

**GIRLS' HIGH SCHOOL COLLEGE**  
**2020-2021**  
**CLASS 11th A**  
**BIOLOGY WORKSHEET-01**  
**TOPIC: DIVERSITY OF LIVING ORGANISMS**  
**THE LIVING WORLD**

**INSTRUCTION:** Parents are requested to ensure that your ward spends at least for two days to read and understand the chapter according to the books and websites referred and thereafter answer the given questions.

**Reference Books:**

1. Nootan ISc Biology Class XII Nageen Prakashan

**Website:**

1. YouTube – Vedantu LIVE Learning World Part I
2. <https://ncerthelp.com> > text > quest=

**INTRODUCTION:**

**Open System:**

A system which has continuous inflow of energy directly or indirectly is called an open system.

**Closed System:**

A system which has no exchange of matter with the surrounding is referred as a closed system.

**Homeostasis:**

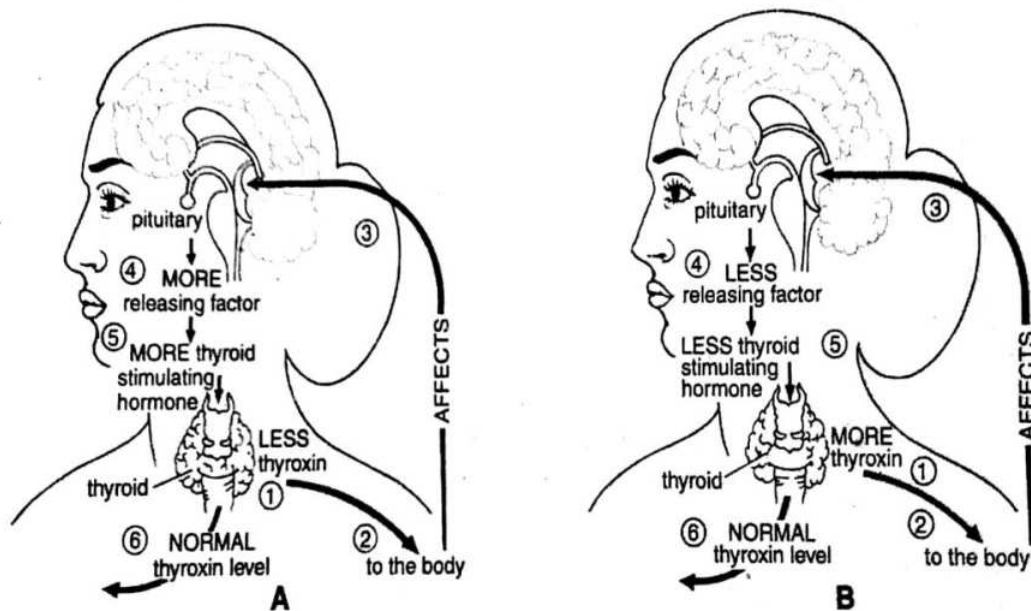
The term was first used by Walter B. Cannon. It is a Mechanism to make adjustments so that its internal environment remains relatively constant, despite changes in the external environment.

Homeostasis is maintained largely by negative feedback mechanism-a change in the direction produces a response in the opposite direction.

Kidneys are able to control or check the loss of water from our body. For this, water is reabsorbed by the collecting tubules in the kidneys so as to prevent its undue loss in the form of urine. This absorption of water is under the control of antidiuretic hormone (ADH), secreted by the pituitary. If more water begins to lose by the body due to greater evaporation during summer, a decrease of water in the blood will take place, changing its internal environment for which our body is very sensitive. At the time of need a positive signal of the brain causes the production of ADH which increases the absorption of water in kidneys and reduces excretion of urine. The absorbed water gets back into the blood to maintain the normal concentration of the fluid.

### Feedback System

Most homeostatic mechanisms in the organism work through feedback systems (Fig. 11). **Feedback** refers to monitoring or supervision of a process. Feedback systems within an animal bring about physiological and behavioural adjustments that minimise deviations in internal conditions. Each system has three basic components : **receptors**, which detect changes in conditions; **integrators**, which evaluate these changes; and **effectors**, which work to bring the body back to its original state. Receptors are sensory cells that respond to changes in such internal features as body temperature, carbon dioxide concentration in the blood, blood pressure, and muscle stretch. Receptors convert information about these changes into electrochemical impulses that travel to the brain. Integrators are special areas of the brain (hypothalamus and medulla oblongata of vertebrate brain) that receive information from receptors, evaluate it, and then send commands to the effectors capable of connecting the deviations from normal. Effectors are muscles and glands. They act in ways that return the body to its original, more suitable state after some deviation from normal. Muscles contract and relax to produce movements of the skeleton, circulatory system, and internal organs. Glands synthesize and release special materials, of which some act directly to promote homeostasis and others act indirectly to alter the activities of certain target cells.



**1. Answer the following questions very briefly:**

- a. What is living organism?
- b. What is herpetology?
- c. What do you understand by the term "metabolism?"
- d. Give any five attributes or characteristics of living organisms.
- e. What do you mean by "adaption?"

**2. Give five differences between Living and non-living.**

**3. Fill in the blanks:**

- a. In the hierarchy of organization the lowest level is occupied by \_\_\_\_\_.
- b. Micromolecules have less than \_\_\_\_\_ atoms.
- c. Two types of metabolic reactions are \_\_\_\_\_ and \_\_\_\_\_.
- d. \_\_\_\_\_ is the capacity to do work.
- e. The term Biology was coined by \_\_\_\_\_ and \_\_\_\_\_.

**4. Briefly explain two laws of Thermodynamics.**

**5. What do you mean by "Biodiversity." Give some examples of Biodiversity.**

**6. Compare the working of an automobile with that of your body. What features are common and which are different?**

**7. Differentiate between:**

- a. Population and community.
- b. Exergonic and endergonic.
- c. Organs and organelles.

**8. State whether the following statements are true or false:**

- a. An open system has access to environment for matter and energy.
- b. A virus shows mutation.
- c. Potential energy is the energy of motion of molecules.
- d. Anthropology is the branch of science which deals with the study of man and mankind.
- e. Entropy means disorder or randomness and this term is related to the second law of thermodynamics.

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