Lesson: What is a Wild Guardian?

Grades	4–5	**Duration**	60 min.
Subjects	Science, English language arts		
Essential question	How am I connected to the ecosystems in my community? How can I protect them as a Wild Guardian?		
Content and language objectives	• Students will be able to connect with the natural cycles of plants, animals, and people in their community. • Students will be able to identify connections between biotic and abiotic species/features in their local ecosystems.		
Summary	In this lesson, students make connections to local species and ecosystems through the cycle of the seasons and understanding how species rely on each other and other elements of the ecosystem to survive. This is an introductory lesson to students becoming Wild Guardians in their community and the native species and abiotic features that call it home. Students connect to the phenology (reoccuring cycles in an ecosystem) in order to begin to notice changes to the plants and animal cycles and the abiotic features of the environment. This leads to understanding actions that students can take as Wild Guardians to protect their local ecosystems.		
Standards	***Next Generation Science Standards: Cross-cutting concepts:*** Cause and effect • **Cause and effect relationships are routinely identified and used to explain change. (4-ESS3-1)** • Cause and effect relationships are routinely identified, tested, and used to explain change. (4-ESS3-2) Systems and system models • A system can be described in terms of its components and their interactions. (5-ESS3-1)		
	Common Core English Language Arts: CCSS.ELA-Literacy.W.4/5.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly. **CCSS.ELA-Literacy.W.4/5.2.d** **Use precise language and domain-specific vocabulary to inform about or explain the topic.**		

	CCSS.ELA-Literacy.SL.4/5.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.L.4.4/5.b Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *telegraph, photograph, autograph*).		
Language frames	____ needs/relies on ____ because ... ____ is important to the ecosystem because ____ needs/relies on it.		If ... then _____ because ...
Vocabulary	biotic abiotic guardian	seasons community nature	ecosystem to rely impact
Materials	Seasons labels Sorting cards sticky notes	Brainstorm questions Nature journal template	Wild Guardian definition poster

Engage and prepare

1. Post “Season labels” in your classroom for the four seasons, match them with the cardinal directions: East/spring; South/summer; West/autumn, North/winter.
2. Split class into groups and distribute a row of the “Sorting cards” to the group (cut apart). Images include the same species in different seasons as well as people including clothing and agriculture in different times of year.
3. Ask students, “In which seasons do your cards fit?” Students discuss the sequence with their group. Then, representatives from the group move around the room and tape the cards under the season wall label it fits best with.

   As groups finish and time allows, give them a new row from the sorting cards (cut apart) to repeat Step 3.

Modeled and shared instruction

1. As a class, review the cards and discuss where they best fit for your community and location. *(There is a general key in materials, but for different places and regions these answers will vary.)*
   a. If students disagree with a placement, check in with the owners of the card. Ask them to share their reasoning, which could be based on observation or experience or

also a guess based on process of elimination. Encourage respectful sharing, agreeing, and disagreeing.

b. Discussions may lead to the class moving cards in between seasons or along a continuum to symbolize the "beginning" or "end" of a season.

2. Tell students we are all "Wild Guardians" of our community. That means we will learn about the ecosystems and the plants and animals in them, but first we want to share what we already know about our community. *The Wild Guardian definition can be posted in your classroom to remind students of their role in the ecosystem.*
3. Model drawing or writing an additional idea on a sticky note that shows an aspect of your community or of nature in your area that is specific to your location *(i.e., a native plant or animal cycle, a festival, or a school event)*. Post the sticky note in the season where it falls *(if you choose a plant/animal, you may choose to post several sticky notes to show changes according to the seasons for a challenge)*.
4. Distribute sticky notes for students to add their own ideas, drawing or writing, then posting their sticky notes. *Encourage additions that are specific to your community, but accept all ideas.*
5. Students share their additions with a partner or whole group.
6. Tell students we are observing the changes and the cycles over time. Next, as Wild Guardians, we want to think about how the different parts of our community impact each other.
7. Project two images, a snake and a rock. Tell students these are both important parts of an ecosystem, and both need to be protected, but they are different (one is biotic/abiotic).
8. Introduce the words, "biotic" and "abiotic." Ask students which label they think fits. Discuss the accompanying word parts, 'a', 'bio' 'ic' that support students in understanding the word.
9. Ask students, why is the rock important to the ecosystem? Why would Wild Guardians need to protect it? (Habitat, warms snake.) Why is the snake important to the ecosystem? Why would Wild Guardians need to protect it? (Food for birds, eats mice, etc.) *Discuss how these roles may shift according to the cycle of the seasons.*
10. Hand out sticky notes, students write or draw an abiotic feature on it *(may brainstorm as a class: water, air, soil, etc.)*.
11. Then, students walk around the room and find a card with a biotic species that relies on the abiotic part of the ecosystem.

