

# Open Ended Question

- 1. Define disease in your own words**
- 2. List 2 examples of disease prevention**

# Disease Prevention

7<sup>th</sup> Grade Health

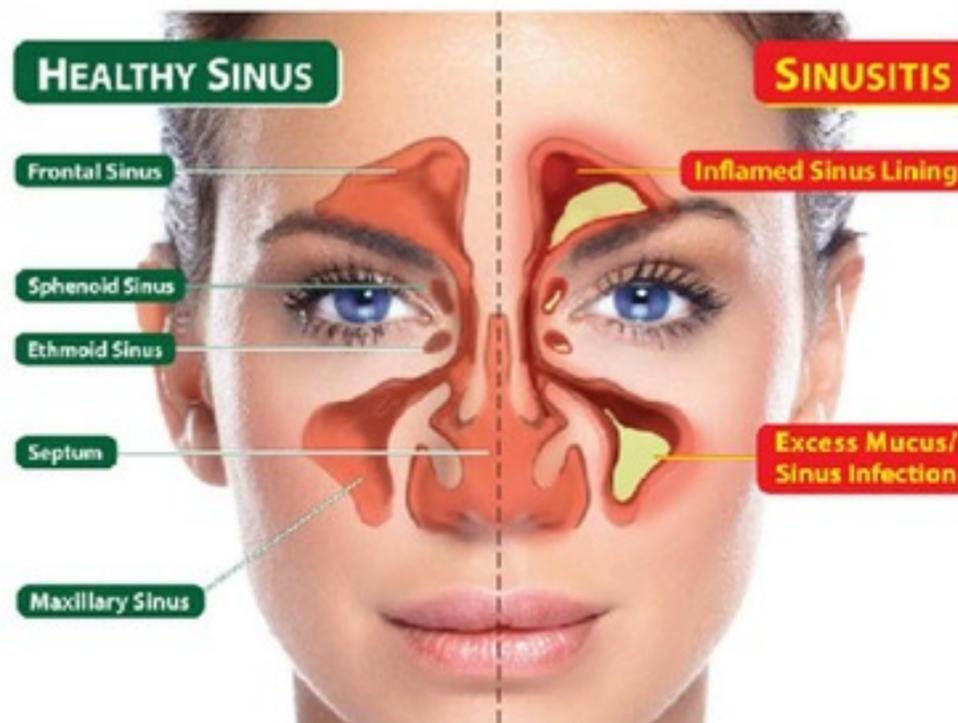
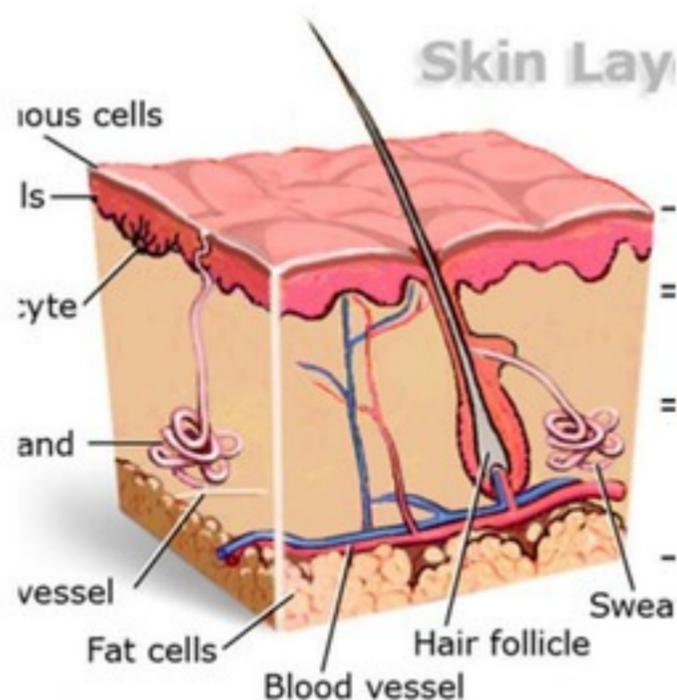
# Immune System

- As we already know our body is exposed to countless germs per day. To protect itself against these germs, the body has natural barriers that keep the germs out or destroy them before they can do any damage.



