

Unit Overview for the Teacher

ORGANIZATION

Throughout this unit, learners will be organized into inquiry circles and science investigation teams that reflect the roles of practicing scientists. By taking on the roles of scientists as they engage in text-based and hands-on investigations, and by learning to read, write, speak, and listen like scientists, children develop deeper science learning and science-specific disciplinary literacies.

DAILY SCHEDULE

The sequence of instruction for the unit will be as follows (you may space the three components throughout the day in the way that best fits your usual schedule):

- mini-lesson on science-specific disciplinary literacy
- science inquiry circles
- guided science investigation

MINI-LESSON

Each day the teacher will lead a reading mini-lesson; these are **whole-class lessons** on literacy strategies associated with science and scientists, and they are designed to help learners become more strategic in their reading. **The strategies children learn in the mini-lessons are practiced with texts and media during the inquiry circles.**

During each mini-lesson, the teacher uses relevant texts or media to model and explain the literacy strategy. **The texts and media used in this unit will focus on painted lady butterflies.** Our goal in these lessons is to give you (the teacher) **suggested language** to use when teaching these strategies and a set of materials that will support you in explaining those strategies to children. **We have not scripted the lessons for you.** Rather, we hope you take these suggestions as the starting points for working with children on constructing an understanding of what it is we do when we read and write like a scientist.

SCIENCE INQUIRY CIRCLES

Throughout this unit, children will work in inquiry circle teams (**we recommend no more than 4 learners per team**) to investigate animal life cycles. Teams will choose (or teacher may assign) one of eight animals to research:

- salamander
- sea turtle
- hummingbird
- penguin
- coyote
- bat
- bee
- praying mantis

Teams will work in “inquiry circles” and use informational texts and media to conduct research on the life cycle of the animal they select. The informational texts and media teams use should enable them to build on their existing knowledge while acquiring new information. This inquiry-based approach allows learners to develop essential reading skills and critical thinking strategies as they ask questions, look for answers, and share insights about the amazing transformations different animals undergo.

An “**Animal Resources**” spreadsheet containing texts and media about the eight animals has for been provided as a starting point for the teacher. **Please gather, organize, or obtain access to these and other resources prior to beginning the unit. Learners will need ready access to these resources when they begin their inquiry circle research.**

GUIDED SCIENCE INVESTIGATIONS

During the guided science investigations, children work in the same teams as they further explore animal life cycles. Each team will introduce larvae into a premade growth habitat and make daily observations of the larvae growth habitat for 10 days. Learners will record their observations (written and drawn), notes, and questions in their Butterfly Investigation Journals.

NOTE: Background information relevant to each day’s science lesson is included for the teacher. The information provided is not intended for the children, as it may contain terminology or concepts above their grade level. Rather, it is intended to enhance the teacher’s understanding of the daily topic or concept.

The teacher must assign children to inquiry circle/science teams before they begin the Day 1 lesson! Team roles will be the same for science investigations and inquiry circles each day; **however, learners will have an opportunity to switch roles daily or throughout the unit.**

TEAM ROLES

Team roles with jobs will guide the children’s work both in the inquiry circles teams and in their science investigation teams. Typically, science teams have a leader, called the Lead Scientist, and various other science roles, such as Lab Director, Data Scientist, and Equipment Director.

You may assign team roles or allow learners to choose their roles. **To provide variety, learners should rotate positions in different activities, allowing each learner to try each role.**

The “Team Roles” anchor chart in the Day 1 folder contains four 8.5” x 11” reproducible anchor charts that you will review with your learners and display as a reference. Team roles and their duties are given below:

Lead Scientist

- Asks the questions.
- Guides the work of the team by reading directions.
- Keeps the team focused on the investigation and text-based inquiry.
- Checks the work.

Lab Director

- Makes sure the team follows the classroom rules and the safety rules.
- Leads the discussion about the daily results and progress.

- Directs the cleanup.
- Asks others to help.

Data Scientist

- Checks that daily measurements and observations are recorded.
- Leads the team in making data charts or graphs and completing the Inquiry Charts.
- Tells the teacher when the team is finished.
- Explains the team’s results or progress to the class.

Equipment Director

- Picks up and distributes the materials.
- Operates, or helps other team members operate, the equipment.
- Asks the teacher any questions the team has.
- Returns materials to the designated area.

SCIENCE LANGUAGE

The strategies related to science-specific reading and writing in the mini-lessons and inquiry circles enable deep science learning. Rather than simply memorizing *vocabulary words* without true understanding of their relationship to their scientific work, children develop fluency with the language of science **in context**, both in text-based inquiry and scientific inquiry. We encourage you to model using this language in context often to enhance children’s learning.

We have provided science language picture cards suitable for building reference-word walls for children. **The teacher will need to print color copies of the picture cards before Day 1. Each day’s science language is listed near the end of the lesson. The science language picture cards and a complete list of the science language used in this unit can be found in the “Before the Unit Begins” section.**

“ANIMAL RESOURCES” SPREADSHEET

The “Animal Resources” spreadsheet in the “Before the Unit Begins” folder provides a list of informational texts and media resources; the teacher can supplement this list as needed. **Please be sure to have texts and media resources prepared prior to beginning the unit.** Learners will need ready access to these resources when they begin their investigations in their inquiry circles.

SUPPORTING MATERIALS

The “**Lessons at a Glance**” document in the “**Before the Unit Begins**” section lists the materials needed for each day’s lesson. Any additional supporting documents referenced in a lesson (including anchor charts and printable or downloadable files) can be found in the “**Supporting Files**” section for that day’s lesson.