    Introduce the frames to discuss the cards, "____ needs/relies on ____ because ..." or "____ is important to the ecosystem because ____ needs/relies on it" or original constructions.

12. Students play Stand Up, Hand Up, Pair Up (or another movement game they are familiar with) to walk around the room pairing with different classmates to share about their cards.

As an extension, when they speak with a classmate, students try to make connections between one of their cards and a partner's cards. If they can, they can trade a card before moving on to the next partner. In this way, they are broadening their understanding of how aspects of an ecosystem rely on each other.

13. After the game, students share some of the connections they made, reinforcing ecosystem reliance.
14. Tell students that in an ecosystem, there are plants, animals (biotic) and abiotic features, there are also people. Ask students, "What role do people play in ecosystems? Do we ever add/move/change things?"
15. Students generate ideas about impacts that people may have on an ecosystem, including building homes, logging, planting flowers, building bird feeders, etc.
    a. Discuss how these impacts can be positive or negative and sometimes both. *For example, cutting down trees impacts a bird's habitat negatively, but also may create space to build needed apartment buildings for people in the community. These are nuanced and we want to be careful to encourage students to look at all perspectives and the overall view of an issue.*
    b. If the opportunity arises, you may introduce natives and invasives to discuss how invasive species can impact an ecosystem negatively, even if it wasn't intended.
    c. Introduce the cause and effect language, "If … then" in addition to "_____because …" to discuss the impact.
16. Tell students that in our community we want to be environmental stewards and protectors of the ecosystems. This includes thinking about how our actions impact them. We are going to be learning about how other Wild Guardians work to protect nature in their communities and think about how we can be protectors of our own. Sometimes finding a solution is easy and sometimes it is difficult. Today we are going to start thinking like Wild Guardians by considering some of the problems ecosystems in our community may face.

Collaborative and independent practice

1. Students brainstorm a list of possible impacts on their community with a small group using the brainstorm outline, writing each idea on a sticky note.
2. Groups share their sticky notes and the class works together to group them by theme and find similarities, noting which theme or problem comes up the most in class and may be most important to the students.
3. After the discussion, students choose one problem to write about, using the frames introduced in class to explain why the problem is important in an ecosystem and how the effects of it. Students may also write ideas for solutions at this time.

Evaluate and close **Call to action**
1. Tell students figuring out the problems is the first step. We are going to learn about students in other communities who are doing work to solve problems in their communities as Wild Guardians. We are going to get ideas from them on how to protect our ecosystems, too. 2. Tell students that while we study other communities, we also want to be watching our own. So, on the way to school, at recess, at home, observe and journal about the ecosystems around you.
Extensions
• Follow up in class to watch an ecosystem in your community throughout the year, observe, take notes and note changes. • Look up invasive and native species in your community and support students in identifying the different species using field guides or an app like iNaturalist or Seek by iNaturalist.

Written by Emily Townsend in collaboration with Mongabay Kids.

About Wild Guardians

Mongabay Kids is the Kids Desk of Mongabay, a nonprofit environmental science and conservation news platform.

Wild Guardians is a multimedia educational series that uses videos, comics, and hands-on activities to engage grade 4–5 students in community-based interdisciplinary learning about how to be stewards of wild things and wild places in their community.

Website: kids.mongabay.com

Special thanks

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MONGABAY KIDS WILD GUARDIANS

INSTRUCTIONS

Before class: Post **labels** in your classroom for the four seasons, and match them with the cardinal directions: East/spring; South/summer; West/autumn, North/winter.