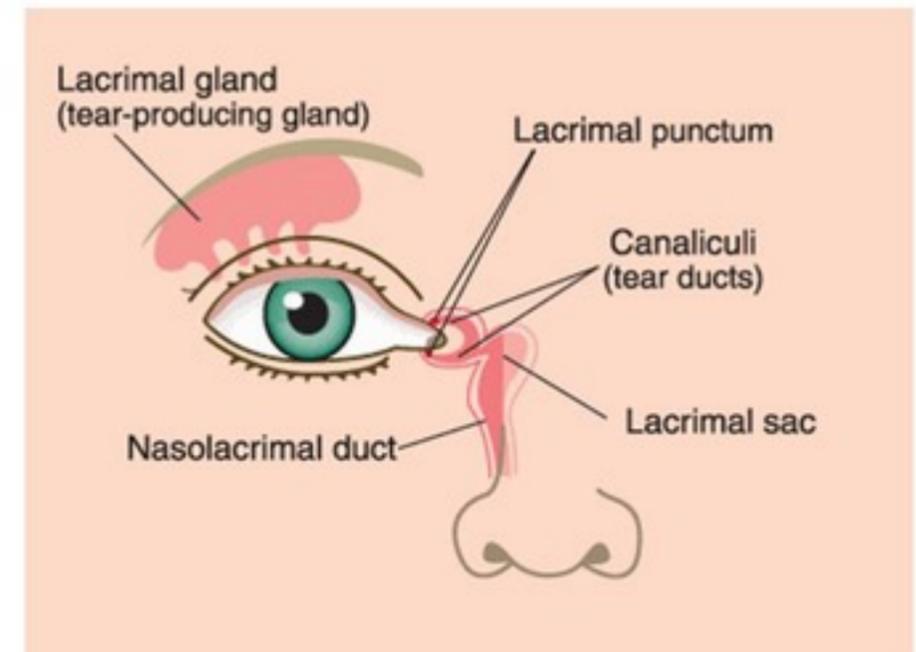
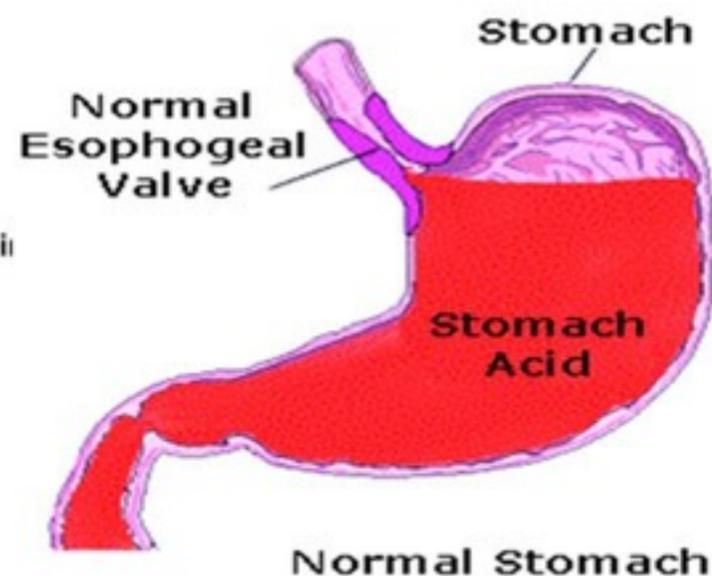
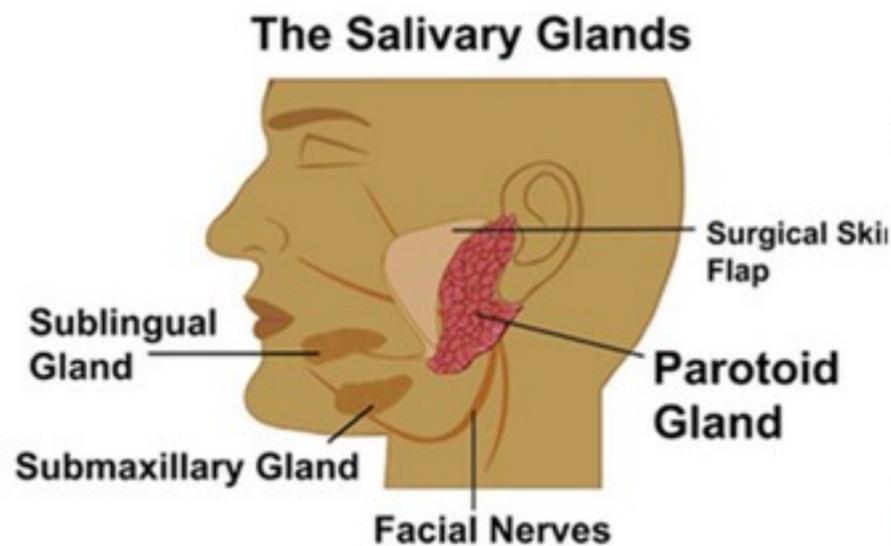
# 5 Major Barriers/1<sup>st</sup> Lines of Defense:

- *1. Skin*- The skin covering your body acts as a protective barrier. Very few pathogens can penetrate the skin.
- *2. Mucous Membranes*- these tissues line your mouth, nose, throat, eyes and other body parts. They trap germs. Ex: Coughing and sneezing get rid of the germs trapped by these membranes



# Barriers Cont.

- 3. *Saliva*- destroys many harmful organisms
- 4. *Tears*- wash away germs. They also contain chemicals that kill harmful material
- 5. *Stomach Acid*- the acid in you stomach kills many germs.

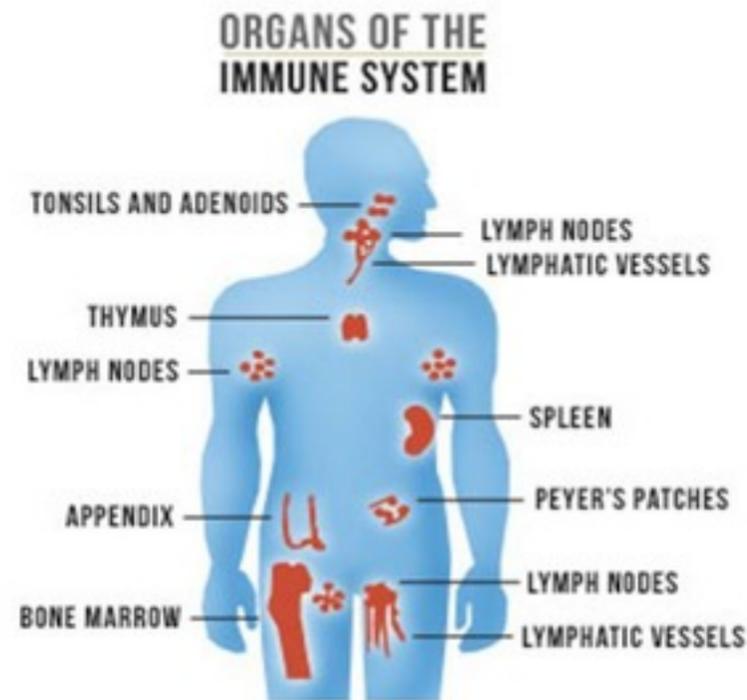


# Quiz

## The five major barriers include

- Skin, saliva, tears, stomach acid, eye lids
- Skin Saliva, tears, Stomach acid, mucous membranes
- Skin, mucous membranes, stomach acid, saliva, chyme

