

DAY 8 Examining Details			
Reading Strategy: Main Idea Practice		Science Concept: Scientific Illustration — The Larvae	
Reading TEKS: 2.6G	Figure 19: Reading/ Comprehension Skills E & F	ELPS: Reading 2-12, 19 TAC 74.4(c)(4)	Science TEKS 2.2(A, D), 2.10
Materials for Reading Mini Lesson: chart paper, markers, butterfly inquiry chart, butterfly 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 section for details.			
Content Vocabulary: Scientific Illustration — A picture or diagram that explains or helps make something clear, like the anatomy of a butterfly.			
Science and Literacy Connection: When authors don't tell us what the main idea of the text is, we must pay close attention to the important details. As scientists, we must pay close attention to every detail when creating a sketch of an object we are studying.			

For an expanded version of the Standards listed above, see page 5.

Reading Mini-lesson — 15 minutes

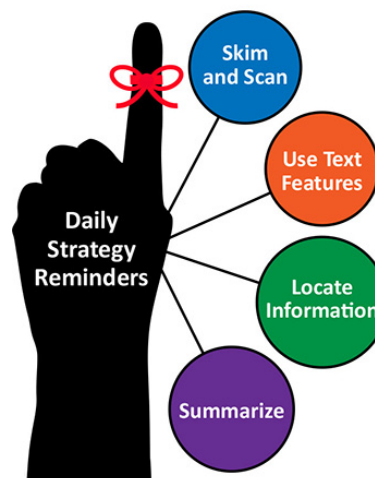
OVERVIEW

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 determining the main idea of a section as we read about butterflies. 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 piece.” Refer to the anchor chart previously made with the class.
- **Tell when and why to use the strategy (conditional knowledge)**
 - Say something like, “Yesterday, we talked about how sometimes authors tell us what their 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 extract it. As a strategic reader, I will do this after each paragraph or section in the text I am reading.”

- **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 determining main idea. I was so impressed when they_____.” Teachers are also 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, say something like, “The first thing I need to do is think about the topic (that’s butterflies) and what I already know about the topic (butterflies) them.”
- Say something like, “Now, I will draw a conclusion about what the author wants me to know about the topic (butterflies)—that is, I’ll take what I already know about the topic (butterflies) and then I’ll combine that with the most important details the author is telling me.”
- Say something like, “Now, I have to put these things together to get the main idea. That is, I’ll try to think, ‘What would the author tell me was the most important idea from the reading if she were standing here next to me?’”
- Say something like, “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.

Inquiry Circle Groups — 30 minutes

OVERVIEW

Scientists work in teams when conducting research and experiments. 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

1. Say something like, “It is time to get into our inquiry circle groups. You will be with the same research team as yesterday.”
2. Say something like, “When we research organisms, 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

1. Say something like, “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.
2. Say something like, “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.”

3. Say something like, “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.
4. While groups are working together, walk around the room to facilitate as needed.

After Inquiry Circle Groups — 5 minutes

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

Science Whole Group Lesson — 30 minutes

OVERVIEW

In this activity, students will be challenged to make a sketch of an adult butterfly, first from memory and then from an extended observation to determine which sketch is better.

GUIDING QUESTIONS

Why do scientists record their observations? What is the value of detailed recordings?

BACKGROUND INFORMATION

For many hundreds of years, scientists have depended upon their artistic abilities to help them in their investigations of the natural world. They would not only observe some object or phenomenon but also sketch it. Sketching enabled them to see the finest details and permit them to review their observations in detail at a later date. While various forms of photography are now the norm, sketching still has an important place. Sketching requires that the scientist pay close attention to every detail. A quick shot with a camera captures every detail but until the scientist closely examines the image, important details may go unnoticed. That’s where sketching really helps.

In this activity, students will be challenged to make a sketch of an adult butterfly, first from memory and then from an extended observation. Which sketch will be better?