Cut the **sorting cards** on pages 5–7 into rows and then apart. Groups will receive four cards from one row to sort.

1. Split class into groups and distribute a row of the **sorting cards** to the group (cut apart). Images include the same species in different seasons as well as people, including clothing and agriculture in different times of year.
2. Ask students, “In which seasons do your cards fit?” Students discuss the sequence with their group.
3. Then, representatives from the group move around the room and tape the cards under the season wall label it fits best with.

As groups finish and time allows, give them a new row from the sorting cards (cut apart) to repeat Step 3.

Answer Key: Columns from left to right: spring, summer, autumn, winter.

Printing Directions: Sized for 8.5x11 inch or A4 paper. For larger cards, print on 11x17 inch or A3 paper.

MONGABAY KIDS

East

SPRING

South

SUMMER

West

AUTUMN

North

WINTER

East

SPRING

South

SUMMER

West

AUTUMN

North

WINTER


Canva/kart31 from Getty Images


Canva/Lorna Pauli from Pexels


Canva/through my lens from Getty Images

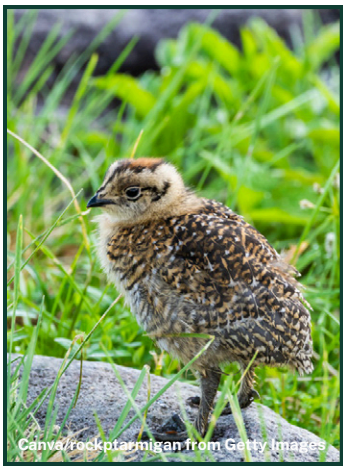

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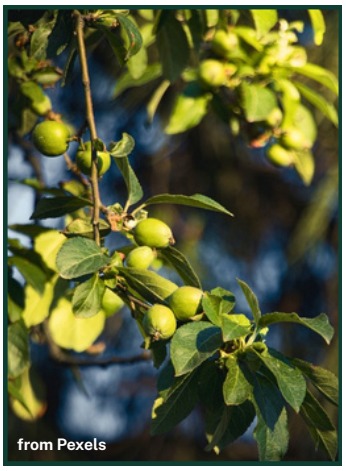

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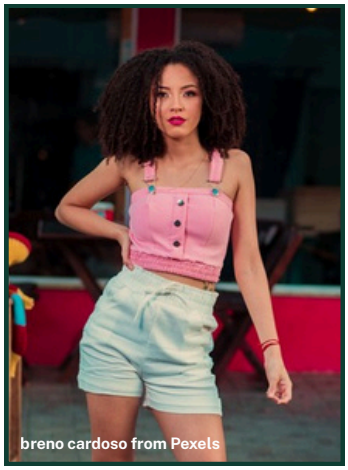

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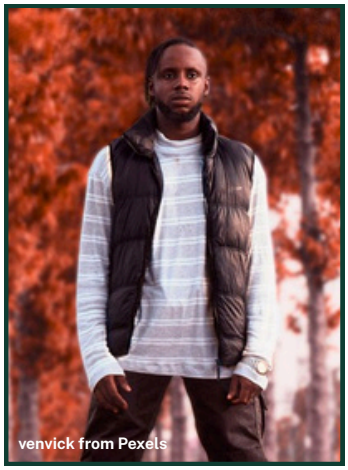

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MINNEAPOLIS, U.S.

12–15 hours of daylight

35–60°F
2–16°C average temperature

Canva

MINNEAPOLIS, U.S.

13–15 hours of daylight

70–75°F
21–24°C average temperature

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MINNEAPOLIS, U.S.