# Immune System



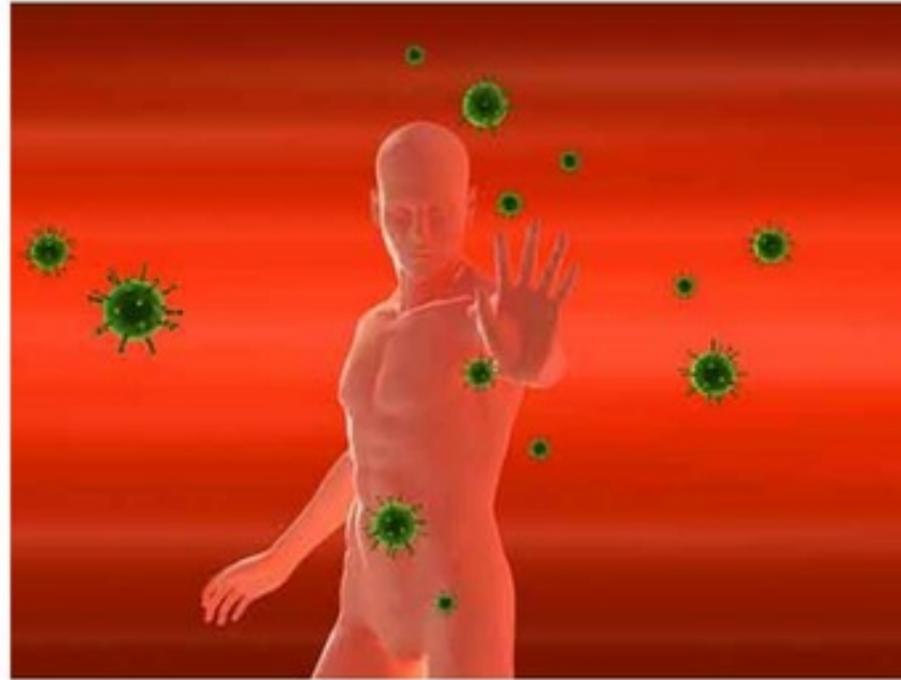
- As effective as these defenses are, viruses, bacteria and other germs do sometimes get through. That's where your immune system springs into action.
- **Immune System-** is a combination of body defenses made up of cells, tissues, and organs that fight off germs and disease.

# Immune System General Reaction



- When germs get inside your body, your immune system launches an attack. Three general reactions may occur, no matter what kind of microorganism has invaded
- 1. Special white blood cells called *phagocytes* attack the invading germs. These cells actually surround the germs and destroy them.
- 2. The cells release a chemical substance called *interferon* that stops viruses from reproducing
- 3. Raising body temperature (fever) makes it difficult for some microorganisms to reproduce

# Specific Defense:



- These are responses to specific microorganisms and toxins or poisons they produce. These specific reactions allow the immune system to 1. defend the body and 2. remember specific germs. That way it can be destroyed if that specific germ re-enters the body again. (Pg. 337)
- <http://www.brainpop.com/health/bodysystems/immunesystem/>

# Quiz

## list three of the general immune reactions

- red blood cells attach germs, cells release interferon that stops virus from replicating, fever sets in
- White blood cells attach germs, cells release interferon that stops virus from replicating, fever sets in

# Immunity:

- *Your body's ability to resist the germs that cause a particular disease. You develop immunity in two ways:*
  - 1. *Memory cells* in your blood are able to identify and fight off returning germs.
  - 2. *Immunization*: Humans are vaccinated to make people immune of certain diseases. A vaccine is a preparation of dead or weakened germs that is injected into the body to cause the immune system to produce antibodies.



# Disease

- *A condition that interferes with the proper functioning of the body or mind. When the body cannot fight off an infection a disease develops.*
- **Infection:** A condition that happens when the pathogens enter the body, multiply and cause harm.
- Diseases are broken down into two categories communicable and non communicable.

