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WHAT'S A NICHE?

Each of us plays many roles in life. Some of these roles may include: brother, sister, son, daughter, classmate, neighbor, teammate, and volunteer. In the animal and plant worlds, things are not that different! Each species plays certain roles in its community and local environment. We sometimes call these “ecological roles”. When you put together every aspect of a species’ ecological roles, you arrive at something new: its niche! Understanding a species’ niche is useful in understanding the species, as well as the greater ecosystem in which it lives.

You are going to study the niche of a species that lives in the cloud forests of Monteverde, Costa Rica. Your goal is to answer the following questions:

- (1) What is the niche of this species?
- (2) How similar is the niche of this species to that of another cloud forest species?
- (3) How can multiple species coexist in the cloud forests of Monteverde?

Part 1: Collect information

If you are focusing on the mantled howler monkey or the white-faced capuchin monkey, please use these *Canopy in the Clouds* resources as you do your research:

- Panorama 1: Canopy video 5 (howler monkey)
- Panorama 5: Ground photo/text 4 (white-faced capuchin)
- “Vertebrates” photo album found under the *Photographs* tab on the *Media* page

If you are focusing on bromeliads or orchids, please use these *Canopy in the Clouds* resources instead:

- Panorama 2: Canopy video 5 (epiphytes)
- Panorama 3: Ground video 3 (plant competition), canopy video 1 (orchids)
- Panorama 6: Canopy photo/text 2 & 3 (orchids and bromeliads)

No matter what species you are studying, you will use additional resources (e.g., books, websites) that your teacher has provided. Use the following page to guide your research. You may attach additional sheets of paper if you need more room.

1) Species (common name): _____

2) Scientific name: _____



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3) Where in the cloud forest does it live? (Be specific!)

4) Describe its daily activities. Include its sources of food.

5) Are other species affected by these activities? List each affected species and the effect(s) they experience.

6) Do any species threaten or harm it? List them.

7) During what hours of the day is it active? (This question refers to animals only.)

8) What cloud forest resources does it regularly use?



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Resources:

Use this page to keep track of the resources from which you collect information.

Print resources (e.g., books, magazines):

Internet resources:



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Part 2: Collaborate and compare

Pair up with a classmate who studied a species similar to yours. (Mantled howler monkey pairs up with white-faced capuchin monkey; bromeliad pairs up with orchid.) Share your research with one another and complete the *Niches in the Cloud Forest Venn Diagram* together.

Part 3: Analyze and reflect

Answer the following questions about the species you studied.

1. Write a paragraph summarizing the niche of the first species you studied.

2. Write a paragraph summarizing the niche of the second species you studied.

3a. How similar do these niches seem to you? (Circle one.)

Not at all similar Slightly similar Very similar Identical

b. Explain your choice.



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4. For this activity, we compared mantled howler monkeys to white-faced capuchin monkeys or bromeliads to orchids. Imagine that instead we compared one of the animal species to one of the plant species (e.g., comparing mantled howler monkeys to orchids). Do you think your Venn diagram would look much different? Explain.

5a. How do you think a species is affected when its niche is very similar to that of another species? Explain.

b. How do you think a species is affected when its niche is unique? Explain.



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6. Based on your understanding of niches, which do you think is more common in natural systems:

- a community of species whose niches are very similar

OR

-a community of species whose niches are unique?

Circle your choice and explain your reasoning.
