



PLANIT

TEACHERS

Exploring Ecosystems: Young Bio-Explorers for 6-Year-Olds

Student Name: _____

Class: _____

Due Date: _____

Introduction to Ecosystems

An ecosystem is a community of living and non-living things that interact with each other in a specific environment. It can be a forest, a desert, or even a small pond in your backyard. Ecosystems are all around us, and they are essential for our survival.

Draw a picture of your favorite ecosystem:

Label the biotic (plants, animals) and abiotic (sun, water, soil) factors. Be creative and have fun!

Biotic and Abiotic Factors

Biotic factors are the living things in an ecosystem, such as plants, animals, and microorganisms. Abiotic factors are the non-living things, such as sunlight, water, soil, and air. Both biotic and abiotic factors are essential for the survival of an ecosystem.

Biotic Factors:

- Plants
- Animals
- Microorganisms

Abiotic Factors:

- Sunlight
- Water
- Soil
- Air

Match the following biotic and abiotic factors:

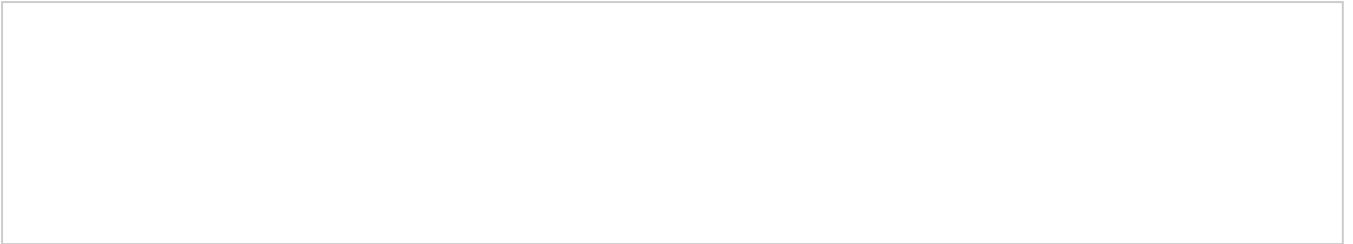
1. Plants (biotic) - Sunlight (abiotic)
2. Animals (biotic) - Water (abiotic)
3. Fungi (biotic) - Soil (abiotic)

Adaptation and Conservation

Adaptation is the process by which organisms change to survive and thrive in their environment. Conservation is the practice of protecting and preserving ecosystems and the organisms that live within them.

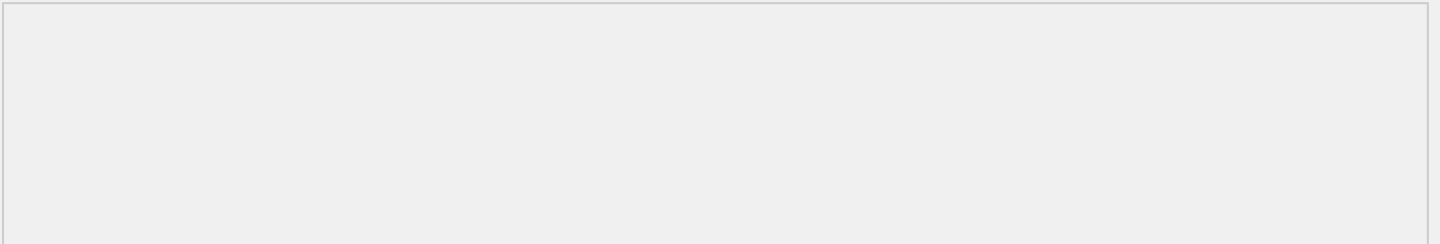
Draw a picture of an organism that has adapted to its environment:

Explain how it has adapted and why it is important for its survival.



Research and write about a conservation effort:

Choose a local or global conservation effort and write about its importance and impact.



Human Impact on the Environment

Humans have a significant impact on the environment, and it is essential to understand the consequences of our actions. We can help protect the environment by reducing, reusing, and recycling, as well as conserving natural resources.

Write a short story about a character who learns about the importance of conservation:

Explain how the character takes action to protect the environment and the impact it has on their community.

