



HOW TO PLAY ECOSYSTEM JENGA



Tested, edited & approved by:
Heather Harelson Nutick,
Associate Director
of Education

Get kids excited about conservation while playing this fun game!

The natural balance within an ecosystem can be disrupted by introduction of new species, the loss species, natural disasters, or human activities. This game offers a fun way for children to grasp the interdependent relationships in ecosystems. Conversations can lead to questions and further investigation, making this a great activity to reinforce this core idea.

GATHER THIS:

- Dice
- Jenga blocks
- Eco-cards
- Red, yellow, green and blue paint or colored tape.

PREPARE:







1. Add colored tape or paint an equal number of red, yellow, green, and blue blocks.
2. Construct the tower by stacking three blocks at a time, alternating their directions and randomizing the colors.

THEN DO THIS:

1. Roll the die.
2. If you roll a 1 or a 6, you have not damaged the ecosystem, so do not remove a block.
3. If you roll a 2, 3, or 5, use the Eco-Damage Table below to determine which colored block you should remove.
4. If you roll a 4, pull a red block and draw an Eco-card and follow the directions.
5. Do not take blocks from the top!
6. If you remove a block, set the block aside. Do not set it back on the tower!
7. Make a tally mark in the results table below by the color of block you removed.
8. Take turns rolling the die and removing blocks until the tower falls.



ECO-DAMAGE TABLE:

Number on die	Ecosystem damage
1 	No damage
2 	Water pollution = Blue
3 	Eco-Card = Red
4 	Environmental pollution = Green
5 	Air Pollution = Yellow
6 	No damage

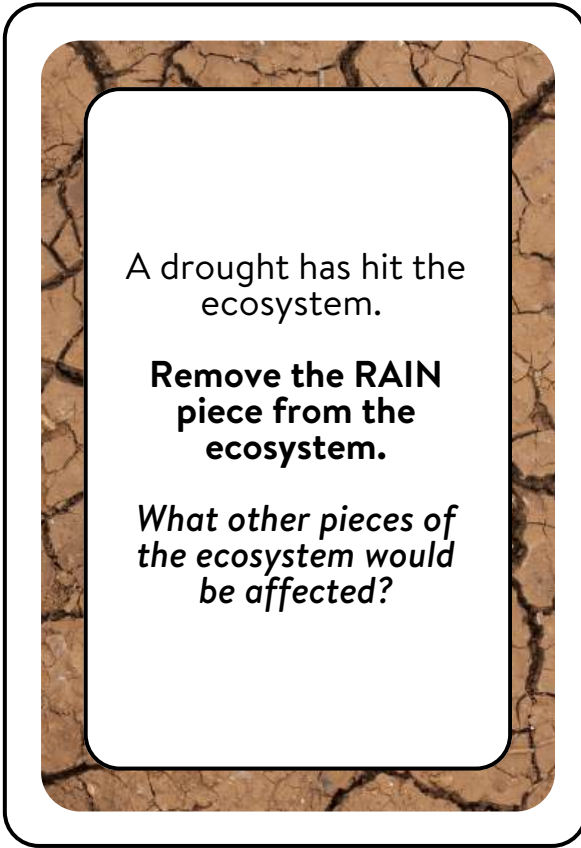
RESULTS TABLE:

Make a tally mark in the table below by the color of block you removed.

Color of block	Type of damage	Number of blocks taken
Blue	Water	
Red	Eco-Card	
Green	Plant	
Yellow	Air	
Totals:		

ECO-CARDS:

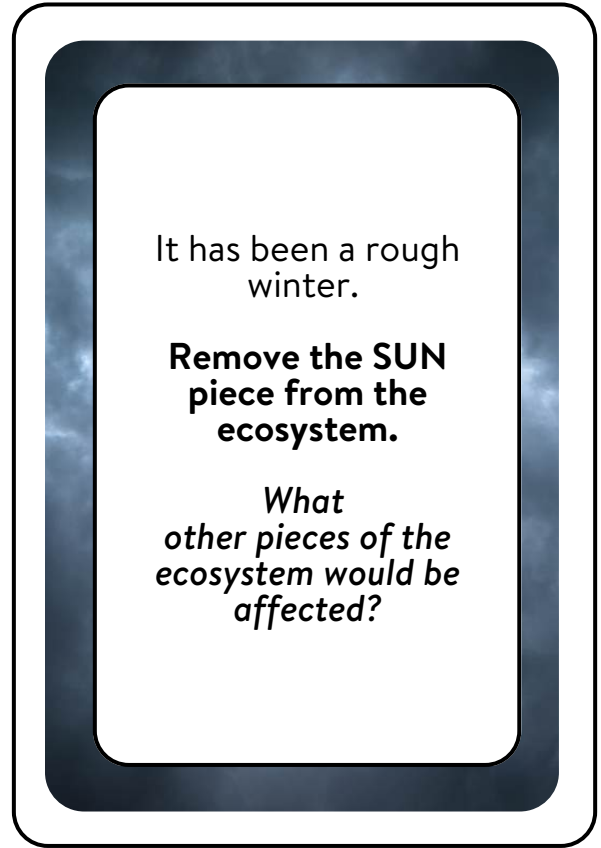
Cut the eco-cards and place them on a pile facing down.



