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**Sound**

**I Word Focus**

* Sound
* Vibration
* Frequency
* Amplitude
* Pitch
* Noise Pollution
* Audible Sound
* Inaudible Sound
* Stringed Instruments
* Wind Instruments

II KWL

III Concept Map

**IV Q and A**

1. **Define the terms:**

**Frequency**: The number of vibrations (or cycles) that occur per second in a sound wave. It is measured in **Hertz (Hz)**. High frequency = high-pitched sound; low frequency = low-pitched sound.

**Pitch**: The perceived highness or lowness of a sound, determined by its frequency. High-frequency sounds have a high pitch, and low-frequency sounds have a low pitch.

1. **Compare the relationship between amplitude and loudness?**

**Amplitude** refers to the height of the sound wave. The larger the amplitude, the louder the sound. **Loudness** is the perception of the sound’s intensity, which increases with amplitude. More vibration means more air molecules are moved, which creates a louder sound.

1. **What is noise pollution, and what measures can be taken to reduce it?**

**Noise pollution** is the presence of unwanted or harmful sounds in the environment that disrupt normal living conditions. It can cause hearing loss, stress, and disturbed sleep. