

3 Extend/Evaluate

Sum It Up!

- Suggest students review the highlighted vocabulary in the lesson before they complete the Sum It Up! Make sure students understand there are two separate graphic organizers that they are to fill in. One focuses on the advantages of light communication and the other on advantages of sound communication.
- If students are uncertain about the terms relating to communicating using light and sound, suggest that they look back through the lesson, study the photographs, and reread the captions.
- Have students use the Answer Key to check their answers when they are finished. Tell students to correct any wrong answers so they can use this page to study for tests. Make sure that students ask for help with any concepts they are still unclear on.

Sum It Up!

When you're done, use the answer key to check and revise your work.

Use the word bank to fill in the blanks.

dark	light	slow
fast	noise	ultrasound
information	opaque	volume

Advantages of Light to Communicate

1. Travels at a fast speed

2. Can be used when there is a lot of noise

3. Can be used in dark places

4. Can carry large amounts of information

Advantages of Sound to Communicate

5. Can travel through opaque material

6. The volume can be increased to get attention.

7. Can use ultrasound to find out about inside a human body

8. Can be used when there is a lot of light

Name _____

Word Play

1 Draw lines to match each picture to a term and each term to its definition.



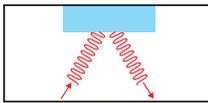
communication

sound from a reflection



echo*

sharing information, thoughts, and ideas



echolocation*

uses thin transparent fibers to send light signals for communication



fiber optics*

sound frequencies higher than what human ears can detect



ultrasound*

process of determining the location of an object by reflected sound

*Key Lesson Vocabulary

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Answer Strategies

Word Play

1. To make the activity more challenging, cover the definitions in the third column and have students provide the definitions themselves. If students need help, refer them back to the page in the lesson where each term is defined and discussed. For students who need support, help them match the pictures and terms. Then have students find the definition that goes with each picture and term.



Assessment

Scoring Guide

You may wish to use this suggested scoring guide for the Brain Check.

Item	Points
1	40 (4 points each)
2	30 (10 points each)
3	20
4	10
Total	100

Lesson Quiz

See Assessment Guide, p. AG 56.

3 Extend/Evaluate (continued)

Answer Strategies

Apply Concepts

2. Be sure that students recognize what each of the pictures represents before answering the question.
3. You may wish to discuss as a class how ultrasound and optical fibers work before students attempt this question.
4. Students may be confused about the use of the word *information*. Explain to them that something that is communicated to you is information.



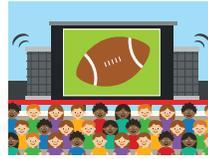
Take It Home!

See *ScienceSaurus*[®] for more information about sound and light. *ScienceSaurus* is a “mini-encyclopedia” students can use to find out more about unit topics. It contains numerous resources including concise content summaries, an almanac, history of science, a glossary, and many tables, charts, and graphs.

Apply Concepts

2

Label each picture with what is being used to communicate a message—sound, light, or sound and light.



sound and light



sound



light

3

What property of waves do ultrasound scanners and fiber optics both use?

reflection

4

What information does a school bell at the end of a school day give?

The school day is over.



Take It Home!

Think of other ways sound or light are used to communicate. Include animal communication you observe or know about. Make three columns and use the headings *Sound*, *Light*, and *Sound and Light*. Be sure to include what is being communicated in your list.