

# Biodiversity – Key for Survival and Resilience

- Why is Biodiversity Important?
- Importance of Biodiversity Within Species
- Case Study – Peppered Moths
- Importance of Biodiversity within Communities
- Resilience and Biodiversity
- Importance of Biodiversity Among Communities
- Biodiversity and Human Well-being
- Threats to Biodiversity
- Protecting Biodiversity



# Preview File

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- Some slides appear blank because they have been removed
- Student versions have portions of the text removed which is given in the teacher version and appear as \_\_\_\_\_ which the students are to fill in
- Other slides may have ..... on them, this represents writing that has been removed on this sample

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Google Classroom Ready**



# Learning Goals

By the end of this lesson, students will be able to:

- 1.Explain why biodiversity within species is crucial for survival.
- 2.Describe how biodiversity within communities supports resilience.
- 3.Understand the importance of biodiversity among communities.

# Why is Biodiversity Important?

Definition: Why do you think biodiversity is important? Write your answers down.

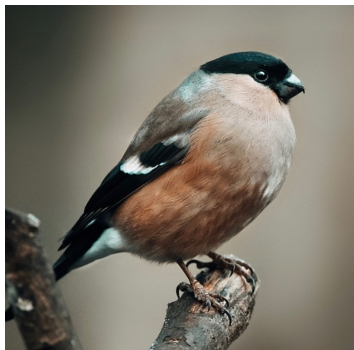
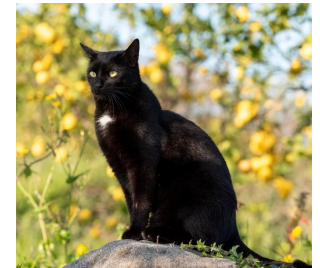
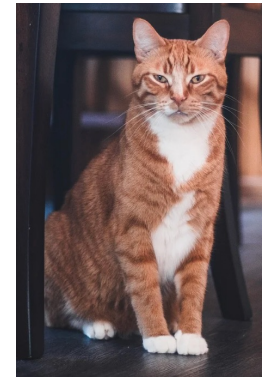


# Genetic Diversity

## (Biodiversity Within Species)

- Variation in genes within a single species
- Examples

- \_\_\_\_\_
- \_\_\_\_\_



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# Case Study: Peppered Moths

- The peppered moth is an example of how genetic diversity allowed a species to survive in a changing environment
- The genetic biodiversity of peppered moths made \_\_\_\_\_



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# Case Study: Peppered Moths

- Since the birds could see the white peppered moth easily, they would eat them
- The black peppered moths were able to avoid notice much more easily and therefore, lived longer and became much more common
- \_\_\_\_\_



# Species Diversity (Biodiversity Within Communities)

- \_\_\_\_\_

- Examples:

- Different plants,  
animals, and

.....



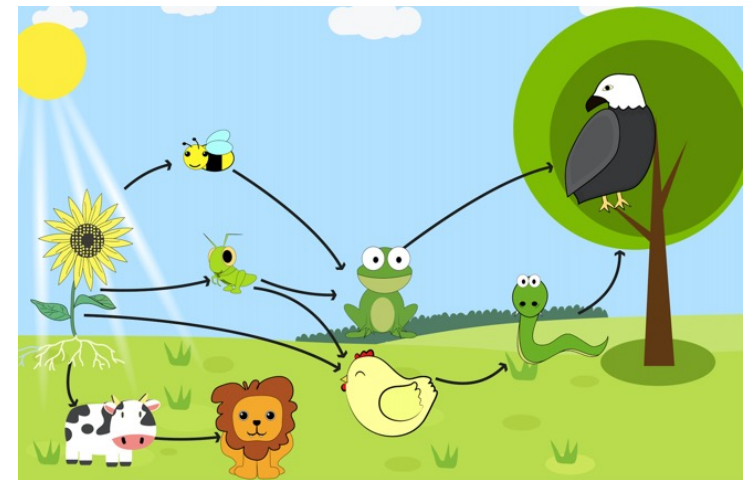
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# How Does Community Biodiversity Support Resilience?

