Name _____

4th Grade Science Remote Learning Packet

Week 19

Dear Educator,

My signature is proof that I have reviewed my scholar's work and supported him to the best of my ability to complete all assignments.

_____ _____

(Parent Signature) (Date)

Parents please note that all academic packets are also available on our website at www.brighterchoice.org under the heading "Remote Learning." All academic packet assignments are mandatory and must be completed by all scholars.

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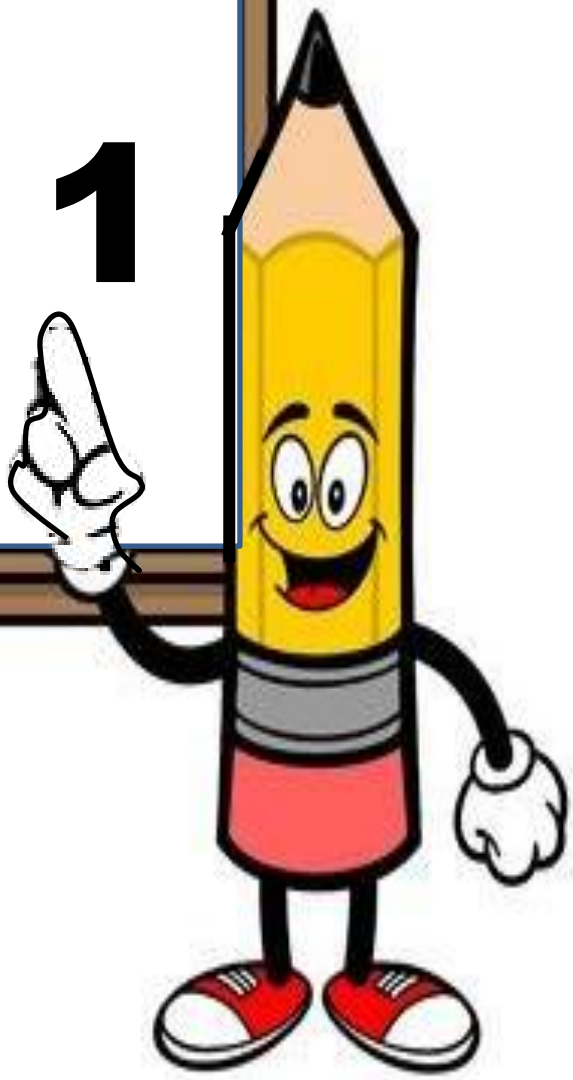
Day # 1



Name: _____Week 19 Day 1 Date: _____

BCCS-B **Howard** **Morehouse** **Hampton**

Guided Notes—Why are some sounds high and some sounds low?

The Question: *Take a moment to think about our mystery question and write down your response.*

Why are some sounds high and some sounds low? _____

_____

_____

Vocabulary: *Fill in the blanks with the missing colored word.*

1. **Volume:** how _____ or _____ a sound is
2. **Pitch:** the _____ and _____ of a sound (but not how quiet or loud the sound is)
3. **Wave:** the _____ created by a vibration in water or air
4. **Wavelength:** the term scientists use to describe how '_____' or '_____' a wave it
5. **Oscilloscope:** a device that _____ like a graph, in a sideways view

Video: *During the video, take notes of key points. When asked to discuss, write out your answer first before we discuss. Unless called upon or asked to discuss with a partner/group, you are to remain silent.*

Exploration 1: *Notes*-_____

_____

_____

Exploration 2: *Discuss*-What do you think—what makes one sound LOWER and another HIGHER? _____

_____

_____

_____

Exploration 3: *Notes*-_____

_____

_____

Activity: Making Waves: *Discuss:* What differences do you see between a vibration that creates a high pitch and a vibration that creates a low pitch? _____

