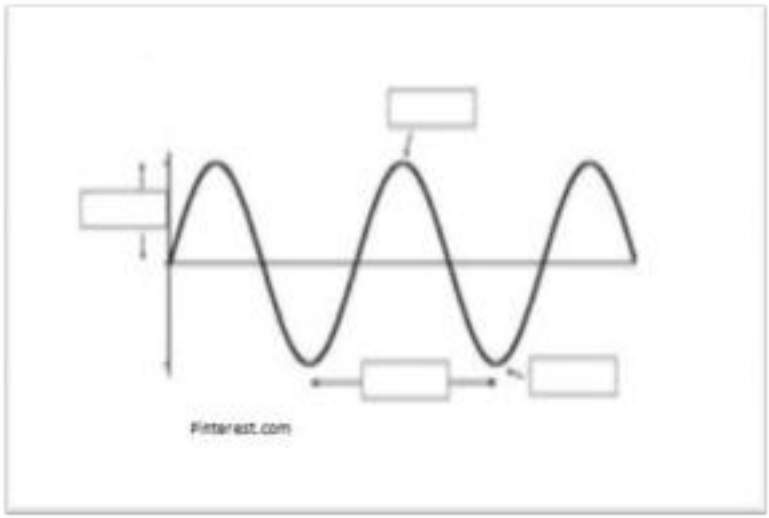
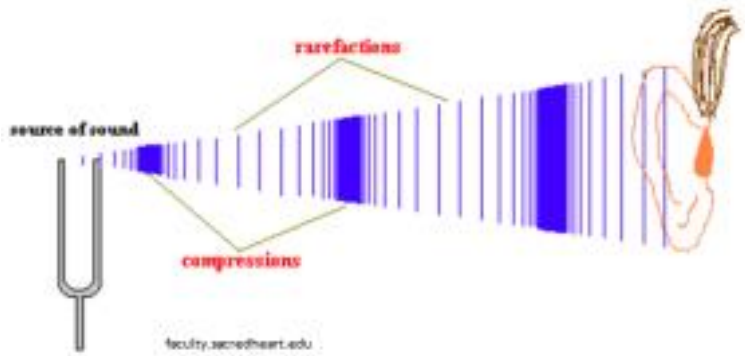
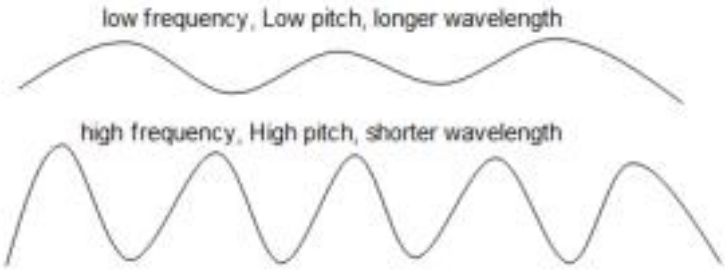
W4	**Learning Area**	SCIENCE	**Grade Level**	7
	Quarter	THIRD	**Date**	**March 6-10, 2023**

I. LESSON TITLE	WAVES AS A CARRIER OF ENERGY	
II. MOST ESSENTIAL LEARNING COMPETENCIES (MELCs)	Infer that waves carry energy S7LT-IIIc-4 Describe the characteristics of sound using the concepts of wavelength, velocity, and amplitude S7LT-IIIc-7	
III. CONTENT/CORE CONTENT Unit 3 Module 2- Waves Around You		
IV. LEARNING PHASES	**Suggested Timeframe**	**Learning Activities**
A. Introduction ***Panimula***	Day 1	Waves around us come in different form; it can be water waves, sound waves and light waves. When you dip you finger in a basin with water, waves are formed. Playing musical instruments such as guitar, sound waves are produced, and when you lit a candle during power interruption at night, light waves brighten the room. A wave is a periodic disturbance that moves away from a source and carries energy with it. Waves that propagate through solid, liquid and gas are mechanical waves and can be classified as transvers and longitudinal waves. Anatomy of a wave ❖ Crest - the highest point of a wave ❖ Trough - the lowest point of a wave ❖ Amplitude- the height of a wave ❖ Frequency- the number of waves passing a given point ❖ Wavelength- the distance between adjacent crest or troughs **Learning Task 1**

		Copy the illustration in a separate sheet of paper and label the parts of a wave. 
B. Development ***Pagpapaunlad***	Day 2	**Sound** is a **longitudinal wave** created by object that vibrates and appeal to our auditory system. Humans just like us can hear sounds with frequency of 20 Hertz to 20 000 Hz. Sounds with frequencies beyond 20 000 Hz are described as **ultrasonic**, while **infrasonic** sounds refer to those with frequencies of lower than 20 Hz. Dogs, cats, and bats are some of the animals that can hear sounds that range from 45 Hz to 120 000 Hz.

IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
		 Fig. 1. Illustration of sound propagation using a tuning fork In given figure above, a tuning fork is used to demonstrate the propagation of sound. The vibration produced by the tuning fork determined the movement of the molecules of air to the right creating compression, the molecules As the prongs of the tuning fork vibrates, the air molecules moved closer to each other creating **compression**. As the air molecules moved apart, thus making up the **rarefaction**. Sound is a **mechanical wave**. It requires a medium to propagate. Without the state of matter, it could not transmit energy. Sound travels faster in solid than liquid or gas. Look at the figure below, the particles of solid are packed tighter together thus allowing fast collision of particles and transmission of sounds.  Nature of Particles in different States of Matter **Learning Task 2** Answer the following Questions. 1. How do we hear sounds? 2. What is an ultrasonic sound? Infrasonic sound? Audible sound? 2.Do sound waves travel fastest in solids? Prove your answer.

C. Engagement ***Pakikipagpalihan***	Day 3	Characteristics of Sound Sound is described by three characteristics: ❖ Pitch ❖ Loudness ❖ Intensity **Pitch** is the highness or lowness of sound. Males have low-pitched voice because their vocal cords are typically massive and longer than females. Can you name some popular Filipino singers with high-pitched voice? Loudness and Intensity are closely related. **Intensity** of sound refers to the amount of energy of a sound wave. It is measured in decibel. **Loudness** on the other hand is subjective. It is a sensation acquired by hearing which depends on how people perceived sounds. Usually, a high intensity sound produces a louder sound, and a low intensity sound creates a softer sound. As the intensity becomes higher, the frequency and energy also become high.  **Figure4.** Relationship among frequency, pitch and wavelength Source: Author **Learning Task 3** Read the questions carefully and write your answer in a separate sheet of paper. 1. Differentiate pitch, intensity and loudness. _____ _____2. How is pitch and wavelength of soundwave related to each other? _____ _____3. How loudness differs with the person? _____ _____4 . As an ambulance approaches and passes you, how can you explain the sound it produced? _____ _____ 5. Suggest ways on how to protect human ear from noise pollution. _____

IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
D. Assimilation ***Paglalapat***	Day 4	Fill in the blanks by identifying the appropriate word for each blank. Write the answers on a separate sheet of paper. A _____ is a periodic disturbance that moves away from a source and carries energy with it. Waves that propagate through solid, liquid and gas are _____ and can be classified as transvers and longitudinal waves. _____ is the highness or lowness of sound. _____ of sound refers to the amount of energy of a sound wave. _____ is a sensation acquired by hearing which depends on how people perceived sounds.
V. ASSESSMENT	Day 5	In your Science Notebook, write the following: 3 – Three things I learned 2- Two things I found interesting 1- One question on my mind

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