I'm not a robot



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Food comes from space! [Various animals look up in surprise.] Well, sort of. Pizza doesn't come from Mars, it originally comes from their food originally comes from around 93 million miles away. Is that possible? Can you guess where that could be? Yes,
it's the Sun. So what happens to the Sun's energy when it reaches Earth? Well, green plants convert the Sun's rays into energy through a process called photosynthesis. Almost all food chains begin with a green plant. Here in the sea, seaweed and plankton do the job. A plant that converts the Sun's rays into energy is called a producer. They are the
start of a food chain. Animals get all the energy and nutrients they need to live from eating grass or leaves. Animals that eat the primary consumers are secondary consumers are secondary consumers. These little guys munch down on the plankton like a caterpillar eating grass or leaves. Animals that eat the primary consumers are secondary consumers.
consumer is prey and the secondary consumer is the predator. But predator can become prey. This is the strange but amazing frogfish. Nothing else eats frogfish. Nothing else eats frogfish. Nothing else eats frogfish. Nothing else eats frogfish.
moves up the food chain to the top predator. These are some plants and animals you might be more familiar with. How would they fit into a food chain to the top predator. These are some plants and where does the energy from the Sun moves up through the food chain to the top predator. These are some plants and where does the energy from the Sun moves up through the food chain? What eats what and where does the energy from the Sun moves up through the food chain? What eats what and where does the energy from the Sun moves up through the food chain? What eats what and where does the energy from the Sun moves up through the food chain? What eats what and where does the energy from the Sun moves up through the food chain? What eats what and where does the energy from the Sun moves up through the food chain? What eats what and where does the energy from the Sun moves up through the food chain? What eats what and where does the energy from the Sun moves up through the food chain? What eats what and where does the energy from the Sun moves up through the food chain? What eats what and where does the energy from the Sun moves up through the food chain? What eats what and where does the energy from the Sun moves up through the food chain? What eats what and where does the energy from the Sun moves up through the food chain? What eats what and where does the energy from the Sun moves up through the food chain? What eats what and where does the energy from the sun moves up through the food chain? What eats what and where does the energy from the sun moves up through the food chain? What eats what and where does the energy from the sun moves up through the food chain? What eats what eats what and where the food chain? What eats where the food chain? What eats 
are weak and damaged. But what's caused it? Amazingly, it was a pesticide called DDT used around 50 years ago to kill insect pests and protect crops. But how did this happen? A food chain can show us. We see pigeons pecking at the soil. We see a Peregrin falcon catching and eating a pigeon. The DDT was taken in by plants or insects. These were
then eaten by birds, who in turn, were eaten by Peregrin falcons, which caused their eggs not to grow properly and have thin shells. So, just like energy, if a poison enters a food chain, it is passed along and has knock-on effects on all the animals up the chain. What do you think would happen if one plant or animal in a food chain was removed? If there
is nothing to eat a consumer, its population can grow out of control. In many parts of Britain this is happening to the deer population. We don't have wolves in Britain anymore, so the deer have no natural predator higher up the food chain that eats them. Deer eat woodland shrubs and undergrowth. So if there are too many of them, it can cause a lot of
damage to the habitat of other animals like woodland birds. They are also destroying important woodland plants. When one population is out of control, it can effect many others. Most animals don't just eat one thing. In any ecosystem there are lots of food chains that all link together. This is called a food web. A food web is all the food chains that make
up an ecosystem, from producers to consumers to top predators. But here's a question. What happens to the energy and minerals in the top predators. They consume dead animals, decaying plant material and waste products from other
members of the ecosystem and return the nutrients to the soil, which helps the green plants to grow and the whole food chain, Food web, and food pyramid are part of an ecosystem through which different living organisms interact among themselves to meet
their food and energy requirements. Complete answer: 1. Food chain- A food chain is described as a linear chain which shows the feeding relationship between animals and shows us who eats whom. 2. Food web- Food web is a complex net-like structure formed by the linking
of different food chains at different sites. A food web shows numerous food chains and connections. This is a more realistic way to show the feeding relationship in an ecosystem as one organism feeds on more than one organism shows how
energy flows from one trophic level to another trophic level in a pyramid. It takes into account a simple food chain and not a food web. No energy that is trapped into an organism remains forever with them. The energy is passed through the
detritus food chain. Note: Based on the source of nutrition or food, organisms occupy a specific place in the food chain known as trophic level. Trophic level of an organism dies. Decomposers meet their nutrient and energy requirements through dead and
decaying organic matters or detritus. They secrete digestive enzymes converting the complex organic matter into simple inorganic matter into simple into
from inorganic substances like carbon dioxide and water by using sunlight energy in the presence of chlorophyll. Examples: Green plants and blue-green algae Consumers: The organisms which consumers for their sustenance. Three Types: Herbivores: The
animals which eat only plants are called herbivores. Examples- Horse, deer, cow, rabbit, squirrel etc. The animals which get their food by eating the producers directly are called primary consumers. Examples- Lion, tiger, snake, hawk etc. The small
carnivores which feed on primary consumers are called secondary consumers are called derivores. Examples are called derivores which feed upon the secondary consumers are called derivores. Examples are called derivores which feed upon the secondary consumers are called derivores.
fungi which break down the complex organic substances are called decomposers. Food Chain: A sequence of the living organisms in a community, through which food energy is transferred from one organism to another organism by consuming, is called a food
chain. Examples of food chain: GRASS $ \to $ GRASSHOPPER$ \to $ FROG $ \to $ SNAKE $ \to $ FROG Carnivore) (Carnivore) (Carniv
number of interconnected food chains existing in an ecosystem which contains many under crosses and linkages among the various species present in it is called a food web. Trophic levels. The producers or autotrophs constitute the
first trophic level. The herbivores or primary consumers constitute the second trophic level. The top carnivores or secondary consumers constitute the fourth trophic level. The top carnivores or secondary consumers constitute the third trophic level. The top carnivores or secondary consumers constitute the third trophic level. The top carnivores or secondary consumers constitute the fourth trophic level.