Create a poster or flyer about environmental conservation:

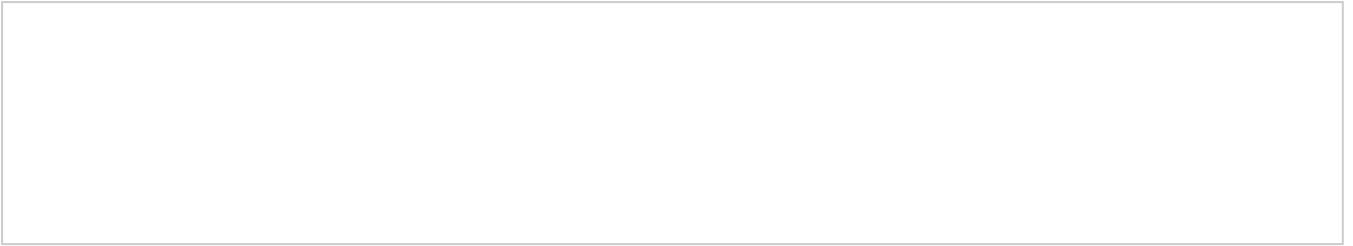
Include tips and strategies for reducing waste and protecting the environment.

Ecosystem Diagram

Create a diagram of a simple ecosystem, labeling biotic and abiotic factors, and explaining how they interact.

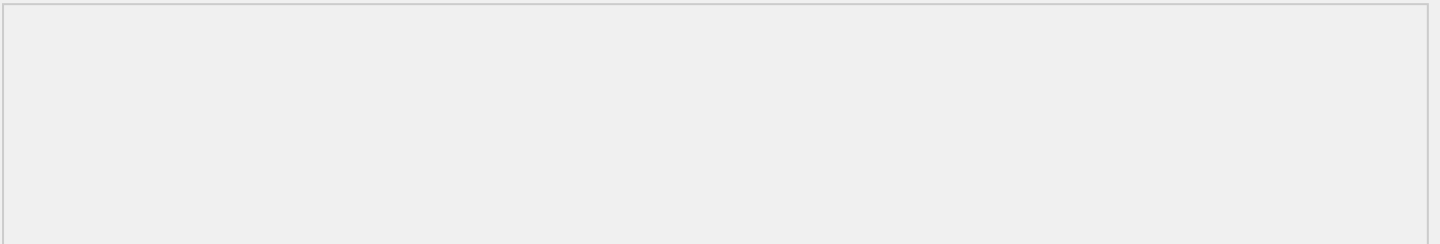
Include the following components:

- Producers (plants)
- Consumers (animals)
- Decomposers (fungi, bacteria)
- Abiotic factors (sun, water, soil)



Research and write about a specific ecosystem:

Choose a local or global ecosystem and write about its unique characteristics and importance.



Ecosystem Model

Create a 3D model of an ecosystem using recycled materials, such as cardboard, paper towel rolls, or plastic bottles.

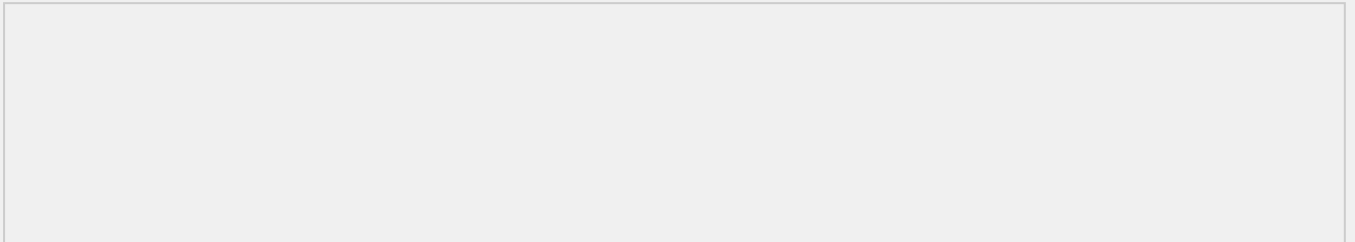
Include biotic and abiotic factors and explain how they interact:

Be creative and have fun!



Create a diorama of an ecosystem using a shoe box or a similar container:

Include biotic and abiotic factors and explain how they interact.