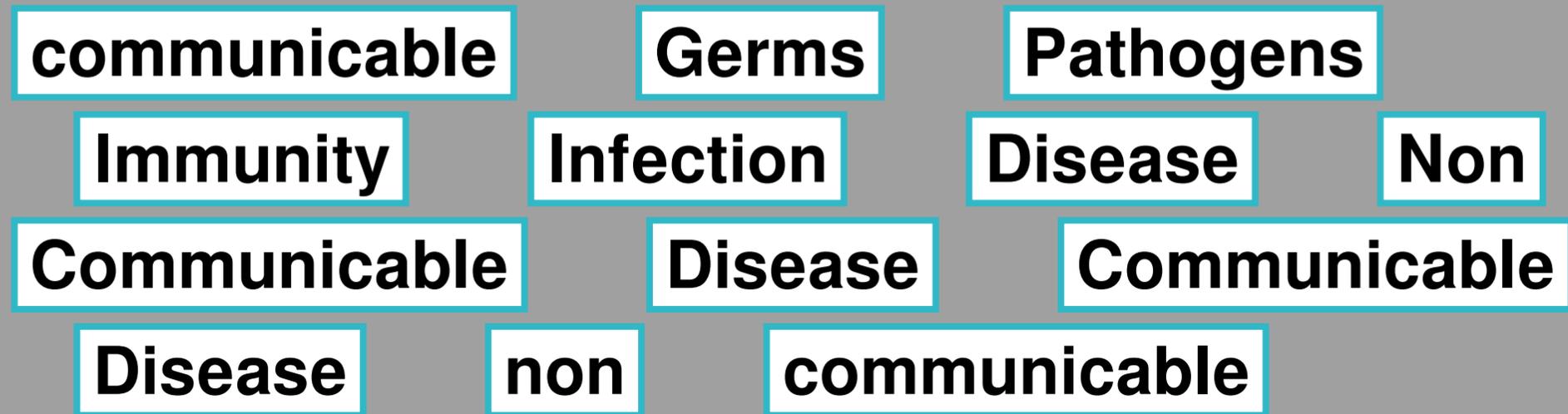
# What Are Communicable Diseases?

- A disease such as the common cold is a **communicable disease**
- **Communicable Disease:** A disease that can be spread to a person from another person, animal or object.

# Communicable Diseases

- Communicable diseases can be spread by germs.
- **Germs:** Organisms that are so small and tiny they can only be seen through a microscope
- **Pathogens** are harmful germs or germs that cause disease.

# Fill in the Blanks



An \_\_\_\_\_ is a condition that happens when the pathogens enter the body, multiply and cause harm.

\_\_\_\_\_ is a condition that interferes with the proper functioning of the body or mind. When the body cannot fight off an infection a disease develops.

Diseases are broken down into two categories

\_\_\_\_\_ and \_\_\_\_\_.

\_\_\_\_\_ is your bodies ability to resist the germs that cause a particular disease.

\_\_\_\_\_ \_\_\_\_\_ is a disease that cannot be spread from person to person.

\_\_\_\_\_ is a disease that can be spread to a person from another person, animal or object.

\_\_\_\_\_ are organisms that are so small and tiny they can only be seen through a microscope.

\_\_\_\_\_ are harmful germs or germs that cause disease.

# Kinds of Pathogens:

Pathogens	Diseases
<p>Viruses</p> 	<p>Colds, chicken pox, influenza, measles, mononucleosis, mumps, hepatitis, herpes, HIV, yellow fever, polio, rabies, viral pneumonia</p>
<p>Bacteria</p> 	<p>Pinkeye, whooping cough, strep throat, tuberculosis, Lyme disease, most foodborne illnesses, diphtheria, bacterial pneumonia, cholera</p>
<p>Fungi</p> 	<p>Athlete's foot, ringworm</p>
<p>Protozoa</p> 	<p>Amoebic dysentery, malaria, trichomoniasis</p>

# Viruses

- The smallest and simplest pathogen
- Viruses are usually made of genetic material and protein
- Viruses are not alive