particular trophic level is transferred to the next higher trophic level. The amount of energy available at the previous trophic level, some of the energy is lost to the environment as heat and some
of the energy is consumed for metabolic activities. Only 10 percent of the energy is converted to biomass and is available for the next trophic level. Flow of Energy in Food Chain is Unidirectional. In a food chain, organisms (prey gets converted
to biomass and energy of the predator. The process continues for higher trophic levels. Since, predators cannot be consumed by prey, the flow of biomass and energy is unidirectional. Food chains generally consist of only three or four steps. Reason: The amount of energy and biomass available to the organisms of a trophic level is only 10 percent of
that available to the previous trophic level, or individuals present in a trophic level goes on decreasing towards the top. After fourth trophic level, very little usable energy remains for the organisms and the food chain becomes unsustainable. A large number of individuals (producers) are present at the lower trophic levels of an
ecosystem. The amount of energy and biomass available to the organisms of a trophic level is only 10 percent of that available to the previous trophic level. So, the number of individuals present in a trophic level goes on decreasing towards the top. Bio- magnification The increase in the concentration of non-biodegradable chemicals in the organisms of
a trophic level due to accumulation of the chemicals from previous trophic level is termed as biomagnifications. Effective management and ways of solid waste disposal: Recovery and recycling Source reduction Incineration Dumping (Land filling) Treatment of sewage Table of Contents Food Chain: IntroductionA food chain explains which organism
eats another organism in the environment. The food chain is a linear sequence of organisms where nutrients and energy is transferred from one organism. It begins with the producer organism to the other. This occurs when one organism to the other. This occurs when one organism to the other organism.
food chain, we realise how one organism is dependent upon another organism for survival. Now, lets look at the other aspects of a food chain, to get a better understanding. A food chain refers to the order of events in an ecosystem, where one living organism eats another organism is dependent upon another larger organism. The
flow of nutrients and energy from one organism to another at different trophic levels forms a food chain, starting with producers at the bottom, followed by primary, secondary and tertiary consumers.
Every level in a food chain is known as a trophic level. The food chain consists of four major parts, namely: The Sun: The sun is the initial source of energy, which provides energy for everything on the planet. Producers: The producers in a food chain include all autotrophs such as phytoplankton, cyanobacteria, algae, and green plants. This is the first
stage in a food chain. The producers make up the first level of a food chain. The producers are any plant or other organisms that producers are also known as autotrophs as they make their own food. Producers are all organisms
that are dependent on plants or other organisms for food. This is the largest part of a food web, as it contains almost all living organisms. It includes herbivores which are animals that eat other animals 
that eat dead animals carcasses. Here, herbivores are known as primary consumers and carnivores are secondary consumers or herbivores are organisms that get energy from dead or
waste organic material. This is the last stage in a food chain. Decomposers are an integral part of a food chain, as they convert organic materials into inorganic materials, which enriches the soil or oceans, that can be
utilised by autotrophs or producers. Thus, starting a whole new food chain. Several interconnected food chain. Occasionally, a single organism is consumed by many predators or it consumes several other organisms. Due to this, many
trophic levels get interconnected. The food chain fails to showcase the flow of energy in the right way. But, the food web gets more complex. This
complexity in a food web leads to a more sustainable ecosystem. There are two types of food chain: The detritus food chain includes different species of organisms and plants like algae, bacteria, fungi, protozoa, mites, insects, worms and so
on. The detritus food chain begins with dead organic material. The food energy passes into decomposers and detritivores, which are further eaten by smaller organisms like carnivores, like maggets, become a meal for bigger carnivores like frogs, snakes and so on. Primary consumers like fungi, bacteria, protozoans, and so on are
detritivores which feed on detritus. Grazing food chain: The grazing food chain is a type of food chain, the first energy in the lowest trophic level is acquired from photosynthesis. In this type of food chain, the first energy transfer is from plants to herbivores
This type of food chain depends on the flow of energy from autotrophs to herbivores. As autotrophs are the base for all ecosystems in the environment follow this kind of food chain. Understanding food chains is vital, as they explain the intimate relationships in an ecosystem. A food chain shows us how every living
organism is dependent on other organisms for survival. The food chain explains the path of energy flow inside an ecosystem. Producers, also known as autotrophs, comprise the first level in a food chain follows a single path, where animals discover food. But a food web shows different paths, where plants and animals are connected. A
food web comprises several food chains. In a food chain, an organism eats a single item, whereas in a food web, there are different paths for energy flow. The role of humans in the food chain varies, depending on what the human consumes
as food. If humans consume only plants, they are known as a secondary consumers, and so on. So they are referred to as omnivores. Animals are known as a secondary consumer, and so on. So they are referred to as omnivores. Animals are known as a secondary consumer, and so on. So they are referred to as omnivores. Animals are known as a secondary consumer, and so on. So they are referred to as omnivores.
