



**4**



# SCIENCE

## Quarter 3 - Module 7 Investigate Properties and Characteristics of Sound



Name of Learner: \_\_\_\_\_

Grade & Section: \_\_\_\_\_

Name of School: \_\_\_\_\_

JANUARY

*Makugihon*

FEBRUARY

*Mohiguigmaon*

MARCH

*Matinabungon*

APRIL

*Matinahuron*

MAY

*Mahapsay og Matimpyo*

JUNE

*Maabtik og Masunod sa  
 Oksaklong Oras*

JULY

*Maantigo og Maabilidad*

AUGUST

*Maginhantunon  
 Para sa Uban*

SEPTEMBER

*Madaginaton*

OCTOBER

*Matinud-anon*

NOVEMBER

*Masaligan*

DECEMBER

*Maalampon*

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**Development Team of the Module**

<b>Writer:</b>	Rachel V. Ninofranco
<b>Editors/Reviewers:</b>	Gina D. Regencia Haris T. Liong
<b>Layout Artist:</b>	Ronald G. Mandas
<b>Management Team:</b>	Virgilio P. Batan Jr. - Schools Division Superintendent Lourma I. Poculan - Asst. Schools Division Superintendent Amelinda D. Montero - Chief Education Supervisor, CID Nur N. Hussien - Chief Education Supervisor, SGOD Ronillo S. Yarag - Education Program Supervisor, LRMS Edgardo S. Cabalida - Public Schools District Supervisor Leo Martinno O. Alejo - Project Development Officer II, LRMS Bernie P. Laranjo - Public Schools District Supervisor Susana B. Perong - School Principal (Barra E/S)

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Office Address: Purok Farmers, Olingan, Dipolog City  
Zamboanga del Norte, 7100  
Telefax: (065) 212-6986 and (065) 212-5818  
E-mail Address: dipolog.city@deped.gov.ph

# Lesson 7

## Investigate Properties and Characteristics of Sound



### What I Need to Know

The sensation felt by our ears is called sound. It is a form of energy which make us hear. We hear several sounds around us in our everyday life. Sound has certain characteristics and properties because of the way sound energy travels in waves. Sound waves can be described by five characteristics the wavelength, amplitude, time-period, frequency and speed. The basic properties of sound are pitch, loudness and tone.

After going through this module, you are expected to:

- Investigate properties and characteristics of sound.

**S4FE-IIIh-5**



## What's In

Help Mally sort the objects into its corresponding sound produced. Write your answer to its corresponding box below.

airplane	buzzing bee	fireworks	thunder
snake	bird	drum	
alarm clock	church bell		

Produced Loud Sound

Produced Soft Sound



## What's New

**Lets do it!!!**

Activity

Direction:

1. Play 2 types of music- one with a **soft one preferably a mellow music** and **one with a very loud tone similar to ones played in concert**. Maintain the volume as you play the song.

**Question:**

Which of the music do you prefer to hear? Why?

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## **What is it**

The loudness of sound refers to how strong the sound seems to us when it reaches our ears. Loud sounds also means intense sound. Sound loses intensity as it spreads outwards in all directions from the source. So the loudness of a sound decreases between a person and the source of the sound. The softness and / or loudness of sound is called **volume**. If you control the volume of energy source of the sound, you can have varying degree of **loudness**.

The two most important properties of sound are amplitude and frequency because **amplitude determines the loudness of sound** and **frequency determines its pitch**. The loudness and pitch affect the quality of sound.

When you shouted, part of the sound waves you created hit an opposing hard wall or surface. Part of the sound was reflected by the wall is why you heard the same sound again. The sound that is reflected or returned sound is what we call an **echo**. We cannot hear an echo if we are too close to a big hard wall. The sound we made bounces back very fast and it mixes with the original sound. We cannot tell which the original sound is and which the echo is.



## What's More

**Directions:** Complete the sentence by supplying the missing word. Find your answer in the word bank below.

loudness	volume	amplitude
pitch	soft	loud

1. The softness or loudness of sound is called \_\_\_\_\_.
2. The \_\_\_\_\_ determines the loudness of sound.
3. The frequency determines the \_\_\_\_\_ of the sound.
4. \_\_\_\_\_ will vary if the source of sound is controlled.
5. An intense sound from an ambulance produces \_\_\_\_\_ sound.



## What I Have Learned

**Directions:** Write TRUE if the statement is correct. If FALSE, replace the underlined word with the correct word or phrase.

- \_\_\_\_\_ 1. Sound waves that bounces back is called echo.
- \_\_\_\_\_ 2. The softness and loudness of sound is called vibration.
- \_\_\_\_\_ 3. When any object vibrates, it causes movement in the air particles.
- \_\_\_\_\_ 4. Some sounds may be too loud while others may be too soft.
- \_\_\_\_\_ 5. The sound wave that bounces back is called vibration.



