

Characteristics of Life

1. Made of Cells
2. Homeostasis
3. Obtain Energy
4. Reproduction
5. Growth
6. Response to Environment
7. Pass Traits to Offspring
8. Evolve

Cell Theory

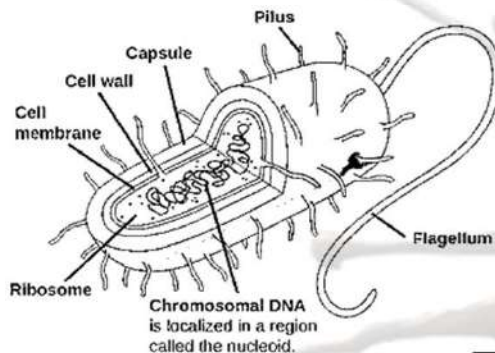
1. All Living Things are made of Cells
2. Cells are the Basic Unit of Life
3. Cells come from other Cells

Pro - Before
Kary - Nucleus

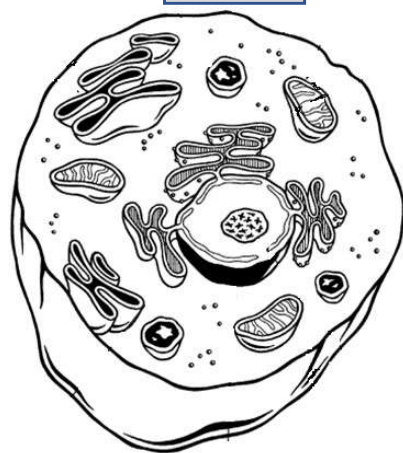
Eu - True
Kary - Nucleus

Ex. BACTERIA

1. NO Membrane Bound Organelles
2. NO Nucleus!
3. HAS: Cell Wall / Cell Membrane / Ribosomes / Circular Chromosome / Genetic Material - DNA
4. Shapes:



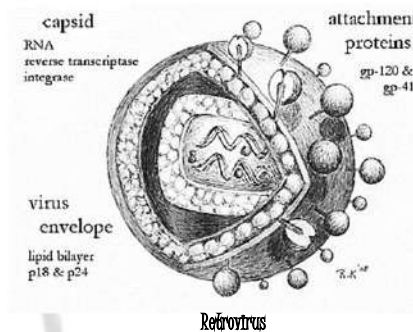
1. HAS Membrane Bound Organelles
2. HAS Nucleus!
3. HAS: Cell Membrane / Ribosomes / Genetic Material - DNA
4. MAY HAVE: Cell Wall, Chloroplast, H2O Vacuole, Lysosomes, Centrioles...



