



# 7th-12th Grade: The Science of Survival II

Existing species have inherited traits from their ancestors that helped them to survive and

**Description:** A habitat as well as traits inherited from previous generations influence the survival of species within those habitats.

**Location at Zoo:** Gorilla World, World of the Insect, Africa, CREW public exhibit

**Materials:** Pencil

**Activity:**

1. Head to the World of the Insect and observe the leaf cutter ant and naked mole rat colonies. Each colony is led by a queen and she is the only one who has babies. Everyone else in the colony is a worker, caring for the queen and colony's needs. After watching each of the colonies, can you think of one advantage and one disadvantage of this social structure/reproductive strategy for each?

- a. Leaf cutter ants

Advantage:

Disadvantage:

- b. Naked mole rats

Advantage:

Disadvantage:

2. The gorillas at the Cincinnati Zoo & Botanical Garden live in groups called troops consisting of a silverback male, adult females, and their offspring. When young gorillas reach maturity, they often travel to other zoos to join a new troop. What are the advantages of these animals leaving their birth zoo? Are there disadvantages?

Advantages:

Disadvantage?

3. Observe the birds that live in the savannah habitat in Africa. List one different adaptation, physical or behavioral, that you have observed from each one and how that adaptation might be useful in their survival.

*Ex. Ostriches have huge eyes to help them see approaching predators, such as lions, on the savannah.*

Pelicans:

Crowned cranes:

Guinea fowl:

Vulture:

Ostrich:

4. Head to Hippo Cove and observe the hippos there. Name two adaptations that they have that would help them to survive in the wild.

Adaptation 1: \_\_\_\_\_

\_\_\_\_\_

Is this adaptation physical or behavioral? \_\_\_\_\_

Adaptation 2: \_\_\_\_\_

\_\_\_\_\_

Is this adaptation physical or behavioral? \_\_\_\_\_

5. Head to the CREW public exhibit.

a. Name one species that CREW has helped through the use of science and how they helped it.

b. Name one reason that scientists might need to help with a species' reproduction.

c. Imagine that you are a CREW scientist who is deciding which two giraffes should have offspring. Review the following information and circle the animals (one male and one female) that you would choose. Then, explain your choice below.

*\*Note - giraffes live ~25 years in the wild and closer to 30 in human care (such as a zoo environment)*

Females	Males
A. Healthy, 3 years old, no prior calves	A. Healthy, 18 years old, has fathered no calves
B. Heart condition, 8 years old, 3 prior calves	B. Dental issues, 14 years old, fathered 15 calves
C. Healthy, 20 years old, 7 prior calves	C. Healthy, 7 years old, fathered 2 calves

Explanation: