DAY 6 What Kind of Information Will I Collect?		
Reading Strategy: Drawing Conclusions from Text—Practice	**Science Concept:** Scientists know that collecting information through observations and measurements may provide the evidence they need for making explanations and answering questions.	
Reading TEKS: 3.6	**ELPS:** Reading 2-12, 19 TAC 74.4(c)(4)	**Science TEKS:** 3(b) 2A 3(b) 2B
Materials for Reading Mini Lesson: Chart paper, markers, pond ecosystem inquiry chart, pond text to model strategy		
Materials for Inquiry Circle Groups: Group inquiry charts, pencils, variety of nonfiction texts for each group, access to websites and online books		
Materials for Science Whole Group Lesson: See Lesson		
Content Vocabulary: **Testable question –** a question that can be answered through a designed investigation or experiment **Scientific investigations –** a planned design or approach to find an answer to a question **Evidence –** data collected from the investigation that can be used to support explanations and answers **Data –** facts or information collected during an investigation; EX: images, measurements, or words **Scientific variable** – the factor or a condition (something) that can change or potentially change in a scientific investigation **Control** – something that does not change throughout the course of the investigation		
Science and Literacy Connection: Collecting data and making sense of it allows scientists to draw conclusions.		

For an expanded version of the Standards listed above, see page _____.

Reading Mini-lesson — 15 minutes

OVERVIEW

Mini-lesson practice should be used as a time to practice the reading strategies previously taught in this unit. Teachers are encouraged to use this time to best meet the needs of their students. Perhaps your class needs more time with the mini-lesson from the day before, or you may choose to circle back to mini-lessons from a week ago. The choice is yours; we just ask that you use this time to practice!

Teachers should determine if this mini-lesson will be facilitated with the whole group or a small group (i.e., a particular inquiry circle group) who needs additional support. If you are working with a small group, we suggest your other learners spend additional time within the inquiry circles.

Explain the strategy below as follows.

- **Tell what the strategy is (declarative knowledge)**

- Say something like, “Today we will continue to practice drawing conclusions while we read about the topic (ecosystems). Remember, drawing conclusions is a type of inference and is sometimes called ‘reading between the lines.’”

  Refer to the anchor chart previously made with the class

- **Tell when and why to use the strategy (conditional knowledge)**
  - Say something like, “Often, authors can’t possibly give me all the information I need to know while I am reading. It’s nearly impossible to write a text that contains every detail about a topic. The text would be too long! So, authors don’t always tell me everything I need to know. As a strategic reader, I have to ‘read between the lines’”.
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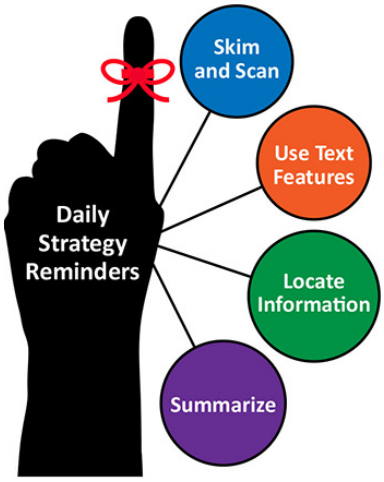
- **Tell how to employ the strategy (procedural knowledge)**
  - For this section in the mini-lesson, the teacher may choose to model the strategy again for the class. Be sure to use a different text or page in the text than what you modeled yesterday.
  - Teachers are encouraged to share examples of students using this strategy from the day before. Say something like, “Mohamed’s group did a great job yesterday drawing conclusions. I was so impressed when they____.” Teachers also are encouraged to invite the groups to share with their peers (you may need to scaffold this and prepare the students for sharing beforehand).



If you choose to model this strategy again, you might want to say something like:
- “The first thing I will do is pay attention to the details the author does give me when reading, watching a video, or interviewing an expert.”
- “Now, I will think about what I already know about this topic and the goals/intentions of the author.”
- “Now, I will put these two things together to draw a conclusion.”
- “As I read, I will continue to confirm or revise my conclusion.”

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.

Inquiry Circle Groups — 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:

- It is time to get into our inquiry circle groups. You will be with the same research team as yesterday.
- 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:

- We have anchor charts to help guide your thinking. Do not forget to use them while in groups. (Refer to the "Inquiry Tool box" 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.)
- 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.
- 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:

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

Science Whole Group Lesson — 30 -45 minutes

OVERVIEW

Students should have their investigation questions selected by today. (Teacher may allow extra time for those who need it.) With their questions selected, students decide what information will help them answer their questions, and how they will collect it.

GUIDING QUESTIONS

What information do I need to answer my question? How will I collect it? Where/how will I record it?