producers who make food, continues with consumers who eat the food and ends with the topmost predator. To explore more information about food chains, register with BYJUS Biology. Put your understanding of this concept to test by answering a few MCQs. Click Start Quiz to begin! Select the correct answer and click on
the Finish buttonCheck your score and answers at the end of the quiz Visit BYJUS for all Biology related queries and study materials 0 out of 0 are correct 0 out of 0 are wrong 0 out of 0 are wrong 0 out of 0 are wrong 1 out of 0 are wrong 0 out of 0 are wrong 0 out of 0 are wrong 1 out of 0 are wrong 1 out of 0 are wrong 0 out of 0 are wrong 1 out of 0 are wrong 
in the ecosystem which interact with each other for different purposes. There is a linear sequence wherein one organism or plant is consumed by the other and this is known as the Food Chain. In technical terms, Food Chain is the sequence through which transfer of energy takes place within a particular ecosystem. The energy transfer is crucial for
survival and sustenance of living organisms. A variety of food chains interlink to form a food web which is the bigger, more complex form of energy transfer sequence. The complexities arise because many organisms consume different other organisms below them in the food chain. The primary food source of the food chain are plants as they use solar
energy to produce food through the process of photosynthesis. Students can find the intricacies of the food chain, food web, trophic levels and examples in this article. Read on to find out more. A food chain is a sequence of organisms through which nutrients and energy is transferred in the form of food from organism to organism. The food chain
describes who eats whom for survival in an ecosystem. The food chain is also the pathway for the transferred to the Consumers and thereafter to Decomposers. The food chain will vary for different ecosystems. lets go through some food chain examples: Food Chain in
a forest: The producers in a forest ecosystem are plants & trees. The Deer feeds on a deer. Plants > Deer > Tiger Food Chain in a grassland: In a grassland ecosystem, grass produces its own food from sunlight. A grasshopper feeds on grassland: In a grassland ecosystem, grass produces its own food from sunlight.
snake feeds on a frog and an eagle feeds on a snake. Grass > Grasshopper > Frog > Snake > Eagle Food Chain in a pond: The producers in the pond ecosystem can be algae or aquatic plants which are consumed by small insects or small insects or fishes. Thereafter, fish-eating birds or animals will consume
large fish forming a chain. Algae > Small Fishes > Fish Eating Birds This is the food chain diagram for the examples mentioned above: Source: NCERT Textbook Each step or level of the food chain forms a trophic level. The autotrophs or the producers are the first at the trophic level. Thereafter, Primary consumers and Secondary
Consumers follow. The last trophic level is that of the decomposers. These tropic levels help us understand the food chain and transfer of energy in various trophic level as producers. All the green plants and a few other organisms are classified as
producers. The producers utilise solar energy and convert them into nutrients. Producers are also called autotrophs as they prepare their own food. Producers make up the first level in the food chain. Consumers are organisms that are dependent on green plants or other autotrophs for food. The herbivores feed upon green plants and are
called the primary consumers. Thereafter, the carnivores eat the herbivores, parasites that live on other organisms by extracting nutrients from the dead animals are part of secondary consumers. Decomposers are organism that derives nutrients for survival from the dead and
decaying organic matter. Decomposers are the last trophic level of the food chain. They convert the organic matter into inorganic matter. Decomposers are the last trophic level of the food chain. They convert the organic matter into inorganic matter into inorganic
detritus food chain begins with dead organic matter. Several organisms and plants like algae, bacteria, fungi, protozoa, mites, insects, worms, etc are part of this food chain. The decomposers are at the starting level of this food chain. The decomposers are at the starting level of this food chain.
maggots. The secondary consumers are the bigger carnivores like frogs, snakes, etc. Thereafter, other bigger organisms feed upon them to become a part of the chain. Grazing food chain starts with the green plants as the producers. the cycle thereafter passes through the herbivores to the carnivores. The energy in the lowest
level of the grazing food chain is acquired through photosynthesis. In an ecosystem, an organisms and at the same time can be a predator for several other organisms. Due to this, many trophic levels get
interconnected forming a complex food web. The following image is that of a food web. Source: NCERT Textbook Transfer of energy happens at every trophic level. In a terrestrial ecosystem, green plants capture about 1% of the energy of sunlight that falls on their leaves and converts it into food energy. Thereafter, the energy is further transferred
to each trophic level. However, at each trophic level, there is a loss of energy in the form of heat to the environment. 10% can be taken as the average value for the amount of organic matter that is present at each step and reaches the next level of consumers. As the energy loss is huge at each step, the food chains generally consist of only three or
and the carnivores are the secondary consumers. Q2. What is a trophic level? Ans: Each step or level of the food chain forms a trophic level. Q3. Whats an example, a cow eats grass, and the cow is eaten by humans. The food chain looks
like this: Grass Cow Humans. Q4. What food chain are humans in?Ans: Humans are said to be at the top of the food chain as we eat different types of plants and a food web?Ans: Food Chain is a linear sequence where the trophic levels are
                 Whereas, the food web is a complex interconnection of the food web. Check Also: CBSE NCERT Class 6 Science SyllabusEnergy Flow in Ecosystem We hope this article has helped you. If you have any questions feel to post in the comment section below. We will get back to you at the earliest. Stay tuned to embibe for more. Share copy
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your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Food we eat acts as a fuel to provide us energy to do work. In any given ecosystem, all living organisms are linked in a systematic chain with respect to their mode of manufacturing food/feeding habits. The interactions among
 various components of the environment involves flow of energy from one component of the ecosystem to other.(a) In a grassland ecosystem, all green plants (herbs, shrubs and trees) are producers. These autotrophs manufacture their food by utilising the radiant energy of the sun by the process of photosynthesis. During photosynthesis, producers
capture solar energy and convert it into chemical energy. (b) These autotrophs (producers) are eaten up by plant eaters, i.e., carnivores (primary consumers).(d) The carnivores may be eaten up by larger carnivores (tertiary consumers). All
organisms are inter-linked in a definite sequence and involve transfer of energy from producers, through a series of organisms with repeated eating and being eaten is called the food chain. In ecosystems, different food
food chain where transfer of energy occurs are referred to as different trophic level-the producer level.(c) and the flesh eaters (carnivores), also called primary consumers, belong to second trophic level-the producer level-the producer level.(b) the plant eaters (carnivores), also called
secondary consumers, represent the third consumer level- the secondary consumer level and so on. The quantum of available energy in a food chain involves a nutritive interaction between the living organisms (biotic components) of an ecosystem
In a food chain, there occurs repeated eating, i.e., each group eats the other group and subsequently is eaten by some other group of organisms. (2) A food chain, there is unidirectional flow of energy from sun to producers and subsequently to series of different types of
consumers. (4) Usually, there are 3 or 4 trophic levels in the food chain. In few chains, there may be maximum of 5 trophic levels in the food chain involving two-steps in a forest ecosystem is represented as: In this food chain, plants are the
starting point of this food chain which are termed producers. These use solar radiations (sunlight) to prepare their food by the process of photosynthesis. The plants are termed herbivores (primary consumers). Thus, food energy from plants is transferred to elephants which are termed herbivores (primary consumers).