Environmental Pledge

Write or draw a pledge to help protect the environment, such as turning off lights to save energy or not littering.

Explain why this pledge is important and how you will implement it in your daily life:

Research and write about a local or global environmental issue:

Explain the causes, effects, and potential solutions to the issue.

Nature Scavenger Hunt

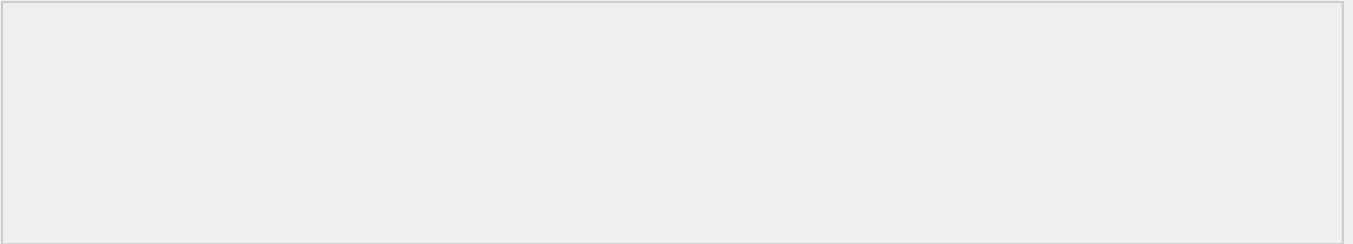
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Draw a picture of each item and explain its importance in the ecosystem:



Create a nature journal to record your observations and findings:

Include drawings, writings, and photographs of the items you find.



Reflection and Discussion

Reflect on what you have learned about ecosystems and how you can apply it to your everyday life.

Discuss with your classmates what actions you can take to make a positive impact on the environment:

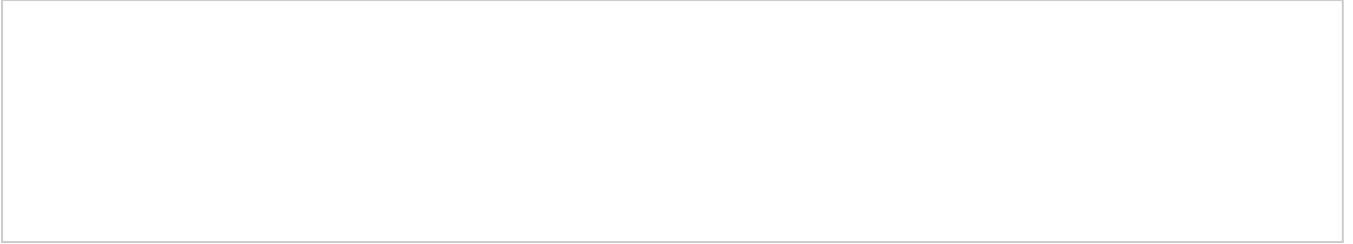
Research and write about a local or global conservation effort:

Explain the importance and impact of the effort.

Conclusion

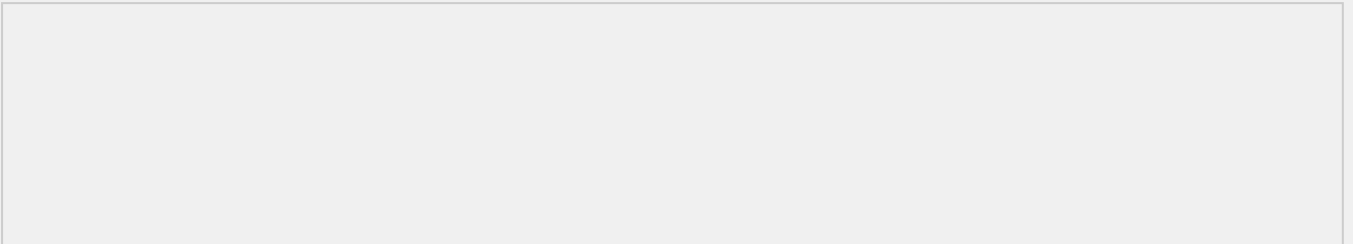
Summarize what you have learned about ecosystems and conservation.

Draw a picture of your favorite ecosystem and explain why it is important to protect it:



Create a poster or flyer about the importance of ecosystem conservation:

Include tips and strategies for protecting ecosystems.