_____

_____

Exploration 4: *Fill in the vibration section of our handout Sound Vibrations.*

Exploration 5: *Notes-*_____

_____

_____

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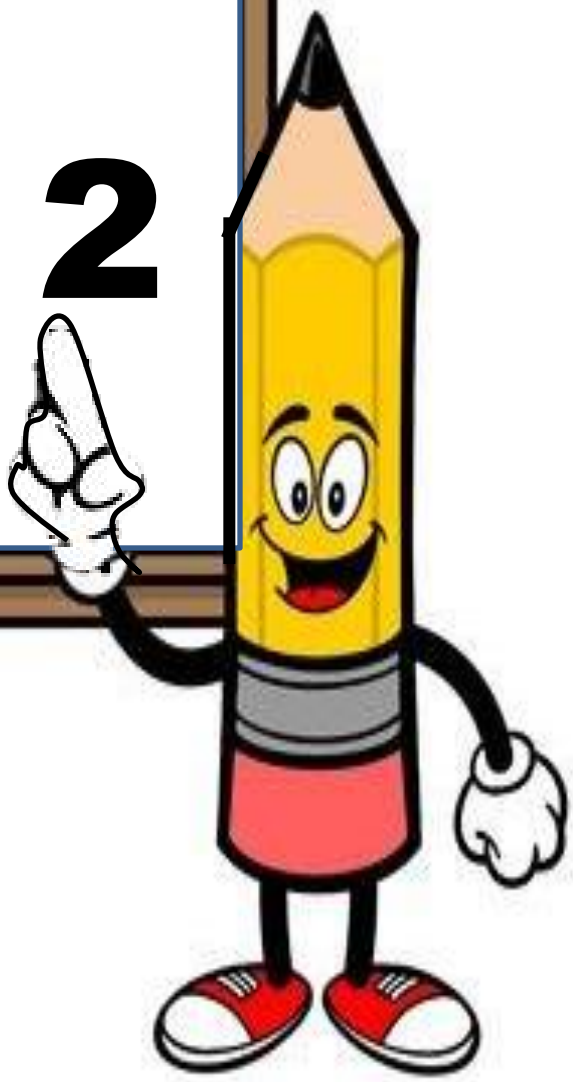
Day # 2



Name: _____Week 19 Day 2 Date: _____

BCCS-B **Howard** **Morehouse** **Hampton**

Guided Notes—Why are some sounds high and some sounds low?

Day 2:

Sound Vibrations Handout: *Draw the high-pitched and low-pitched sound waves under 'how the sound waves look' section of your handout.*

Exploration 6: *Discuss*-How would you describe the differences between the high-pitched and the low-pitched sound waves? _____

_____

_____

Exploration 7: *Circle which words you'd use to describe the high-pitched wave versus the low-pitched wave on the handout.*

Exploration 8: *Notes*-_____

_____

_____

Sound Vibration Handout: *Circle the word that describes the wavelength under wavelength.*

Exploration 9: *Discuss*- Which of these is the HIGHEST pitch? Explain how you know. _____

_____

_____

Exploration 10: *Discuss*-Which of these is the LOWEST pitch? Explain how you know. _____

_____

_____

EXIT TICKET: Using complete sentences, explain what a wavelength is. How are high and low sounds a part of a wavelength?

_____

_____

_____

_____

_____

How are sound waves similar to that of ripples you would see in water? _____

_____

_____

_____

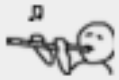
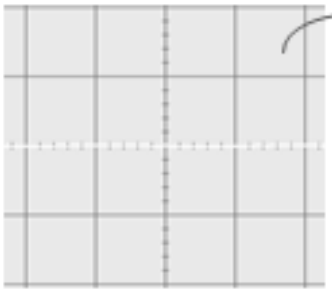
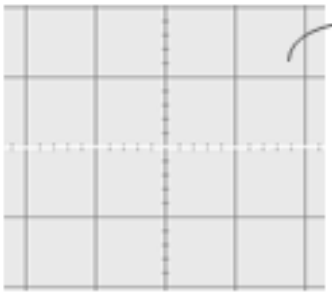
_____

