

Termite Life Cycle

Lesson Overview

From birth to death, organisms go through many changes in form, until eventually returning back to the starting state. This is called the cycle of life. While each organism's life cycle is unique, all life cycles have common features like birth, growth, reproduction, and death. In this lesson, students will learn about the life cycle of a termite.

Objectives

- Observe and record the termite's 7 life cycle stages
- Conduct additional research about each stage
- Compare and contrast the life cycles of frogs and termites to determine similarities and differences (optional)

Standards (NGSS and Common Core)

For state specific standards visit edu.zspace.com/activities

Next Generation Science Standards

- Life Science - Structures and Processes
 - 3-LS1-1 Develop models to explain that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

Common Core Connections

- Language Arts
 - RI.3.3 Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.
 - RI.3.7 Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).
 - W.3.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

Differentiation

- Students may be grouped heterogeneously to allow students with a strong command of the English language to assist in reading or interpreting questions
- Provide paper copies of diagrams to students to use as a reference
- Provide a handout with a list of vocabulary terms and definitions that will appear in their activity
- Allow students to provide answers that are handwritten, typed, or verbal
- Work in partners or small groups (younger children could partner with older buddies)
- Enrichment: Students could research similar topics and create presentations

Grade Level: 2nd - 4th

Lesson Time: 90 Minutes

Key Terms:

Alate
De-alate
Larva
Life Cycle
Nymph
Reproductive
Soldier
Worker

Resources:

Answer Key
Termite Life Cycle worksheet
Frog vs. Termite Venn Diagram optional worksheet

Introduction

If students have already completed the Frog Life Cycle lesson the teacher will remind them what they saw and what is a life cycle is. A life cycle is when an organism goes through many physical changes in form from birth to death, until eventually returning to its starting state. The teacher will explain that while each organism's life cycle is unique, all life cycles have certain things in common. The students will determine what these common factors are after looking at another life cycle.

Activity

1. Open the session called "Termite Life Cycle" in Cyber Science 3D.
2. Click on the "Presenter" mode at the top left corner of the screen. This will display a list of slides along the left side.
3. Follow the presentation: Click on the "Play Slides" button to pause the session at the first slide. When you are ready for the next slide, just click the next slide down on the list. Follow the directions on each slide and explore at your own pace.
4. Carefully analyze each stage on Cyber Science 3D and then draw a detailed picture of each stage on the provided worksheet called "Termite Life Cycle."
5. At another center using textbooks and the Internet, conduct additional research about each stage of the termite's life cycle and record your data on the worksheet.

Optional connection to Frog life Cycle lesson

1. Find similarities and differences between their life cycles of the frog and termite. Record your findings on the provided worksheet called "Frog vs. Termite Venn Diagram."
2. Determine factors that all life cycles have in common.

Closing

Now that students have come up with common factors for all life cycles have the test this out with another live cycle that they know. They could find an image of another life cycle online or just describe the cycle to make sure that their common factors are correct.

Questions for Discussion

1. What similarities and differences did you find between the life cycles of the frog and the termite?

Answers will vary. Sample Answer: Similarities: Born as eggs, grow larger in size until a mature adult, sprout legs, reproduce to have more babies, die at the end of the lifecycle. Differences: Different number of stages, different body parts, different forms at each stage (ex. termite has various forms at each stage).

2. What things do you think would remain the same?

Answers will vary. Sample Answer: Birth, growth, reproduction, and death. There may be a few similar stages, depending on the organism.

3. What things do you think would be different?

Answers will vary. Sample Answer: Depending on the other organism, the number of stages and its

physical characteristics may be different.

△ Investigate Further

Follow up Activity:

Students could research another organism's life cycle and compare/contrast it with the termite's life cycle.

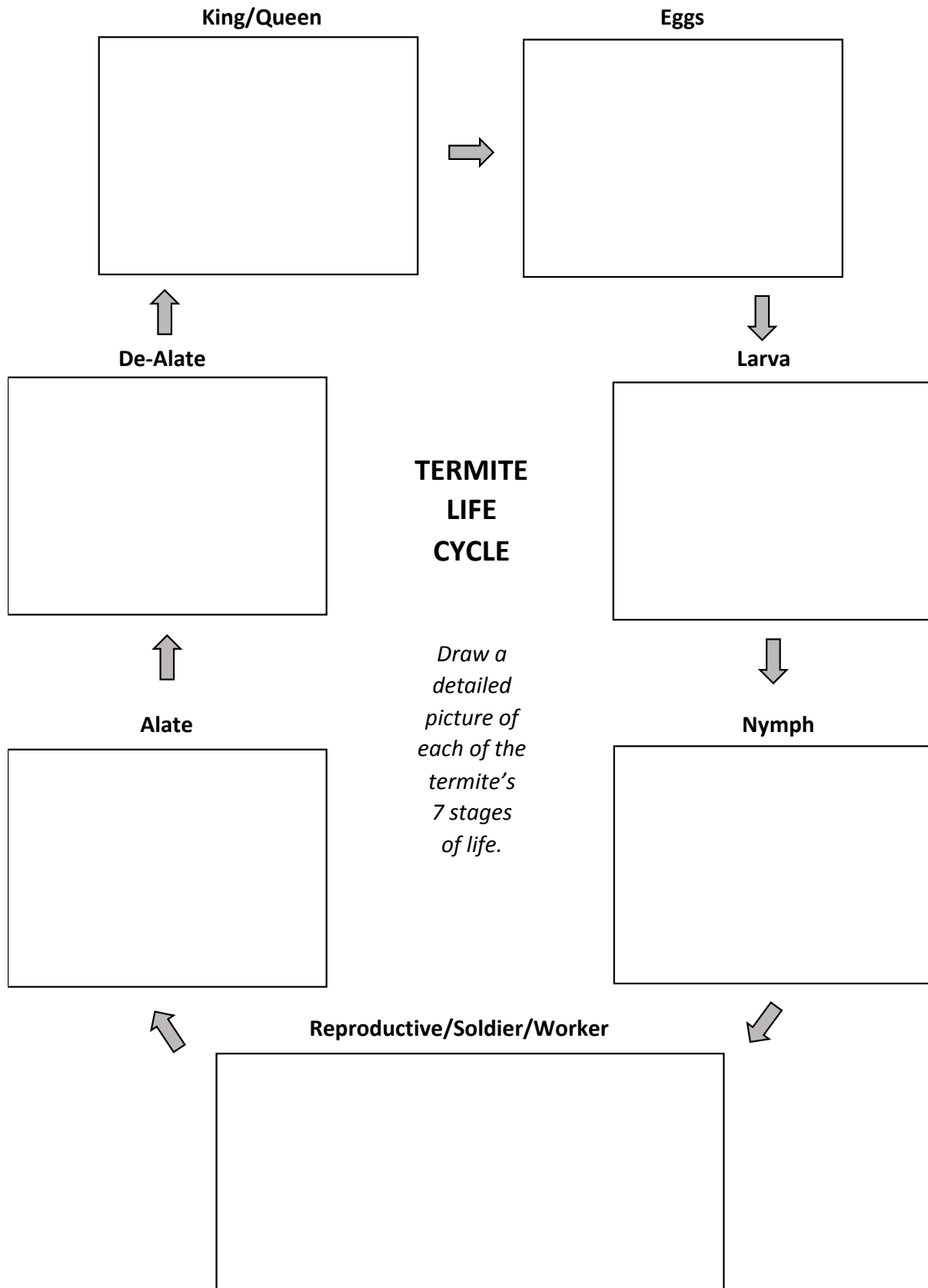
Extension Activity

Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace. Students could make a scrapbook of a baby termite with its family and draw pictures with captions of its various life milestones.

Answer Key - Termite Life Cycle

Activity Questions provided in Cyber Science 3D and worksheets

1. Name each of the 7 stages in the termite's life cycle and give a brief description of each one.
 1. *Eggs-- Laid in large groups by the hundreds*
 2. *Larva-- Pale, white, baby termite with an exoskeleton*
 3. *Nymph-- A young termite whose exoskeleton molts to become 1 of 3 castes*
 4. *Reproductive/Soldier/Worker-- Reproductives are the largest caste members and are born with two pairs of wings. Only reproductives live on to become alates. Soldiers are wingless termites with enlarged heads and two large jaws for defending the colony. Workers are the smallest wingless caste members who build tunnels and chambers, feed and groom the other termites, and care for the eggs. Soldiers and workers only live approximately 2 years.*
 5. *Alate-- Mature reproductives that develop wings and functioning eyes.*
 6. *De-alate-- A paired male and female alate that no longer have wings and will become King or Queen.*
 7. *King/Queen-- The King helps the Queen create and maintain the colony. The Queen's only job is to lay thousands of eggs each year. It can live up to 25 years.*



Record important facts about each stage in the Termite's life cycle.