three-steps:Grass >Deer > Tiger(Producer) (Herbivore) (Carnivore) In this food chain grass is the starting point of food chain and is termed producer. It fixes sunlight energy to prepare food by the process of photosynthesis. The grass is eaten up by deer which are termed herbivores (primary consumers). Thus, food energy is transferred from grass to
deer (herbivore). Deer are subsequently eaten up by tigers which are termed carnivores (secondary consumer) and from herbivores (secondary consumer). This transfer of energy from producers to herbivores (secondary consumer) and from herbivores (secondary consumer) and from herbivores (secondary consumer).
cannot occur in the reverse direction, i.e. from elephants to plants (First example) and from deer to grass (second example). Food web is a network of feeding connections amongst different organisms of a bioticcommunity. Food chains which become interconnected at various trophic levelsso as to form a number of feeding connections amongst different organisms of a bioticcommunity. Food chains which become interconnected at various trophic levels of feeding connections amongst different organisms of a bioticcommunity. Food chains which become interconnected at various trophic levels of feeding connections.
webs are never straight. Instead, each food web is formed by interlinking of food chains.(2) A food web provides alternative pathways of food availability, For example, if a particular species of producers. Similarly, secondary consumers (e.g.,
predatory birds) may feed on rats or mice in the event of decrease in population of rabbits in that area on which they also commonly feed. (3) Food webs also help in checking the over populations of highly fecundive species of plants and animals. (5) Food webs also help
in ecosystem development. Each organism needs energy, used by living organisms, is the sun.(1) In a community, each food chain, in fact, represents stepwise transfer of food (energy). (2) Of the total solar radiations falling on the earth,
only about 1% are captured by green plants in a terrestrial ecosystem and converted into food energy by photosynthesis. This energy is stored as chemical energy of food. The plants in a terrestrial ecosystem and converted into food energy by photosynthesis. This energy is stored as chemical energy is not utilised and is released in the environment as
unusable heat energy.(3) When green plants are eaten by herbivores (primary consumers), a great deal of energy is used in doing work by the plants and the remaining goes towards growth and reproduction. On an average, 10% of the
food (energy) is turned into body of herbivores. In the same way, 10% of total energy available to the herbivores is made available for the next consumers. On an average, 10% of the amount of organic matter that is present at each trophic reaches the next level of consumers. On an average, 10% of the amount of available energy goes on decreasing at each trophic reaches the next level of consumers.
level, food chains usually consist of only 3 or 4 steps and rarely maximum of 5 steps. (5) In an ecosystem, generally, the producers are maximum in number. As we move along the chain, the number of individuals at each trophic level decreases. Ten Per Cent Law: It is also termed as second law of thermodynamics or law of entropy. According to this
law, transfer of energy from one trophic level to other trophic level is never 100 per cent. It is so because most of energy gets lost as heat in the environment during each transfer. On an average, about 10% of energy gets lost as heat in the environment during each transfer.
various levels of consumers. The energy captured by the producers does not revert back to solar input. Similarly, the energy which passes to herbivores does not come back to producers. As it moves progressively through various trophic levels, it is no longer available to the previous level.(ii) Some harmful non-biodegradable chemicals (pesticides,
e.g., D.D.T. and heavy metals such as mercury, arsenic, cadmium etc.) enter the bodies of organisms through the food chains and go on concentration of harmful non-biodegradable
chemicals at different trophic levels in a food chain is called biomagnification. By the excessive use of fertilisers and diseases so as to increase their production. These excess harmful chemicals are either washed down into the soil or into the water
bodies. From the soil, these harmful chemicals are absorbed by the plants along with water and minerals. Similarly, from water bodies , these are taken up by aquatic plants. In this way, they enter the food chain. Since these chemicals are non-biodegradable, these go on accumulating progressively at each trophic level. As we occupy the top level in
any food chain, their concentration becomes maximum in our bodies. Therefore, affect us and other biotic components of the environment. As a result of biomagnification, varying amount of pesticide residues are present in our food. Author of this website, Mrs. Shilpi Nagpal is MSc (Hons, Chemistry) and BSc (Hons, Chemistry) from Delhi University
B.Ed. (I. P. University) and has many years of experience in teaching. She has started this education to everyone. Afood web(orfood cycle) depicts feeding connections (what eats what) in anecologists can broadly
lump all life forms into one of two categories calledtrophic levels: 1) theautotrophs, and 2) theheterotrophs, and toreproduce, autotrophs produceorganic matter frominorganic matter frominorganic matter from into one of two categories calledtrophic levels: 1) theautotrophs, and 2) theheterotrophs, and 2) theheterotrophs, and toreproduce, autotrophs produceorganic matter from into one of two categories calledtrophic levels: 1) theautotrophs, and 2) theheterotrophs, and 2) theheterotrophs, and 2) theheterotrophs are calledtrophic levels: 1) theautotrophs are calledtrophic levels: 1) the calledtrophic levels: 1) theautotrophs are calledtrophic levels: 1) the calledtrophic levels: 1
thesunand largely byphotosynthesis, although a very small amount comes fromhydrothermal ventsandhot springs. A gradient exists between trophic levels running from complete autotrophs that obtain organisms that partially obtain organisms that partially obtain organisms that obtain their sole source of carbon from the atmosphere, tomixotrophs (such ascarnivorous plants) that are autotrophic organisms that partially obtain organically obtain organisms.
