

Unit 4 - Viruses

living things:

- made of cells,
- need/use energy
- reproduce on their own
- create waste
- adapt to environment

aren't living cause

- not made up of cells
- cant replicate on their own

Characteristics of a Virus

- don't have a cytoplasm
- cant reproduce or grow on their own, need a host
- super super small
- infectious

Host Specificity - specific to particular plant/animal or type of cell in organism

- broad range = rabies, can infect many mammals (rodents, dogs, humans)
- narrow range = cold virus, only cells of respiratory system
- guided by external recognition areas called receptor cells
- proteins on the surface of virus act like 'key' to receptors 'lock'

Classifying Viruses

- size and shape
- structure of the virus
- type of disease it causes
- type of genetic material (RNA or DNA)
- method of reproduction

Lytic Cycle - immediately

- virus **injects** DNA into host cell, host makes **copies** of DNA and proteins, new virus **assembled**, then break open cell, **release** new virus

Isogenic Cycle - not immediate

- injects DNA into cell, becomes part of the host DNA, now is provirus. DNA **replicates** with host DNA but can lie **dormant** until 'trigger' causes it to go through lytic cycle

Vaccines

- partial viruses are injected to introduce body's immune system to the virus
- body can recognize and fight off and infection
- AIDS, Rabies, Measles

Unit 5 - Bacteria and Archaea

Main Characteristics of prokaryotes

- single-celled
- single chromosome