Ecosystem Services

Ecosystems provide numerous services that are essential for human well-being, including air and water purification, soil formation, and climate regulation. These services are often taken for granted, but they are crucial for maintaining the health and resilience of ecosystems.

Example: Pollination

Pollination is an ecosystem service provided by bees, butterflies, and other pollinators. Without pollination, many plants would be unable to reproduce, and food production would be severely impacted.

Match the following ecosystem services with their descriptions:

1. Air purification - Removal of pollutants from the air
2. Water filtration - Removal of pollutants from water
3. Soil formation - Creation of new soil through weathering and erosion

Human Impact on Ecosystems

Human activities such as deforestation, pollution, and climate change can have significant impacts on ecosystems. These impacts can lead to loss of biodiversity, decreased ecosystem resilience, and negative effects on human health and well-being.

Case Study: Deforestation

Deforestation is the clearance of forests, usually as a result of human activities such as agriculture, urbanization, and logging. This can lead to loss of habitat for many species, increased greenhouse gas emissions, and decreased water quality.

Research and write about a local or global issue related to human impact on ecosystems:

Explain the causes, effects, and potential solutions to the issue.

Conservation Efforts

Conservation efforts aim to protect and preserve ecosystems and the species that inhabit them. These efforts can include habitat restoration, species reintroduction, and education and outreach programs.

Example: National Parks

National parks are protected areas that provide habitat for many species and offer opportunities for recreation and education. They are an important tool for conservation and can help to protect ecosystems and promote biodiversity.

Match the following conservation efforts with their descriptions:

1. Habitat restoration - Restoration of degraded or damaged habitats
2. Species reintroduction - Introduction of a species into an area where it has become extinct
3. Education and outreach - Education of the public about conservation issues and efforts

Sustainable Development

Sustainable development aims to meet the needs of the present without compromising the ability of future generations to meet their own needs. This can involve balancing economic, social, and environmental considerations to promote long-term sustainability.

Case Study: Renewable Energy

Renewable energy sources such as solar and wind power can help to reduce greenhouse gas emissions and promote sustainable development. They can also create jobs and stimulate local economies.

Research and write about a local or global issue related to sustainable development:

Explain the causes, effects, and potential solutions to the issue.

Ecosystem-Based Adaptation

Ecosystem-based adaptation involves using ecosystem services to help communities adapt to climate change. This can include restoring natural habitats, promoting sustainable land use, and supporting climate-resilient agriculture.

Example: Mangrove Restoration

Mangrove forests can help to protect coastal communities from storms and sea-level rise. Restoring mangrove habitats can also promote biodiversity and support fisheries.

Match the following ecosystem-based adaptation strategies with their descriptions:

1. Restoring natural habitats - Restoration of degraded or damaged habitats
2. Promoting sustainable land use - Encouragement of sustainable land-use practices
3. Supporting climate-resilient agriculture - Promotion of agricultural practices that are resilient to climate change

Climate Change Mitigation

Climate change mitigation involves reducing greenhouse gas emissions to slow the rate of global warming. This can involve transitioning to renewable energy sources, increasing energy efficiency, and promoting sustainable land use.

Case Study: Carbon Pricing

Carbon pricing involves putting a price on carbon emissions to provide a financial incentive for reducing emissions. This can be done through carbon taxes or cap-and-trade systems.

Research and write about a local or global issue related to climate change mitigation:

Explain the causes, effects, and potential solutions to the issue.