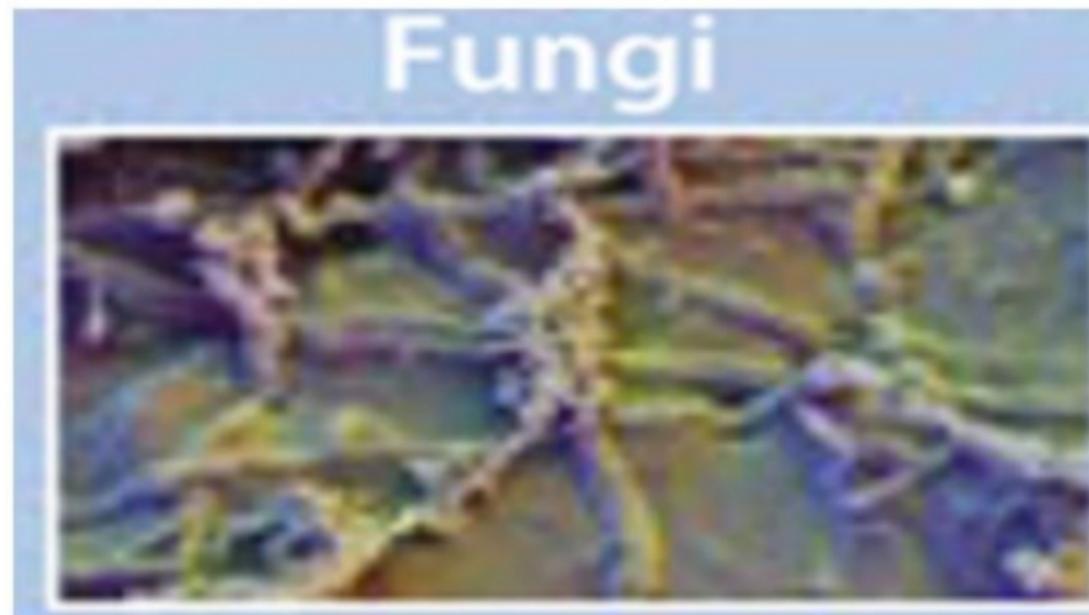
# Bacteria

- Are simple one celled organisms.
- Exist in every environment on earth.
- Most kinds of bacteria are not only harmless, but actually helpful



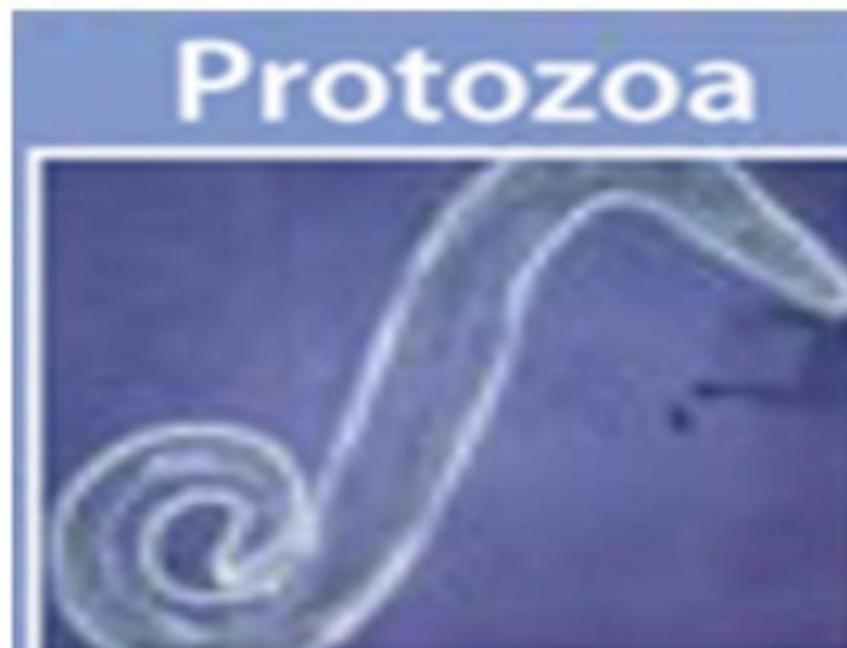
# Fungi

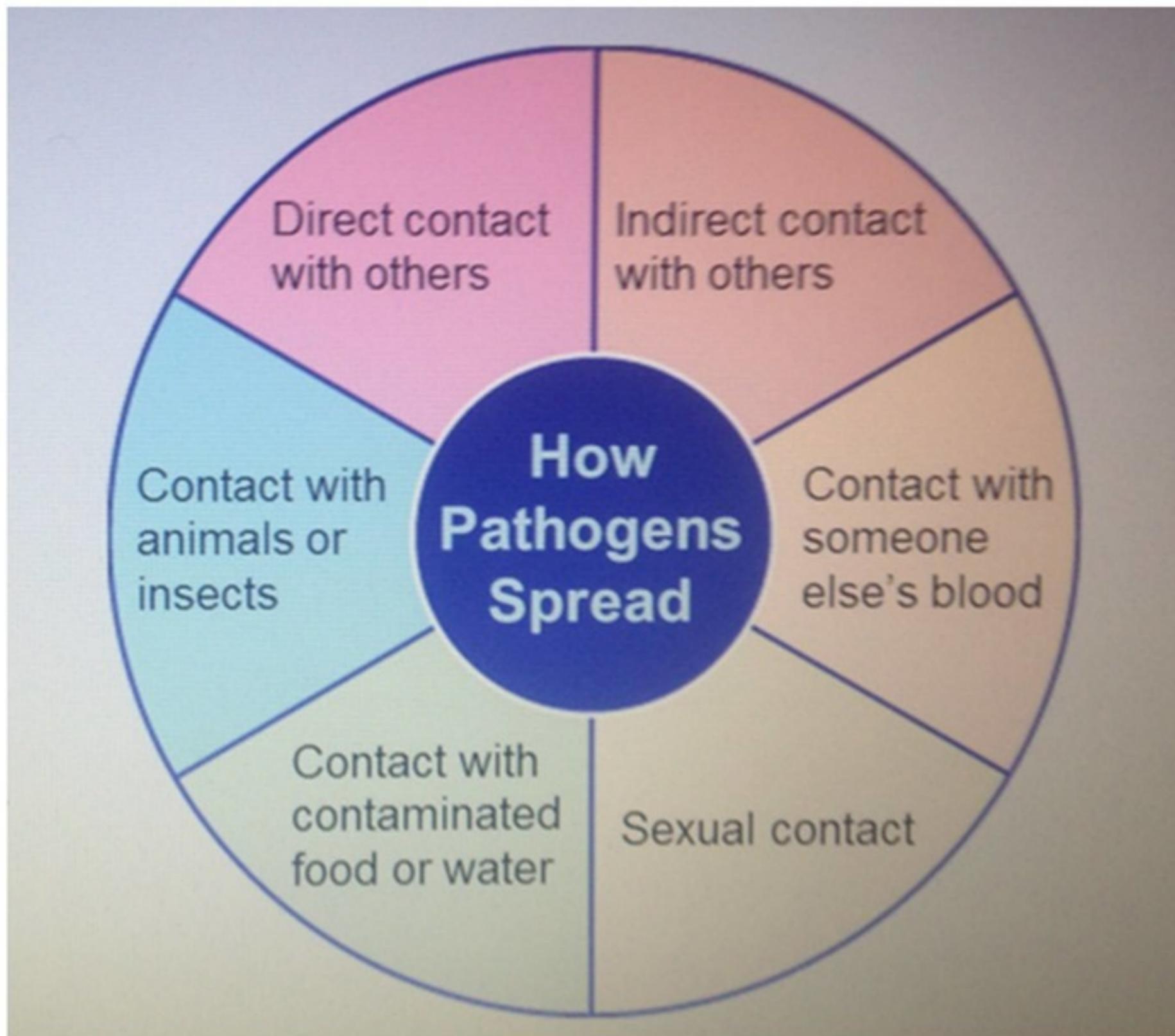
- Organisms that are more complex than bacteria but cannot make their own food.
- Examples include: molds, yeast, and mushrooms.
- Fungi thrive in warm moist environments.



# Protozoa

- Once celled- organisms that are more complex than bacteria
- Many protozoa are harmless, but some can cause disease





# Open Ended Question

**List three examples of how pathogens spread:**

# Non Communicable Disease

- Is a disease that cannot be spread from person to person. NCD is **not** caused by germs that can be spread by contact. Instead they are caused by changes within the body.

# Non-Communicable Disease

- Most NCD's are chronic (**chronic**: on and off for a long time). These diseases fall into one of the following three categories
  - 1. Disease present from birth
  - 2. Disease resulting from lifestyle behavior
  - 3. Disease caused by the persons environment
  - 4. Unknown

# Risk Factors of NCD's

- **Modifiable behavioral risk factors**
- Tobacco use, physical inactivity, unhealthy diet and the harmful use of alcohol increase the risk of or cause most NCDs.

# Open Ended Question

**Please write one paragraph (5-7 sentences) using the following terms: Immune system, immunity, disease, communicable and non communicable.**