



2023-1-TRO1-KA220-SCH-000160173
GREEN AGRIpreneurs OF FUTURE

WHY BIODIVERSITY MATTERS: TEACHING THE WEB OF LIFE IN THE CLASSROOM

Teacher Training

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12 December 2024



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Menti Time!



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What does biodiversity mean to you?



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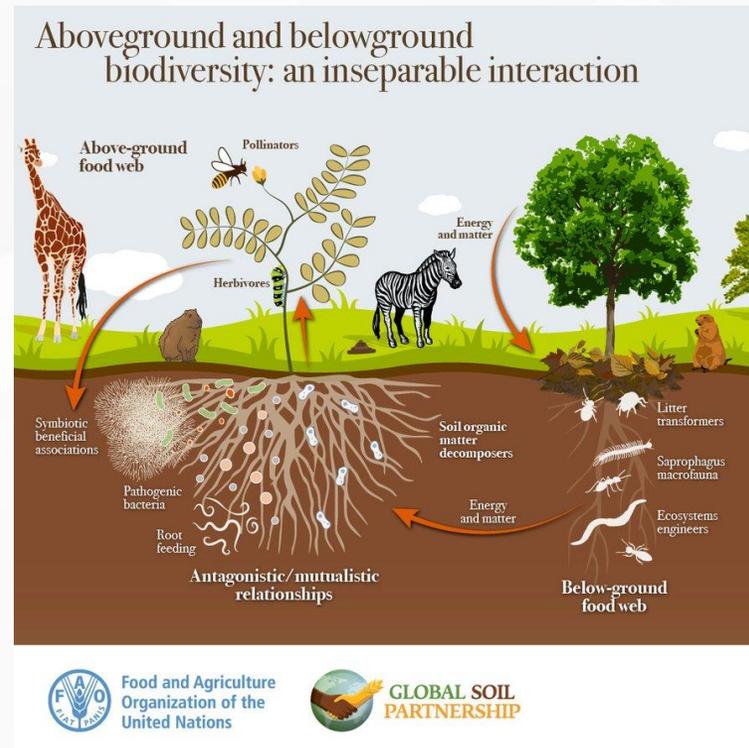
What does biodiversity mean to you?

29 responses



What is Biodiversity?

Biodiversity refers to the variety of life on Earth, including animals, plants, fungi, and even microscopic organisms like bacteria. These species and organisms interact within ecosystems, forming a complex web that ensures balance and sustains life.





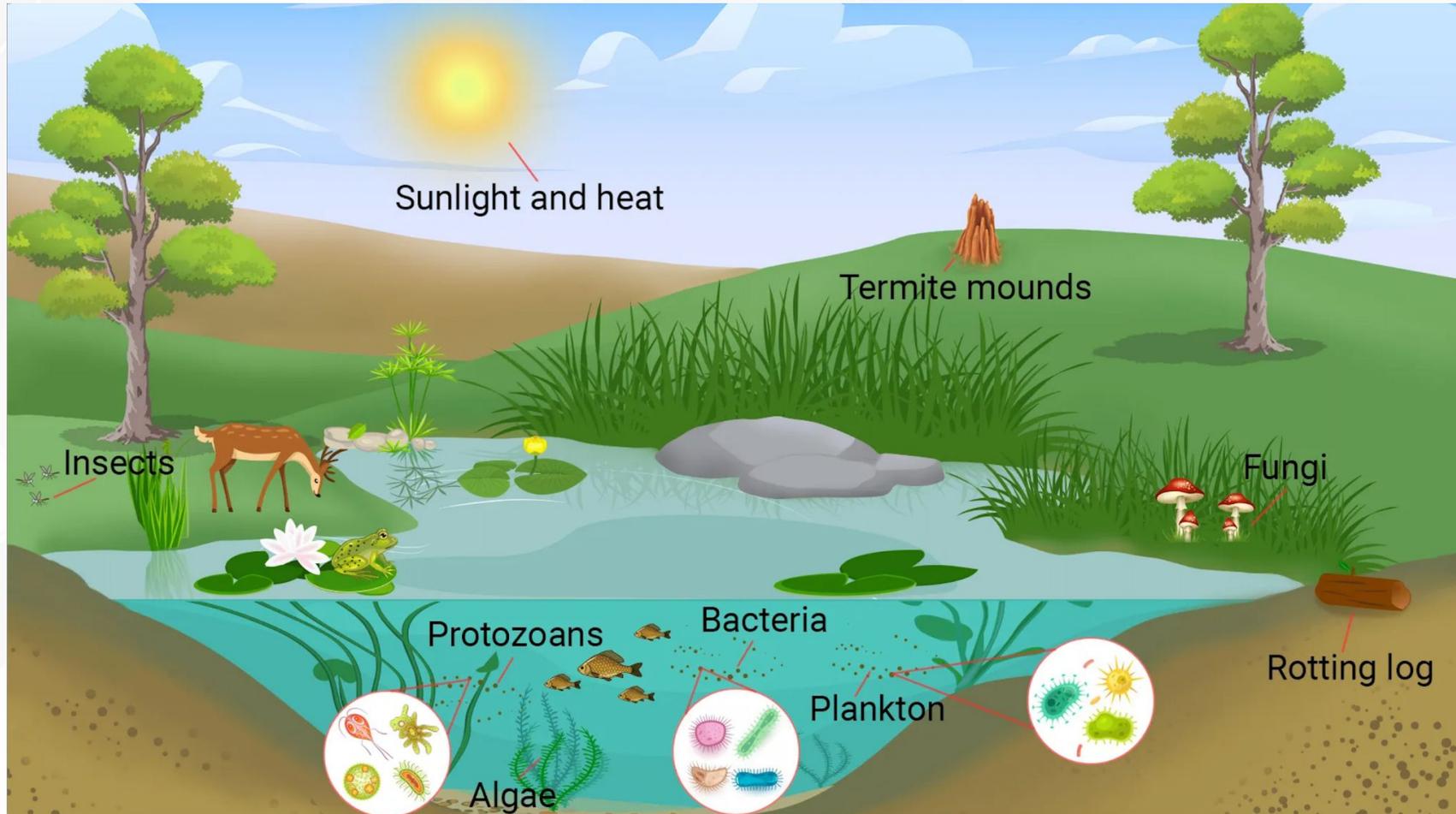
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Is Biodiversity the Same Everywhere?