_____

Name: _____Week 19 Day 2 Date: _____

BCCS-B **Howard** **Morehouse** **Hampton**

Sound vibrations

PITCH	VIBRATION	HOW THE SOUND WAVE LOOKS	WAVELENGTH
High pitch  *Imagine the sound of a flute*	The vibration is: _____	 High-pitched sound waves look: spread out squished together	The wavelength is: short long
Low pitch  *Imagine the sound of a tuba*	The vibration is: _____	 Low-pitched sound waves look: spread out squished together	The wavelength is: short long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Day # 3

Name: _____Week 19 Day 3 Date: _____

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End of mystery assessment

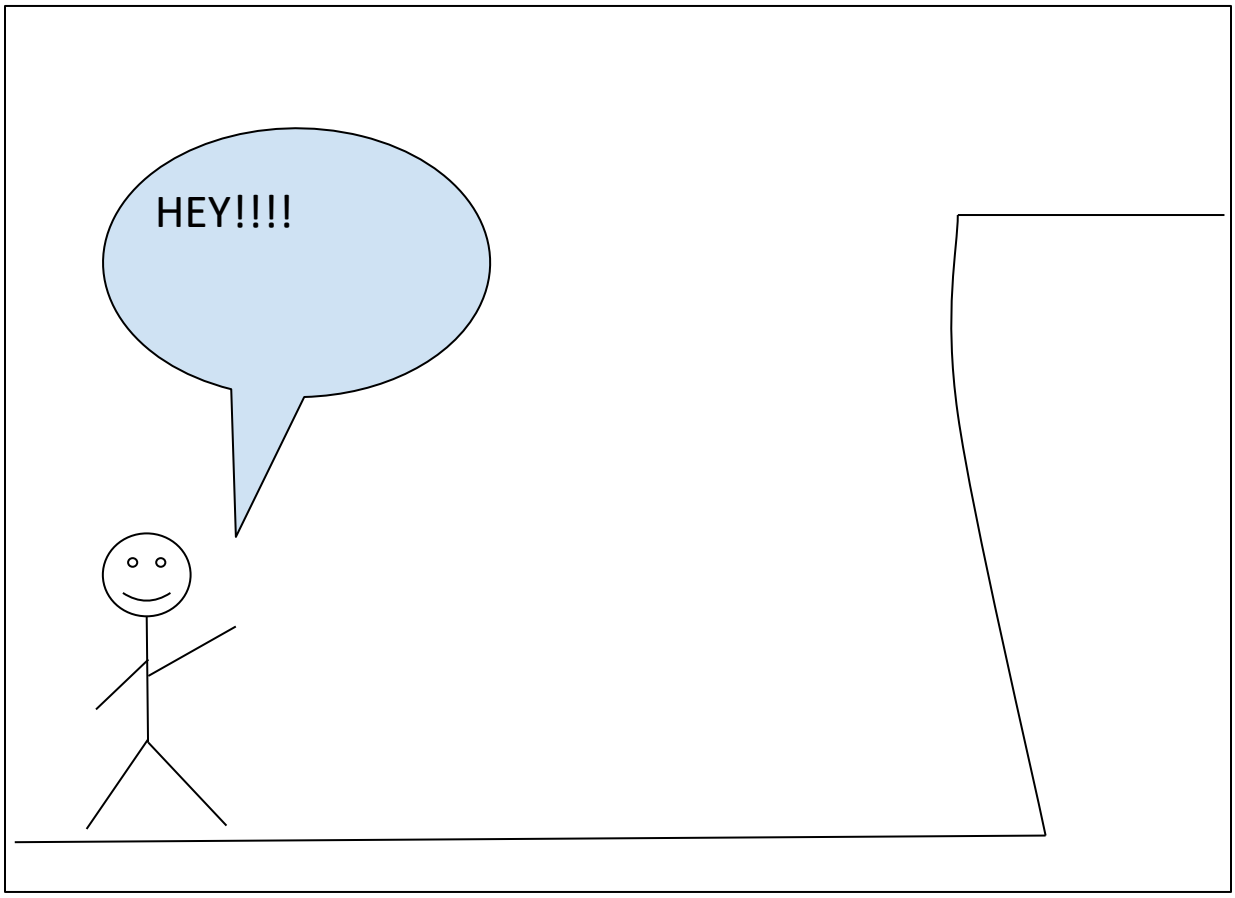
1. What does sound have in common with ripples in a pond?
    a. Sound can be seen.
    b. They have nothing in common.
    c. Sounds vibrations look similar to ripples in a pond.
    d. The ripples in a pond make sound,

