

Day 16 What is a Science Meeting?		
Reading Strategy: Synthesizing Mini-lesson Practice (Whole Group Statement)		Science Concept: Scientists collaborate on investigations and share data within their teams and with other scientific teams to gain a better understanding about the world around them.
Reading TEKS: 3.6H	ELPS: Reading 2-12, 19 TAC 74.4(c)(4)	Science TEKS: 3b2C, 2B2F
Materials for Reading Mini Lesson: chart paper, markers, pond ecosystem inquiry chart, each group's synthesis statement		
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: Data- details, information, or facts that come from research and investigations; EX: images, measurements, or words Authentic data- data that comes from real-life investigations Chart - A visual way to represent data. (EX: diagrams, tables, or graphs) Graphs- A chart that shows the mathematical relationships between data *Teacher Note: A graph is a chart, but a chart is not necessarily a graph.		
Science and Literacy Connection: Scientists organize all of their data in a manner that will make sense to others who may look at it.		

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

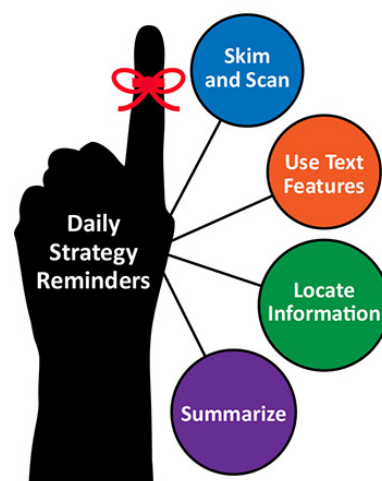
Reading Mini-lesson — 15 minutes

OVERVIEW

For the three days dedicated to synthesis, it is suggested that you start with a whole group synthesis statement about pond ecosystems, followed by inquiry circle groups creating their own synthesis statement. Last, facilitate a whole group discussion around all of the ecosystems to create a synthesis statement for the class.

Explain the strategy:

- **Tell what the strategy is (declarative knowledge)**
 - Say something like, "Today we will continue to practice synthesizing the topics we have researched. Remember, synthesizing is combining information across our sources to create our own, new information." *Refer to the anchor chart previously made with the class, the pond ecosystem synthesis statement, and inquiry circle group synthesis statements.*



- **Tell when and why to use the strategy (conditional knowledge)**

- Say something like, “We’ve been talking about how we synthesize because it helps to construct a deeper and broader meaning about our topics across resources. As a strategic reader, I synthesize when I find information from different books, online resources, experts, and videos. Today, we will also synthesize across the entire class’s research!”

- **Tell how to employ the strategy (procedural knowledge)**

- 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 writing a synthesis statement. 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.*

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

- The first thing I will do is look each group’s synthesis statement. (You may choose to have each group share orally while you scribe. Or, you may want to have each group write on a sentence strip that you can then place on chart paper.)
- Then I will compare and contrast the important information from each of the synthesis statements.
- Now, I need to think about what I know about this important information and if I can add something from my own schema that is not mentioned. (Be sure to write the whole class statement in a visible place for your class.)

(Model the mini lesson above and create a synthesis statement about the unit.)

The synthesis statement may be something like, “The organisms in a pond ecosystem all depend on each other and rely on the nonliving environment, too. If one part of the food chain is changed, all of the other parts will change.”

Remember that the concepts this unit has focused on are:

- *Organisms rely on the living and nonliving things in their environments.*
- *Animals get energy from the food they eat, and pass along that energy when they are eaten.*
- *A change in one part of an ecosystem affects all of the other parts of the ecosystem.*

The synthesis statement you will write during this mini lesson should incorporate all of these concepts.

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

Today’s whole class discussion and synthesis may take longer than 15 minutes allotted in the mini-lesson. You may have also needed additional time today to have learners finish their own synthesis statements before you facilitated the whole class synthesis. Therefore, we suggest you use this time in a way the best meets the needs of your class.

Science Whole Group Lesson — 30-45 minutes

OVERVIEW

Students learn about scientific meetings and what they will need to prepare for their own.

GUIDING QUESTIONS

What is a science meeting? How do I prepare for it? How will I present my data to support my claim?