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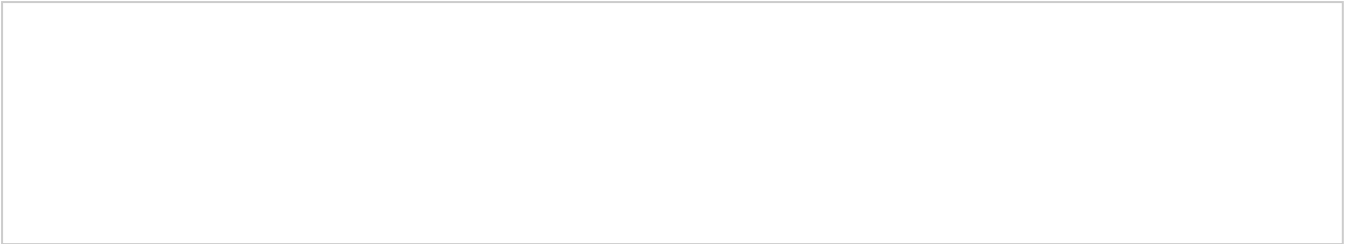
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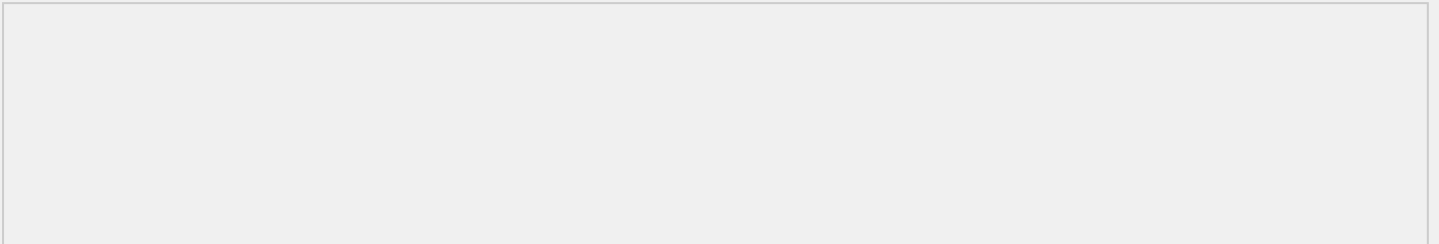
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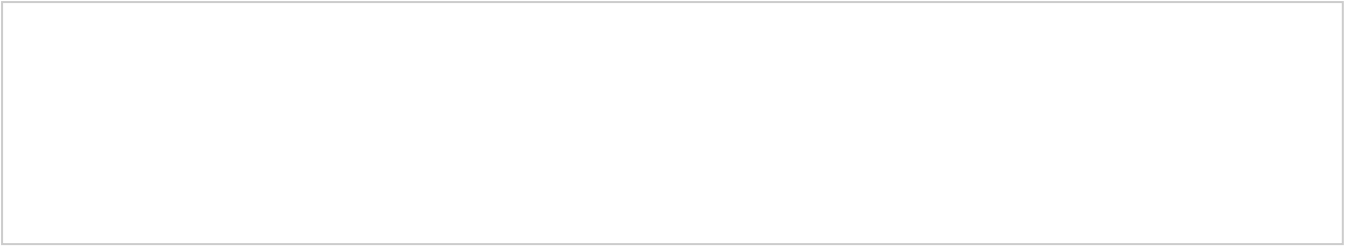
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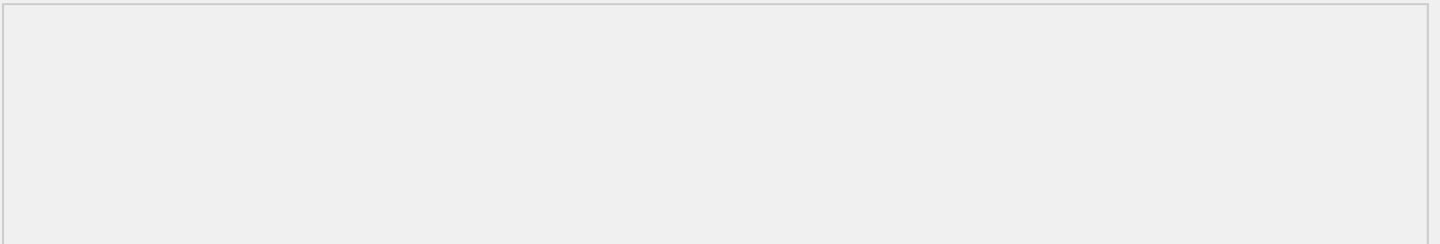