matter from sources other than the atmosphere, and completeheterotrophs obtain organic matter. The linkages in a food web illustrate the feeding pathways, such as where heterotrophs obtain organic matter by feeding on autotrophs and other heterotrophs. The food web is a simplified illustration of the various methods of feeding
that links an ecosystem into a unified system of exchange. There are different kinds of feeding relations that can be roughly divided intoherbivory, scavenging and parasitism. Some of the organic matter eaten by heterotrophs, such assugars, provides energy. Autotrophs and heterotrophs come in all sizes, frommicroscopicto manytonnes-
fromcyanobacteriatogiant redwoods, and fromvirusesandbdellovibriotoblue whales. Food web, consisting of many food chains CHARACTERISTICS OF A FOOD WEB: 1. Unlike food chains. 2. A food web provides alternative pathways of food availability. For
example, if a particular species of producer is destroyed by a disease in the ecosystem, the herbivores of that area on which they also commonly feed. 3. Greater
alternatives available in a food web make the ecosystem more stable. 4. Food webs also help in checking the overpopulation of highly fecundive species of plants and animals. 5. Food webs also help in ecosystem development. DIFFERENCE BETWEEN FOOD CHAIN AND FOOD WEB: Food webs also help in checking the overpopulation of highly fecundive species of plants and animals. 5. Food webs also help in ecosystem development.
transfer of food energy in the ecosystem 1. It consists of a number of interconnected food chains through which food energy is passed in the ecosystem 2. Members of higher trophic level can feed as a number of alternative organisms of the lower trophic level.
level. 3. Presence of food web increases the stability of the ecosystem Aspect of ecosystems for other uses, see Food chain in a Swedish lake. Osprey feed on northern pike, which in turn feed on perch which eat crustaceans. A food chain is a linear network of links in a food web, often starting with an
autotroph (such as grass or algae), also called a producer, and typically ending at an apex predator (such as grizzly bears or killer whales), detritivore (such as fungi or bacteria). It is not the same as a food web. A food chain depicts relations between species based on what they consume for energy
in trophic levels, and they are most commonly quantified in length: the number of links between a trophic consumer and the base of the chain. Food chain stability is very important for the survival of most species. When only one element is removed from the food chain it can result in
extinction or immense decreases of survival of a species. Many food chains and food webs contain a keystone species that has a large impact on the surrounding environment and that can directly affect the food chain. If a keystone species is removed it can set the entire food chain off balance.[1]The efficiency of a food chain depends on the
energy first consumed by the primary producers.[2] This energy then moves through the trophic levels. Food Chains were first discussed by al-Jahiz, a 10th century Arab philosopher. [3] The modern concepts of food chain follows a direct
linear pathway of consumption and energy transfer. Natural interconnections between food chain models typically predict that communities are controlled by predators at the top and plants (autotrophs or
producers) at the bottom.[8]Trophic pyramids (also called ecological pyramids) model trophic levels in a food chain typically consists of primary producers. Primary producers, or autotrophs, utilize energy derived from either sunlight or inorganic chemical compounds to create
complex organic compounds, such as starch, for energy. Because the sun's light is necessary for photosynthesis, most life could not exist if the sun disappeared. Even so, it has recently been discovered that there are some forms of life, chemotrophs, that appear to gain all their metabolic energy from chemosynthesis driven by hydrothermal vents, thus
showing that some life may not require solar energy to thrive. Chemosynthetic bacteria and archaea use hydrogen sulfide and methane from hydrothermal vents and cold seeps as an energy source (just as plants use sunlight) to produce carbohydrates; they form the base of the food chain in regions with little to no sunlight. [9] Regardless of where the
energy is obtained, a species that produces its own energy lies at the base of the food chain model, and is a critically important part of an ecosystem. [10] Higher trophic levels cannot produce their own energy and so must consumers, and is a critically important part of an ecosystem.
tertiary consumers, etc.). Consumers are organisms that eat other organisms. All organisms in a food chain, except the first organisms, are consumers, etc. At the highest trophic level is typically an apex predator,
a consumer with no natural predators in the food chain model. When any trophic level dies, detritivores and decomposers and detritivores are the environment in their waste. Decomposers and detritivores are the
simple nutrients that plants require to create organic compounds. It is estimated that there are more than 100,000 different decomposers in existence. Models of trophic levels also often model energy transfer between trophic levels. Primary consumers get energy from the producer and pass it to the secondary and tertiary consumers. Food chains are
vital in ecotoxicology studies, which trace the pathways and biomagnification of environmental contaminants.[11] It is also necessary to consider interactions amongst different trophic levels and community/ecosystem investigations.[8]This
food web of waterbirds from Chesapeake Bay is a network of food chains are directional paths of trophic energy and an index of ecological structure that increases through the linkages from the lowest to the highest trophic energy or continuous variable providing a measure of the passage of energy and an index of ecological structure that increases through the linkages from the lowest to the highest trophic energy and an index of ecological structure that increases through the linkages from the lowest to the highest trophic energy and an index of ecological structure that increases through the linkages from the lowest to the highest trophic energy and an index of ecological structure that increases through the linkages from the lowest to the highest trophic energy and an index of ecological structure that increases through the linkages from the lowest to the highest trophic energy and an index of ecological structure that increases through the linkages from the lowest to the highest trophic energy and an index of ecological structure that increases through the linkages from the lowest to the highest trophic energy and an index of ecological structure that increases through the linkages from the lowest to the highest trophic energy and an index of ecological structure that increases through the linkages from the lowest to the lowest t
equivalently, sequences of links that start with basal species, such as producers or fine organic matter, and end with consumer organisms.[12]:370Food chains are often used in ecological modeling (such as a three-species food chain). They are simplified abstractions of real food webs, but complex in their dynamics and mathematical implications.
