

### Sound Energy

For us to hear a sound, there must be some resource for the vibrations to bounce off. Without this, no vibrations will occur, and no sound will be emitted. Molecules must be present for sound to be heard. Did you know that outer space lacks molecules? Because of the makeup of space, no molecules can exist. Without molecules, there can be no sound. Even with a rocket flying through space, no one would be able to hear it. Isn't that amazing?

#### Fun Facts

- Sound is fast! A car averages around 60 miles per hour, but the sound goes over 700 miles per hour.

### Sound Energy

Consider a baby crying, a telephone ringing, and waves crashing. What do these three things have in common? They all are the result of sound.

Sound energy is the process of how vibrations move through matter. Each time an object vibrates, noise is created. For example, think about a guitar string. You can see the string moving back and forth when you pluck it. These vibrations cause the molecules in the air to vibrate, creating sound waves. The sound waves travel through the air to your ears.

### Sound Energy

Name: \_\_\_\_\_

- What does the word emit mean?
  - like or love
  - leave
  - dislike
  - make or produce
- Each of the following is an example of sound except:
  - bird watching
  - hands clapping
  - bird singing

### Sound Energy

Name: \_\_\_\_\_

- Select the word or phrase from the paragraph that helps the reader understand the meaning of the word vibrations:
  - move through matter
  - noise is created
  - moving back and forth
  - create sound waves
- What example does the author use to support the idea that no sound can be heard if vibrations have nothing to bounce off of?
  - rocket ships cannot be heard flying through space because outer space lacks molecules
  - talking closely with a friend emits sound waves your ears can hear
  - a volcano erupting is the loudest natural sound
  - a crowd cheering causes big sound waves
- Where in the text does the author show evidence to support the claim that our eardrums process sound waves?
  - Paragraph 2
  - Paragraph 3
  - Paragraph 4
  - Paragraph 5
- What is the main idea of paragraph 3?
  - objects make sound waves when vibrations occur
  - tapping on a drum creates vibrations
  - molecules bump into each other to create sound
  - plucking a guitar string causes vibrations

### Annotate the Text

- Number the paragraphs
- Underline important statements
- Circle unknown words

# This resource includes:

- Teacher Tips
- Questions to Ask Students
- Student Bookmarks:
  - Close Reading Steps
  - Annotate/Mark the Text
- Informational Text: Sound Energy
- 10 Multiple Choice Questions
- 7 Graphic Organizers
- Answer Key

## Sound Energy

For us to hear a sound, there must be some resource for the vibrations to bounce off. Without this, no vibrations will occur, and no sound will be heard. Molecules must be present for sound to be heard. If space lacks molecules? Because of the makeup of matter, sound cannot exist. Without molecules, there can be no sound. Even if vibrations travel through space, no one would be able to hear it. Is there a way to hear through space?

Fun Facts

### Annotate the Text

- 1 Number the paragraphs
- Underline important statements
- Circle unknown words
- ? Question? Confusing?
- ! Interesting!

## Sound Energy

Consider a baby crying, a telephone ringing, and waves crashing. What do these three things have in common? They all are the result of sound.

Sound energy is the process of how vibrations move through matter. Each time an object vibrates, noise is created. For example, think about a guitar string. You can see the string moving back and forth when you pluck it. These vibrations cause the molecules in the surrounding air to create sound waves. The sound waves allow you to hear the sound of a guitar being played.

### How is Sound Energy Produced?

Whether it's a lawnmower running, a helicopter flying, or a basketball dribbling, the noises that our ears hear can be attributed to sound energy. So how is it that sound energy is produced? When we hear a sound, it's due to the sound waves an object emits. Objects emit sound waves whenever an object vibrates or moves back and forth. Think about in music class when you play an instrument. Whether you're playing a bongo drum or a bass drum, whenever the drum is struck by a drumstick or your hand, the top of the drum vibrates. This shows you that the force of something striking the drums causes them to

# Non-Fiction Passage

vibrate. These vibrations are what create sound. When vibrations occur, they create sound waves that travel through the air. These waves are made of molecules in the surrounding air. The molecules in the air vibrate back and forth, creating a wave that travels through the air. When the sound reaches a part of our ear called our eardrums. Our eardrums vibrate, causing us to hear the sound. Think about when you sit and talk with a friend. The sound waves travel through the air to your ears. You can hear your friend from listening to a crowd cheer. We can hear things from a distance because the larger the sound waves resulting from that sound are, the further they can travel.

## Sound Energy

Name: \_\_\_\_\_

6. What does the word emit mean?
- a. like or love
  - b. leave
  - c. dislike
  - d. make or produce

7. Each of the following is an example
- a. bird watching
  - b. hands clapping
  - c. bird singing
  - d. music playing

8. Which of the following animals do
- a. horses
  - b. zebras
  - c. elephants
  - d. cats

9. What is the logical connection b  
of sound averaging 700 miles p  
a. Cars go slow, but t  
b. Sound must be hea

10. What does the word  
a. almost

Name: \_\_\_\_\_

## Sound Energy

1. Select the word or phrase from the paragraph that helps the reader understand the meaning of the word vibrations:

- a. move through matter
- b. noise is created
- c. moving back and forth
- d. create sound waves

2. What example does the author use to support the idea that no sound can be heard if vibrations have nothing to bounce off of?

