

**TASK 1. Find the synonyms of the highlighted words from the words in the box.**

An ecosystem is a geographic area where plants, animals, and other organisms, as well as weather and **LANDSCAPE** \_\_\_\_\_, work together to form a bubble of life. Ecosystems **CONTAIN** \_\_\_\_\_ biotic or living, parts, as well as abiotic **FACTORS** \_\_\_\_\_, or nonliving parts. Biotic factors include plants, animals, and other organisms. Abiotic factors include rocks, temperature, and **HUMIDITY** \_\_\_\_\_. Every factor in an ecosystem depends on every other factor, either directly or indirectly. A change in the temperature of an ecosystem will often **AFFECT** \_\_\_\_\_ what plants will **GROW** \_\_\_\_\_ there, for instance. Animals that **DEPEND** **ON** \_\_\_\_\_ plants for food and shelter will have to adapt to the changes, move to another ecosystem, or perish.

<b>Enclose</b>	<b>Moisture</b>	<b>Aspects</b>	<b>Flourish</b>
<b>Modify</b>	<b>Scenery</b>	<b>Rely on</b>	

**TASK 2. Match the parts of the sentences.**

**Food chain**

1. A food chain is the linear	a) a single straight pathway from the lower trophic level to the higher trophic level.
2. In a food chain, the flow of energy is through	b) if one group of an organism is disturbed.
3. In a food chain, members present at high trophic	c) sequence of organisms for feeding purposes.
4. Energy flow can be easily	d) level feeds on only a single type of organism.
5. In the food chain, there is increased instability	e) feed upon the single type of organisms of the lower trophic level
6. The whole food chain gets affected even	f) calculated in the food chain.
7. Member of higher trophic level depends or	g) due to the increasing number of separate and confined food chains.

### **TASK 3. Match the terms with their definitions.**

Ecosystem: composed of species assemblages (producers and consumers) that interact with each other and their associated abiotic environment within well-defined natural or conceptual boundaries.

<b>1. Food Chains:</b>	a) A complex network of interconnected food chains that represent the flow of energy in an ecosystem.
<b>2. Food Web:</b>	b) is the consumer organism that occupies the second position on the food chain.
<b>3. Trophic Level:</b>	c) Consumers that primarily eat other animals.
<b>4. A secondary consumer</b>	d) Composed of species that are connected by the flow of energy and material from producers
<b>5. Herbivore:</b>	e) Groups of individuals classified as primary producers or primary or secondary consumers within food webs; individuals feeding both as primary and secondary consumers are omnivores.
<b>6. Carnivore:</b>	f) Consumers that feed exclusively on plants.

<b>1. Primary consumer</b>	a) Living components of an ecosystem, including plants, animals, and microorganisms.
<b>2. Omnivore:</b>	b) an animal that eats plants and therefore changes the energy from the sun that is stored in plants into meat that can be eaten by other animals.
<b>3. Energy Pyramid:</b>	c) Non-living components of an ecosystem, such as temperature, water, and soil.
<b>4. Biotic Factors</b>	d) Consumers that eat both plants and animals.
<b>5. Abiotic Factors:</b>	e) The percentage of energy transferred from one trophic level to the next in a food chain or food web.
<b>6. Trophic Efficiency:</b>	f) A graphical representation of the trophic levels in an ecosystem, showing the flow of energy from producers to consumers.

**Task 4. Read the text and decide if the sentences below are True or False.**

### **HOW ORGANISMS ACQUIRE ENERGY IN A FOOD WEB**

Energy is acquired by living things in three ways: photosynthesis, chemosynthesis, and the consumption and digestion of other living or previously living organisms by heterotrophs.

Photosynthetic and chemosynthetic organisms are both grouped into a category known as autotrophs: organisms capable of synthesizing their own food (more specifically, capable of using inorganic carbon as a carbon source). Photosynthetic autotrophs (photoautotrophs) use sunlight as an energy source, whereas chemosynthetic autotrophs (chemoautotrophs) use inorganic molecules as an energy source. Autotrophs are critical for all ecosystems. Without these organisms, energy would not be available to other living organisms and life itself would not be possible.

Photoautotrophs, such as plants, algae, and photosynthetic bacteria, serve as the energy source for a majority of the world's ecosystems. These ecosystems are often described by grazing food webs. Photoautotrophs harness the solar energy of the sun by converting it to chemical energy in the form of ATP (and NADP). The energy stored in ATP is used to synthesize complex organic molecules, such as glucose.

Chemoautotrophs are primarily bacteria that are found in rare ecosystems where sunlight is not available, such as in those associated with dark caves or hydrothermal vents at the bottom of the ocean. Many chemoautotrophs in hydrothermal vents use hydrogen sulfide ( $H_2S$ ), which is released from the vents as a source of chemical energy. This allows chemoautotrophs to synthesize complex organic molecules, such as glucose, for their own energy and in turn supplies energy to the rest of the ecosystem.

1. Photosynthetic organisms, known as autotrophs, can synthesize their own food using sunlight as an energy source.
2. Chemosynthetic autotrophs use organic molecules as an energy source to carry out the process of photosynthesis.
3. Autotrophs are crucial for ecosystems because they provide energy to other living organisms through processes like photosynthesis.
4. Photoautotrophs, such as plants and algae, convert solar energy into chemical energy stored in ATP during the process of chemosynthesis.
5. Chemoautotrophs, found in dark caves and hydrothermal vents, utilize hydrogen sulfide as a source of chemical energy for synthesizing complex organic molecules.
6. The absence of autotrophs in ecosystems would render energy unavailable to other living organisms, making life impossible.