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# Mini lesson — 15 minutes

#### **OVERVIEW**

When scientists are researching a topic, they must decide what the most important part of what they read is. When we do this, we are determining the main idea.

This Mini-Lesson teaches children how to begin to determine the main idea of text.

#### Declarative Knowledge (Tell them what the strategy is that they are learning)

1. Say something like, "Today we will practice determining the main idea of a section as we read about our animals and their dependence on other animals in their environment. The main idea is the most important thing the author wants us to know about their topic. Getting the main idea is sometimes called 'getting the gist' of a what we are reading."

## Conditional Knowledge (Tell them when and why you know to use the strategy)

2. Say something like, "Sometimes authors tell us the main idea. Usually they do that in the first or last sentence of a section. But, they don't always do that. Sometimes, they leave out the main idea and make us (as readers) work to figure it out. As a strategic reader, I will do this after each paragraph or section in the text I am reading. I do this because it makes my reading clear and helps me remember what I read."

### Procedural Knowledge (Tell them the steps to using the strategy)

# While you model the strategy, you might want to say something like this to the readers:

3. "The first thing I need to do is think about the topic (our animals and their dependence on other animals in their environment) and what I already know about the topic (our animals and their dependence on other animals in their environment)."

4. "Now, I will draw a conclusion about what the author wants me to know about the topic (our animals and their dependence on other animals in their environment)—that is, I'll take what I

already know about the topic (our animals and their dependence on other animals in their environment) and then I'll combine that with the most important details the author is telling me."

- "Now, I have to put all these things together to get the main idea. I will think, 'What would the author tell me was the most important idea from the reading if she were standing here next to me?'"
- "I will put the main idea in my own words and record it on the inquiry chart."

#### Practice in text (print, video, or interview)

Post the anchor chart in your classroom so students can refer to it while in their inquiry circles. Encourage scientists to use the strategy during in their Inquiry Circles.



## Science Inquiry Circles — 30 minutes

#### **OVERVIEW**

Scientists work in teams when conducting research and investigations. Each day of this unit, students will work in inquiry circle groups while embodying the role of a scientist. They will do so by taking on roles of scientists in research by speaking like a scientist, reading like a scientist, and writing like a scientist.

#### PROCEDURE

#### Before Inquiry Circle Groups — 5 minutes

#### You might want to say something like this to the readers:

- 1. It is time to get into our inquiry circle groups. You will be with the same research team as yesterday.
- 2. When we research ecosystems, we will practice our roles as scientists. We will do this because scientists have a special way in which they observe the world, read scientific texts, and write reports. There is no better way to learn about science than to become a scientist!

#### During Inquiry Circle Groups — 20 minutes

#### You might want to say something like this to the readers:

- 3. We have anchor charts to help guide your thinking. Do not forget to use them while in groups. (Refer to the "Language of a Scientist" anchor chart and the daily anchor chart. Remind students that they can use all the reading strategies taught, not just the one for that day.)
- 4. My role is to help guide the inquiry circle groups, but I expect you to work as a scientific team to solve your problems together.
- 5. Do not forget to answer your research questions and record it on the inquiry chart. It is important to record your sources on the inquiry chart as you complete it. (Be sure to explicitly explain how students should use the chart.)

(While groups are working together, walk around the room to facilitate as needed.)

#### After Inquiry Circle Groups — 5 minutes

#### You might want to say something like this to the readers:

- 6. As we are concluding our inquiry circle groups for today, each group will have a chance to share what they accomplished and learned.
- 7. The Lab Director should lead the discussion with their inquiry circle group about today's results. For example, what did you learn about your our animals and their dependence on other animals in their environment? Which reading strategies did you use? What problems did you encounter? How did you resolve those problems?
- 8. The Data Scientist will now share with the entire class either something the group learned about their our animals and their dependence on other animals in their environment, which reading strategy(ies) were used, or how the group solved a problem.

#### Science Investigation — 30 minutes

#### **OVERVIEW**

Students participate in an interactive game to learn about a food chain and the transfer of energy in a food chain.

#### **GUIDING QUESTIONS**

What is a food chain? What are the components of a food chain?

#### **BACKGROUND INFORMATION**

# Background

Scientists study how living and non-living things interact in many different environments. Those environments support ecosystems unique to their surroundings, made up of food chains and food webs that provide the energy transfer necessary for the survival of life.

The organisms that make up an ecosystem are identified as producers, consumers, and decomposers. The link between them and their environment is important for the flow of energy and nutrients. Producers (plants) use the energy from the Sun to make their food. This energy is transferred as consumers eat plants or other consumers. Decomposers break down dead plants and animals and return important nutrients back into the food chain.

