

Bio. Common Board

Monday 21AUG17

TOPIC:

Biodiversity, Life, &
Homeostasis

STANDARDS:

SC.912.1.15.8 Describe the scientific explanations of the origin of life on Earth.

SC.912.L.15.13 Describe the conditions required for natural selection, including overproduction of offspring, inherited variations, and the struggle to survive, which results in differential reproductive success

OBJECTIVE:

- ❑ Explain biodiversity
- ❑ Characteristics of Life
 - ❑ Cells
 - ❑ Organisms
 - ❑ Species
 - ❑ Homeostasis

ESSENTIAL QUESTION:

- ❑ What traits characterize living things?

CHECK FOR UNDERSTANDING:

- Exit Ticket

HOMEWORK: Collect and bring pond water sample due Thursday 24AUG17

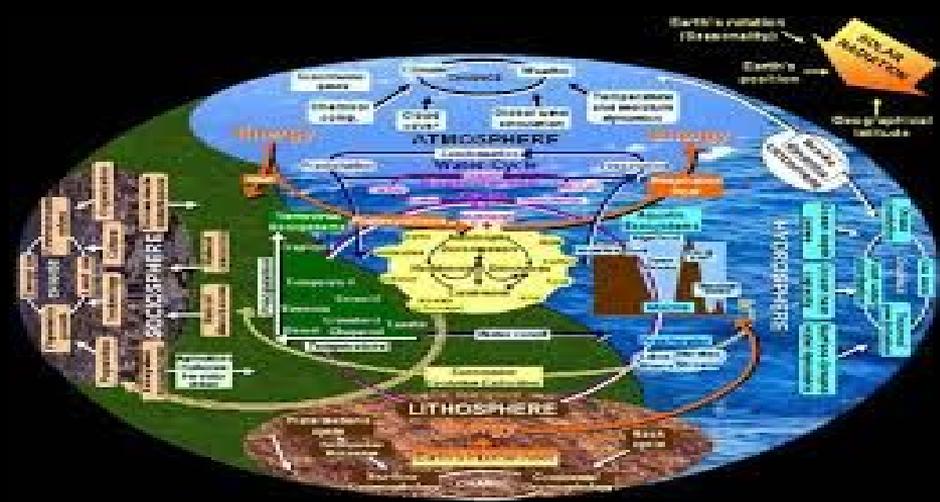
BIOSPHERE



SPECIES



BIODIVERSITY



Biology

Defined as the *scientific study* of **all life**.

Characteristics of Life

- ❑ **Cells** (unicellular or multicellular organisms)
- ❑ **Metabolism** (energy consumption and/or energy production)
- ❑ **Response to Stimuli** (able to react to stimuli)
- ❑ **Adaptations** (able to adapt to its environment)
- ❑ **Reproduction** (contains DNA that allows organism to produce offspring with similar genetic traits)
- ❑ **Homeostasis** (ability to keep / maintain constant internal conditions)

Merriam-Webster's definition:

a : the quality that distinguishes a vital and functional being from a dead body

b : a principle or force that is considered to underlie the

distinctive quality of animate

beingsc : an organismic state

characterized by capacity for

metabolism (see metabolism 1),

growth, reaction to stimuli, and

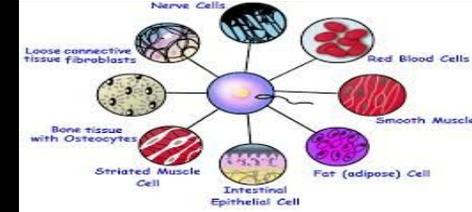
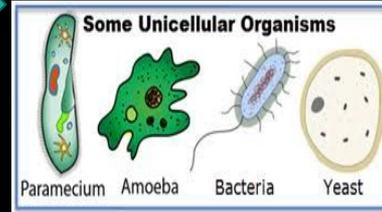
reproduction

Characteristics of Life

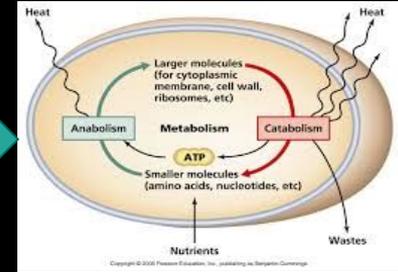
LIFE / ALIVE

An **organism** can be either unicellular or multicellular:

❑ Cells



❑ Metabolism



❑ Response to Stimuli

❑ Adaptations

❑ Reproduction

❑ Homeostasis

Physical adaptations

- Type of body covering: fur, feathers, scales
- Color: patterns, match surroundings
- Body part: beak, antlers, ears, claws
- Defenses: venom, spray, quills

elephant giraffe birds

❑ Asexual

- Fission
- Budding

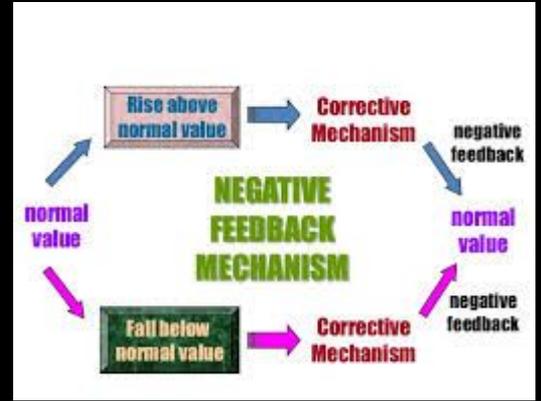
❑ Sexual



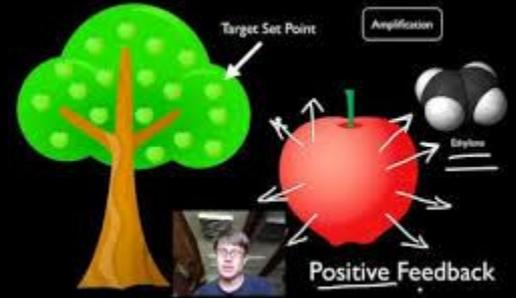
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Maintenance of internal conditions in an organism

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Homeostasis

Misconception:

- *Homeostasis is just internal body temperature!*



- Homeostasis in the human body?

The **nervous** and **endocrine** systems exert the ultimate **control over homeostasis** because they coordinate the functions of the body's systems. Regulation of body **temperature, blood pressure, pH, and glucose concentration** are four examples of how the body maintains homeostasis.

Exit Ticket

- ❑ In your own words, *define* today's key terms.
- ❑ *Define* and *provide examples* of a homeostasis element in the human body. (*not thermal*)
- ❑ *Explain* each trait that characterize living things. *Justify* your answer!

Key Terms / Vocabulary

- ❑ Biosphere
- ❑ Biodiversity
- ❑ Cells
- ❑ Organisms
- ❑ Species
- ❑ Adaptations
- ❑ Metabolism
- ❑ DNA
- ❑ Homeostasis

