

Day 3 What Do We Know About the Green Substance?		
<b>Reading Strategy:</b> Reading for Specific Information on the Internet	<b>Science Concept:</b> Living things have needs that must be met to live, grow, and survive.	
<b>Reading TEKS:</b> 3.9F	<b>ELPS:</b> Speaking K-12, 19 TAC 74.4(c)(4) D & E	<b>Science TEKS:</b> 3(9)A
<b>Materials for Reading Mini Lesson:</b> chart paper, markers, pond ecosystem inquiry chart, webpage about ponds to model the strategy and list of suggested lesson websites (Go to Project website), computer and projector;		
<b>Materials for Inquiry Circle Groups:</b> group inquiry charts, pencils, variety of nonfiction texts for each group, access to websites and online books		
<b>Materials for Science Whole Group Lesson:</b> See lesson		
<b>Content Vocabulary:</b> <b>Organisms</b> – living things that are able to carry on the functions (actions) needed to live, grow, and survive. <b>Needs</b> - the things essential for survival <b>Energy</b> – required by organisms on Earth to move, grow, and sustain themselves. Food provides energy and other raw materials necessary for life		
<b>Science and Literacy Connection:</b> Scientists consider what type of information is most useful when planning and conducting research or investigations.		

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

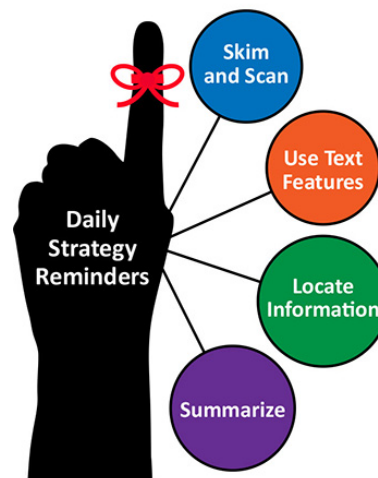
### Reading Mini-lesson — 15 minutes

#### OVERVIEW

When doing scientific research, we must remember to think, talk, and read like a scientist. A scientist will use many different resources when researching information. In many cases, a scientist will read texts on the internet to get the most up to date information.

Explain the strategy:

- **Tell what the strategy is (declarative knowledge)**
  - Say something like, “Our strategy today is called “reading for specific information on the internet. I will use many sources while doing my research such as books, videos, and websites.”
  
- **Tell when and why to use the strategy (conditional knowledge)**
  - Say something like, “I know to use this strategy (reading for specific information on the internet) because sometimes the books I have available may be outdated or simply do not include what I am looking for. When this happens, I can get more information on the internet. As a strategic reader, I will scan the website because I do not need to read every word when I am looking for specific information. Just like when I scan a page in a book, this strategy is important because it saves me lots of time. As a strategic reader using the internet, I will also be skeptical about what I



read online and always use websites that I can trust. Therefore, I will only use a website that my teacher has approved.”

(Before allowing your students online, you may want to ensure that the suggested websites are not blocked by your school district. You may also choose to bookmark the websites on your browser and/or create QR codes that students can scan to go directly to the website.)

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

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

- The first thing I will do is **decide** what I need to research today!
- I will look at my inquiry chart to determine what specific information I need to locate. Since we just started our research, I have to pick one thing to start with. In a few days, my chart will help me know what data is missing.
- Then I **think** about a few key words that I need to look for on the website.
- When I am on a website, the first thing I do is **scan** the entire page on the screen to see if I trust the website. I will look for an author to be listed and I will be sure they are not trying to sell me something.
- Just like in a book, the text features are important and can lead me to valuable information.
- If I do not find the information I need, I should try another website.
- While scanning, I may see a hyperlink that I can click on for more information. If my mouse turns from an arrow to a hand, I know this is something I can click on. Sometimes the hyperlink will be words that are colored or bold, and other times it may be a picture or icon. I may also see short videos to play.
- Sometimes websites have extra information that I should **ignore**. This could be advertisements, videos (not about my research topic), and even pop ups. I should ignore them.
- If I find myself on a website that is not useful, I can use the back button at the top of my browser to get back to the website where I started.

(Alternatively, you could have websites bookmarked and have students return to the correct place using the bookmark.)

- Once I find the specific information I need, I must remember to **record** it on the inquiry chart. That includes the URL for the website I used.

(You may need to model where to find the URL on the webpage and where to record it on the inquiry chart.)

- This is a strategy I will use every time I read for specific information on the internet.

(You may have some groups working online while others are working in traditional texts throughout the inquiry circle groups.)

**I read for specific information on the internet...**  
Any time I am using a computer or tablet.

**Reading for specific information on the internet is important because...**

- My books may not have all the information I need.
- Scanning the website will save me time.

**Reading for Specific Information on the Internet**

**When I read for specific information on the Internet, I...**

- **Decide** what information I need.
- **Think** of key words.
- **Scan** the entire page if I trust this website.
- **Ignore** extra information.
- **Record** the information on my inquiry chart.

