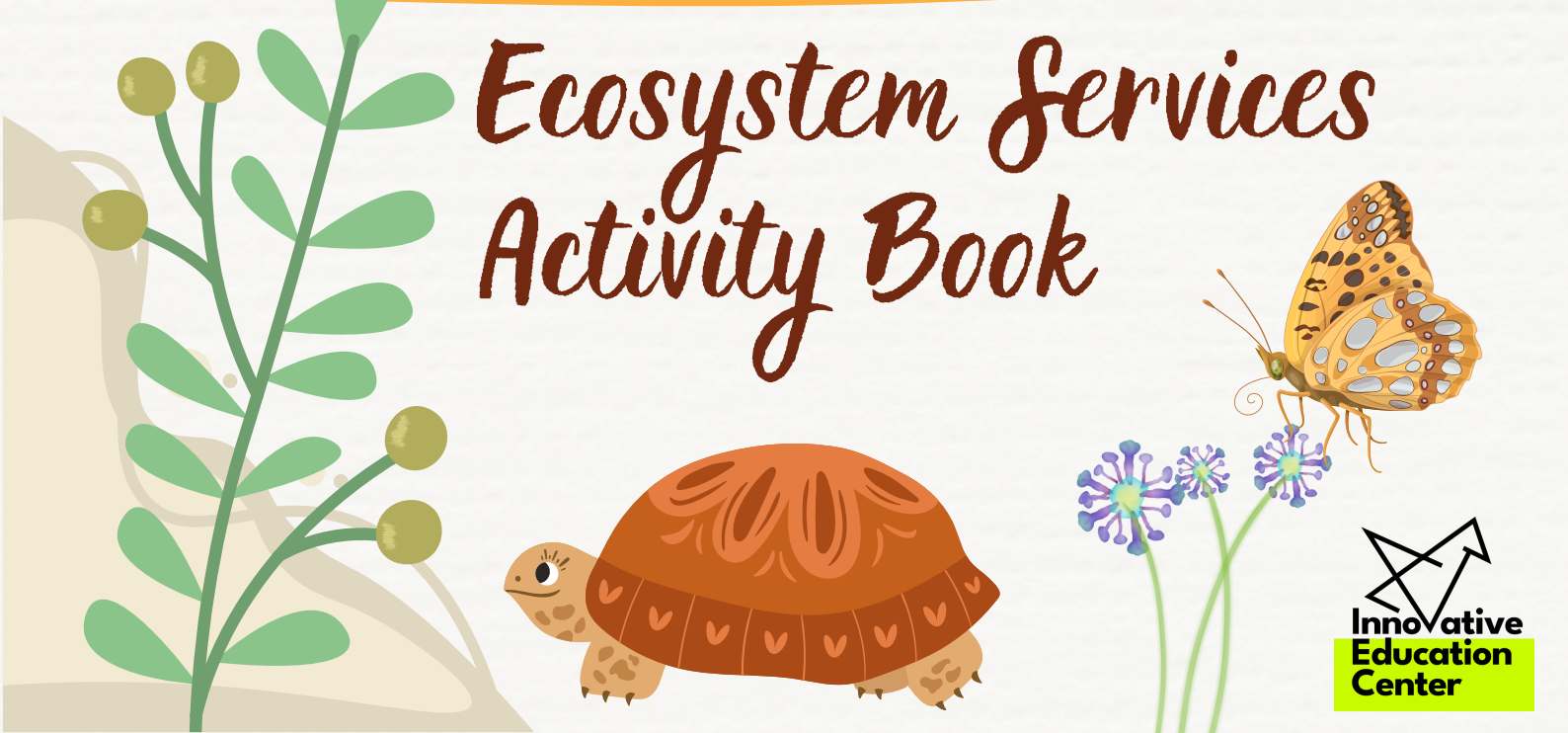


A stylized illustration of a natural scene. In the top left, four curved lines in shades of brown and orange represent reeds or grass. To their right is a light blue flower with five petals and a yellow center. Further right are three thin, blue, feathery plants. In the top right corner, a cluster of small, pink, oval shapes is arranged in a pattern. The central text 'Closer to Nature' is set against a large, solid orange background. To the left of the text is a brown and tan bird with a white eye. To the right is a yellow and black striped bee with blue wings. Below the text, on the right, is a green plant with several long, pointed leaves.

# Closer to Nature

A stylized illustration of a natural scene. On the left, a green plant with several small, round, green buds grows from a light brown rock. In the bottom center is a brown turtle with a patterned shell and small legs. To the right of the turtle is a butterfly with orange and black wings and blue spots. Further right are three small, purple, daisy-like flowers on green stems. The text 'Ecosystem Services Activity Book' is written in a brown, cursive font across the middle of this section.

## *Ecosystem Services Activity Book*



## What Are Ecosystem Services?

Ecosystem services are the many benefits that nature provides to humans. These include clean air, fresh water, pollination of plants, and even the joy we experience from being in nature.

## Why Are They Important?

Without these services, life on Earth as we know it would not be possible.

Ecosystem services support our health, economy, and environment.



AGE GROUP

14+



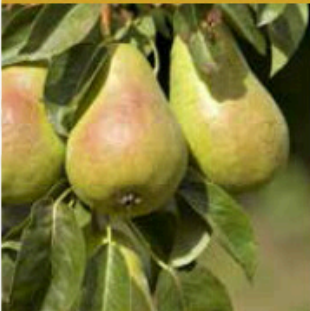


# Ecosystem services



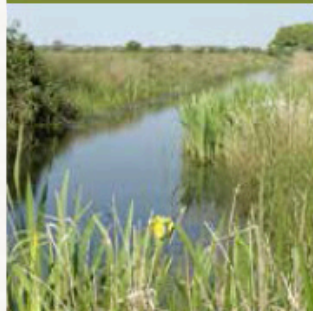
Ecosystem services refer to the full range of products and services provided by ecosystems to humans and other living beings. These services ensure the continuity of life on Earth. Ecosystem services are generally categorized into four main types:

## Provisioning Services



Fruits, vegetables, trees, fish, and livestock are direct products of ecosystems that we have at our disposal. Provisioning services refer to all the benefits that can be obtained from nature. In addition to food, other types of provisioning services include drinking water, timber, firewood, natural gas, oils, plants that can be transformed into clothing and other materials, and medicinal benefits.

## Regulating Services



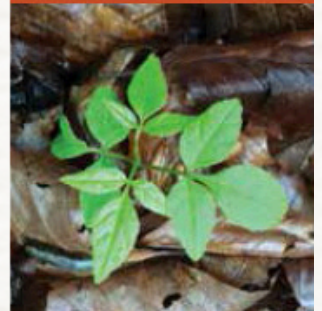
Plants purify the air and filter water, bacteria decompose waste, bees pollinate flowers, and tree roots hold the soil in place to prevent erosion. All these processes work together to keep ecosystems clean, sustainable, functional, and resilient to change. Regulating services include pollination, decomposition, water purification, erosion and flood control, carbon storage, and climate regulation.

## Cultural Services



The importance of ecosystems for the human mind can be traced back to the beginning of humanity when ancient civilizations painted images of animals, plants, and weather on cave walls. Cultural services are an intangible benefit that contributes to human development and cultural progress; they include the construction of knowledge and the spread of ideas, creativity arising from interactions with nature in music, art, and architecture, as well as recreation.

## Supporting Services



Ecosystems themselves would not be sustainable without the consistency of underlying natural processes such as photosynthesis, nutrient cycling, soil formation, and the water cycle. These processes enable the Earth to sustain not only entire ecosystems and humans but also its fundamental life forms. Without supporting services, provisioning, regulating, and cultural services could not exist.



# What benefits do forests provide?

Below are many ecosystem services found in a forest. Can you place them in the appropriate category? For example, you can place apples under provisioning services.



**Provisioning  
Services**

**Regulating  
Services**

**Cultural  
Services**

**Supporting  
Services**





# Biodiversity Domino Game

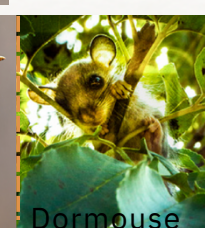
Carefully cut out the 30 cards on the following pages. The cards feature forest-dwelling species in pairs. How to play: The game is played with 2 or 4 players. Shuffle the cards and distribute them equally among the players. The goal of the game is to line up the cards end to end by matching the same species.

The youngest player starts, and the game proceeds clockwise. The first player selects a card from their hand and places it in the play area. Then, the turn passes to the second player, who examines the species on the card already placed. They must find a card in their hand that matches one of these species and add it to the game. For example, if the card on the table features a fox-wild rabbit, the player can place a wild rabbit-weasel card to make a match. The turn then moves to the third player.

It is not necessary to arrange the cards in a single row. As the game progresses, players will have more placement options. Cards can be placed end to end not only forward and backward but also to the left or right. The first player to run out of cards wins the game.



The game is played by arranging the cards in sequence, matching the same species.





# Game cards 1



Fox



Hare



Hare



Weasel



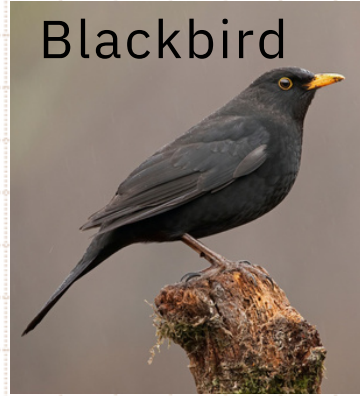
Weasel



Blackbird



Blackbird



Dormous



Dormous



Wolf



Wolf



Squirrel



Squirrel



Wild Boar



Wild Boar



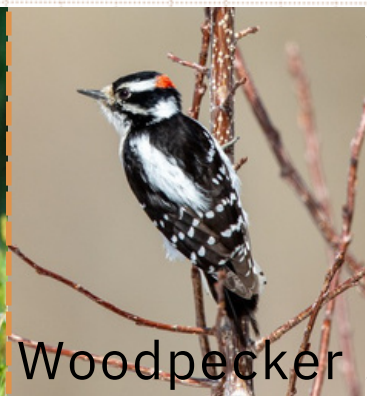
Bear



Bear



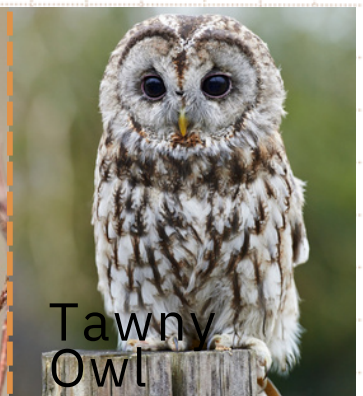
Woodpecker



Woodpecker



Tawny Owl







# Game cards 2



Tawny Owl



Great Banded Grayling



Great Banded Grayling



Robin



Robin



Finch



Finch



White-throated warbler



White-throated warbler



Badger



Badger



Roe deer



Roe deer



Wild cat



Wild cat



Large Brown



Large Brown



Salmon milkcap



Salmon milkcap



Hoopoe





# Game cards 3



Hoopoe



Tortoise



Tortoise



Frog



Frog



Tilki



Ispinoz



Ispinoz



Roe deer



Roe deer



Squirrel



Squirrel



Robin



Robin



Great  
Banded  
Grayling



Great  
Banded  
Grayling



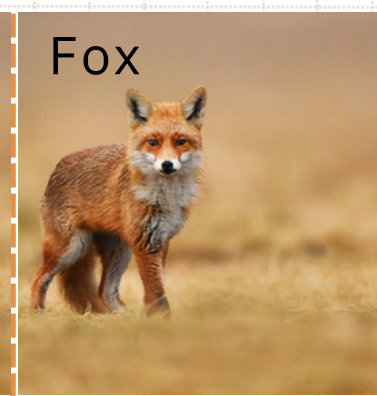
Hoopoe



Hoopoe




Fox



Fox







## Four Types of Ecosystem Services

1. Provisioning Services - These are the products we get from nature, such as food, water, and medicine.
2. Regulating Services - These help maintain balance in the environment, like air purification, climate regulation, and water filtration.
3. Cultural Services - These provide non-material benefits like recreation, tourism, and inspiration for art and culture.
4. Supporting Services - These are necessary for all other services to function, including soil formation, photosynthesis, and nutrient cycling.



AGE GROUP

9-14





## Take another look at the forest

A forest is not just a collection of trees. Many living creatures inhabit the forest. Examine the image below and list all the living beings that reside in the forest.

[illegible]

# Child-friendly urban forest

Considering ecosystem services, what should be included in a child-friendly urban forest? Can you add these elements to the map below?





# Biodiversity Dedectives

The famous biologist Edward Osborne Wilson described biodiversity as "the essence of life." For billions of years, a complex web of life has been evolving on Earth. In this book, you will explore various groups of living organisms in a forest and discover their relationships within the ecosystem. Follow the steps below to compare different groups of organisms and analyze their ecological roles.