- Diverse food webs
- Multiple species fulfilling similar roles

- \_\_\_\_\_

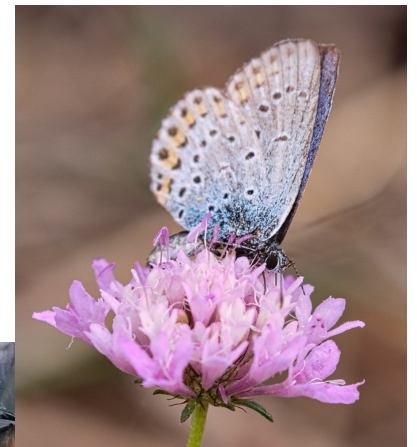
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# Example: Pollination

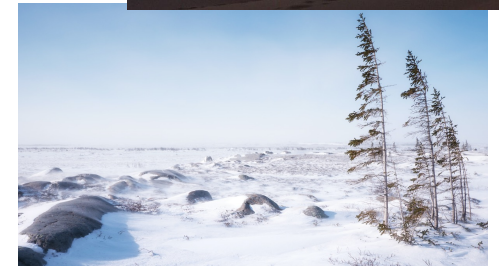
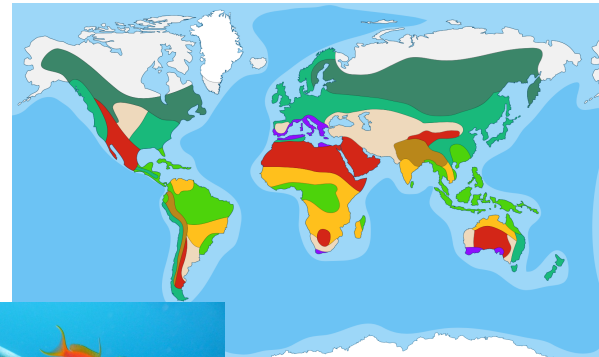
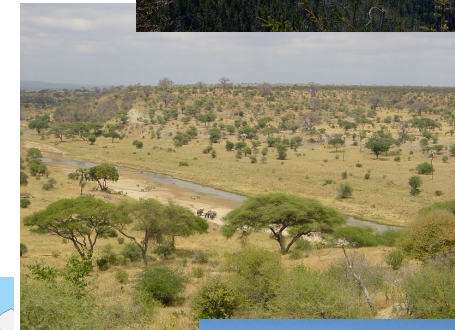
- There are many different species who are pollinators in an ecosystem (bees, butterflies, birds, bats)

- \_\_\_\_\_



# Ecosystem Diversity (Biodiversity Among Communities)

- \_\_\_\_\_
- Examples of different ecosystems:
  - Forests (tropical, temperate, boreal)
  - Grasslands
  - Deserts
  - Aquatic



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# Biodiversity and Human Well-being

- \_\_\_\_\_

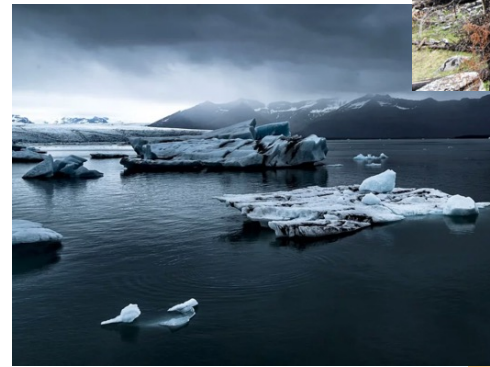


- Medicine: New treatments from diverse species
- Cultural and .....



# Threats to Biodiversity

- \_\_\_\_\_
- \_\_\_\_\_
- Overhunting
- Pollution
- Invasive species



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# Discussion Questions

Individually or in pairs, answer the following questions.

1. How might climate change affect biodiversity in our local area?
2. Can you think of examples where lack of biodiversity has caused problems?
3. What .....

# Review

1. Within-species diversity is crucial for adaptation and survival.
2. Community .....
3. Diversity among communities supports overall environmental health.
4. \_\_\_\_\_