

Living Environment

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Unit: Ecology

Unit Learning Targets: I can...

1. Explain how living organisms react with biotic and abiotic components of an ecosystem.
2. Organize my written description of a scientific process with relevant vocabulary and precise pronouns.

Daily Learning Target: I can differentiate between biotic and abiotic factors while describing how they interact to maintain stability in the environment.

Time	Main Idea	What the students are doing	What the teacher is doing
5 min	Prime time	Responding to the prime time question.	Ushering students into the classroom. Acknowledging those who are answering the prime time question.
10 min	Mini class discussion & Note taking	Selected students answer discussion questions. Students write notes.	Randomly choosing students to respond to the discussion questions.
20 min	Sort it out or more	Students are provided with various cards with pictures and scientific vocabulary. They take turns to explain how all of the items connect. Students vote on the best connection and explanation.	Stating procedure and expectations. Students work at their tables taking turns making connections with the cards. Students need to incorporate important vocabulary words. They can use the laminated sheets that have definition and other reminders about the concept. They provide their peers with feedback by carrying out the rounds strategy.
10 min	Reflection & Exit ticket	Students are provided with two questions and they choose the one that they think that they can answer well.	Distributing the reflection/exit ticket. Reminding students that they have a choice but also reminding them to push themselves and attempt the more challenging question or they could respond to both questions.

Accommodations & Support, Student choice, Student Thinking Engagement

Differentiation	Student choice	Engaging in high thinking	Feedback opportunities
<ol style="list-style-type: none"> 1. Heterogeneous groups assigned. 2. Definitions of important vocabulary have been provided. 3. Students provided with pictures, vocabulary words, and phrases for sort it out or more activity. 	<ol style="list-style-type: none"> 1. Students can choose the question to answer from the exit ticket. 2. Students can choose the number of cards to make the connections. 	<p>Questions I will ask to push high thinking as students work in their groups.</p> <p>During the table talk discussions</p> <ol style="list-style-type: none"> 1. What process connects the images and or phrases/vocabulary words on the cards? Why? 2. Can you explain another way that these cards connect? 	<ol style="list-style-type: none"> 1. During the Sort it out or more activity, students are correcting or confirming as well as refining the responses that they hear. (peer)
<p>Checks for understanding <i>Teacher:</i> Students write their response to the question: Is this word a biotic or abiotic factor? How do you know? Their answers will be written on small post it notes. I will distribute these at the midpoint of sort it out or more activity and the students post them on the check for understanding sheet. <i>Student:</i> Students can confirm and correct their peers' answers to questions.</p>			
<p>Final product Students choose one of the exit ticket questions to respond.</p>			

Reflection

What went well, how do you know?	What did not go well, why?	What needs improvement/next steps

BIOTIC & ABIOTIC

BIOTIC

These are the living

cr
w
pi

ABIOTIC



BIOTIC components

Food availability (alligator diet consists of fish, frogs and invertebrates)

Competition (with snapping turtles and herons for food and other alligators for space/ food/ mates)

Disease (caused by bacteria, viruses or fungi)

Parasites (such as flatworms)

Plants (eg. bald cypress, swamp gum, lily pads- provide shade, protection and habitats for prey, recycle nutrients, absorb CO₂ and provide O₂)

ABIOTIC components

Temperature of the air/ water (particularly important as alligators are cold-blooded)

Climate (rainfall, humidity, wind... all affect the gator's activity)

Sunlight (intensity as well as length of day/night)

Oxygen available (they need it for respiration)

pH and salinity (could affect its drinking water supply, also indirectly in terms of food availability and plant activity)

Name _____

Period _____

Date _____

Daily Learning Target: I can differentiate between biotic and abiotic factors while describing how they interact to maintain stability in the environment.

Prime Time

Read the passage below very carefully.

A habitat is the place where an organism naturally lives and grows. An ecosystem is all of the interacting parts of a natural area, including biotic (living) and abiotic (non-living) factors. A mouse's habitat might be a field where it lives. The ecosystem would also include all of the plant and animal species in the field, as well as the precipitation (rain/snow), streams and soil.

1. What does it mean to be living?

2. Is a habitat living? Provide reasons for your answer.

When you are instructed write the definitions in the spaces that have been provided.