## What I Can Do

**Directions:** Reflect on what you have learned and answer the questions.

1. Two of your friends made a sound. One strongly tapped the table while the other beats the bass drum. Which of the two sounds is louder? Why?

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## Assessment

**Multiple Choice:** Read and analyze each item carefully. Encircle the letter of the correct answer.

1. Hissing of a snake produces a \_\_\_\_\_ sound

- |         |            |
|---------|------------|
| A. soft | C. intense |
| B. loud | D. squeaky |

2. Shouting inside the cave will produce a bouncing sound called \_\_\_\_\_

- |          |              |
|----------|--------------|
| A. pitch | C. volume    |
| B. echo  | D. vibration |

3. Which of the following animals will produce the loudest sound?

- A. dog
- B. elephant
- C. cat
- D. rooster

4. Sound of the Music box is softer than the \_\_\_\_\_

- A. Church bell
- B. chirping of the birds
- C. door bell
- D. wind chime

5. Which words describe pitch?

- A. fast and slow
- B. loud and quiet
- C. high and low
- D. big and small

6. How will you make the sound of the radio reach to your neighbor's house?

- A. increase the volume
- B. decrease the volume
- C. play rock music
- D. use big speakers

7. Which of the following produces soft sound?

- A. drum set
- B. whistle
- C. jet
- D. buzzing bee

8. Which of the following produces loudest sound ?

- A. helicopter
- B. piano
- C. telephone
- D. cry of a baby

9. Why does the sound become weaker or fainter as it moves away from the observer?

- A. The sound is lowered by the operator.
- B. The sound spreads to cover a smaller area.

- C. The sound spreads to cover larger area.
- D. The sound is already absorbed by the environment.

10. Which is TRUE about the characteristics of sound ?

- A. Sound could be either be soft or loud.
- B. The loudness of the sound decreases as it moves nearer to the observer.
- C. Sound is not heard when it is exactly on the same spot as the listener.
- D. The loudness of sound increases as it moves away from the observer.



## Additional Activities

**Direction:** List down at least five materials that can produce loud sound and five materials that can produce soft sounds.

## ***Answer Key***

### **What's in**

#### Produced Loud Sound

Airplane  
Fireworks  
Thunder  
Drum  
Church bell

#### Produced Soft Sound

Buzzing bee  
Snake  
Bird  
Alarm clock

### **WHAT' S NEW**

Answers may vary

### **WHAT I HAVE LEARNED**

1. true
2. false (volume)
3. true
4. true
5. false (echo)

### **WHAT'S MORE**

1. volume
2. amplitude
3. pitch
4. loudness
5. loud

### **WHAT I CAN DO?**

Answers may vary

### **ASSESSMENT**

- |      |        |
|------|--------|
| 1. a | 6. a   |
| 2.b  | 7. d   |
| 3.b  | 8.a    |
| 4. a | 9. c   |
| 5.c  | 10 . a |

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[https://www.help-teaching.com/questions/Light\\_and\\_Optics/Grade\\_4](https://www.help-teaching.com/questions/Light_and_Optics/Grade_4)

## Region IX: Zamboanga Peninsula Hymn – Our Eden Land

Here the trees and flowers bloom  
Here the breezes gently Blow,  
Here the birds sing Merrily,  
The liberty forever Stays,

Gallant men And Ladies fair  
Linger with love and care  
Golden beams of sunrise and sunset  
Are visions you'll never forget  
Oh! That's Region IX

Cebuanos, Ilocanos, Subanonos, Boholanos, Ilongos,  
All of them are proud and true  
Region IX our Eden Land

Here the Badjaos roam the seas  
Here the Samals live in peace  
Here the Tausogs thrive so free  
With the Yakans in unity

Hardworking people Abound,  
Every valleys and Dale  
Zamboanguenos, Tagalogs, Bicolanos,

Region IX  
Our..  
Eden...  
Land...

### My Final Farewell

Farewell, dear Fatherland, clime of the sun caress'd  
Pearl of the Orient seas, our Eden lost!  
Gladly now I go to give thee this faded life's best,  
And were it brighter, fresher, or more blest  
Still would I give it thee, nor count the cost.

On the field of battle, 'mid the frenzy of fight,  
Others have given their lives, without doubt or heed;  
The place matters not-cypress or laurel or lily white,  
Scaffold or open plain, combat or martyrdom's plight,  
T is ever the same, to serve our home and country's need.

I die just when I see the dawn break,  
Through the gloom of night, to herald the day;  
And if color is lacking my blood thou shalt take,  
Pour'd out at need for thy dear sake  
To dye with its crimson the waking ray.

