# LEARNING ACTIVITY SHEET
# GRADE 10 - SCIENCE

Name: _____ Date: _____Rating/Score: _____

## ADAPTATION AND SURVIVAL

**DIRECTIONS:** This Learning Activity Sheet is about the adaptation and survival of organisms in a changing environment. Follow the instructions in each part and answer the guide questions that follow.

### PART A. My Bio-cabulary

Explain each of the given terminologies in your own words then answer the question.

| Terminologies | How will I Remember |
|---|---|
| Biodiversity | |
| Stability | |
| Adaptation | |
| Survivability | |

**Think About It!**

Based on the answers above, explain how species diversity increases the probability of adaptation and survival of organisms.

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**Specific Week: 7 (LAS 4)**
**Target Competency:** Explain how species diversity increases the probability of adaptation and survival of organisms in changing environment (S10LT-IIIh-41)

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**PART B. Adaptation and Survival**

Study the illustrations of two ecosystems. Identify the adaptation of the organisms in each ecosystem and explain how that adaptation helps the organisms to survive in their environment. Write your answers in the space provided.

| Ecosystem A | Ecosystem B |
|---|---|
|  |  |

*Illustrated by Mr. Rodel R. Rimando, SDO La Union, Region 1*

| Tropical Rainforest Ecosystem | Desert Ecosystem |
|---|---|
| | |
| | |
| | |

**Think About It!**

1. Which of the following ecosystems has greater biodiversity and explain the possible reason for this observation?

2. What factors in the environment affect the biodiversity of organisms in an area?

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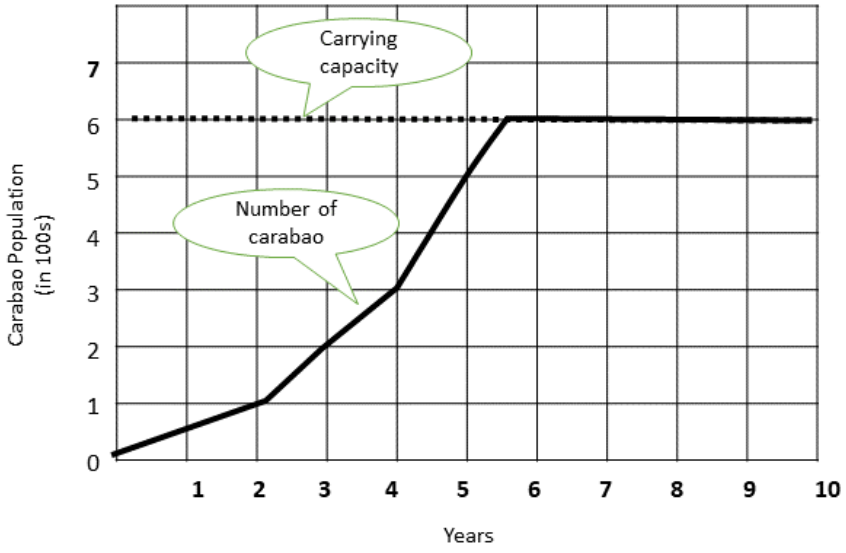
**Carrying capacity** is the maximum number of organisms that can be supported or carried by the environment. Each population of organisms has a different carrying capacity, depending on the number of resources available in the area in which it lives. The population's growth is restricted or limited by factors called the **Limiting Factors**. If a factor regulates a population's growth and is influenced by population density, then it is a **density-dependent limiting factor**. If the population's density is not directly influenced changes in the population growth, then it is called a **density-independent limiting factor**.

Use the chart below to answer the following questions:




*Illustrated by Russell P. Samson*

Guide questions:

1. Based on the graph, determine the population of carabao in:
   i. 4 years: _____
   ii. 5 years: _____
   iii. 6 years: _____

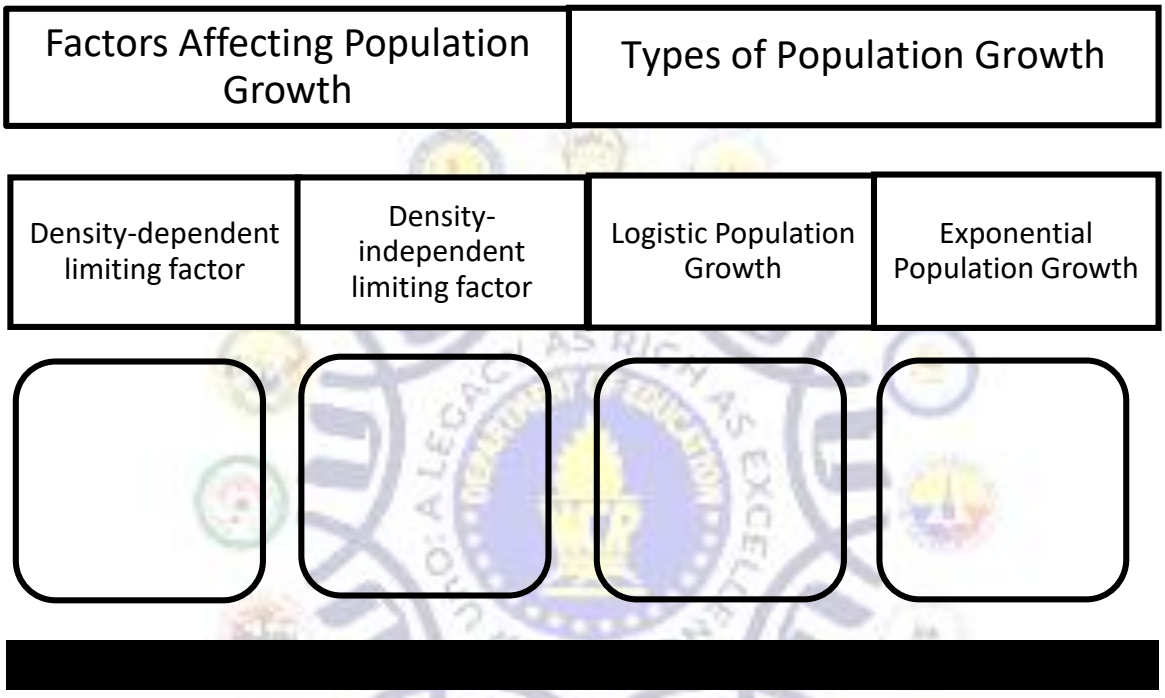
2. What is the maximum carrying capacity of carabao in the given ecosystem?

3. How many years did it take for the carabao to reach its carrying capacity? Explain your answer.

**Part D: Complete Me!**

The Density-dependent limiting factor, density-independent limiting factor, logistic population growth, and exponential population growth are the new key terms you have encountered in studying biodiversity.

Complete the graphic organizer below to show the differences between these key terms.




Think About It!

1. Choose one factor from what you have listed above and explain how it affects population growth in an ecosystem.

2. How is population growth related to carrying capacity?