

VIRUSES AND HUMAN HEALTH

Name _____

Date _____

Block _____

Viruses & Disease

- viruses are _____ (i.e. disease-causing agents)
- can cause _____ such as: AIDS, smallpox, chickenpox, polio, measles, mumps, influenza, yellow fever, rabies and the common cold
- can cause illnesses and diseases _____ (i.e. animals, plants, etc.)

Types of Disease

1. _____

- diseases that are with us _____
- example: _____

2. _____

- diseases that start to spread rapidly
- examples: _____ in the winter

Transmission

Viruses can be spread through:

- _____ - touching, biting by infected animal
- _____ - airborne droplets, water, food, bodily fluids, and fecal matter

Prevention of Disease

There are many ways to reduce the chances of contracting viral diseases:

1. Keep your immune system strong by _____ (i.e. eat well, get adequate sleep, exercise regularly, etc.).

2. _____ as much as possible when viral diseases such as the flu are prevalent.

3. Keep your hands away from _____ (i.e. weak points in the skin such as lips, mouth, eyes, nose, vagina, vulva, penis, or rectum) which are _____ and allow viruses and other pathogens to pass through.

4. Wash your _____ frequently.

5. Avoid _____ with infected individuals.

6. Get _____.

Basic Lines of Defense Against Viral Attack

- The body's defense mechanism against pathogens is called the _____.
- The immune system consists of both _____ and _____ defenses.

Nonspecific Defenses

- body's first line of defense against diseases
- no matter what virus tries to infect, the body acts in the same manner

LINE OF DEFENSE	FUNCTION
	Barrier that cannot be penetrated by most pathogens.
	Produces acidic environment that kills many pathogens.
	Act like sticky brooms to trap and sweep out airborne pathogens.
	Destroys many pathogens in food.
	Compete against pathogens for resources.

Specific Defenses

- if a particular pathogen gets past the body's nonspecific lines of defense, specific defenses attack specific pathogens

LINE OF DEFENSE	FUNCTION
	Engulf and destroy pathogens when skin is broken.
	Attaches to membrane of uninfected cells and prevents viral "take-over" of these cells.
	Attract phagocytes to infection site by attaching to pathogen's surfaces and promote lysis of pathogen's plasma membrane.
	Proteins produced by the immune system that coat viruses, inactivate them and make it easy for phagocytes to ingest them.

Vaccines

- substances that cause the body to produce _____ without causing the illness
- made with _____
- when an individual is vaccinated, their body reacts as if it were an active virus and produces antibodies against the virus causing them to become _____ to that disease
- common vaccines include those against _____