Biotic

Abiotic

What does it mean to have a stable environment?

Pre rounds

1. Choose your cards
2. Each person has 3 minutes to organize their cards in a way that makes sense to them.
3. Decide on your roles: facilitator (ensures that the discussion remains on topic and reminds group members to stick to the protocol) and time keeper. You should have a stopwatch.
4. Use the rounds protocol to guide your discussion.

Rounds Discussion Protocol

- a. A student volunteers (this is the first speaker) to go first indicate who goes next
 - b. First speaker chooses a question to answer and shares his/her answer. During this time listeners you should write notes as to whether the speaker was correct (with reasons) or incorrect (with reasons) in the table below. **(1 min)**
 - c. Listeners confirm or correct the first speaker's response. You must explain why he/she was correct or incorrect. **(45 sec)**
 - d. Repeat steps 2 and 3 for the other speakers.
5. Repeat the process but use different cards.

Speaker's name and question	You are correct because...	You are incorrect because...

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Name _____ Period _____ Date _____

Daily Learning Target: I can differentiate between biotic and abiotic factors while describing how they interact to maintain stability in the environment.

Exit ticket

Read each item very carefully. Choose the question that you believe that you can confidently answer. (Don't hesitate to challenge yourself either.)

Challenging

Look at the picture very carefully. Explain how the biotic and abiotic components of the ecosystem interact to maintain stability of the ecosystem.

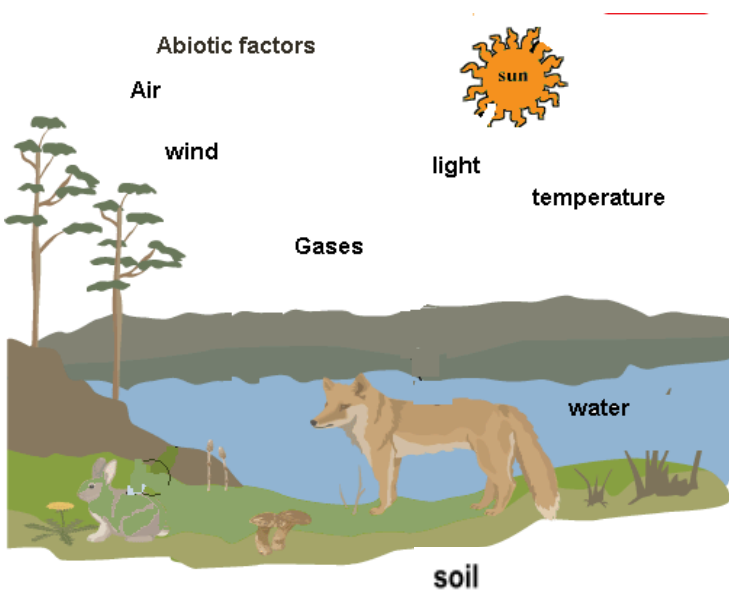
More Challenging

Look at the list of components of an ecosystem and explain how they interact to maintain the stability of the ecosystem.

- ocean
- sea weed
- sand
- oxygen
- small fish
- shark
- bacteria

In your answer ensure that you:

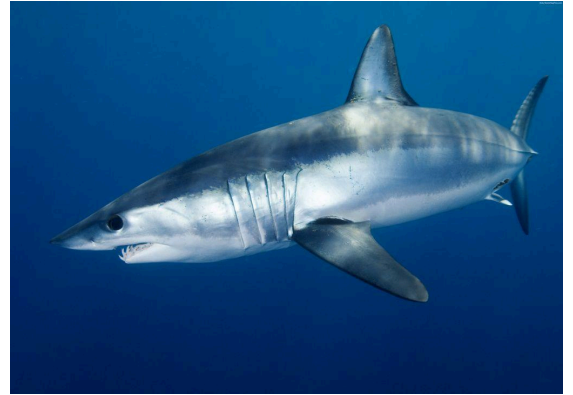
- Identify the biotic and abiotic parts
- Write at least three sentences to explain how the biotic and abiotic parts of the ecosystem work together to maintain the stability of the ecosystem.



In your answer ensure that you:

- Identify the biotic and abiotic parts
- Write at least three sentences to explain how the biotic and abiotic parts of the ecosystem work together to maintain the stability of the ecosystem.





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