Inquiry Chart	
Questions	
Source #1	
Source #2	
Source #3	
Source #4	

**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 are engaged in an active movement game to learn about the needs of living things.

### GUIDING QUESTIONS

What else do we need to know about the green substance? Does it have needs? Is it alive?

### BACKGROUND INFORMATION

All organisms have basic needs that must be provided for survival. These include water, air, a place to live, and a source of energy.

Scientists group, or classify, organisms based on information collected about them through observations and investigations.

### SAFETY

Make sure you have an adequate open space for students to move around in. Caution them not to run and to be mindful of others when it is time to move around

### MATERIALS

- Chart paper
- Organism Cards (full set with images of living & non-living things)
- Organism Cards Key
- 8 ½ x 11 placards labeled “water”, “air”, “a place to be”, “source of energy “ and the one with a question mark

### SET UP

- Allow enough room for students to move around in - or do activity outside the classroom in a large area.
- Print and cut-out entire Organism Card set (include non-living things). Print Organism Card key for teacher
- Print the placards (only need one of each)
- If possible, we suggest you laminate the cards and placards for continued use. These same organism cards will be used for multiple lessons.

### DAILY OBSERVATIONS

None at this time

### PROCEDURE

#### *Engage*

1. Place the jar of green substance where everyone can see it. Ask for volunteers to share **what they already know** about the substance (it’s green, it’s in water, it’s in a container)
2. Tell the class that you can see that they are ready to begin setting up their investigations. However, as scientists they may want more information about the substance to better plan their investigation.
3. Ask for ideas about what kind of information would be useful. Accept their responses and write on chart paper (refrain from commenting about their ideas).

4. When all responses have been written, **look over the list quickly for questions or comments about whether the substance is alive or not. Circle those questions.**
5. **If students do not ask whether it's alive or not**, then tell them that you have something to add to the list – “Is it alive?”
6. Ask students why this may be important to know. Does it matter? (Yes, because it could help us design an investigation better.)
7. If students ask if the substance is a plant or an animal, explain that living things (organisms) can be organized into other groups besides plants or animals. Tell them that they will learn more about that in the coming weeks.

### **Explore**

8. Explain to the class that if something is alive, it has “needs” that must met so that it can survive.
9. Tell them you will play a game to explore the needs of living things. Ask for 5 volunteers to help. Have them line up next to you.
10. Hold up the first placard and read the name (Ex: water) handing it to the first volunteer and directing them to a position in the room. Do the same with all the other placards (air, a place to be, source of energy, and the one with a question mark) and direct them into different positions in the room (or outside).
11. As they move into position, briefly describe the placards considered “needs” of living things. For example: Water- all living things need water to survive.
12. Explain that the question mark will be used when students **are not sure** if the organism has that need, or if they do not know the identity of the organism on their card.
13. When describing the “source of energy” card, ask them to consider where they think the organisms get their energy from, and that they will have a chance to explain their answer later.
14. **Explain that you will call out one of the needs written on a placard, and students will move to stand next to it if the picture on their cards needs it to survive or live. If it does not need it, they don't move. If they are not sure, they can go to the question mark.**
15. Next, distribute the small playing cards to the rest of the class (1 per student).
16. Ask students to look at their cards.
17. Begin by asking anyone with a picture on their card of something that needs **water** to survive to move over to the space next to the placard.
18. Ask for several volunteers to explain why they moved there (Ex: fish need water to live in; plants need water to grow)
19. Repeat the same with all the placards. (Most of the students will be moving to each of the placards; expect some possibly not to move at all.)

### **Explain**

20. When you have covered each of the needs, ask students who **didn't** move at all to explain why they were unable to. Listen to their ideas. Expect them to say they didn't move because the objects on their cards were not alive, (although some are!), or that they didn't know the identity of the organism.
21. After everyone has shared, ask the class if it is enough to just look at something to determine if its alive or not? (No, you need more information.)

### **Elaborate**

22. Ask them if they think the green substance has any of the needs they explored today.
23. Explain that this activity was to get them thinking about other ideas or questions they might consider for their investigation.

### **Evaluate**

1. Did students follow the directions given for participation?
2. Did students correctly move as needed?
3. Were students able to explain why they did not move, or moved to the question mark?
4. Did any team reconsider and communicate their ideas about the green substance after the activity?
5. Did they raise new questions about the green substance?

### **Expanded Standards**

**Reading TEKS: 3.9F** Multiple genres: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student recognizes and analyzes genre-specific characteristics, structures, and purposes within and across increasingly complex traditional, contemporary, classical, and diverse texts. The student is expected to: (F) recognize characteristics of multimodal and digital texts.

**ELPS:** Student Expectations for Speaking K-12, 19 TAC 74.4(c)(4) The student is expected to: (D) speak using grade-level content area vocabulary in context to internalize new English words and build academic language proficiency; (E) share information in cooperative learning interactions;

**Science TEKS: 3(9)A** The student is expected to: (A) observe and describe the physical characteristics of environments and how they support populations and communities of plants and animals within an ecosystem.