## 1. Prepare the Cards

- Carefully cut out the cards and shuffle them face down.
- Randomly select two cards and examine the organisms.
- For a deeper analysis, you can flip three or four cards.
- 

## 2. Similarities and Differences Between Organism Groups

- Similarities:
  - They may live in the same ecosystem.
  - They play different roles in the food chain.
  - Some may share common characteristics (e.g., all insects are arthropods).
- Differences:
  - Their feeding habits may vary (herbivorous, carnivorous, omnivorous, etc.).
  - Their body structures, movement styles, and reproduction methods may differ.
  - They may prefer different microhabitats (e.g., some live in trees, others in soil).
-



# Biodiversity Dedectives

3. Living Environments and Ecological Adaptations
  - Each organism requires a specific environment to survive.
  - Factors such as humidity, temperature, and light levels determine their survival.
  - Organisms living in the same habitat may compete or form symbiotic relationships.
4. Food Chain and Predator-Prey Relationships
  - Which organisms are herbivores, and which are carnivores?
  - Which organisms could see others as prey?
  - Identify the key components of the food chain and analyze the flow of energy.
5. Threats and Pressures on the Ecosystem
  - Human activities (deforestation, pollution, hunting) can threaten some species.
  - Climate change, natural disasters, and diseases can impact populations.
  - Competition between species and invasive species can disrupt ecosystem balance.



# Game cards 1



## Needle-leaved trees

- It has needle-like leaves. Its cones are distinct.
- The needles remain on the trees throughout the year.



## Broad-leaved trees

- It sheds its leaves in autumn.
- In winter, it enters a kind of dormancy. Its flowers turn into seeds.



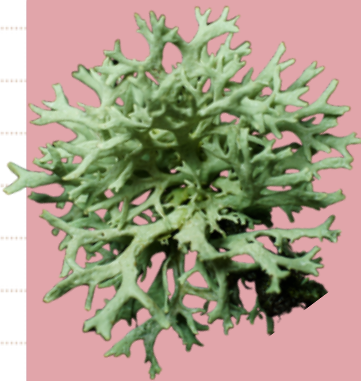
## Ivies

- They climb branches and trunks in their environment.
- The purpose of climbing is to reach sunlight.



## Ferns

- They produce spores.
- They thrive in humid environments. They are found on every continent except Antarctica.



## Lichens

- is a symbiotic relationship between a fungus, algae, and yeast.
- They can survive in extreme environments such as acidic, salty, and toxic conditions.



## Mosses

- They produce spores.
- They do not have vascular tissues, so they cannot transport nutrients and water, preferring humid environments.



## Grasses

- They have small, inconspicuous, leafless flowers.
- They are pollinated by the wind.
- They have hollow, round stems.



## Flowers

- They are annual herbaceous plants.
- They bloom every spring and die in winter.
- They do not have a woody stem.





# Game cards 2



## Mushrooms

- They are not plants.
- They cannot photosynthesize.
- They are decomposers, mixing organic matter into the soil.
- They have no roots or leaves.



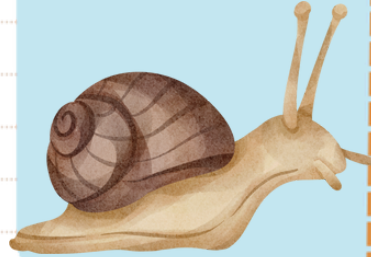
## Insects

- They have no backbone or hard exoskeleton.
- Their bodies are divided into three sections.
- They have six legs and a pair of antennae on their heads.



## Spiders

- They are arthropods.
- Their head and thorax are fused together.
- They have eight legs.
- They live almost everywhere in the world.



## Sümüklüböcekler

- Kabukları körelmiş ya da hiç bulunmayan yumuşakçalardır.
- Nemli ortamlarda yaşarlar.
- Sürünerek hareket ederler, ayakları yoktur.



## Amphibians

- They are vertebrates.
- Their skin is bare and moist.
- They spend part of their life on land and part in water.



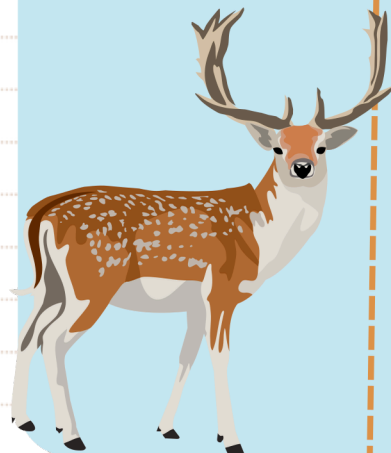
## Reptiles

- They are vertebrates.
- They are cold-blooded.
- They reproduce by laying eggs.
- Their bodies are covered with scales or similar plates, which minimize moisture loss, allowing them to adapt to arid environments.



## Birds

- They are vertebrates.
- They have feathers.
- They reproduce by laying eggs.
- They are warm-blooded.
- Their lightweight skeletal system provides an advantage for flight, though there are also flightless species.



## Mammals

- They are vertebrates.
- Their bodies are usually covered with hair.
- They are warm-blooded.
- They feed their young with milk.