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What is an ecosystem?





Types of ecosystems



Tropical Rainforest



Temperate Forest



Coniferous Forest (Taiga)



Tropical Grassland (Savannah)



Temperate Grassland



Mediterranean



Desert



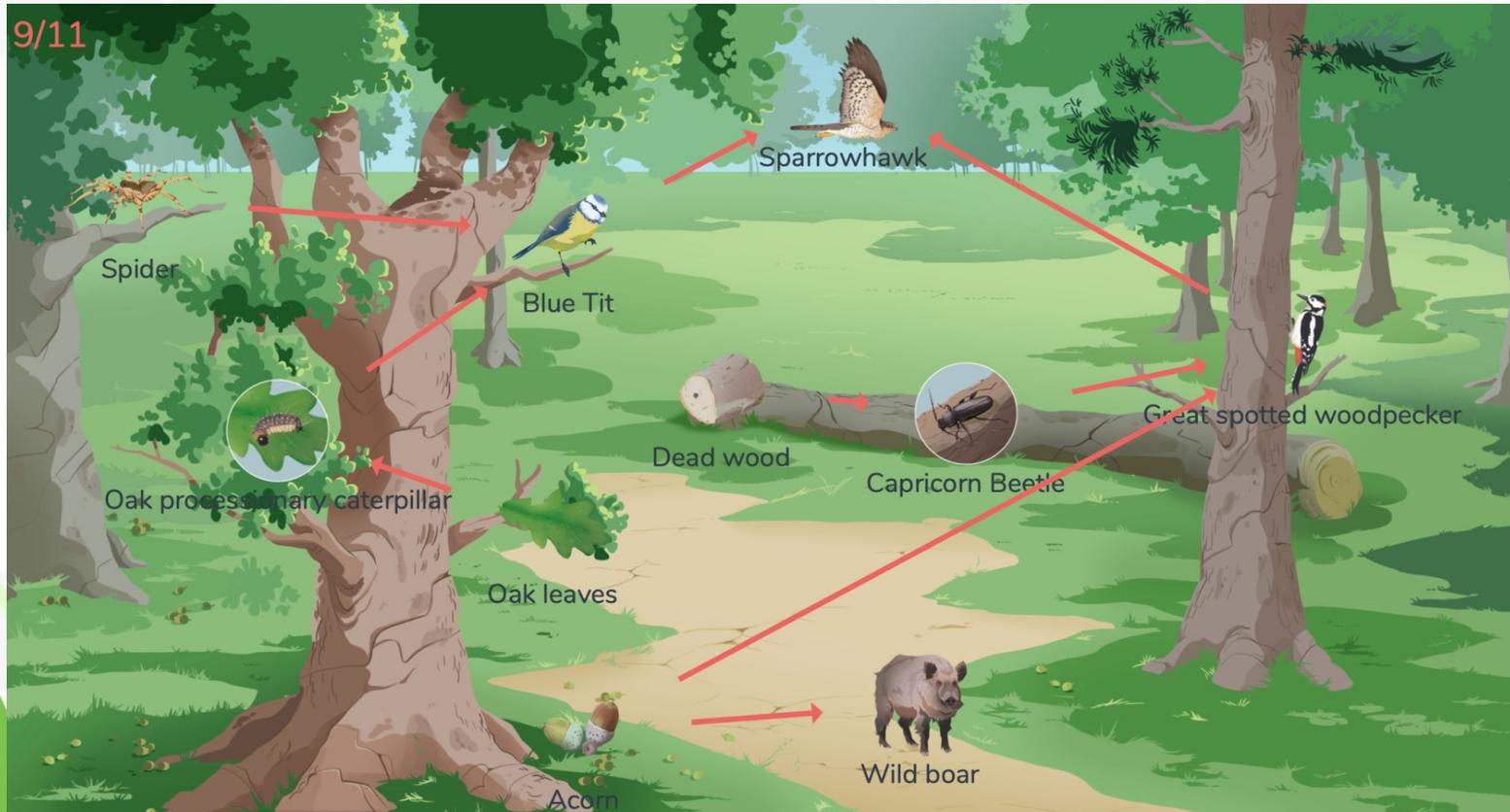
Tundra



Mountain



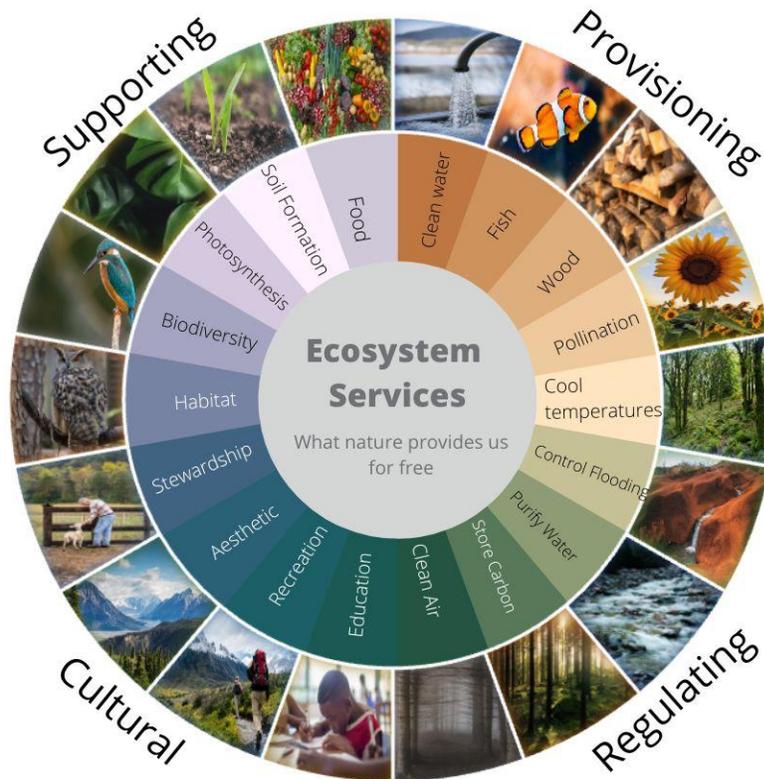
Web of life in different ecosystems



Office for Climate
Education Multimedia
Activity:

<https://www.oce.global/en/resources>

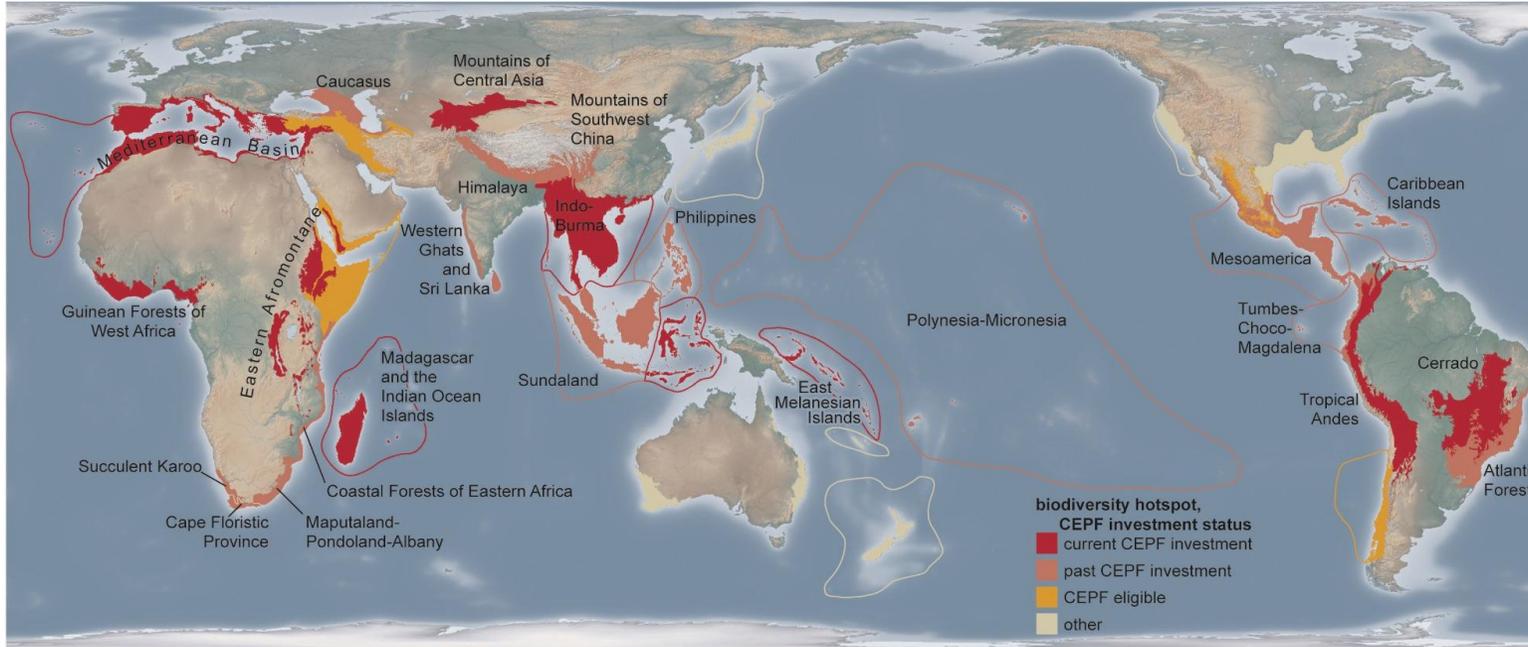
Healthy Ecosystems



What nature provide us for free

- **Supporting services** sustain the basic functions of ecosystems, such as photosynthesis, soil formation, biodiversity, and nutrient cycling.
- **Regulating services** help maintain balance within ecosystems, including carbon storage, air and water purification, pollination, and disaster risk reduction.
- **Provisioning services** include products we directly use, such as food, clean water, fuel, medicinal plants, and other natural resources.
- **Cultural services** encompass the aesthetic, spiritual, and recreational values of nature, such as natural landscapes, tourism, art, and cultural connections.

Biodiversity Hotspots



36 places have been designated as biodiversity hotspots