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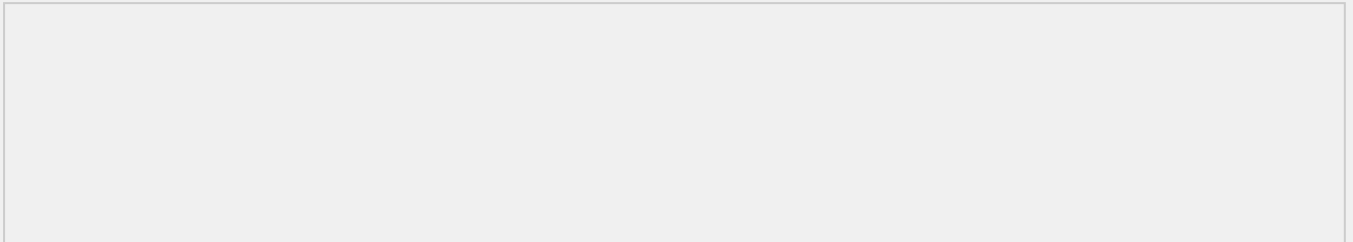
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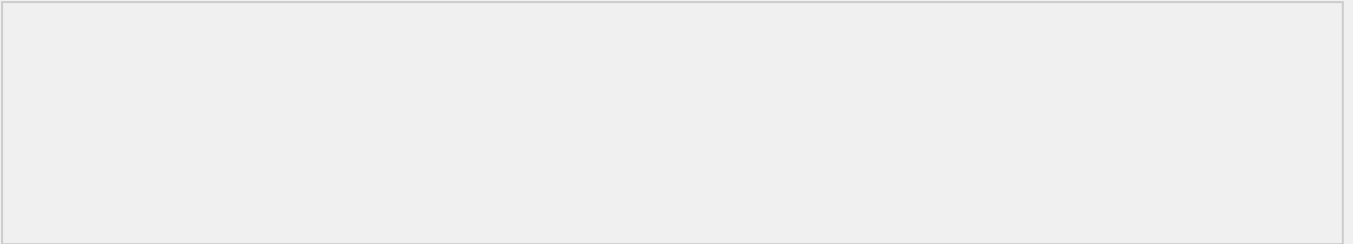
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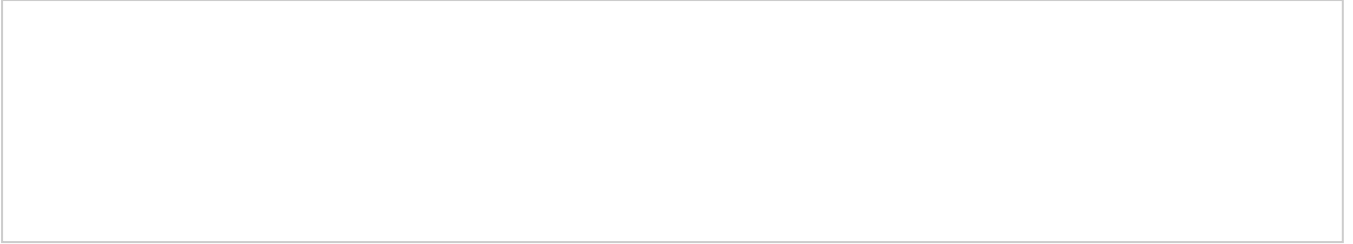
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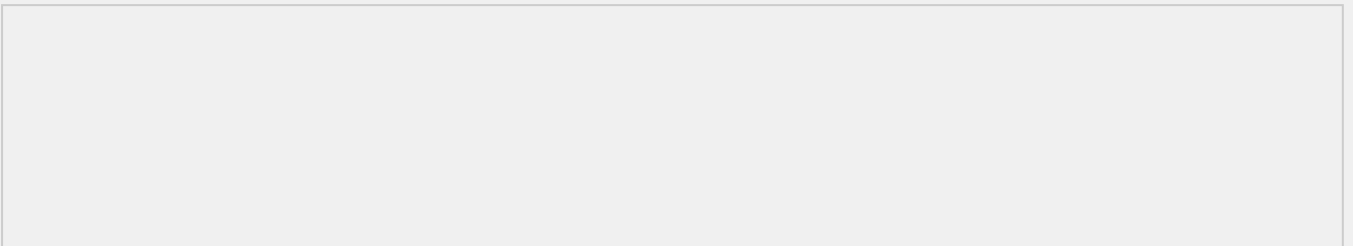
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