- a. rocket ships cannot be heard flying through space because outer space lacks molecules
- b. talking closely with a friend emits sound waves your ears can hear
- c. a volcano erupting is the loudest natural sound
- d. a crowd cheering causes big sound waves

3. Where in the text does the author show evidence to support the claim that our eardrums process sound waves?

- a. Paragraph 2
- b. Paragraph 3
- c. Paragraph 4
- d. Paragraph 5

What is the main idea of paragraph 3?

- a. objects make sound waves when vibrations occur
- b. tapping on a drum creates vibrations
- c. molecules bump into each other to create sound
- d. plucking a guitar string causes vibrations

5. Which of the following details is most important to the topic of how animals can hear better than humans?

- a. This is the loudest sound that exists in nature.
- b. Dogs, cats, dolphins, horses, and elephants are among the creatures with the best hearing.
- c. Consider that they may be barking at something that you can't hear.

# 10 Multiple Choice Questions

# Close Reading

Close Reading: A reading strategy that is used to comprehend and analyze a text closely. Students will typically read the text at least twice for comprehension, details, analysis, and deep questioning of the text's purpose and meaning.

## Steps for Close Reading:

1. Read the Text
2. Mark Up the Text or Annotate the Text
3. Read the Text Again
4. Define Unknown Words
5. Read the Text Again
6. Respond to Reading

## Includes:

- Teacher Tips
- Questions to Ask Students
- Close Reading Steps - Bookmark
  - Version with "Mark the text"
  - Version with "Annotate the text"
- Steps to "Mark the Text" Bookmark
- Steps to "Annotate the Text" Bookmark
- Informational Text: The
- 10 Multiple Choice Questions
- 7 Graphic Organizers

# Teacher Tips & Suggestions

## Questions to Ask Students

- What is the text mostly about?
- Who is the audience for this text?
- What's is the writer's purpose of this text?
- What's your favorite part of the passage?
- What words are new to you? What do you think the words mean?
- What detail stands out to you?
- What questions do you now have about the topic?
- If you can ask the author 2 questions, what would you ask them?
- In this paragraph, what is the author saying?
- What is the structure of the text? How does it help

## Teacher Tips

Close reading: A reading strategy that is used to comprehend and analyze a text closely. Students will typically read the text at least twice for comprehension, details, analysis, and deep questioning of the text's purpose and meaning.

1. Read the Text: When students read the text for the first time, they are reading just to identify what the passage is mostly about. The first read is surface level and allows the students to understand the gist of the text.
2. Mark Up the Text or Annotate the Text: Encourage students to use their annotation bookmarks (provided below) to make notes directly on the text. Students can write in the margins, use sticky notes to make notes, use color coding. You can even slip the text inside a dry-erase pocket and encourage students to use dry-erase markers to mark up the text.
3. Read the Text Again: If the teacher is working with the students for this, the teacher can read the text aloud this time. Model think-alouds and use expression while you read. If students are working with partners in a station, encourage them to each read a paragraph then switch readers.
4. Define Unknown Words: During this step, invite students to circle any unknown or unfamiliar words. Use the provided graphic organizer to select 4-5 unknown words and work to identify the meaning of each word.
5. Read the Text Again: With this third time reading the text, encourage the students to read the passage independently.
6. Respond to Reading: Students will now use the text to answer the 10

# Graphic Organizers

- Main Ideas with Text Evidence
- Central Ideas with Text Evidence
- Central Ideas with Details
- Main Idea, Details, Conclusion
- KWL: What I Know, What I Want to Know, What I Learned
- Overview: Topic, Author's Purpose, Key Vocabulary, Most Important Thing, I Wonder, Important Facts, Illustration
- Context Clues (3 Versions: 3 words, 4 words, 5 words)
- Arthropods

Name: \_\_\_\_\_

Unknown Word	Context Clue	Word Meaning

Name: \_\_\_\_\_

What I Know	What I <u>Want</u> to Know	What I Learned

Name: \_\_\_\_\_

Topic	Author's Purpose	
Key Vocabulary	Most Important Thing	I Wonder...
Important Facts	Illustration	

# Graphic Organizers

# Ideas for Use

- Science or ELA Stations
- Whole Group Instruction
- Partner Practice
- Guided Reading Groups
- Substitute Plans
- Send home to practice
- ELA Work Stations or Centers
- Assessment

Unknown Word	Context Clue	Word

Name: \_\_\_\_\_

Central Idea

Details

Name: \_\_\_\_\_

Main Ideas

- 1
- 2
- 3

Text Evidence #1

Text Evidence #2

Text Evidence #3

Name: \_\_\_\_\_

Main Idea

Detail

Detail

# Graphic Organizers

Purchase now to  
connect science  
and literacy  
in your  
classroom!