A drought has hit the ecosystem.

Remove the RAIN piece from the ecosystem.

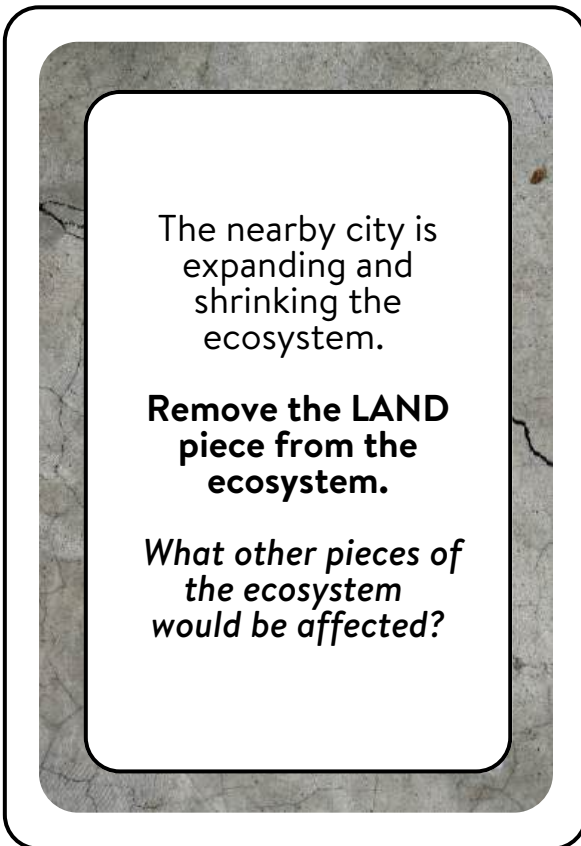
What other pieces of the ecosystem would be affected?



It has been a rough winter.

Remove the SUN piece from the ecosystem.

What other pieces of the ecosystem would be affected?



The nearby city is expanding and shrinking the ecosystem.

Remove the LAND piece from the ecosystem.

What other pieces of the ecosystem would be affected?

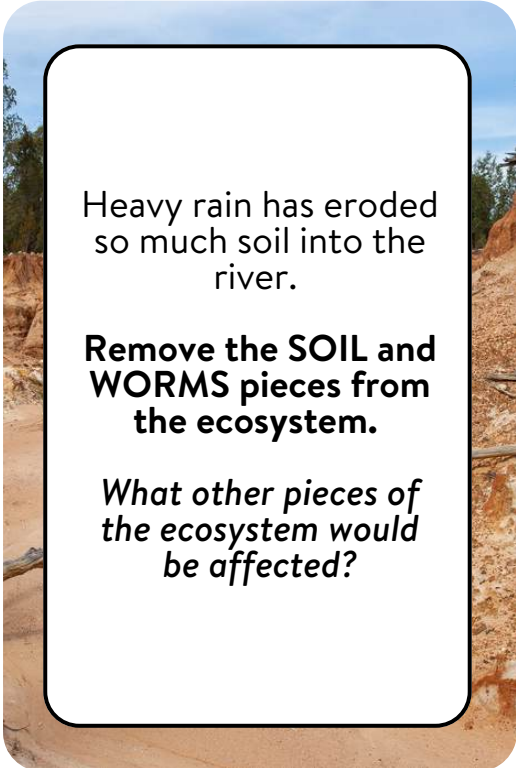


The native bee population has been in decline!

Remove the POLLINATORS and FLOWERS pieces from the ecosystem.

What other pieces of the ecosystem would be affected?


ECO-CARDS:



Heavy rain has eroded so much soil into the river.

Remove the SOIL and WORMS pieces from the ecosystem.

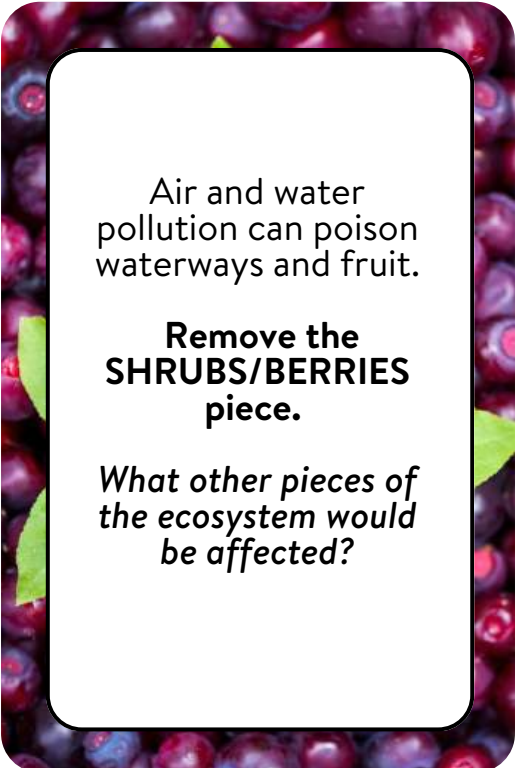
What other pieces of the ecosystem would be affected?



As the climate changes, seasonal changes in temperatures also change. The seasons have been all out of whack and local birds have migrated south too early in the season.

Remove the BIRDS piece from the ecosystem.

What other pieces of the ecosystem would be affected?



Air and water pollution can poison waterways and fruit.

Remove the SHRUBS/BERRIES piece.

What other pieces of the ecosystem would be affected?



A new neighborhood is under construction, causing deforestation.

Remove the TREES piece from the ecosystem.

What other pieces of the ecosystem would be affected?

ECO-CARDS:



There has been some illegal poaching in the ecosystem.

Remove the DEER and BEARS pieces.

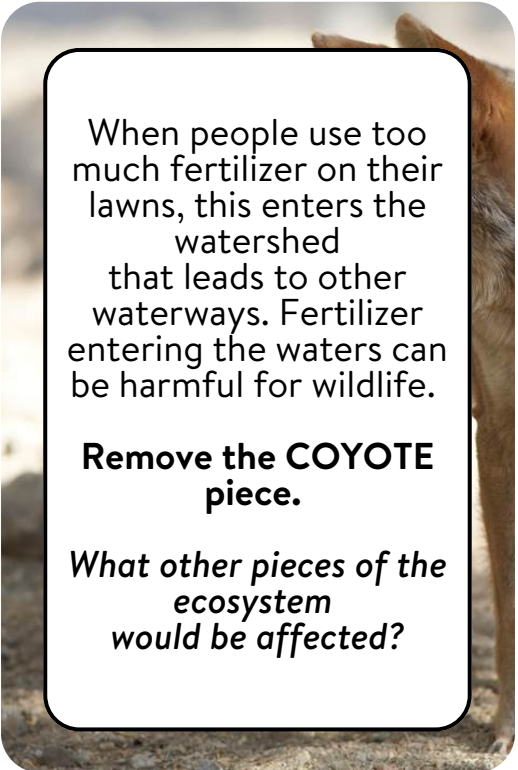
What other pieces of the ecosystem would be affected?



Truffle products are in high demand so there is overharvesting.

Remove the MUSHROOMS piece.

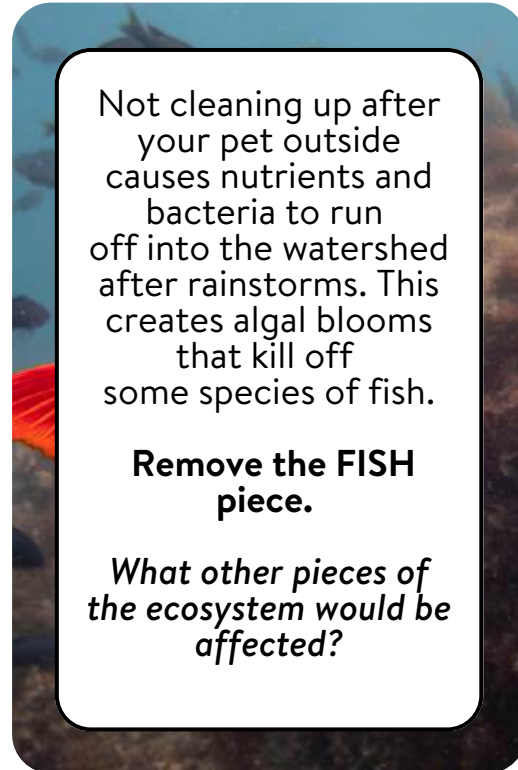
What other pieces of the ecosystem would be affected?



When people use too much fertilizer on their lawns, this enters the watershed that leads to other waterways. Fertilizer entering the waters can be harmful for wildlife.

Remove the COYOTE piece.

What other pieces of the ecosystem would be affected?



Not cleaning up after your pet outside causes nutrients and bacteria to run off into the watershed after rainstorms. This creates algal blooms that kill off some species of fish.

Remove the FISH piece.

What other pieces of the ecosystem would be affected?

ASK THIS:

- What colors were removed the most?
- What colors were removed the least?
- Which parts of the ecosystem are the most important?
- What impact did removing these colors have on the ecosystem?
- How do humans impact the balance of ecosystems?

WHAT IS HAPPENING?

Everything in an ecosystem is connected and can affect each other. When something in an ecosystem changes, it can impact everything else. This kind of change is called a disruption. Disruptions can happen because of natural reasons, like natural disasters, or because of human impact. Human impacts are caused by things people do. People can work to reduce or prevent disruptions to help ecosystems heal. Replanting native vegetation, cleaning up polluted areas, and protecting endangered species are all efforts that can help heal ecosystems.



WHAT THIS TEACHES:

Next Generation Science Standards

Crosscutting Concepts:

Cause and Effect

Systems and System Models

Disciplinary Core Ideas:

Grade 5

Life Science

- LS2.A: Interdependence Relationships in Ecosystems.

Earth and Space Science

- ESS3.C: Human Impacts on Earth Systems