2. If a vibration goes back and forth rapidly (fast), what kind of sound waves does it make in the air: short waves or long waves?

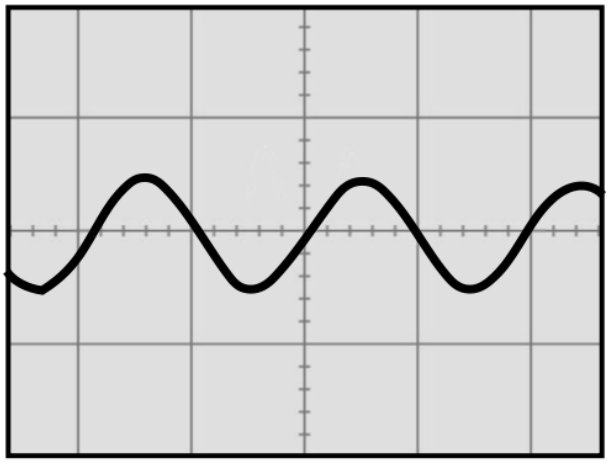
    a. A fast vibration makes short waves.
    b. A fast vibration makes short and long waves.
    c. A fast vibration makes no waves.
    d. A fast vibration makes long waves.

3. The person in the drawing is at the bottom of the Grand Canyon. They yell, “HEY!!!” and then hear their echo a couple of seconds later.

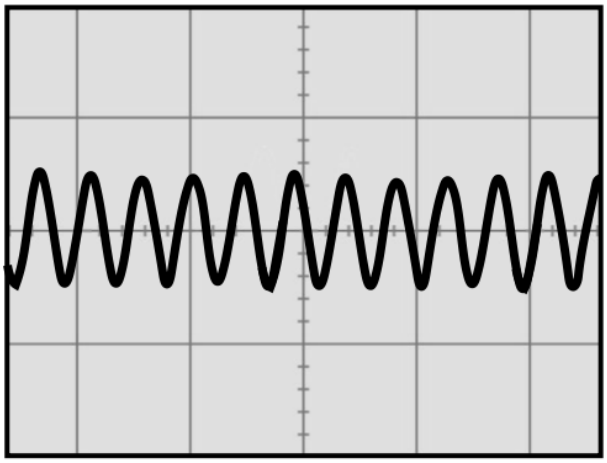
Given what you know about sound, what do you think is happening when a person hears their echo? Show your ideas by drawing on the picture below, and using words:



4. The pictures below show two different sounds, seen through an oscilloscope. One of them is the sound of a flute (a high-pitched sound), and the other is the sound of a tuba (a low-pitched sound). Which is the tuba? Which is the flute? How do you know?