[13] In its simplest form, the length of an entire web is the arithmetic average of the lengths of all chains in the food web.[14] The food chain is an energy source diagram. The food chain begins with a producer, which is eaten by a primary
consumer. The primary consumer may be eaten by a secondary consumer, which in turn may be consumer by a tertiary consumers. For example, a food chain might start with a green plant as the producer, which is eaten by a snail, the
primary consumer. The snail might then be the prey of a secondary consumer such as a frog, which itself may be eaten by a tertiary consumer such as a snake which in turn may be consumer by a tertiary consumer such as a frog, which itself may be eaten by a tertiary consumer such as a frog, which itself may be eaten by a tertiary consumer such as a snake which in turn may be consumer such as a frog, which itself may be eaten by a tertiary consumer such as a frog, which itself may be eaten by a tertiary consumer such as a frog, which itself may be eaten by a tertiary consumer such as a frog, which itself may be eaten by a tertiary consumer such as a frog, which itself may be eaten by a tertiary consumer such as a frog of the first such as a frog of th
real situation in which the juveniles of a species belong to a lower trophic level than the adults, a situation more often seen in aquatic and amphibious environments, e.g., in insects and fishes. This complexity was denominated metaphoetesis by G. E. Hutchinson, 1959.[15] Ecologists have formulated and tested hypotheses regarding the nature of
ecological patterns associated with food chain length, such as length increasing with ecosystem volume, [16] limited by the reduction of energy at each successive level, [17] or reflecting habitat type. [18] Food chain length is important because the amount of energy transferred decreases as trophic level increases; generally only ten percent of the total
energy at one trophic level is passed to the next, as the remainder is used in the metabolic process. There are usually no more than five tropic levels in a food chain.[19] Humans are able to receive more energy by going back a level in the chain and consuming the food before, for example getting more energy per pound from consuming a salad than
an animal which ate lettuce. [20][2]The sea otter is a prime example of a keystone species within an ecosystem that without their presence, an ecosystem to stopp that others within an ecosystem that without their presence, an ecosystem to stopp the sea otter is a prime example of a keystone species within an ecosystem that others within an ecosystem that others within an ecosystem that others within an ecosystem to stopp the sea otter is a prime example of a keystone species.
existing entirely.[21] One way keystone species impact an ecosystem is through their presence in an ecosystem is through their presence in an ecosystem species in Pacific coastal regions, prey on sea urchins.[23] Without the presence of sea otters, sea urchins practice destructive grazing on kelp
populations which contributes to declines in coastal ecosystems within the northern pacific regions. [23] The presence of sea otters controls sea urchin populations and helps maintain kelp forests, which are vital for other species within the ecosystem. [21] Ecology portal Heterotroph Lithotroph Ecological pyramid Predator-prey interaction "The Food
Chain". www2.nau.edu. Retrieved 2019-05-04. a b Rowland, Freya E.; Bricker, Kelly J.; Vanni, Michael J.; Gonzlez, Mara J. (2015-04-13). "Light and nutrients regulate energy transfer through benthic and pelagic food chains". Oikos. 124 (12). Nordic Foundation Oikos: 16481663. Bibcode: 2015-0ikos. 124.1648R. doi:10.1111/oik.02106. ISSN 1600-
0706. Retrieved 2019-10-25 via ResearchGate. Agutter, Paul S.; Wheatley, Denys N. (2008-11-05). Thinking about Life: The history and philosophy of biology and other science & Business Media. p.43. ISBN 978-1-4020-8866-7. Elton, C. S. (1927). Animal Ecology. London, UK.: Sidgwick and Jackson. ISBN 0-226-20639-4. {{cite
book}}: ISBN / Date incompatibility (help)^ Allesina, S.; Alonso, D.; Pascal, M. (2008). "A general model for food web structure" (PDF). Science. 320 (5876): 658661. Bibcode: 2008Sci...320..658A. doi:10.1126/science. 320 (5876): 658661. Bibcode: 2008Sci...320..658A. doi:10.1126/science. 320 (5876): 658661. Bibcode: 320 (5876): 65860. Bibcode: 320 (5876): 65860. 
food chains and food webs, 1700-1970". Bulletin of the Ecological Society of America. 88: 5069. doi:10.1890/0012-9623(2007)88[50:UFCAFW]2.0.CO;2.^ a b Wootton, J T; Power, M E (1993-02-15). "Productivity, consumers, and the structure of a river food chain". Proceedings of the National Academy of Sciences. 90 (4): 13841387.
2024-04-15.^ Fretwell, Stephen D. (1987). "Food Chain Dynamics: The Central Theory of Ecology?". Oikos. 50 (3): 291301. Bibcode:1987Oikos..50..291F. doi:10.2307/3565489. ISSN0030-1299. JSTOR3565489. Stable isotope study"
dominate food web links". Proceedings of the National Academy of Sciences. 103 (30): 1121111216. Bibcode: 2006PNAS.. 10311211L. doi:10.1073/pnas.0604755103. PMC1544067. PMID16844774. G. E. Hutchinson. 1959. Homage to Santa Rosalia or Why Are There So Many Kinds of Animals? The American Naturalist, Vol. 93, No. 870 (May - Jun.
ISBN978-0-534-42066-6.^ Briand, Frederic (Oct 1983). "Biogeographic Patterns in Food Web Organization". Oak Ridge National Laboratory Reports. ORNL-5983: 3739.^ Wilkin, Douglas; Brainard, Jean (2015-12-11). "Food Chain". CK-12. Retrieved 2019-11-06.^ Rafferty, John P.; et al. (Kara Rogers, Editors of Encyclopdia Britannica). "Food chain".
