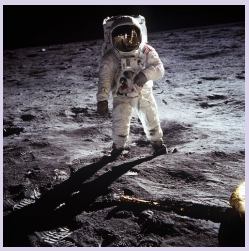
Sound Worksheet, Grades 3-5

Name:_____

Write or draw what you know about sound.

Fun Fact!

Sound waves travel through matter (solid, liquid or gas). Sound waves can't travel in a vacuum so outer space is totally silent.



Sound Travel - Test it out!

Sound is produced by vibrating objects and requires a medium to travel through.

Solid	Gas	Liquid
Put your ear against a table and have your classmate tap on the other end of the table with a pencil. What do you hear?	Raise your head and continue to have your classmate tap on the table. Does the sound stay the same or change?	Do you think you could hear the tapping under water? Why or why not?

Share your results!

What did you hear listening to the tapping sound through the table and through the air? Were you surprised? What do you think would happen to the sound underwater?

Fun Facts!

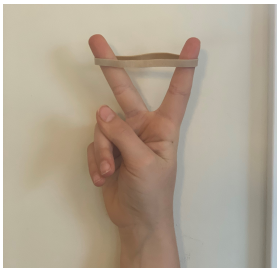
Sound can travel faster and more effectively depending on the type of matter it is traveling through.

Sound can travel over 17 times faster through steel than through air. Sound travels about four times faster and farther in water than in air.

More To Explore – Sound Meets a New Medium

Test it out!

What happens to a sound when it comes in contact with a new medium? You'll need a cup, rubber band, and towel to test it out!

			What do you hear?
Step 1	Put a rubber band around two fingers. Pluck the rubber band.		
Step 2	Put the rubber band around a cup, top to bottom. Pluck the rubber band.		
Step 3	Leaving the rubberband around the cup, put a towel in the cup. Pluck the rubber band.		

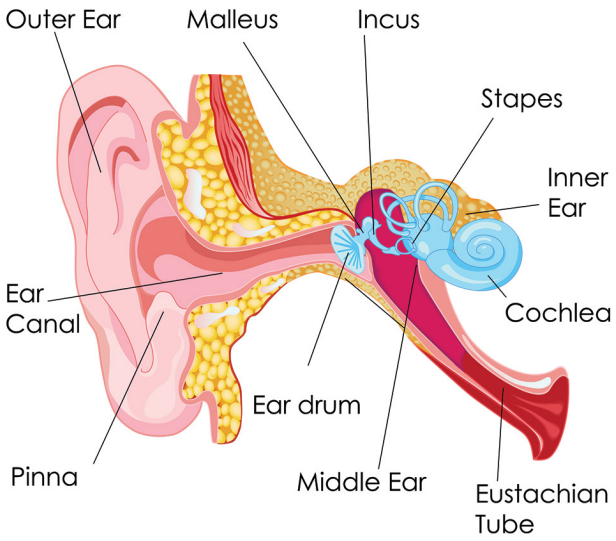
Share your results!

What happens to the sound from plucking the rubber band when it meets a new medium? Does the sound or volume change? Can more than one thing happen? What have you experienced with what happens to the sound of a yell you make in different places, for example a field versus a cave or gym?

The Ear, Grades 3-5

Name:_____

Write or draw what you know about sound and the human ear.



Fun Facts!

The fluid in the cochlea helps us keep our balance. If the fluid is blocked we feel dizzy.

Ear wax protects and helps clean the ear and keeps bad things out.

Two parts of the body are needed to hear sound, the ear and the brain.

Why do you think the thin stretched membrane (skin) that divides the outer ear from the middle ear is called an eardrum?	Draw what you imagine when you hear the word *eardrum*.

When a sound is made it travels to the eardrum causing it to vibrate. The vibrations are passed to tiny bones (malleus, incus, and stapes) and then to our fluid-filled hearing organ (cochlea). From there it is sent to the brain for translation!

Communication – Test it out! Share your results!

Draw or write some different ways people use sound and the human ear to communicate?

Fun Facts!

Drums can be considered a primitive telephone! Tribes in Africa not only used drums for ceremonial and religious functions, they also used drums to communicate with tribes that were miles away.

Before cell phones, and even telephones, people used Morse Code to communicate. It was invented in the 1830s. It can be sent using sound, light, or vibrations.

Using Sound For Communication – Test it out!

Can you create a drum beat that can be used for communication? Work with a partner to develop different beats to communicate with one another.

Beat	Meaning

Share your results!

How did you and your partner communicate with one another? How was using the beat of a drum to communicate and how the human eardrum works similar?