BACKGROUND INFORMATION

Scientists know that collecting information through observations and measurements may provide the evidence they need for making explanations and answering questions. Documenting the information

they collect is important because the next step will be to make sense of it and determine if they have answered their questions, or if they need to conduct more investigations.

SAFETY

MATERIALS

- 1 gallon container of green substance
- Small empty 8 oz. bottles (2 per team)
- Scotch tape
- Pen or fine point permanent marker
- Trays or boxes for organizing materials (1 per team)
- Shades of green color circles chart
- Copies of student Data sheets
- Copies of Data sheet example)

SET UP

- Print the color chart (1 per team)
- Make copies of student data sheets and the data sheet example (1 each per student)
- Display bottle of green substance and small bottles where all can see
- Prepare 2 bottles for teacher demonstration
- Bottles should only have 3 oz. of the green substance

DAILY OBSERVATIONS

Not at this time

PROCEDURE

Engage

1. Gather the class around the display of materials. Remind them that in the previous class each team selected a testable question for their investigation.
2. Today they need to decide what information they will need to collect to answer their questions. Explain that when it's time, each team will receive 2 bottles of the green substance.
3. Tell them you're going to revisit the question you (the teacher) came up with - Does light effect the color of the substance?
4. Explain that light is the ***variable*** or condition that you will change in the investigation. Emphasize that it is important to change only one variable at a time. Ask them why they think that's important. (So that we know exactly what is causing any change)
5. Show them 2 bottles of the substance, explaining that you will keep one in the light of the classroom, then place the other in a dark place (no light).
6. Point out that the bottle that stays in the light is the "**control**" because you will not change anything- it stays in the same light as before
7. The other bottle will be placed in a location with no light (inside a cabinet or closet). This will be the one that you change the variable on, because it will have no light.
8. Share with the class your prediction that the color of the sample in the dark will not be as green as the one in the light because it is not receiving any light energy.
9. Let the class know that you will need to have evidence from the investigation to support your answer. Evidence comes from the data you collect. Ask the class "What kind of information will I need to answer my question?". (observations, photos, measurements??) Where will I record my information? (science notebook?) How often?(every day)

10. Ask them “How will I know if there is a color change?”. Accept all responses.
11. Share your idea for how to document a color change.
12. Show them the color chart and sample data sheet that you will use. Tell them you will compare the color in the bottles to the numbered color chart and write the corresponding number down under the date on a data sheet. In this way, you will be able to track the changes you observe!

Explore

13. At this point, ask Equipment directors to hand out the example data sheet and the blank data sheets.
14. Read aloud to the class as they follow along, modeling how to record information. Ask if there are any questions.
15. Explain that teams have different questions they want answered, therefore the data they collect may be different. Let them know that they will make observations every day for 5-7 days.
16. Now, teams must decide what variable or condition will be changed in their investigation. Will it require additional materials or equipment? If so, what? And is it available? (**Students will make a list of what materials and equipment they will need on their data logs today!)**
17. Next, students will discuss what information needs to be collected to answer their question as the teacher moves between the teams, offering guidance as needed. Guidance should be offered in the form of questions such as “How will you know if…”; “What will you look for?”; “How will you measure…”; etc.
18. Teams must consider if their information will include measurements. If so, what kind? And how will they measure?
19. If the information comes from observation only, how will they record that? (pictures, drawings, etc.?)
20. After they decide what information they need to collect, they will then need to figure out how to use the data sheet to track their changes. **(*Data sheets should be taped or glued into their science notebooks)***

Explain

21. When time is up, ask the Data Scientists from each team to explain what variable they will change in their investigation, what kind of information they are going to collect, and how they will collect it.
22. Ask them to explain their predictions about what they think will happen.

Elaborate

23. Remind students that the data they collect will be used as evidence that supports their answers or explanations at the end of the investigation.
24. Let them know that at the end of the investigations, they will all have a chance to present their findings at a special in-class science meeting.

Evaluate

25. Did the students use scientific vocabulary in their conversations and presentations to the class?
26. Is scientific vocabulary used in their science notebooks as part of their reflections or notes?
27. Did the students demonstrate an understanding of what kind of information they need to collect?
28. Are their collection methods sound or reliable?

EXPANDED STANDARDS

Reading TEKS: 3.6 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.

ELPS: Student Expectations for Reading 2-12, 19 TAC 74.4(c)(4) The student is expected to: (J) demonstrate English comprehension and expand reading skills by employing inferential skills such as predicting, making connections between ideas, drawing inferences and conclusions from text and graphic sources, and finding supporting text evidence commensurate with content area needs.

Science TEKS: 3b2A: The student is expected to plan and implement descriptive investigations, including asking and answering questions, making inferences, and selecting and using equipment or technology needed, to solve a specific problem in the natural world. 3b2B: The student is expected to collect and record data by observing and measuring using the metric system and recognize differences between observed and measured data.