

11/10/10 11:08 AM

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What is Life?

Living	Non-Living	?	
<p>Tree</p> <p>Spiders</p> <p>bugs</p> <p>Jellyfish</p> <p>frogs</p> <p>holes</p>	<p>mushrooms</p> <p>leaves</p> <p>rocks</p> <p>holes</p> <p>picnic</p>	<p>Sun</p> <p>Orion</p> <p>corn</p> <p>Pears</p> <p>cactus</p> <p>Bananas</p> <p>Potatoes</p> <p>Yogurt</p> <p>food</p> <p>Tornado</p> <p>Leaves</p> <p>Web</p> <p>Fire</p> <p>eggs</p>	<p>leaves</p> <p>Rain</p>

# Characteristics of Life.

death/life span  
reproducing

cells  
energy/nutrients (sun)

proper environment

Growth/Development

exchange gasses

response to stimulus

Movement

Water

## Green Pea observations

Tastes Bad

Smooth

Hard

outer shell/casing

line down middle

2 halves

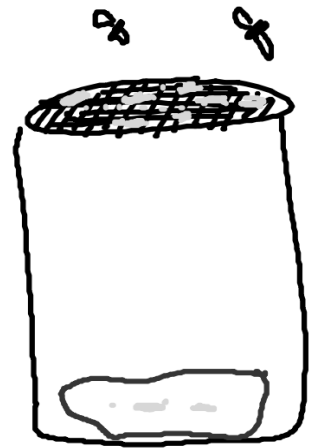
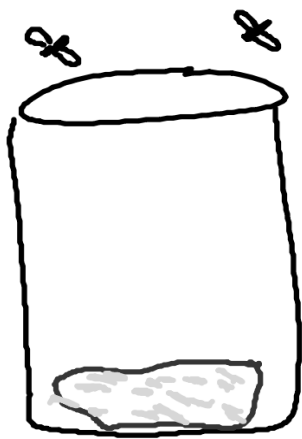
Round

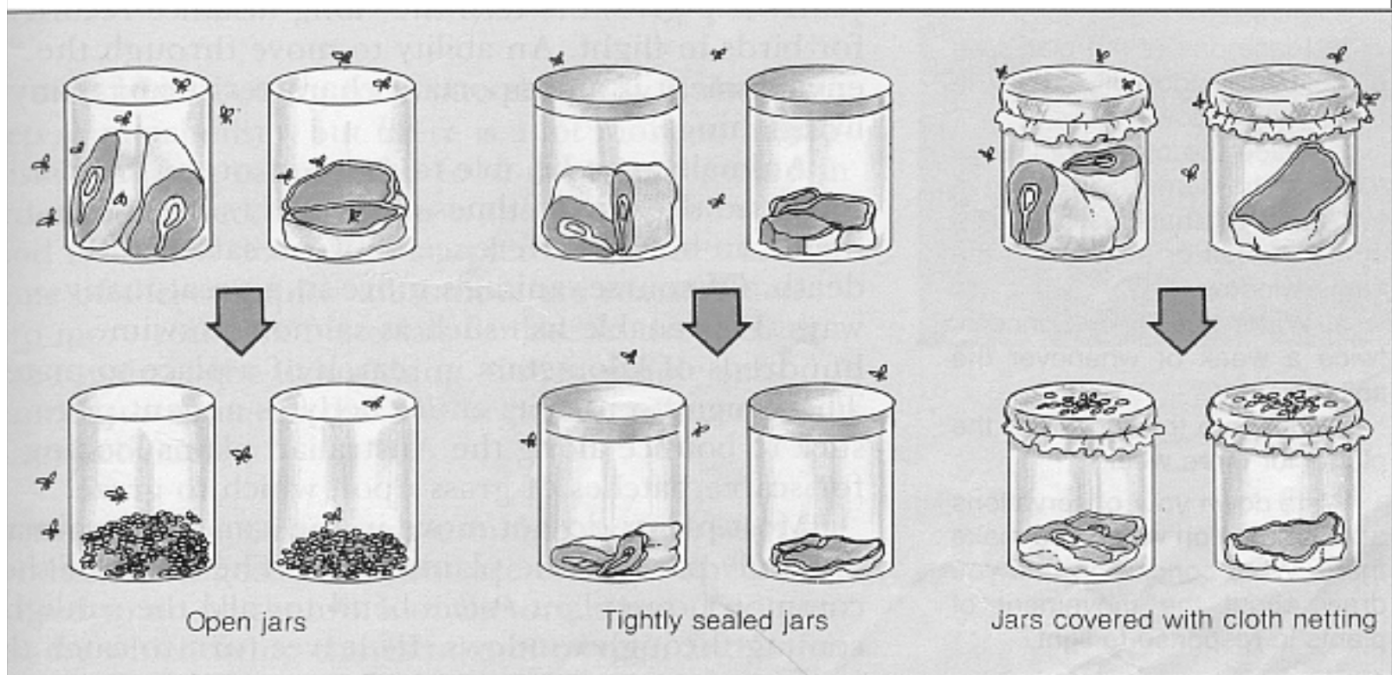
Bouncy

Indentations

Green inside

Is The Pea Living?







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All Living Things are made of\_\_\_\_\_.



**The Cell Theory states:**

**All living organisms are composed of cells.**

**They may be <sup>1</sup>unicellular or <sup>>1</sup>multicellular.**

**Cells arise from pre-existing cells.** (Life from Life)

**The cell is the basic unit of life.**

**The modern version of the Cell Theory includes the ideas that:**



**Energy flow occurs within cells.**

**Heredity information (DNA) is passed on from cell to cell.**

**All cells have the same basic chemical composition.**

**How are Organisms Structured To  
ensure efficiency and survival?**

Organisms - Living things

Structured - put together (Built)

Efficiency - running smooth without  
waste



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List the 4 parts of the  
Cell Theory.

# **How are Organisms Structured To ensure efficiency and survival?**

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## Cell Types

### Prokaryotic

**Cells without a membranes around the inner structures**

ex) **Bacteria** unicellular

### Eukaryotic

**Cells with a membrane around the inner structures**

ex) you (Animals), Plants, Protists

Fungus multi & unicellular

## Cell Organization and Structure

### **Cell Membrane**

- **a protective layer around cells**
- **regulates interactions between the cell and its environment**



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**What is The outer Layer of a cell  
called ?**

**what is its function ?**

## **Cytoplasm**

- **a gelatinlike substance that fills the cells and is constantly flowing**
- **most chemical reactions within a cell take place in the cytoplasm**

## **Organelles** (Little Organs)

- **structures within the eukaryotic cells**
- **these structures aid in the processes that keep the cell alive.**

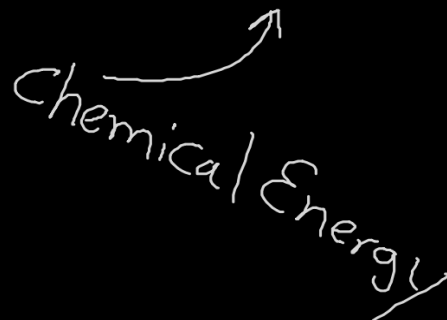
## **Nucleus**

- **Directs cell activities**
- **Contains DNA, the cells instruction guide**  
(BluePrints)

## Mitochondria

- release energy from the breakdown of food
- this energy is in the form of ATP

Chemical Energy



# Cellular Respiration

glucose

aerobic

Respiration

12/10/10 11:06 AM Cellular Res.



Photosynthesis

energy



# Cellular Respiration & Photosynthesis

