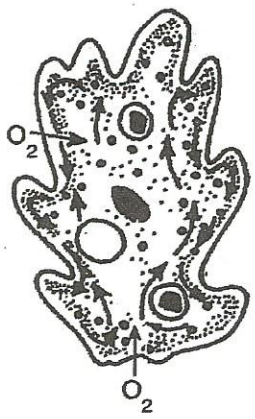
Name:

Period: Do Now #

1. Which life process is indicated by the arrows in the diagram of an ameba shown below?



(1) digestion (3) fermentation
(2) excretion (4) transport

2. The absorption and distribution of materials within an organism is a life function known as
(1) synthesis (3) transport
(2) reproduction (4) locomotion

3. Which process is a form of autotrophic nutrition?
(1) transport (3) fermentation
(2) regulation (4) photosynthesis

4. Which life process is classified as autotrophic in some organisms and heterotrophic in other organisms?
(1) hormonal regulation
(2) nutrition
(3) anaerobic respiration
(4) transport

5. Organisms combine simple molecules to form complex molecules by the process of
(1) ingestion (3) regulation
(2) synthesis (4) hydrolysis

6. Which activity is an example of the life process known as synthesis?
(1) An organic compound is broken down and energy is released.
(2) Starch is formed by the chemical bonding of glucose molecules.
(3) A large molecule is broken down into smaller molecules.
(4) Oxygen moves into a cell through the cell membrane.

7. Some deep-sea bacteria live near submerged volcanoes and make their own food using energy derived from minerals coming from the volcanoes. These bacteria would be classified as
(1) heterotrophic (3) photosynthetic
(2) autotrophic (4) abiotic

8. A fruit fly is classified as a heterotroph, rather than as an autotroph, because it is unable to
(1) transport needed materials through the body
(2) release energy from organic molecules
(3) manufacture its own food
(4) divide its cells mitotically

9. Which activity is *not* an example of heterotrophic nutrition?
(1) An eagle kills and eats a snake.
(2) A tapeworm absorbs food in a human intestine.
(3) A mushroom decomposes a dead log.
(4) An algal cell synthesizes food during photosynthesis.

10. Which organism is classified as a heterotroph?
(1) mushroom (3) geranium
(2) maple tree (4) moss

Name _____ Period_____ Date _____ HW # _____

CONCEPT OF LIFE

Scientists have not agreed on a single definition of life. Thus "life" is often defined in terms of certain activities, or life functions, performed by all living things.

LIFE FUNCTIONS!

All living organisms carry on the following life functions:

1. **Nutrition** includes the activities involved in **ingestion** (obtaining food from the environment) and **digestion** (processing Food for use by the organism). It also includes **egestion** (removal of solid wastes)
2. **Transport** includes the absorption of materials in the body fluids or through cell membranes and the circulation, or distribution, of materials to all the cells of the organism.
3. **Respiration** includes the chemical activities that release energy from organic molecules for use by the cells. During respiration, glucose is broken down, and the energy released is stored in the compound ATP. Energy released by the breakdown of ATP is used by organisms to perform all the life functions.
4. **Excretion** includes all those activities involved in the elimination of cellular waste products from the organism. These wastes include water, carbon dioxide, salts and nitrogen-containing compounds.
5. **Synthesis** involves chemical reactions in which small molecules combine to form larger ones.
6. **Growth** is an increase in size brought about by increases in cell size and cell number. The raw materials for growth are the products of synthesis.
7. **Regulation** involves the control and coordination of the life functions.
8. **Reproduction** results in the production of new individuals. Since each organism has a limited life span, reproduction is necessary for the survival of each species, or kind of organism.

METABOLISM!

All the chemical activities than an organism must carry on to sustain life are its **metabolism.**

HOMEOSTASIS!

The maintenance of a stable internal environment in spite of changes is the external environment is own as homeostasis.. An example of homeostasis is the maintenance of a constant body temperature in spite of the temperature changes in the environment.

QUESTIONS : *Circle the best choice.*

1.

1. The tendency of an organism to maintain a stable internal environment is called
(1) homeostasis (2) cell theory
(3) reproduction (4) synthesis.

2. The energy available for use by the cell is obtained from the life function of
(1) reproduction (2) respiration
(3) transport (4) synthesis.

3. The chemical process by which complex molecules of protein are made from simple molecules is called
(1) regulation (2) respiration
(3) synthesis (4) excretion

4. Which life function includes the absorption and circulation of essential substances throughout an organism?
(1) transport (2) respiration
(3) synthesis (4)excretion

5. Which term includes all of the chemical activities carried on by an organism?
(1) regulation (2) metabolism
(3) digestion (4) respiration

6. Which life activity is NOT required for the survival of an individual organism?
(1) regulation (2) metabolism
(3) reproduction (4) synthesis

7. In an ameba, materials are taken from its environment and then moved throughout its cytoplasm. These processes are known as
(1) absorption and circulation
(2) food processing and energy release
(3) energy release and synthesis
(4) coordination and regulation

8. In an organism, the coordination of the activities that maintain homeostasis in a constantly changing environment is a process known as
(1) digestion (2) regulation
(3) synthesis (4) respiration

9. Which life function provides substances that may be used by an organism for its growth and for the repair of its tissues?
(1) excretion (2) reproduction
(3) nutrition (4) regulation

10. The chemical bond energy in organic nutrients is changed to a usable form for living things by
(1) digestion (2) transport
(3) photosynthesis (4) respiration