My dreams, when life first opened to me,  
My dreams, when the hopes of youth beat high,  
Were to see thy lov'd face, O gem of the Orient sea  
From gloom and grief, from care and sorrow free;  
No blush on thy brow, no tear in thine eye.

Dream of my life, my living and burning desire,  
All hail ! cries the soul that is now to take flight;  
All hail ! And sweet it is for thee to expire ;  
To die for thy sake, that thou mayst aspire;  
And sleep in thy bosom eternity's long night.

If over my grave some day thou seest grow,  
In the grassy sod, a humble flower,  
Draw it to thy lips and kiss my soul so,  
While I may feel on my brow in the cold tomb below  
The touch of thy tenderness, thy breath's warm power.

Let the moon beam over me soft and serene,  
Let the dawn shed over me its radiant flashes,  
Let the wind with sad lament over me keen ;  
And if on my cross a bird should be seen,  
Let it trill there its hymn of peace to my ashes.

Let the sun draw the vapors up to the sky,  
And heavenward in purity bear my tardy protest  
Let some kind soul o'er my untimely fate sigh,  
And in the still evening a prayer be lifted on high  
From thee, O my country, that in God I may rest.

Pray for all those that hapless have died,  
For all who have suffered the unmeasur'd pain;  
For our mothers that bitterly their woes have cried,  
For widows and orphans, for captives by torture tried  
And then for thyself that redemption thou mayst gain

And when the dark night wraps the graveyard around  
With only the dead in their vigil to see  
Break not my repose or the mystery profound  
And perchance thou mayst hear a sad hymn resound  
'T is I, O my country, raising a song unto thee.

And even my grave is remembered no more  
Unmark'd by never a cross nor a stone  
Let the plow sweep through it, the spade turn it o'er  
That my ashes may carpet earthly floor,  
Before into nothingness at last they are blown.

Then will oblivion bring to me no care  
As over thy vales and plains I sweep;  
Throbbing and cleansed in thy space and air  
With color and light, with song and lament I fare,  
Ever repeating the faith that I keep.

My Fatherland ador'd, that sadness to my sorrow lends  
Beloved Filipinas, hear now my last good-by!  
I give thee all: parents and kindred and friends  
For I go where no slave before the oppressor bends,  
Where faith can never kill, and God reigns e'er on high!

Farewell to you all, from my soul torn away,  
Friends of my childhood in the home dispossessed!  
Give thanks that I rest from the wearisome day!  
Farewell to thee, too, sweet friend that lightened my way;  
Beloved creatures all, farewell! In death there is rest!

### I Am a Filipino, by Carlos P. Romulo

I am a Filipino inheritor of a glorious past, hostage to the uncertain future. As such I must prove equal to a two-fold task—the task of meeting my responsibility to the past, and the task of performing my obligation to the future.

I sprung from a hardy race, child many generations removed of ancient Malayan pioneers. Across the centuries the memory comes rushing back to me: of brown-skinned men putting out to sea in ships that were as frail as their hearts were stout. Over the sea I see them come, borne upon the billowing wave and the whistling wind, carried upon the mighty swell of hope—hope in the free abundance of new land that was to be their home and their children's forever.

I am a Filipino. In my blood runs the immortal seed of heroes—seed that flowered down the centuries in deeds of courage and defiance. In my veins yet pulses the same hot blood that sent Lapulapu to battle against the first invader of this land, that nerved Lakandula in the combat against the alien foe, that drove Diego Silang and Dagohoy into rebellion against the foreign oppressor.

The seed I bear within me is an immortal seed. It is the mark of my manhood, the symbol of dignity as a human being. Like the seeds that were once buried in the tomb of Tutankhamen many thousand years ago, it shall grow and flower and bear fruit again. It is the insignia of my race, and my generation is but a stage in the unending search of my people for freedom and happiness.

I am a Filipino, child of the marriage of the East and the West. The East, with its languor and mysticism, its passivity and endurance, was my mother, and my sire was the West that came thundering across the seas with the Cross and Sword and the Machine. I am of the East, an eager participant in its spirit, and in its struggles for liberation from the imperialist yoke. But I also know that the East must awake from its centuries sleep, shake off the lethargy that has bound his limbs, and start moving where destiny awaits.

I am a Filipino, and this is my inheritance. What pledge shall I give that I may prove worthy of my inheritance? I shall give the pledge that has come ringing down the corridors of the centuries, and it shall be compounded of the joyous cries of my Malayan forebears when first they saw the contours of this land loom before their eyes, of the battle cries that have resounded in every field of combat from Mactan to Tirad Pass, of the voices of my people when they sing:

"I am a Filipino born to freedom, and I shall not rest until freedom shall have been added unto my inheritance—for myself and my children and my children's children—forever."