



## Cheetah Conservation Fund- Habitats Lesson

**Subject Areas:**

Sciences

**Time Duration:**

45 minutes to 1 hour

**Location:**

Classroom or Hall

**Number of Learners:**

10 to 40

**Recommended Grade****Level of Learners:**

Grades 4 to 7

**Key Words to Review:**

Habitat

Need

Want

Neighborhood

Conflict

Carnivore

Predator

Prey

**Objective:**

Learners will become familiar with factors influencing an organism's habitat and will apply their knowledge to themselves and other living organisms, including the cheetah to draw comparisons.

**Lesson Activities:****Activity 1: Want VS. Need**

Have learners brainstorm what needs they have in their home. Next, explain the difference between need and want and identify 4 common 'needs' (food, water, shelter, space) in a habitat. Also discuss classification of a habitat.

**Activity 2: Animals and their Habitat**

Learners will list animals in a village or town and identify the needs of the animals. Learners will lastly, have a discussion on a cheetah's needs and whether the cheetah's needs lead to conflicts with people.

**Activity 3: Cheetah Hunt Game**

Learners will play a carrying capacity game where they try to collect enough food for themselves (a cheetah) to survive. Through the process of the game learners will learn what types of prey the cheetah eats and how it can be difficult for animals to compete for food and space.

**Learning Outcomes:**

The learners will become familiar with the factors that influence an animal's habitat, including food, water, shelter, and space. They will then apply their knowledge to themselves and other living organisms to draw comparisons.

**Activity 1: Want VS. Need**

Introduce the terms of habitat- where an animal lives and finds everything it needs to survive. With learners input draw up a list of all the things the children need within their home or hostel. (A habitat is bigger than a home, it includes where they live and the things they need to survive such as food, water, and safety). Allow them to write anything that comes to mind such as TV, toys, water, bed, etc. Learners are encouraged to think about things they need to use every single day. Discuss the difference between need (water) and a want (Coca cola) and, using 2 columns on the board labeled "need" and "want", place all the previous suggestions under the correct headings with the learners' input. This will lead you into the four common needs: food, water, shelter, and space.

**Activity 2: Animals and their habitat**

Next with the guidance of the learners, write up a list of the animals in their village or farm (bird, goat, dog, insect, etc.) Have learners identify what they need to survive and where in the village or farm the animals live. Lastly, have the learners identify what a cheetah needs in order to survive in its habitat. Discuss the differences and similarities between the learner's environment and the cheetah's. This will emphasize that all living things have the same requirements. Discuss whether this would lead to conflict/competition between species, including humans if they all have similar needs.

### Activity 3: Cheetah Hunt Game

In this activity learners discover limiting factors and carrying capacity using a game in which they all play as cheetahs competing in the same savanna habitat.

#### **For Educator-Materials needed:**

White board, chalkboard or white paper

Different colored markers

Cheetah Hunt Game-Cups

Cheetah Hunt Game instructions

Pictures & Info of prey animals for game

#### **Cheetah Hunt Game -found on page 72 of CCF's Teacher's Resource Guide (How many cheetahs can live in this savanna?)**

#### Objectives:

1. To understand the importance of large predators in an ecosystem using the cheetah as a focus.
2. Discuss why the cheetah is endangered
3. Recognize the importance of carrying capacity
4. Discuss the importance of space and resources to survival
5. Define limiting factors and how it relates to survival

#### Background Information:

A variety of factors affect the ability of an animal to survive. They include food, water, shelter, and space. The limiting factor is the factor that is in the shortest supply. For example, a cheetah can have excess space, food, and shelter, but if water is in short supply, it will still not be able to survive. The maximum number of animals that can survive in an environment is the carrying capacity. As long as the limiting factor increases, the carrying capacity can increase as well. But as soon as the limiting factor decreases, the carrying capacity must decrease as well.

This activity will demonstrate carrying capacity by using food as the limiting factor. The food is divided up into different cheetah prey animals, each counting as a certain amount of energy. Each animal has a certain amount of energy it requires to survive and those who do not meet the requirements will die.

#### Materials Needed:

- Prey cups
- Place to chart results
- Blindfold

Duration: 30 to 45 minutes

#### Activity Procedure:

1. Begin by setting up the game in the classroom. Evenly spread the cups out throughout the room.
2. Discuss with learners that they will be playing a game that demonstrates how many cheetahs can live in an area. Here are the rules of the game:
  1. Each person will represent a cheetah
  2. Together you are a population of wild cheetahs in a habitat
  3. You need to find enough food to survive for 1 month (50kg)
  4. Each cheetah must find a shelter where they keep their prey \*(Cheetahs do not store their food in the wild but we are today for gaming purposes.)

5. You must walk to get the prey- Cheetahs stalk their prey & only use their incredible speed when the prey runs. Your prey will not be running so you can't run either!
  6. A cheetah can only take 1 prey at a time and take it back to it's shelter.
  7. Cheetahs cannot fight over prey because they can get injured
  8. Do not damage the prey! Be careful!
  9. When all of the prey has been picked up, we are done. Stay at your shelter and count the kg of prey gathered. *Remember you need 50 kg to survive!*
3. Ask for 3 volunteers. One "cheetah" volunteer will be injured and they must hop on 1 leg the entire round of the game. One "cheetah" volunteer will be blind in 1 eye and use the blindfold over 1 eye because of an encounter with an acacia thorn bush. The last "cheetah" volunteer will be a new mother with 2 cubs. She will need an extra 25kg of food for each cub to survive so she needs to get 100 kg for her family to survive.
  4. Send the "cheetahs" to their shelters (use a piece of paper with their name on it or their desk.) Review that each "cheetah" needs 50 kg to survive. There are 5 different prey animals and each one is worth a different amount of kg's of food. Review the prey and the kg's of each prey.
  5. **Begin the Game!** When learners are finished have them stand by their shelter and count their kg's.
  6. Ask each learner to tell how many kg's of prey they caught. Keep track of the numbers as you go on a board for the whole class to see. Ask the 3 "disadvantaged cheetah" volunteers to give their numbers last. When everyone is finished, tell the class how many survived out of how many cheetahs there were originally.

Discussion:

- Ask learners what the carrying capacity of this habitat is for cheetahs. This is the number that survived. Discuss why so many died. Also, how did the 3 volunteers do? Is it easy for a mother cheetah to get enough food for both her and her cubs? Discuss how cheetahs only catch their prey about 50% of the time. So for every prey animal a cheetah catches, 1 gets away.
- Discuss what would happen to the cheetah population if a virus killed off the rabbit population. Conversely, what would happen to the rabbit population if hunters lowered the cheetah population? (It's all interrelated!)
- There are just over 7 billion people in the world today. If we stood side by side they could all fit in Namibia. Would we all survive? How does this relate to carrying capacity?

<u>Prey Animal</u>	<u>Population</u>	<u>Kg of Prey</u>
Guinea Fowl (G)	100	1
Rabbit (R)	50	2
Steenbok (St)	30	7.5
Duiker (D)	19	20
Springbok (Sp)	1	75



**G = 1kg**



**R = 2kg**



**St = 7.5kg**



**D = 20kg**



**Sp = 75kg**