They represent just 2.5% of Earth's land surface, but support more than half of the world's plant species as endemics

Turkey is home to three globally significant biodiversity hotspots





Why is Biodiversity Important?

- Without biodiversity, there is no future
- Biodiversity supports everything in nature that we need to survive: food, clean water, air, stable climate, medicine, and shelter.
- Biodiversity is an indicator of a healthy ecosystems
- Inspiration from nature: biomimicry





Why is Biodiversity Important?



Let's watch the video: https://www.youtube.com/watch?v=GK_vRtHJZu4





The Three Levels of Biodiversity

1. Genetic Diversity

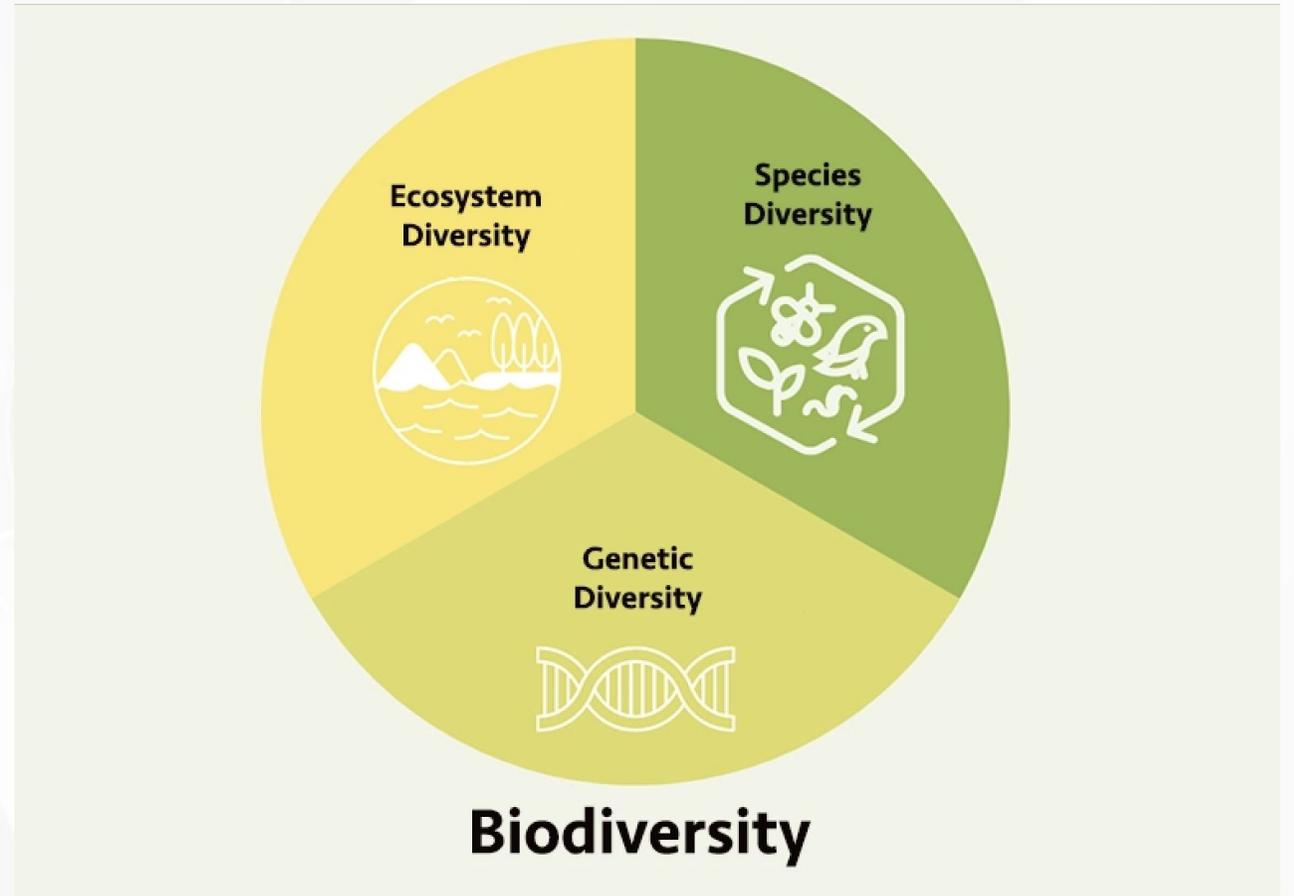
The variety of genes within species. For example, different breeds of plants or animals can adapt to various environmental conditions.

2. Species Diversity

The diversity between species in an ecosystem. High species diversity means an ecosystem has many different kinds of organisms, each playing a unique role.

3. Ecosystem Diversity

The variety of ecosystems within a region, such as forests, wetlands, grasslands, and oceans.





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How many species have been identified globally?



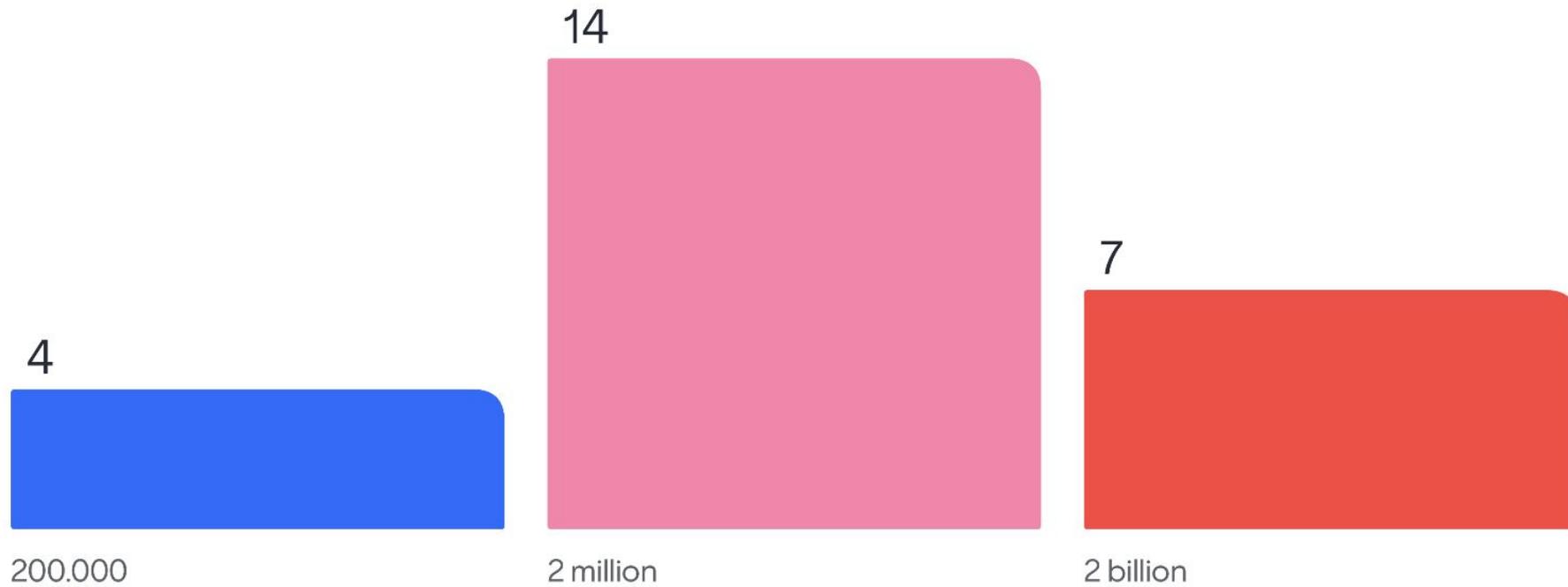
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How many species have been identified globally?





Global Biodiversity

Number of described species

Our World
in Data

More than 46,300 species are threatened with extinction

That is still 28% of all assessed species.



