (inflammation of airways in lungs causing breathing difficulty)	Exposure to secondhand tobacco smoke increases likelihood of asthma; exposure to "triggers" in the air increase chance of an attack	
Arthritis (diseases causing pain and loss of movement in the joints)	Cause unknown, heredity may influence, exposure to viruses, bacteria, and fungi is suspected	

Teacher's Guide - Chronic Diseases: How to Prevent

Chronic Illness	Risk Factors	How to Prevent
Cardiovascular Disease (diseases of the heart and circulatory system, can cause heart attack or stroke)	Heredity, being male, smoking, diet high in fat and cholesterol, high blood pressure, lack of physical activity, overweight/obesity.	<ul style="list-style-type: none"> • Avoid all tobacco products • Eat a diet low in fat, calories, and cholesterol • Know your family history • Engage in regular, vigorous physical activity • Maintain healthy weight
Cancer (the uncontrolled growth of abnormal cells)	Heredity, exposure to radiation (sun, tanning beds), obesity, lack of physical activity, high-fat diet, tobacco use or exposure to secondhand smoke, certain infectious illnesses	<ul style="list-style-type: none"> • Avoid all tobacco products • Eat a diet low in fat, calories, and cholesterol • Know your family history • Engage in regular, vigorous physical activity • Maintain healthy weight • Avoid exposure to sun • Vaccinations for HPV
Diabetes Type II (the inability of the body to metabolize sugar because of lack of insulin)	Family history, obesity, diet high in fat and calories, physical inactivity	<ul style="list-style-type: none"> • Eat a diet low in fat, calories, and cholesterol • Know your family history • Engage in regular, vigorous physical activity • Maintain healthy weight
Alzheimer's (degeneration or break down of the brain)	Cause is not known, risk factors include age and family history	<ul style="list-style-type: none"> • Know your family history • Continue to be physically, socially, and mentally active into old age
Asthma (inflammation of airways in lungs causing breathing difficulty)	Exposure to secondhand tobacco smoke increases likelihood of asthma; exposure to "triggers" in the air increase chance of an attack	<ul style="list-style-type: none"> • Avoid exposure to secondhand smoke • Avoid "triggers" in environment (mold, pollen) • Avoid stress • Wash bedding frequently
Arthritis (diseases causing pain and loss of movement in the joints)	Cause unknown, heredity may influence, exposure to viruses, bacteria, and fungi is suspected	<ul style="list-style-type: none"> • Maintain healthy weight • Stay physically active • Prevent sports injuries • Protect against Lyme disease

Independent Practice:

- Students will individually create a poster about either communicable or chronic diseases (randomly assign).
Poster must include:
 - common diseases for the category
 - sources or risk factors for diseases
 - prevention efforts for communicable or chronic diseases
 - “fun” fact or something interesting that the student learned
- Grammar and use of class time will also be taken into consideration for scoring.

Making A Poster: Chronic or Communicable Disease

Student Name: _____



Common Diseases

Causes or Risk Factors

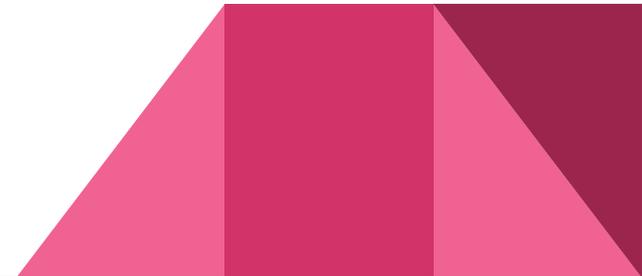
Prevention



CATEGORY	3	2	1	Comments
Content - Accuracy	All facts displayed on the poster are accurate.	1 fact displayed on the poster is inaccurate.	More than 1 fact displayed on the poster is inaccurate.	
Required Elements	All required elements are included on the poster.	All but one of the required elements are included on the poster.	Several required elements were missing.	
Grammar	There are no grammatical mistakes on the poster.	There is 1 grammatical mistake on the poster.	There are 2 grammatical mistakes on the poster.	
Use of Class Time	Used time well during each class period. Focused on getting the project done. Never distracted others.	Used time well during each class period. Usually focused on getting the project done and never distracted others.	Used some of the time well during each class period. There was some focus on getting the project done but occasionally distracted others.	

Alternate Assignment

- Students will work together in groups to create a product about a chronic diseases (randomly assign). Poster must include:
 - Discuss as a group why you think that disease is affecting the US?
 - why is it a problem
 - who does it affect
 - As a group, create a plan for stopping/preventing the disease
 - What can people do to keep from getting the disease?
 - What are the risk factors for the disease and how can you prevent it.
 - Be creative.
 - Each person will think of an idea and then as a group vote on the best idea and expand on the idea
 - “fun” fact or something interesting that the student learned
- Grammar/spelling and use of class time will also be taken into consideration for scoring.



Post - Test 6.PCH.1.1 & 6.PCH.1.2 & 6.PCH.1.3 & 6.PCH.1.4

1. What is the difference between communicable and chronic diseases?
2. What is morbidity?
3. What is mortality?
4. Why has the mortality rate increased over the past few decades?
5. Why have diseases increased over the past few decades?
6. What diseases have increased over the past few decades?
7. How are communicable diseases transmitted?
8. What are four methods of reducing the transmission

Closure:

- *Today we have covered two categories of diseases, communicable and chronic. You know the difference between the two and have learned how these diseases are caused. Most importantly, you know there is a great deal you can do to prevent these diseases from happening to you.*