Sound A



Sound B

_____

_____

_____

_____

_____

_____

_____

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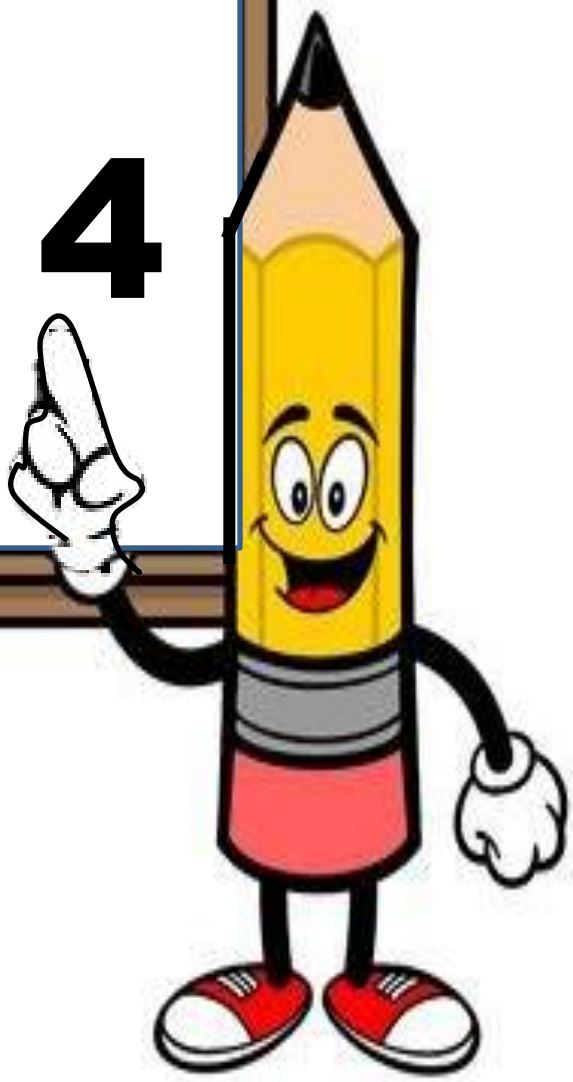
Day # 4



Name: _____Week 19 Day 4 Date: _____

BCCS-B Howard Morehouse Hampton

Waves of Sound Study Guide and Exit Ticket

This is your study guide that you will be able to take home to help you study for your assessment. Please make sure you are following along and filling in the blanks when you are asked. What you put into the packet and studying will help you for your exam.

Question: What has been the most interesting thing you learned this unit about sound waves and vibrations? _____
_____
_____

Vocabulary: *When the definition of the word appears, say what the vocabulary word is to match. Once the word is revealed, write the word on the blank provided.*

1. _____ is how quiet or loud a sound is.
2. _____ is the traveling movement created by a vibration in water or air.
3. _____ is the highness or lowness of a sound (but not how quiet or loud the sound is).
4. _____ is a device that can remove the air from a container, allowing scientists to study what it's like in outer space.
5. _____ is the term scientists use to describe how short or long a wave is.
6. _____ is a device that shows sound waves like a graph, in a sideways view.
7. _____ is the back-and-forth movement of something.
8. _____ is the energy that we can hear.

Discussion Questions: *Please raise a silent scholarly hand and wait to be called upon. If you are not speaking, you are expected to be listening. This is your review. You are listening to see if there is anything more you can add to the discussion or correct errors that may occur. We will only spend about 5 minutes on each question and no more. After the discussion has taken place, write out your answer to the questions that will help you to study for the exam.*

Question 1: Could you hear the bell once all the air was taken out of the container with the vacuum pump? _____
_____
Why or why not? _____
_____
_____
_____

Question 2: How are sound waves similar and different to ripples in a lake? _____
_____
_____
_____

Question 3: What is a wavelength? _____
_____
_____

What does wavelength have to do with how high or low a sound is? _____
_____
_____
_____
_____
_____

EXIT TICKET: *Draw lines from the asterisk to the dot to match the vocabulary word with its definition.*

1. how quiet or loud a sound is *

2. the term scientists use to describe how short or long a wave is *

3. energy that we can hear *

4. the highness or lowness of a sound (but not how quiet or loud the sound is) *

5. a device that shows sound waves like a graph, in a sideways view *

6. a device that can remove the air from a container, allowing scientists to study what it's like in outer space *

7. traveling movement created by a vibration in water or air *

8. back-and-forth movement of something *

- volume
- wave
- pitch
- vacuum pump
- wavelength
- oscilloscope
- vibration
- sound