

## **Viruses, plasmids, prions, prokaryotes**

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Winslow, following Sylvia S. Mader 2010. *Biology*, 10th ed. McGraw-Hill, NY, Ch. 20.

### Non-cellular quasi-organisms

#### Viruses

- Protein capsid and nucleic acid core, some with lipid envelope

- Reproduce inside cells, causing disease

#### Prions (protein) and viroids (RNA)

- Pathogenic molecules

#### Plasmids (DNA)

- Non-pathogenic molecules

### Prokaryotes (cells without membrane-bound organelles)

#### Binary fission

#### Mutation

- Conjugation, plasmids, recombination

- Aerobic and anaerobic

#### Heterotrophs

#### Autotrophs

- Photoautotrophs

- Chemoautotrophs

#### Symbiosis

- Mutualistic

- Commensalistic

- Parasitic

#### Bacteria

- Gram-staining

- Shell shape

- Biochemical characteristics

#### Archaea

- Biochemical characteristics distinguish Domains Archaea, Bacteria, and Eukarya

- Extremophiles