BACKGROUND INFORMATION

Scientists attend or hold science meetings to share and discuss their findings with other scientists. Science meetings can be very large scale, with hundreds attending to see many different presentations. Or they can be small, involving only members of a particular science team. Either way, the purpose of the meetings is to look at the data generated by specific investigations.

Like a puzzle, each different investigation or component is a piece of a much larger picture. For example, marine scientists studying food webs in the Arctic Ocean may have different teams investigating different components: microbe communities, the role of gases like nitrogen and carbon dioxide in photosynthesis, the polar light cycle and the effect of temperature. By sharing their data with each other, they gain a better understanding of the many factors that impact the Arctic food webs. Science meetings also generate new questions to investigate!

SAFETY

There are no safety concerns with this lesson.

MATERIALS

- Examples of How to Display Data docx.
- Completed team Claim Charts
- Science Notebooks
- Photos, drawings and any other information collected

SET UP

- Make copies of the “Examples of How to Display Data. Docx”. (1 per team)
- Claim charts will be returned to teams

DAILY OBSERVATIONS

Observations have ended.

PROCEDURE

1. Begin the class by announcing that this is the last week of the investigation! Today the teams will begin preparing for a “science meeting”.
2. **Make a graffiti wall for “science meeting.”** The teacher will write “Science Meeting” in the middle of the board, then students come up to the board and write their own thoughts.
3. Once everyone has had the opportunity to write, discuss their ideas.
4. If not addressed, explain that scientists hold meetings to share and discuss the results of their investigations.

5. Sometimes teams of scientists attend large conferences or meetings to share the results of their investigations with other teams and the public. Or, scientists can meet with only members of their investigation team to share and analyze their data; discuss new questions that have arisen; and perhaps make plans for new investigations.
6. Remind the class that they have conducted their own investigations as a team just like scientists do, with each having a specific role.
7. Now that their investigations are complete, they must work within their teams to decide how to present their data.
Congratulate the teams for being able to generate “authentic” data – data that has come from their own work!

Explore

8. Ask Equipment Directors to hand out the Science notebooks, Claim Charts, and sample graphs.
9. Remind the teams to make sure they have all of their photos, drawings, or any other information they have collected/organized from the investigation.
10. Using the Claims Chart they developed in the previous class, they must now determine the best way to show their results to the other teams.
11. Explain that using a chart makes it easier for others to understand the data. It presents the results in a clear and meaningful manner, using less space than text.
12. Direct their attention to the sample charts or graphs that they can use to display their data. They can decide as a team which one to use. *Teacher note: A graph is a type of chart, but a chart is not necessarily a graph.*
13. Remind them that the information on the Claims Chart should guide them in deciding what data they will use.
14. The Data Scientists should lead the discussions on how to present their work, making sure that everyone has the opportunity to express their ideas! Tell the class that they have about 20 minutes to discuss and plan.

Explain

15. As students work, move around the room monitor their discussions, offering guidance only when asked.
16. Ask the teams to describe what their plan for presenting the data will be. Look for students who may not be engaged in the conversations and ask them what their thoughts are.
17. Listen for the reasoning and justifications students use in making their decisions.

Elaborate

18. When time is up, give the Data Scientists 1 minute each to report on their decisions regarding how to present their data.
19. Announce that the rest of the week will be used to prepare for their science meeting. They will have up to 2 days to organize their data and to prepare an oral presentation of their results. Explain that you will give them more information in the next class about the science meeting.

Evaluate

20. Are students actively working as a team to make decisions?
21. Are they routinely using new science vocabulary in their discussions?
22. Is there evidence of new/improved skills in reasoning and thinking demonstrated through communications?

Expanded Standards

Reading TEKS: 3.6H 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: (H) synthesize information to create new understanding

ELPS: Student Expectations for Reading 2-12, 19 TAC 74.4(c)(4) The student is expected to: (K) demonstrate English comprehension and expand reading skills by employing analytical skills such as evaluating written information and performing critical analyses commensurate with content area and grade-level needs.

Science TEKS: 3b2C: The student is expected to construct maps, graphic organizers, simple tables, charts, and bar graphs using tools and current technology to organize, examine, and evaluate measured data. 3b2F: The student is expected to = communicate valid conclusions supported by data in writing, by drawing pictures, and through verbal discussion.