

Name: _____

Microbes Notes

Viruses

Characteristics:

NOT _____
Do not use _____ energy to grow;
Can't make _____ food or produce _____;
Are able to _____ in host cell

Host: Organism that is _____ of energy for the virus

Parasite: Virus causes _____ to host cell --- almost
_____ viruses destroy the cell

Shapes: _____ - virus in a bacteria cell-- _____ shape
Other types- round, bricklike, threads or _____

Size: _____ nanometer to _____ nanometer

Named: For _____, places
_____, or disease they _____

Structure: Protein coat- _____ to fit certain host
Inner core- _____ material

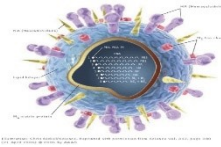
Reproduce: Must be _____ cell to produce a
new virus

Active virus: Immediately _____ and take over cell; ex cold or
rhinovirus

Hidden virus: Enter and _____ temporarily;
Ex. HIV virus and cold sore (herpes) virus

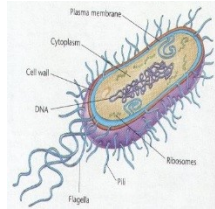
Negative: DISEASE
Short term- cold & flu
Long-term- rabies, distemper, HIV

Positive: Gene _____; virus acts as a _____ to
redirect cell for medical treatment: ex Cystic Fibrosis



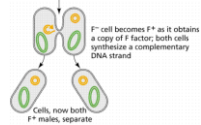
Bacteria

- Cell Structure: _____ cell; _____ (no nucleus)
- Cell _____ & membrane; cytoplasm & _____
- Genetic material in _____ like a tangled string



- Movement: _____ (whiplike tail) OR
_____ currents OR _____ currents
- Shape: Spherical, rod, or spiral
- Size: 0 to 1/2 _____
- Food: Some are _____ so photosynthesis or chemical
synthesis for _____
- Some are _____ so _____ food like decaying leaves, . . .

- Energy Source: **respiration**—most use _____ but some are _____
- Reproduce: Can reproduce as often as every 20 minutes;
- **Asexual** by _____ --cell copies & splits
into _____ cells.
- **Sexual**- _____ bacteria combine genetic
material thru a threadlike bridge to produce a _____
cell. Called _____
- Form _____ -when trying to survive harsh conditions. It forms a
spore within the bacteria cell.
- It contains genetic material and cytoplasm and can survive for many years. Then can
be released and carried to a new place. Ex. Clostridium botulinum—when conditions
become favorable, they open up and begin to multiply



- Role of Bacteria: **Positive:** _____ production; recycling and
_____ of _____ matter; food production—pickles,
vinegar; medicine such as insulin; body processes such as digestion
- **Negative:** _____ food, _____ such as strep throat
- Pasteurization: method to _____ bacteria in foods such as milk
products; uses high _____ and does not alter taste of food



Infectious Disease

- What is an infectious disease?
 - Illness that passes from one organism to another
- How are they spread?
 - _____, swallowed or ingested, enter through moist body cavities—ie. Nose
- Bacteria infections are treated with:
 - _____ which are chemicals that can kill only the bacteria
- Viral ailments are treated:
 - Over the counter medications can relieve symptoms of most viral infections such as _____ or _____
 - Some antiviral drugs are prescription such as ones for _____
- How prevented?
 - _____ are introduced to the body to stimulate the production of chemicals to destroy the virus or bacteria.
- Antibiotic Resistance is:
 - When bacteria _____ to resist the chemical affects of the antibiotic so the bacteria survives the antibiotic

Protists/Parasites

Eukaryotes that CANNOT be classified in the animal, plant, or fungi kingdoms. Known as “odds & ends” kingdom. All live in moist surroundings. Can be uni or multicellular; may be auto or hetrotrophs; some move and some are stationary.

- **Unicellular** – composed of only _____ cell.
- **Multicellular** – composed of _____ than one cell.
- **Eukaryote**: an organism that contains membrane-bound organelles and genetic material within a nucleus.
- **Prokaryote**: a unicellular organism that lacks a true nucleus and membrane-bound organelle.

Protozoans that are Parasites

- **Parasites are things that must have a _____ to survive.**
- **Move in a wide variety of ways but must have a host to feed on.**
- **Plasmodium** a protozoa that causes _____ has multiple hosts.
 - Usually spread by a mosquito biting an infected person then biting a healthy person

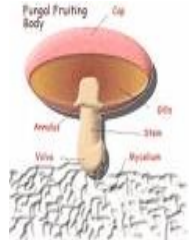
Fungi

Fungi are:

Eukaryotes that have _____ and are _____

Cell structure:

Arranged in structures called _____. These are branching, threadlike _____ that make up the bodies of _____ fungi



Food:

Absorb food through the hyphae that grow on food source

Reproduce:

Lightweight spores are surrounded by a protective coating and can be carried easily through water or air to a new site.

Spores reproduce in _____

Most reproduce sexually & asexually.

Cells at the tip of the _____ divide to form spores & grow into fungi that are identical to parent. _____ yeast undergoes _____ (asexual). There are no spores. Yeast buds and breaks away from parent.

When _____ hyphae from _____ fungi grow _____ genetic material is _____. Spores are different from either parent. This is sexual reproduction.

Classification:

Grouped according to reproduction—sac fungi, club fungi, or zygote fungi

Role in Nature:

+ _____ in nature-break down the chemicals in dead organisms

_____ - yeast in bread; mold to blue cheese

_____ - penicillin

Lichens- _____ + _____ in community – sensitive to air pollution & indicate health of an area

Plant roots grow into hyphae underground spread out and absorb water and nutrients from soil, help plant grow better