



2

2.2: "Harvesting Sunlight"

1 WARM UP
Warm-Up



2 READING
Active Reading: "Harvesting Sunlight"



3 STUDENT TO STUDENT DISCUSSION
Discussing Annotations



4 HOMEWORK
Homework





LW: 2.2.1 WARM-UP

Students return to a statement from the Anticipation Guide and record their current thinking.
(5 min)

Review your original response to this statement from the Anticipation Guide:

All light is the same, whether it comes from the sun, a light bulb, or anywhere else.



Returning to the Anticipation Guide

Do you agree or disagree with this statement now?

agree

disagree

not sure

Which piece(s) of evidence support your ideas about the statement?

Energy from light caused the solar-powered toy to move.

In the Sim, light from the sun causes damage to genetic material but causes no change to aluminum foil.

Light from the sun can change sun paper but light from a light bulb cannot.



LW: 2.2.2 READING

The teacher models Active Reading with an emphasis on summarizing main ideas. Students read and annotate the "Harvesting Sunlight" article. (25 min)

As part of our research on the high rate of skin cancer in Australia, we have been investigating the question, *Is all light the same?* In the previous lesson, we shined different flashlights on materials and observed that different things happened. Something must be different about the lights, but what?

"Harvesting Sunlight" gives us more evidence about different types of light and helps answer the Investigation Question.

It is important to create brief summary statements to keep track the main ideas from the text. You can use the following script, or you can model your own thinking.

Active Reading

- **Begin by reading the title of the article aloud and making a connection.**

🗨️ I remember learning about how plants use energy from sunlight to make food. When I read this title and see the pictures, it makes me think that this article is going to be about that process.

- **Highlight the title.** Press ADD NOTE and write “Plants get energy from sunlight.”
- **Begin reading the first paragraph aloud.**
- **Make a connection between the word *photosynthesis* and the title of the article.** Press ADD NOTE. Write “Harvesting Sunlight = photosynthesis?”

- **Introduce summarizing as a reading strategy.**

🗨️ I am going to show you how to make a summary statement for this paragraph. Summarizing is an important strategy for sophisticated readers. They often pause after a larger chunk of text, such as a paragraph, and revise their thinking. Then, they write a quick summary.

🗨️ This practice can help the ideas stick in your brain, and the summary you write is a resource that you can go back and check.

🗨️ This paragraph talks a lot about our bodies, but I think the most important idea is what it says about plants because of the title of the article.

🗨️ Plants have a way of making their own food, called *photosynthesis*. This article's title seems to be about that process, so this idea must be important. I am going to use that idea in my summary statement.

- **Write a short summary.** Near the end of the paragraph, press ADD NOTE. Write: "Plants use energy from the sun to make their own food."

5. Discuss when to summarize. Explain that not every paragraph needs a summary. Sometimes two or more paragraphs together will make up an important idea that needs to be summarized. Students can choose to summarize when there is an especially important idea they want to note. Let students know that you won't require them to summarize every paragraph, but you would like them to try to use this strategy at least one or two times while reading today. Students should also continue to use other strategies they have been practicing this year as needed.



LW: 2.2.2 READING

Reading "Harvesting Sunlight"

Open "Harvesting Sunlight" in the [Amplify Library](#) and annotate while you read.

Active Reading Guidelines

1. Think carefully about what you read. Pay attention to your own understanding.
2. As you read, annotate the text to make a record of your thinking. Highlight challenging words and add notes to record questions and make connections to your own experience.
3. Examine all visual representations carefully. Consider how they go together with the text.
4. After you read, discuss what you have read with others to help you better understand the text.



LW: 2.2.3 DISCUSSION

Students share and discuss their annotations with partners. (15 min)

Discussing Annotations

Carefully choose an interesting annotation (comment, question, connection, vocabulary word) you'd like to share with your partner and add #share to this annotation.

#share

Add #discussed to your annotation if you feel that you and your partner have resolved a question OR if your discussion gave you a deeper understanding about something in the article.

#discussed

Add #present to your annotation to mark any unresolved questions or ideas you would like to present to the class.

#present



LW: 2.2.4 HOMEWORK

Students use the *Light Waves Simulation* to compare the types of light emitted by two different light sources.

Comparing the Sun to a Light Bulb

Note: If you do not have access to Amplify Science at home, your teacher will provide you with an alternate way to complete this homework.

You have used the Sim to compare changes to materials caused by light from the sun and light from a light bulb. Now compare the types of light these sources emit.

1. Open *Light Waves Simulation*.
2. Keep SUN as the light source and turn it ON.
3. Tap on the beam to inspect the light.
4. Observe the types of light the sun emits.
5. Change the light source to LIGHT BULB.
6. Tap on the beam to inspect the light.
7. Observe the types of light the light bulb emits.



LW: 2.2.4 HOMEWORK

What is a type of light that the sun emits but a light bulb does not?

gamma ray

X-ray

ultraviolet (UV)

visible

infrared (IR)

microwave

radio



What is a type of light that both the sun and a light bulb emit?

gamma ray

X-ray

ultraviolet (UV)

visible

infrared (IR)

microwave

radio

Does every light source emit only one type of light?

Yes

No

