

Subject: Science

Grade :- 11

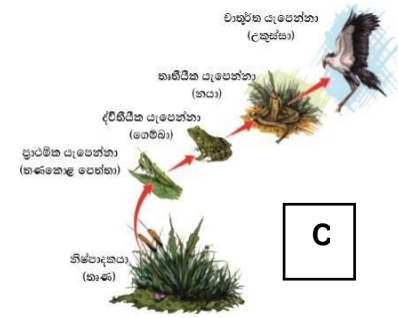
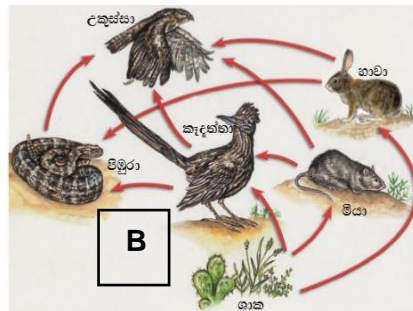
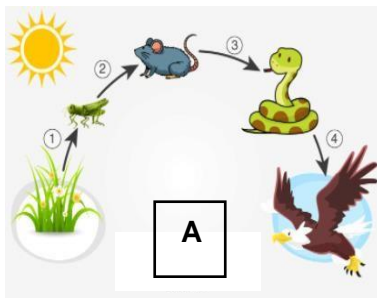
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## 15 – Biosphere II

**Mechanisms involve in maintaining the equilibrium of ecosystem.**

1. Flow of energy and nutrients
2. Biogeochemical cycle

### 1. Flow of energy and nutrients



**The mutual relationship for food among organisms is called a “Food web”.**

01. Name the source of energy that provides energy for all of the ecosystems of the biosphere.

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02. What is the meaning of a food chain?

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03. The links of a food chain are called trophic levels. How many trophic levels of the food chain “C”?

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04. Write 03 food chains by using the given food web “B”.

.....

05. In most of the food chains the number of trophic levels is less than 05 what is the reason for that?

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06. According to the mode of nutrition the organisms are divided into 03 groups. What are they?

### Flow of energy through ecosystem

The energy fixed by producers passes from organisms to organisms along trophic levels, only 10% of the energy of lower trophic levels passes to the upper trophic levels 90% of energy is lost in each trophic level as heat.

07. What is the meaning of energy dissipation?

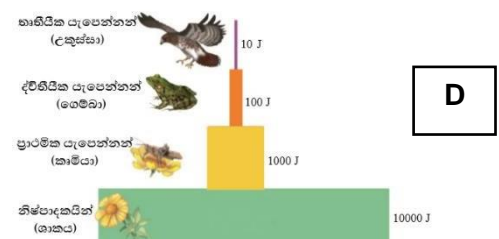
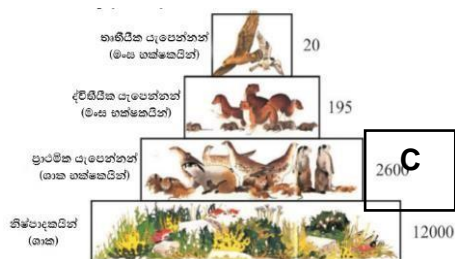
Grass → Grasshopper → Frog → Cobra → Hawk

08. If the energy stored in grass is 1000J Find the amount of energy obtains to the grasshopper.

09. Calculate the energy obtain to the frog.....

10. What is the amount of energy that lost when energy is obtained to the cobra?

### Ecological pyramids



11. Name 03 types of ecological pyramids.

1..... 2..... 3.....

12. Identify the pyramids shown as A, B, C, D and name them separately.

A.....

B.....

C.....

D.....

13. What is the ecological pyramid that never be inverted?

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## 2. Biogeochemical cycles

**The process of cyclic circulation of essential chemical components through atmosphere, hydrosphere and lithosphere of biosphere is called "Biogeochemical cycle".**

14. Name 03 biogeochemical cycles that help to maintain the natural environmental balance.

15. Draw the carbon cycle and nitrogen cycle and mark them.

16. Name main 03 methods of nitrogen fixation and collect more facts about that.