

SITTING AROUND THE HABITAT

BENCHMARKS and TASKS

SC.G.2.2.2 The student knows that the size of a population is dependent upon the available resources within its community.

SC.G.2.2.3 The student understands that changes in the habitat of an organism may be beneficial or harmful.

- The student experiences, through participation in simulations, that each habitat supports a limited population with the limit being set by the food, water, shelter, and space available.
- The student classifies and justifies changes in the habitat of an organism as beneficial or harmful.

KEY QUESTIONS

What are the components of a habitat?

What is the significance of loss or change in a habitat?

BACKGROUND INFORMATION

An animal's **habitat** includes food, water, shelter, and adequate space in an arrangement appropriate to the animal's needs. If any of the components of the habitat are missing, or are affected significantly, the arrangement for the individual animal or **population** of animals will no longer be suitable. The impact will ultimately affect other populations as well.

All things are interrelated. When we look at a biological community, we find interrelationships and interdependencies between plants and plants, animals and animals, and between animals and plants.

MATERIALS

None

TEACHING TIP

Caution students to be very careful when they “sit down” on the knees of the person behind them.

ENGAGE

Ask:

What needs do animals have?

What would happen if one of those needs could not be met?

Discuss the basic needs animals must have satisfied in order to survive: food, water, shelter, and space.

EXPLORE (Part 1)

1. Have students form a large circle and number off from one to four. All students should be standing shoulder to shoulder, facing the center of the circle. All 1's are food, 2's are water, 3's are shelter, and 4's are space.
2. On your signal, all students should turn to the right, so they are looking directly at the back of the head of the person in front of them. Tell students to carefully place their hands on the waist of the student in front of them.
3. When you count to three, students will carefully “sit down” (just barely – not completely) on the knees of the person behind them, keeping their own knees together to support the person in front of them. (It would be wise to have several students demonstrate this before you

invite the whole class to participate.) You will also need to count to three to help them stand again almost immediately afterward.

EXPLAIN (Part 1)

1. Discuss how important it was for members of the class to work together as a team in order for the “lap sit” to work. Ask them to think about what would have happened had a member not cooperated or if a member had stepped away from the circle just before the “lap sit.”
2. Discuss how all the components of habitat - food, water, shelter, and space - are needed in order to have a healthy habitat.

EXPLORE (Part 2)

1. Form the circle again – same order, same spacing.
2. Before counting to three this time, tell students there has been a drought this year and not all the water needed is available.
3. Have every other one of the “water” students step out of the circle, but **DO NOT** let students adjust the spacing in the circle. The spaces where the students stood should remain.
4. Ask students to **CAREFULLY** try to sit down again, which of course, they cannot do.

EXPLAIN (Part 2)

Discuss what happened when not enough water was available. *Why were you unable to sit down? What does this represent in the wild?* (All things are interrelated and any change, such as a lack of water, will affect the whole community. Food, water, shelter, and space - in an arrangement suitable to the needs of the population of animals – are all needed. Loss of any one of these elements of habitat will have an impact on the animals living there.)

What effect would a lack of water have on the habitat? (Some of the animals would die as a result.)
What are some other events/changes that may impact a habitat besides a drought? (development of the land, natural disasters)

EXTEND/APPLY

Have each group choose an endangered Florida animal (e.g., manatee, panther, American crocodile) and reflect on these ideas:

What is the biggest threat to the animal’s survival?

How does human encroachment on their habitat affect the animals?

What can humans do to help increase the animal’s chances of survival?

ASSESSMENT

Ask each student to respond thoughtfully to this question:

Which one would probably have a greater long-term impact on the wildlife living on a farm in Iowa – a severe winter which killed many animals or the development of part of the farm into a shopping center? Defend your answer.

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