

Theory and Law

MISCONCEPTION: If evidence supports a hypothesis, it is upgraded to a theory. If the theory then garners even more support, it may be upgraded to a law.

MISCONCEPTION: People mistake a scientific theory for the everyday use of the term "opinion".

SCIENTIFIC THEORIES

A theory is a form of consistent scientific knowledge not yet disproved by experiment.

In experimental sciences, a theory can never be "proved", it can only be "disproved" by experiment.

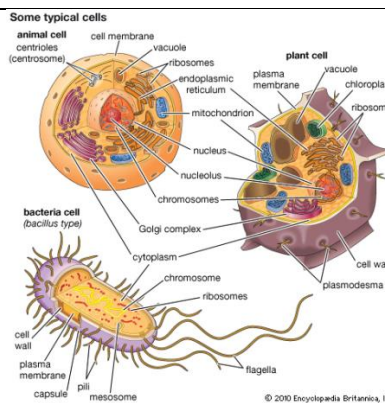
A law governs a single action, whereas a theory explains an entire group of related phenomena.

Properties of Life Notes

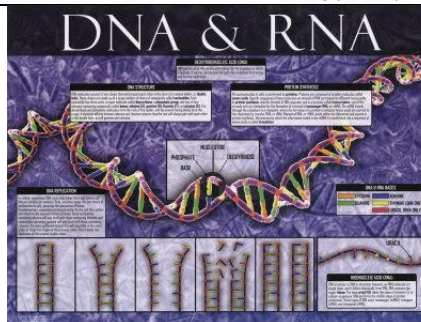
Biology is the study of life. Living things share these characteristics: They are made of cells and have a universal genetic code; they obtain and use materials and energy to grow and develop; they reproduce; they respond to signals in their environment (**stimuli**) and maintain a stable internal environment; they change over time.

living = _____

1. Cells



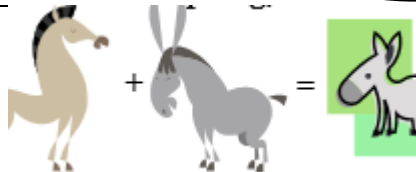
2. DNA

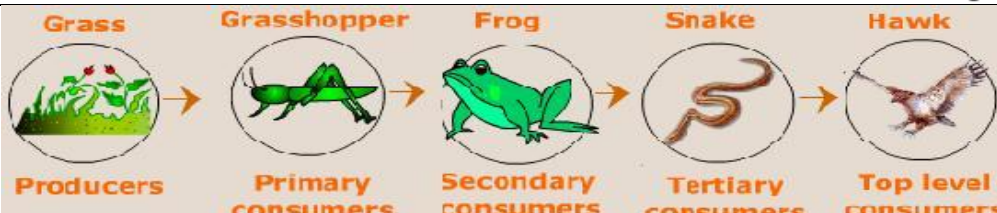


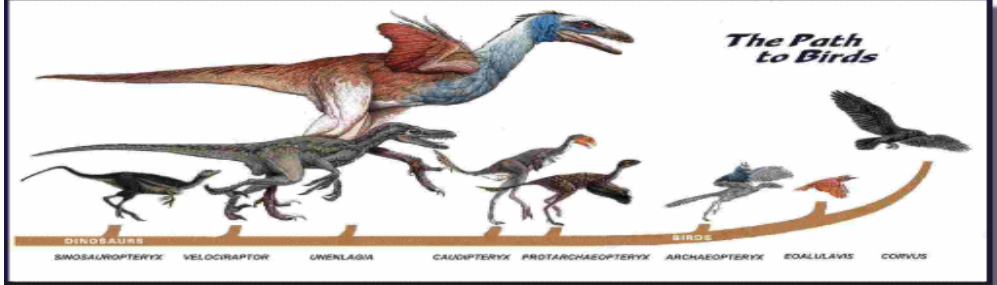


3. grow and develop



4. Reproduction



<p>5. Energy</p>	
<p>6. Homeostasis</p>	
<p>7. Respond to Stimuli</p>	
<p>8. Evolve</p>	

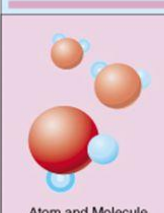
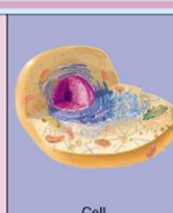
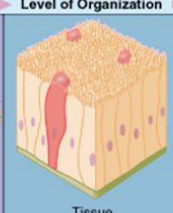


Levels of Organization

Simply put...

- 1.
- 2.
- 3.
- 4.

Levels of Organization

The Human Body has several "layers" of organization beginning with the simplest and becoming more complex.

Level of Organization				
				
Definition				
Atom: Smallest unit of an element of matter. Molecule: More than one atom in a stable association.	Smallest unit of life.	An association of cells with the same general structure and function.	An association of several tissue types that carry out a specific function.	Two or more organs that work together to carry out a general function, such as digestion or movement.
Current Issues and Controversies				
<ul style="list-style-type: none"> How to dispose of radioactive wastes. Role of free radicals in cancer and aging. 	Cloning adult animals, plants and humans from a single cell.	The use of human fetal tissues in research.	<ul style="list-style-type: none"> How to increase the supply of human organs for transplantation. Transplanting animal organs into humans. 	<ul style="list-style-type: none"> Enhancing human performance with drugs or by genetic engineering.
Answers to previous slide: cell, tissue, organ (small intestine).				