10–12 hours of daylight

35–60°F
2–16°C average temperature

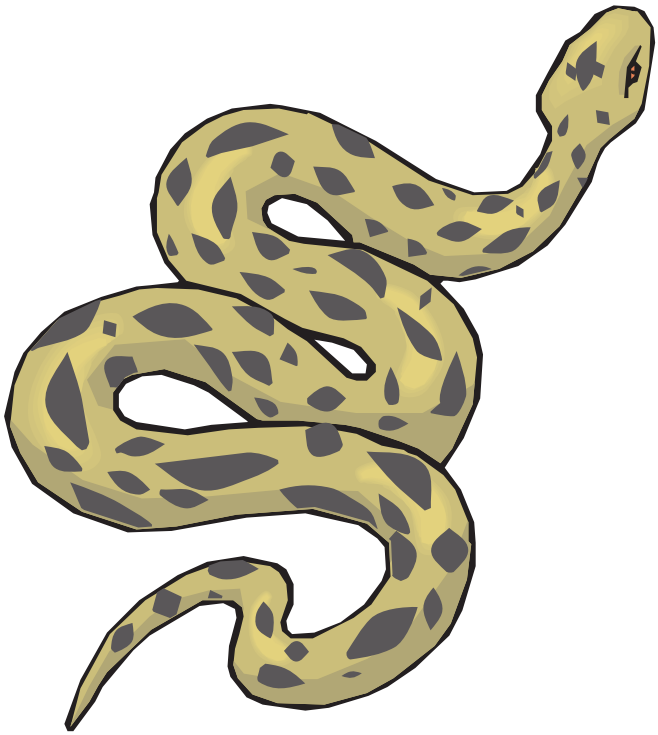
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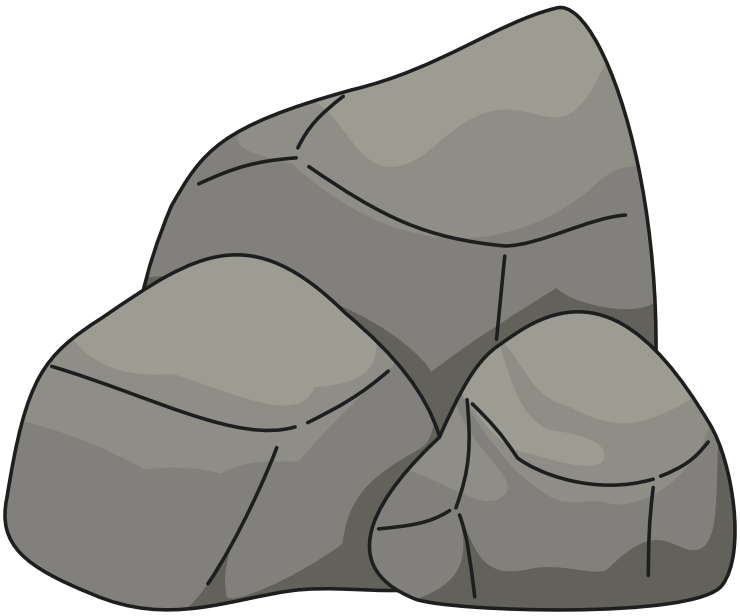
MINNEAPOLIS, U.S.

9–10 hours of daylight

15–20°F
-9 to -7°C average temperature

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abiotic

biotic

bio = life

a = not; without

ic = adjective; describing word

WILD GUARDIANS:







we are stewards
of wild things and wild places
in our community



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Name: _____ Class: _____Date: _____

Brainstorm questions

1. Choose one ecosystem to focus on at a time (ex. a stream or meadow near the school).

2. Think about these questions:
   a. What are the plants and animals you usually see in this ecosystem?

   b. What are the abiotic features of this ecosystem that help the plants and animals survive?

   c. How do these plants and animals rely on each other?

_____

_____

_____

_____

3. Think about changes.
   a. *Have there been any changes to the weather in this ecosystem? Has this affected it? How?*
   b. *Have there been any changes to the abiotic features in this ecosystem? Has this affected it? How?*
   c. *Have there been any changes outside of the ecosystem that have affected it? How?*

_____

_____

_____

_____



NATURE JOURNAL



Location: _____ Name: _____

Date: _____

What is the weather like?

Space for creativity:
(Doodles, drawings, notes)

Things I notice with my 5 senses:

Animals and plants I see:

Reflections:

Things I want to remember to look up or ask questions about:

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