Food chain | Definition, Types, & Facts. Encyclopdia Britannica. Retrieved 2019-10-25. a b Sidhu, Jatinder (2021-09-16). "What is a keystone species and food webs". Philosophical Transactions of the Royal Society B: Biological Sciences. 364 (1524):
17331741. doi:10.1098/rstb.2008.0335. ISSN0962-8436. PMC2685432. PMID19451124.^ a b Park, Mailing Address: Glacier Bay National; Gustavus, Preserve PO Box 140; Us, AK 99826 Phone: 907 697-2230 Contact. "A Keystone Species, the Sea Otter, Colonizes Glacier Bay National Park & Preserve (U.S. National Park Service)"
www.nps.gov. Retrieved 2024-04-15.{{cite web}}: CS1 maint: numeric names: authors list (link)Retrieved from " A food chain represents an organism that gets its energy by consuming the previous one. A producer traps the solar energy and then provides the
basic food or energy for all the other life forms in the ecosystem. The consumers or animals derive their energy needs directly from the producers and return all the various elements back to the soil, air, and water. The decomposers help in recyclin
the materials in the ecosystem so that the process of life may go on and on like an unending chain. In biology, the study of the food chain an area or habitat helps us to know various interactions among the different organisms and also explains their interdependence. Define Food Chain Anything that we eat to live is called food. Food contains energy,
the food (or energy) can be transferred from one organism to the original source of food chains. The starting point of a food chain begins with a green plant (or grass) which is the original source of food. Let us take an
example to understand the meaning of the Food Chain. In a field with many green plants, a food chain begins. First, insects eat the plants. Then, rats eat the insects. After that, snakes eat the rats, and birds eat the snakes. When the birds die, decomposers break them down. This shows how each living thing relies on another for food. Each step in this
chain helps move energy from one organism to another, keeping nature balanced and helping all living things find the food Chain is the sequence of living organisms (living beings) to transfer food energy. In simple words, A Food Chain is a list of organisms (living
organisms) that shows Who Eats Whom, Major Parts of the Food Chain shows how energy moves from one living thing to another. It starts with plants, which make their own food using sunlight. Here we have discussed almost all the major parts of the food chain that help in its proper functioning and energy transportation. Some Major
Parts of the Food ChainPartsDescriptionSunThe sun is the primary energy source for photosynthesis. Producers for energy and nutrients in an energy into food (photosynthesis). Consumers the primary energy source for photosynthesis.
ecosystemSun: The sun is the primary source of energy, driving photosynthesis in plants. This process forms the basis of the food chain, sustaining life by providing essential energy. Producers: Mostly producers are plant and blue-green algae. These plants and algae prepare their own food with the help of Photosynthesis, using sunlight, water, and
carbon dioxide. They form the base of the food chain, providing energy to all the other living organisms in an ecosystem. Consumers are living things that eat other organisms for energy. In nature, they include animals and some plants. They are divided into many categories such as primary consumers (eat plants), secondary consumers
(eat other animals), and tertiary consumers (eat other animals). Different Types Consumers Feed on primary consumers (for example: rabbits, deer, etc). Secondary Consumers Secondary consumers (eat other animals). Different Types Consumers (for example: rabbits, deer, etc). Secondary consumers (eat other animals).
include almost all the carnivores (for example: foxes, snakes, etc.). Tertiary Consumers (for example: eagles, lions, etc) Primary Consumers. These are often called herbivores. These are often called herbivores. These are often called herbivores.
play a very crucial role in transferring energy from plants to higher levels of the food chain strength consumers. They occupy the next level of the food chain and play a crucial role in balancing ecosystem populations. Tertiary Consumers: These
are organisms that are present at the top of the food chain and primarily feed on secondary consumers. They help to regulate the populations of lower tropic levels and also contribute to the proper balance of the ecosystem. Decomposers: Decomposers are organisms that break down dead plants and animals or organic matter from all tropical levels
into simpler substances. They include bacteria, fungi, and some insects. Decomposers play a crucial role in the ecosystem by recycling nutrients back into the soil, which plants use to grow would be locked away, disrupting the balance of the
ecosystem. Types of Food Chains Food Chains Food Chains are connected to each other and form complex food webs. These food webs help us understand how different living things depend on one another in nature. Based on the roles of organisms, food chains are divided into three types: Grazing Food Chain, Detritus Food Chain, and Parasitic Food Chain. Each
type shows a different way energy flows in an ecosystem. Lets take a quick look at each type to understand how they work and how organisms interact indifferent ways. Different Types of Food Chains Types Description Grazing Food Chain Energy flow starts with green plants, which are consumed by herbivores, followed by carnivores. Common in
terrestrial ecosystems. Detritus Food Chain Energy flow begins with dead organic matter broken down by decomposers, then consumed by detritivores. Common in decomposition processes. Parasitic Food Chain Energy flow begins with dead organic matter broken down by decomposers, then consumed by detritivores. Common in decomposition processes. Parasitic Food Chain Energy flow begins with dead organic matter broken down by decomposers, then consumed by detritivores.
ecosystem balance. Detritus Food Chain The detritus food chain focuses on the decomposers such as fungi, and different types of insects are at the base of the detritus food chain. These decomposers help in
the breaking of complex organic molecules into simpler substances, and release nitrogen (through the nitrogen cycle), phosphorus (through the phosphorus cycle) back into the atmosphere. The detritus food chain is very important for nutrient recycling in the ecosystem. Its main function is to highlight the
importance of decomposers in our environment. Grazing Food Chain The grazing food chain, as it represents the transfer of energy and nutrients through the consumption of living organisms. The grazing food chain, as it represents the transfer of energy and nutrients through the consumption of living organisms.
