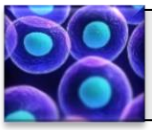
CONCEPT: CHARACTERISTICS OF LIFE

●There are _____ characteristics shared by all living organisms that distinguish them from nonliving matter.

EXAMPLE: Characteristics of Life

1)  Composed of _____: the cell is the basic and most fundamental unit of life.

2)  _____: Organisms are not random and are highly organized using simpler atoms to build larger molecules & structures to survive.

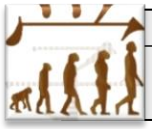
3)  **Response to** _____: Can respond to specific triggers from the environment.

4)  Maintain _____: Mechanisms for regulating & maintaining/stabilizing their internal chemistry.

5)  _____: The capacity to produce more life, either sexually or asexually.

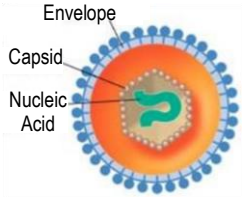
6)  **A dynamic** _____: reactions allow for the extraction & transformation of environmentally acquired energy.

7)  _____: All life contains DNA, the hereditary material which is passed down to future generations.

8)  _____: DNA mutations over time lead to adaptation & improved fitness in changing environments.

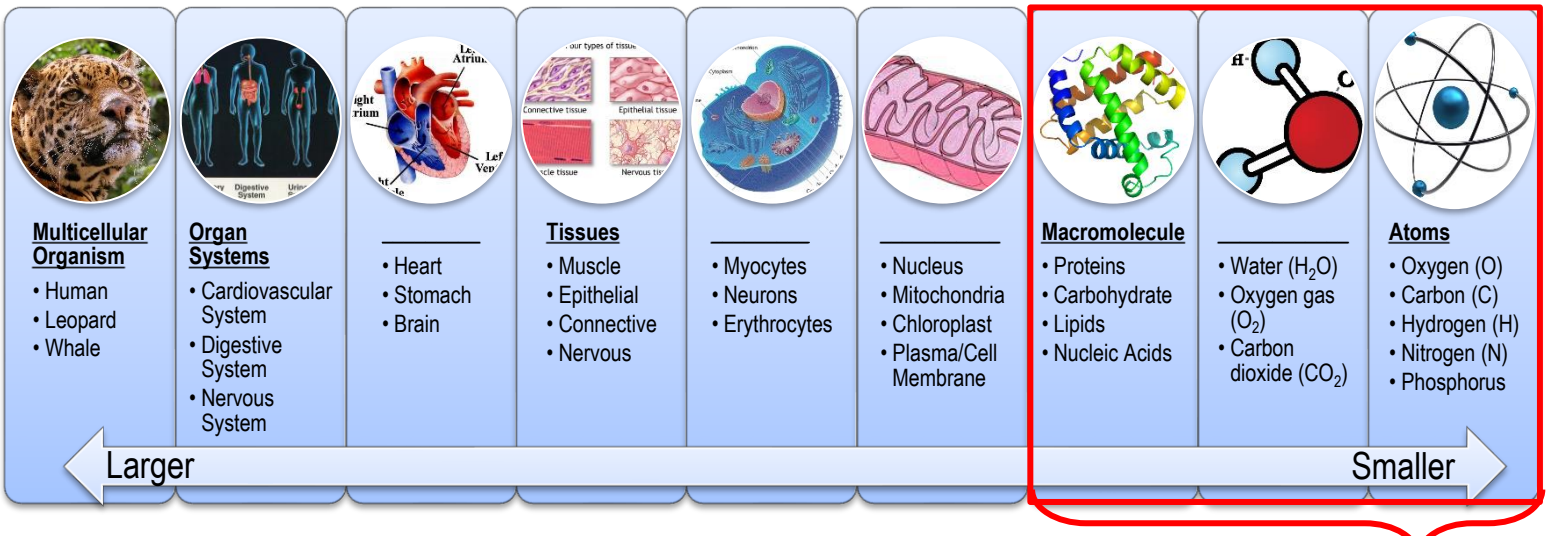
●*Viruses* are *not considered alive*.

□ *Question:* Which characteristics of life do they lack? ___, ___, ___, ___



●All living organisms contain a *biological hierarchy of organization*:

EXAMPLE: Biological Levels of Organization



●The *Biochemical Unity of Life*: all living organisms are remarkably similar at the molecular/atomic levels of life.

□ Lots of evidence at atomic/molecular levels support the theory of a common universal ancestor.

Biochemical Unity of Life

CONCEPT: CHARACTERISTICS OF LIFE

PRACTICE: Which of the following is not a characteristic of life?

a) Ability to reproduce sexually or asexually.

b) Composed of cells.

c) Ability to metabolize oxygen.

d) Maintain homeostasis.

PRACTICE: Indicate which of the following statements is false:

a) Viruses contain hereditary information.

b) Viruses do not have the ability to reproduce without hijacking a host cell.

c) Viruses are composed of cells.

d) Viruses do not need to extract/consume energy from the environment to exist.