Sound of Science

Matter Worksheet, Grades 3-5

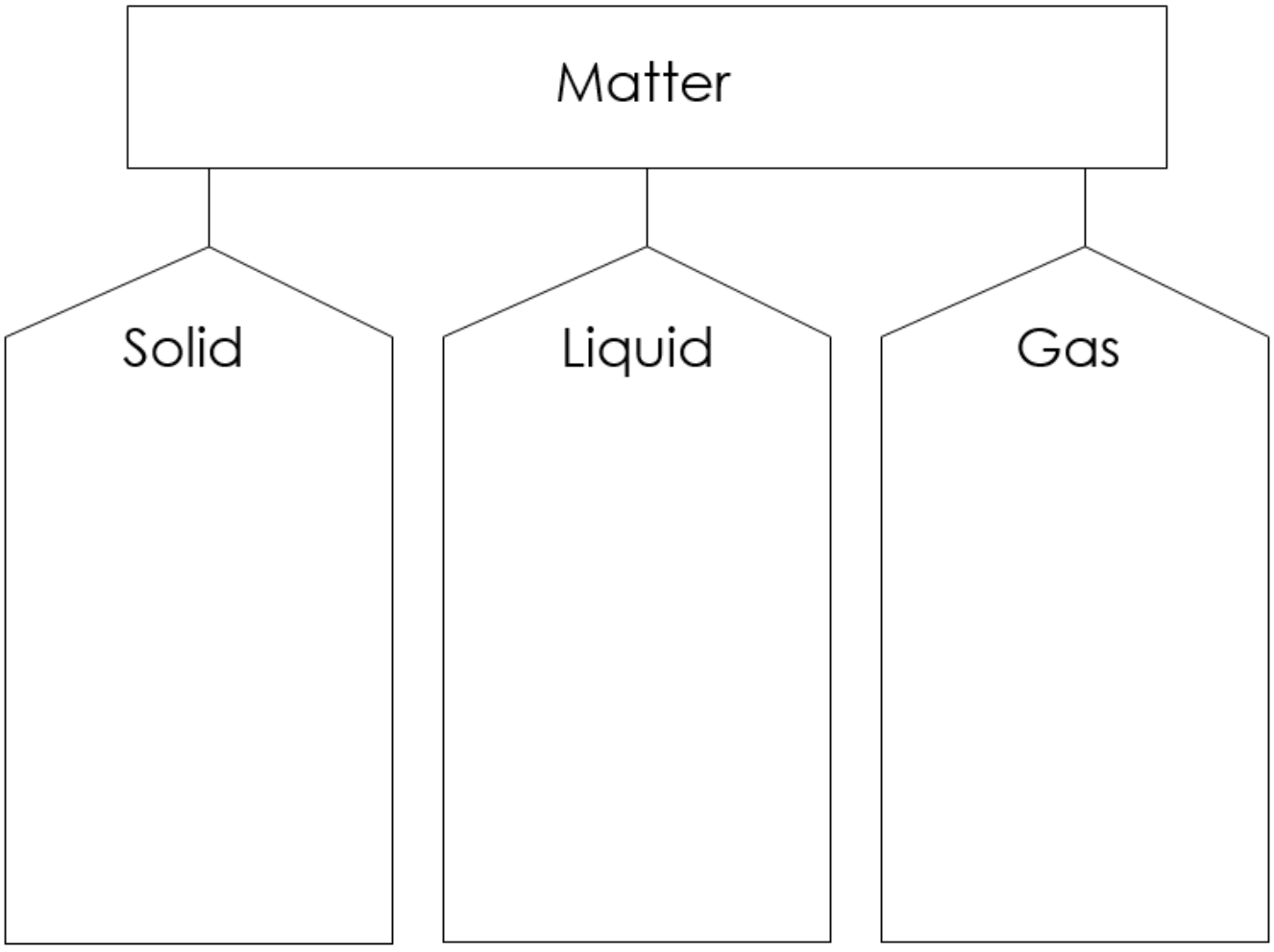
Name:_____

Write or draw what you know about matter.

Matter is anything that has mass and takes up space!

Different States of Matter

Draw or write objects that can be sorted into the different states of matter.



What did you think of? Were any of the states of matter easy or hard to come up with ideas for? What are some properties that solids have in common? Liquids? Gases?

Fun Facts!

Objects are made of smaller parts, some too small to be seen even with a magnifying glass! The smallest unit of matter is called an atom. The states of matter (solid, liquid, and gas) look and feel the way they do because of the type of atoms that make them up, how the atoms interact with one another, and how the atoms move!

Prove It! – Test it out! Share your results!

How can you "see" something that is too small to be seen? Design a way to show that a gas is matter, it has mass and takes up space.

How will you show it has mass? How will you show it takes up space?

_____

_____

_____

_____

_____