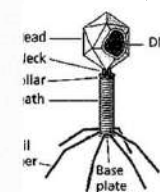
BACTERIAL CELL SHAPES



BACTERIAL CELL ARRANGEMENTS

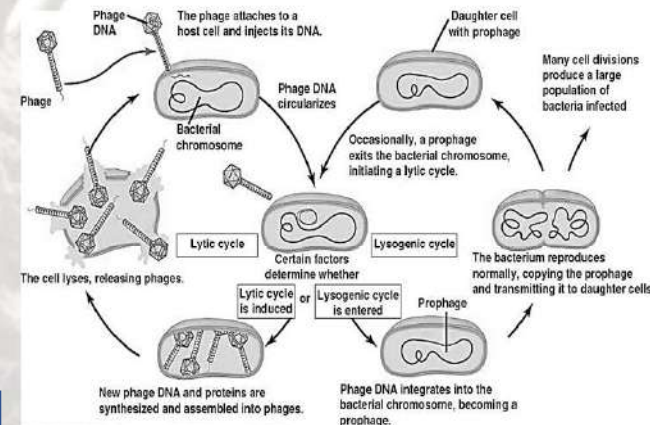


Bacteriophage

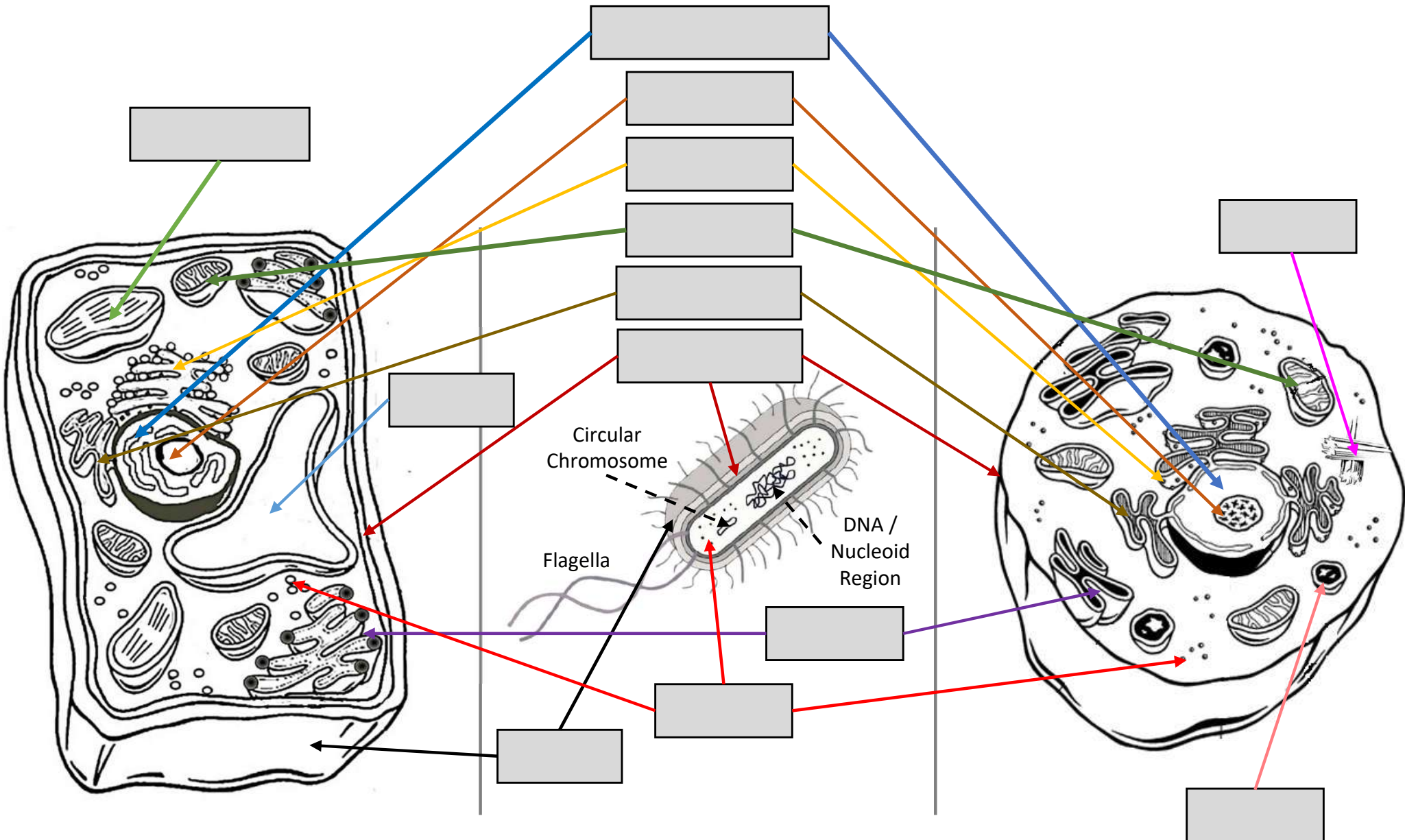


Non-Living - cannot maintain homeostasis

2. Cannot reproduce without a host
3. HAS: Protein Coat/ Genetic Material - DNA/RNA
4. Not a CELL!
5. **Lytic:** Short Duration, hijack Host, replicate virus, break open cell...**EX:** Cold, Flu, Ebola....
6. **Lysogenic:** Long duration, incorporation of viral RNA into host DNA, **EX:** HIV, Herpes



Organelle	Function
Nucleus	Controls the cell
Rough ER	Packages and Transports proteins
Golgi	Repackages and transports Proteins
Ribosomes	Protein Synthesis
Mitochondria	ATP Synthesis
Chloroplast	Photosynthesis
Cytoplasm	Jelly-like substance, holds all organelles



Chloroplast

Lysosome

Nucleus

Centriole

Nucleolus

The Cell

Rough ER

Prokaryote

Mitochondria

Eukaryote

Smooth ER

Animal

Cell Membrane

Plant

Central
Vacuole

Viruses

Cell Wall

Ribosome

Golgi Body