## SAFETY

Lab Directors should remind the students to follow the safety rules regarding making their observations on the pill bug mini habitats. (Rules for Observations doc.)

#### MATERIALS

- Science journals
- Eating Out in the Garden Images- (sun, plants, snails, robins, Hawks, earthworms)
- Script, " Eating Out in the Garden doc."

## Set Up

- Pre-read the script, "Eating Out in the Garden"
- Copy and cut-out "Eating in the Garden" images. (You will need to have **one image of the sun** and **multiple images of plants,** snails, robins, hawks, earthworms enough for the class to each have a role.)
- Plan a floorspace that will accommodate your class as they act out the story.

## **DAILY OBSERVATIONS**

Remind students that this is Day 4 for making observations of their mini-habitats and recording data in their science notebooks. Observations can be made any time of the day as long as they are made daily.

## PROCEDURE

## Engage

- 1. Announce to the class that you have a fun story to act out today called "Eating Out in the Garden"!
- 2. Explain that it will be an active story where they will need to move around. However, stress that at no time should they run or push on each other.
- 3. Randomly hand out the images. As you do, identify them. ("You will be the Sun; you will be a plant", etc.)
- 4. Let them know that you have made enough images so that everyone can participate at one time.

## Explore

- 5. Ask them to listen carefully to your story so they will know just when to move! Explain that you will let them know who moves first and they should stay seated until they hear their animal or plant called.
- 6. Everyone should be seated to begin.
- 7. Begin reading the script for the story.

## Explain

- 8. At the end of the story everyone should be seated right where they were standing. Ask "Who can explain what the story was about?" (Accept responses.) Prompt them by having them look at where they are sitting (they should still be in the order they rose into).
- 9. "Who can tell me what a producer is?" "What is a consumer?"
- 10. After they have shared their ideas, explain that they have formed what is called a "simple food chain". If they have not already expressed it, then point out that a food chain is a sequence, or the order, of whom eats whom.
- 11. Review the sequence of events, asking "What was the first step in this food chain?" (the Sun). "Why is the sun important?" (This is where all the energy for living things begins.)
- 12. "What happened next?" (The plants grew. Llight energy allows the plants to make their own food to grow.)
- 13. "What happened to the energy that came from the sun?" (It was transferred to the plants.)
- 14. "What happened next?" A snail (consumer) ate the plants (producer).
- 15. "Now what happened to the energy from the sun?" (it was transferred to the snail). Continue through the food chain in this manner, adding that part of the energy is transferred as each organism eats the other.
- 16. Explain that they have just acted out what a food chain is as one organism ate another. "This is how organisms get their nourishment (nutrients) and energy to grow and survive!"
- "Food chains are made up of producers and consumers in all types of environments, or ecosystems. Who were the producers in our food chain? " (plants) "who were the consumers?" (All the other organisms).
- 18. Add that although in our story, each organism ate only one thing, in real life, consumers eat many other things as well. Just like humans like to eat many different types of foods!
- 19. Someone may ask "who eats the hawk?". Tell them that only a few animals eat hawks, among them eagles, bigger hawks, owls, and even racoons if they have a chance.
- 20. "What part do earthworms play in this food chain? Why were they everywhere? What do they eat??" (Accept responses.)

Ask, "Have you ever wondered what happens to all the plants and animals that die in nature?" "Do they just pile up everywhere?" (Accept responses.)

21. Explain that earthworms belong to a special group of consumers called decomposers. Decomposers are like a "clean-up crew", they eat dead and decaying organisms and waste products; and when they poop, they return important nutrients to the soil so that producers( plants) can grow! Decomposers have a very important job in a food chain because they keep it going!

## Elaborate.

22. Share that earthworms are only one of many organisms called decomposers. "Have any of you found information on earthworms or other decomposers in your research?

## Evaluate

- 23. Did students communicate a reasonable understanding about the components of a food chain? (producers, consumers, decomposers)
- 24. Did they communicate a reasonable understanding of, or ask questions about, the transfer of energy in a food chain?
- 25. Did students use new science terms appropriately?

#### **Expanded Standards**

**Reading TEKS:** (1)(b)(6)(G) Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to (G) evaluate details to determine what is most important with adult assistance.

CCSS: RI.1.2 Identify the main topic and retell key details of a text.

**NGSS:** 1-LS1-1 Disciplinary Core Ideas- All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. 1-LS3-1 Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.

Science TEKS: 1(9) Organisms and environments. The student knows that the living environment is composed of relationships between organisms and the life cycles that occur. The student is expected to: (C) gather evidence of interdependence among living organisms such as energy transfer through food chains and animals using plants for shelter. 1(10) Organisms and environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments. The student is expected to: (A) investigate how the external characteristics of an animal are related to where it lives, how it moves, and what it eats