chain starts with the producer such as plants which converts sunlight into energy through photosynthesis. And ends with the consumers, these consumers based on their position in the food chain. A grazing food chain helps regulate population size and maintain the balance
between different species. Parasitic Food ChainParasitic food chains involve organisms living in or on a host organism and deriving nutrients at the host, which is then consumed by a parasite. The parasite derives its energy and nutrients from the host organism. This type of food chain is common in
ecosystems where parasites play a significant role in controlling populations of other organisms. Examples of Food Chain, there were three organisms involved: Grass, Deer, and Lion, so it is said to be a food chain, there were three organisms involved: Grass, Deer, and Lion, so it is said to be a food chain, there were three organisms involved: Grass, Deer, and Lion, so it is said to be a food chain having three steps or three links. A grassland or forest consists of many different organisms, so it has many other
food chains operating in it which have different numbers of steps. Now lets have a four-step grassland food chain example. In a grassland ecosystem grass is eaten up by insects; these insects are eaten by the frogs and lastly, these frogs are consumed by the birds. This food chain can be represented as:Grass Insects Frog Snake BirdIn a grassland
food chain, grass grows as the producer. Insects eat the grass as primary consumers. Frogs eat the insects as secondary consumers, while snakes eat the frogs as tertiary consumers. Birds are the top consumers, while snakes eat the frogs as tertiary consumers. Birds are the top consumers, while snakes eat the frogs as tertiary consumers. Birds are the top consumers, while snakes eat the frogs as tertiary consumers. Birds are the frogs as tertiary consumers. Birds are the top consumers, while snakes eat the frogs as tertiary consumers. Birds are the frogs as the frogs as tertiary consumers. Birds are the frogs are the frogs are the frogs are the frogs are the frog
In a pond, lake, or sea ecosystem, the algae also known as phytoplanktonare eaten by tiny creatures called protozoa or zooplankton. These small fish, which are later eaten by tiny creatures are then eaten by tiny creatures called protozoa or zooplankton. These small fish, which are later eaten by tiny creatures called protozoa or zooplankton.
chains in which they occur. But sometimes luck runs out of humans hands and they are forced to become food chain is a great miracle of God in which A Hunter becomes Hunted. Other Important Points About Food Chain is a great miracle of God in which A Hunter becomes Hunted. Other Important Points About Food Chain is a great miracle of God in which A Hunter becomes Hunted. Other Important Points About Food Chain is a great miracle of God in which A Hunter becomes Hunted. Other Important Points About Food Chain is a great miracle of God in which A Hunter becomes Hunted. Other Important Points About Food Chain is a great miracle of God in which A Hunter becomes Hunted. Other Important Points About Food Chain is a great miracle of God in which A Hunter becomes Hunted. Other Important Points About Food Chain is a great miracle of God in which A Hunter becomes Hunted. Other Important Points About Food Chain is a great miracle of God in which A Hunter becomes Hunted. Other Important Points About Food Chain is a great miracle of God in which A Hunter becomes Hunted. Other Important Points About Food Chain is a great miracle of God in which A Hunter becomes Hunted. Other Important Points About Food Chain is a great miracle of God in which A Hunter becomes Hunted.
forest, there is a lot of grass (which is a green plant). This grass is eaten up by a lion or other carnivores like deer. And then this deer or herbivore is consumed or eaten up by a lion or other carnivore) Lion (carnivore) Important Points about the
Food Chain Food Chain represents a single-directional or unidirectional flow of energy takes place from grass to deer and then to lion. The food chain tells us that the transfer of energy takes place from grass. It is very important to note that each organism occupies a
specific position in the food chain. for eg. grass, deer, and lion occupy a specific position in the food chain. For e.g., in the forest food chain the producer is a minute organism called Algae and Protozoa is also a
minute herbivore. Food WebA very large number of food chains exist in our ecosystem such as a grassland, a forest, a pond, or a crop field. As we already discussed one organisms form an interconnection between many food chains. So these interconnected food chains operating in an
ecosystem that establish a network of relationships between various species of organisms is known as a food web. This tells us that various food chains on ecosystem do not operate in the form of a network of food webs. There may be six, seven, or more food chains operating in a single Food Web. Trophic
LevelsAs for now, we all know that the food chain represents the flow of energy or food in a set of organisms. The various steps in a food chain, each step representing an organism forms a trophic level. In simple words, you can say that the term trophic
level means the feeding level of an organism. Various trophic level. They fix up the suns energy for the consumers or autotrophs. Herbivores or primary consumers form the first trophic level. They fix up the suns energy for the consumers form the first trophic level.
the third trophic level. And the top carnivores or tertiary consumers constitute the fourth trophic level. Now let us explain the tropic level. Grass (being producers) present at the first trophic level, deer (being herbivores)
represent the second trophic level, and lions (being carnivores) represent the third tropic level. Let us take another eq. of another food chain that only involves plants and men. This type of food chain that only involves plants and men. This type of food chain that only involves plants and men. This type of food chain that only involves plants and men. This type of food chain that only involves plants and men. This type of food chain that only involves plants and men. This type of food chain that only involves plants and men. This type of food chain that only involves plants and men. This type of food chain that only involves plants and men. This type of food chain that only involves plants and men. This type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of food chain that only involves plants are type of
food chain can also be represented by a pyramid of numbers. It means that if we count the number of species (or organisms) living at each tropic level in a food chain, then we can represent the food chain by a pyramid of numbers. Ten Percent lawDuring energy transfer through the tropic levels in an ecosystem, there is a loss of energy. No transfer
of energy is 100 percent, as there is a uniform pattern of transfer of energy which is given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lindeman in the year 1942, the 10 percent law was given by Lin
percent of energy entering a particular trophic level of organisms is available for the transfer of energy to the next higher trophic level. We can also say that the energy available at each successive trophic level is 10 percent of the previous level. For more details, you can also go through our article on Difference Between Food Chain and Food Web
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Define food chain class 10 ncert. What is food chain class 10. Define	what a food chain is. Definition of significance of food chain class 1	of food chain class 10th. Definition of the local of the	of food chain class 10. Define a f	ood chain class 10th. What is the