SAFETY

Remind student teams daily to be gentle with the growth habitats when they handle them to prevent disturbing the larvae.

Please follow all district and school science laboratory safety procedures. It is good laboratory practice to have students wash hands before and after any laboratory activity. Clean work areas with disinfectant.

MATERIALS

For the Teacher

- Download the PowerPoint® presentation, “08-A-Butterfly.pptx” and open it prior to class. The first slide is black to ensure students do not view the image of the Monarch butterfly until you are ready to do so (see “Procedure, Steps 1 and 3)
- Projector or white board
- Example(s) of scientific illustration

Per Student

- Blank paper
- Drawing pencils

DAILY OBSERVATIONS

Give students time to observe their organisms (whether they are in the larvae, pupa, or adult stage), take measurements of the larvae (if applicable), and record their observations in their science notebooks. Facilitate group discussions by asking questions like, “What did you notice? What has changed since the last time you observed your organisms?”

PROCEDURE

Engage

1. Tell students that as scientists, some of their work requires them to make a sketch or drawing as part of their observations. Explain that for a long time, scientists had to sketch because there were no cameras for picture taking!
2. Hold up the example of a scientific illustration. Ask students, “What do you think the scientist needed to make such a detailed drawing?” (time, careful observation) Tell them that these drawings called illustrations were important for remembering details. Ask students, “How we can record information today without drawing?” (cameras).

Explore

3. Tell students that this morning you saw a beautiful insect and took a picture of it. Explain that you want them to see the picture and then make a sketch or drawing of it. Go past the title slide in the PowerPoint® presentation to slide 2. Leave the image on the screen for 10 seconds only, then move to a blank slide.

Engage your class in discussion about the image and then ask your students to make a sketch of the picture you showed them. Let students know they will have five minutes to make their sketches. Tell them it’s a challenge to see how much they remember!

4. After five minutes have passed, tell your students to set their pictures aside. Explain that they now will make another sketch of the same scene, but this time you will leave the picture up for five minutes instead of 10 seconds. Project the picture as before. After five minutes, have students stop drawing.

Explain

5. Tell your students to compare the two pictures. What do they notice? (more details?) Ask, “What does this have to do with science?” Gradually lead the conversation to the idea that scientists need to make careful observation of the things they are investigating. Memory is not good enough for research. Details often are forgotten. Have students compare the detail in their first drawing with

the details in the second drawing. Which is better?

Elaborate

6. *Resource:* To learn more about naturalists' journals and blank journal sheets, visit BioEd Online at the following URL.

<http://www.bioedonline.org/lessons-and-more/lessons-by-topic/tools-and-techniques/naturalist-journals/>

Evaluate

7. Ask your students how sketching can help them in their investigations of the butterflies, as well as in other scientific investigations.

EXPANDED STANDARDS

Reading TEKS: 2.6G 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 read to determine key ideas.

Figure 19: Reading/Comprehension Skills. Students use a flexible range of metacognitive reading skills in both assigned and independent reading to understand an author's message. Students will continue to apply earlier standards with greater depth in increasingly more complex texts as they become self-directed, critical readers. The student is expected to: (E) retell important events in stories in logical order; and (F) make connections to own experiences, to ideas in other texts, and to the larger community and discuss textual evidence.

ELPS: Student Expectations for Reading 2-12, 19 TAC 74.4(c)(4) The student is expected to: (I) demonstrate English comprehension and expand reading skills by employing basic reading skills such as demonstrating understanding of supporting ideas and details in text and graphic sources, summarizing text, and distinguishing main ideas from details commensurate with content area needs.

Science TEKS:

2.2 Scientific investigation and reasoning. The student develops abilities necessary to do scientific inquiry in classroom and outdoor investigations. The student is expected to:

- (A) ask questions about organisms, objects, and events during observations and investigations;
- (D) record and organize data using pictures, numbers, and words.

2.10 The student knows that organisms resemble their parents and have structures and processes that help them survive in their environments.