Stage 1: Eggs

Stage 2: Larva

Stage 3: Nymph

Stage 4: Reproductive/Soldier/Worker

Stage 5: Alate

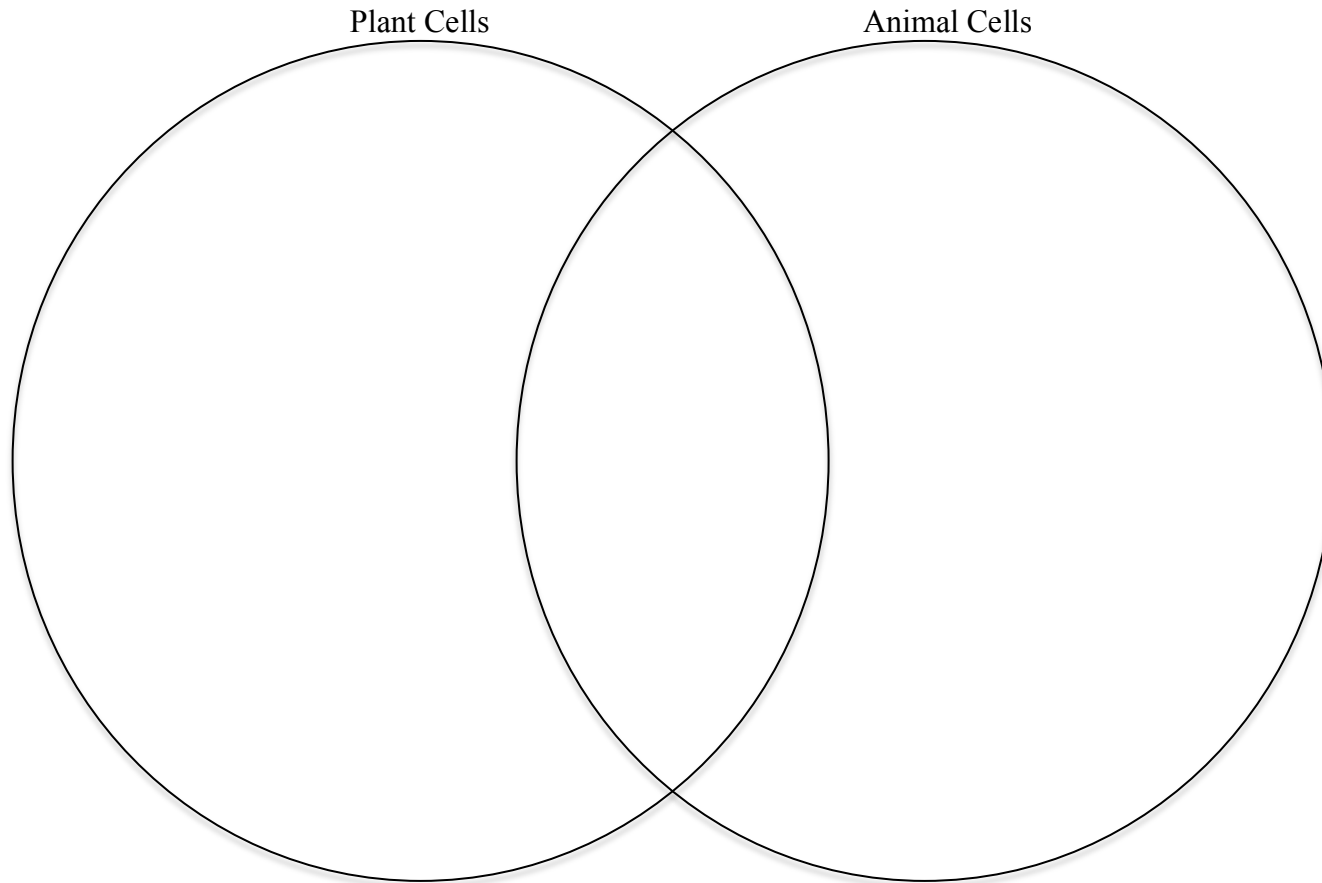
Stage 6: De-Alate

Stage 7: King/Queen

Name:

Date:

Plant vs. Animal Cells Venn Diagram



What are the main differences between plant and animal cells? Why?