Corals | 5,574

Data source: International Union for Conservation of Nature (IUCN) Red List (2022) – [Learn more about this data](#)
OurWorldinData.org/biodiversity | CC BY



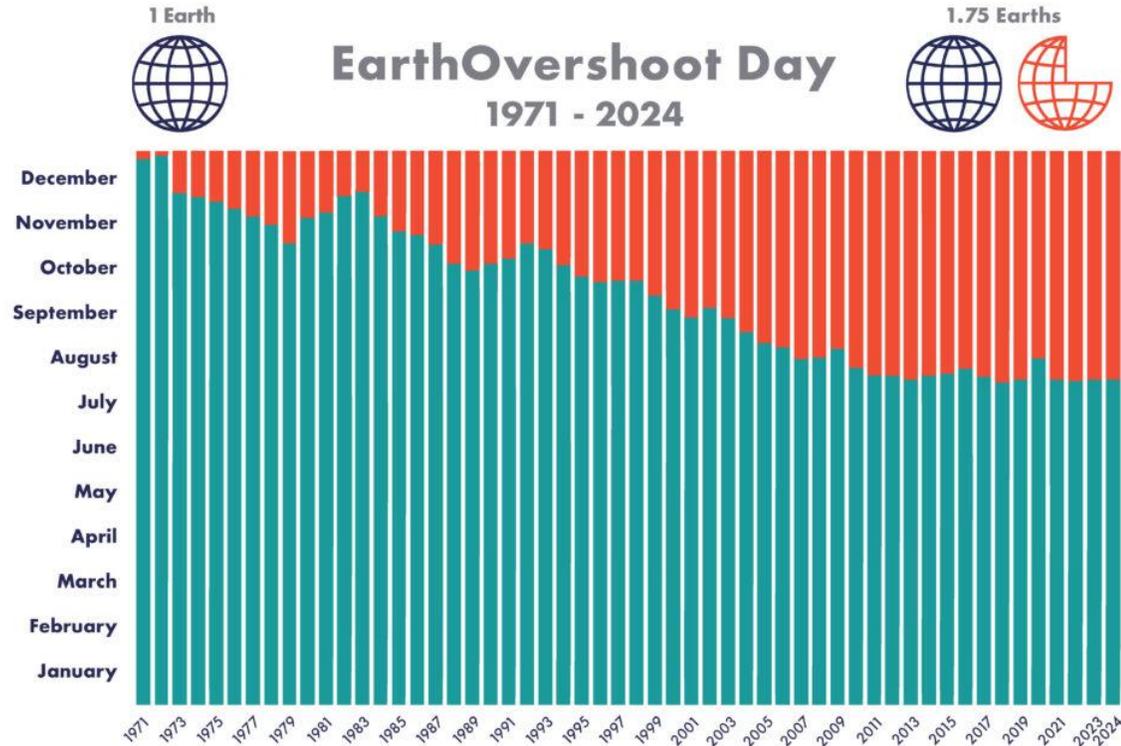


Biodiversity Loss

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Average change in wildlife population sizes



Based on National Footprint and Biocapacity Accounts 2023 Edition

WWF Living Planet Report 2024:

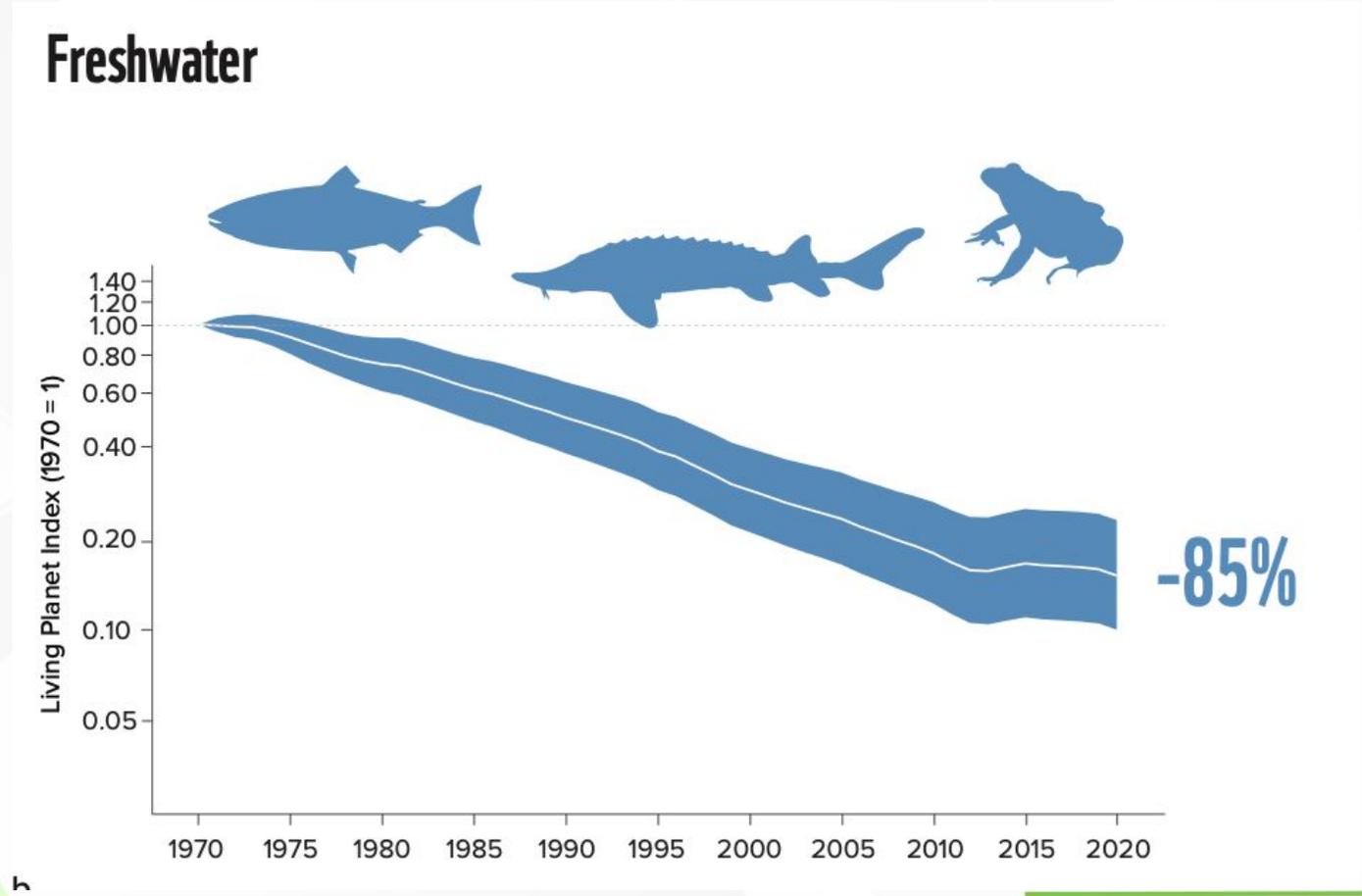
<https://wwflpr.awsassets.panda.org/downloads/2024-living-planet-report-a-system-in-peril.pdf>



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Biodiversity Loss



5



Good News



European Bison
population grew from
0 to 6.800 between
1950 and 2000



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Short break



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Causes of Biodiversity Loss



Habitat Loss/ Degradation



Overexploitation



Pollution



Climate Change



Invasive Species



Disease



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Global Efforts to Protect Biodiversity

 SUSTAINABLE DEVELOPMENT GOALS



THE BIODIVERSITY PLAN
For Life on Earth

UNITED NATIONS
**PARIS CLIMATE
AGREEMENT**
SIGNING CEREMONY
— 22 APRIL 2016 —

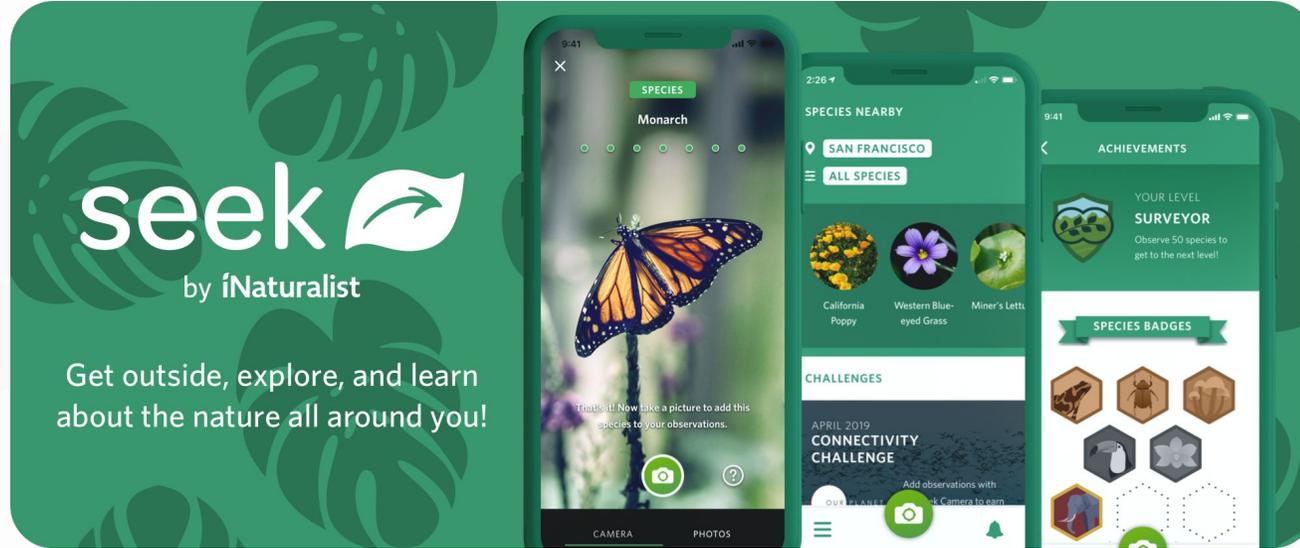


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Teaching Biodiversity in the Classroom

1. Bioblitz - Biodiversity Scavenger Hunt

Take students outside to identify and record different plant and animal species. They can discuss how each species plays a role in the ecosystem.

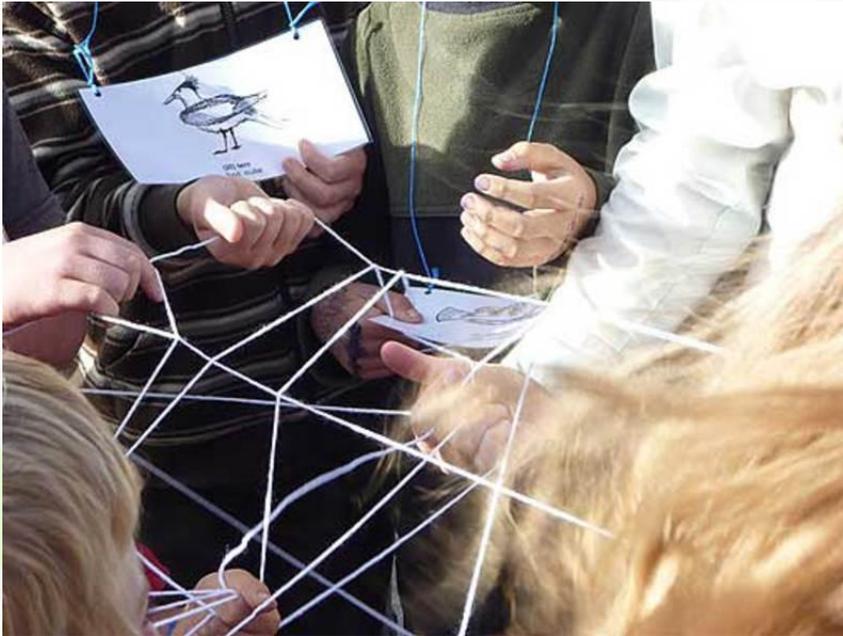


https://www.inaturalist.org/pages/seek_app

Teaching Biodiversity in the Classroom

1. Role-Playing Food Webs

Assign each student a role in a food web (like a predator, prey, or producer) and have them act out interactions. They'll see how the loss of one species can disrupt an entire ecosystem.



Teaching Biodiversity in the Classroom

Building a Mini-Garden

Encourage students to plant native species in a small garden. They'll learn how plants contribute to biodiversity and support local pollinators like bees and butterflies.





Useful Resources

- Food Web Multimedia Activities: <https://www.oce.global/en/ressources>
- Why is Biodiversity So Important?: https://www.youtube.com/watch?v=GK_vRtHJZu4
- The IUCN Red List of Threatened Species: <https://www.iucnredlist.org/>
- 2024 Living Planet Report: <https://livingplanet.panda.org/living-planet-report-2024-key-messages/>
- Seek by iNaturalist: https://www.inaturalist.org/pages/seek_app





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What is one important takeaway you've gained from today's session?



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Menti time



What is one important takeaway you've gained from today's session?

22 responses

Seek

Doğayla kardeş yaşam

Bioçeşitlilik farkındalığı kazandım

Canlı türlerini tanımami sağlayan uygulama

How we consumed the world and biodiversity.

Sınıfta uygulanabilir etkinlikler ve uygulamalar çok güzeldi

etkinlik örnekleri güzeldi, derslerde kullanabiliriz teşekkürler

İstilacı türlerin bioçeşitliliği tehdit ettiğini öğrendim

Connectivity of all the things

Uygulamaları öğrenmek çok iyi oldu.Onları kullanarak okulda eğlenceli

Biyo çeşitliliğin önemi

all problem is human :)

Uygulamaları öğrenmek çok iyi oldu.Onları kullanarak okulda eğlenceli ve bilgi dolu bir ders işleyebileceğiz

Biyo çeşitliliğin önemi

all problem is human :)

Classroom wise tools

Szkolenia pobudzają do twórczej pracy, zwiększają zaangażowanie oraz entuzjizm u pracownika. Korzyści płynące ze szkolenia można podsumować jako: – Zwiększona produktywność – szkolenie poprawia wydajność

Güzel oyunlar ve seek uygulaması harika

Henüztüm canlı türünü keşfedemedik

Biyoçeşitliliğin etki eden faktörler

Biyoçeşitliliği tehdit eden faktörler

Sınıf öğretmeni olarak önerdiğiniz öğrencilerimle faydalanabileceğim uygulamaları begendim. Teşekkürler

Dünyamızın değerlerini hala keşfediyoruz ve anlaşılabilir bitmeyecek

Biyoçeşitliliğin öğrencilere aktarımı

Biyoçeşitlilik dünyanın dengesini oluşturur



Thank You!

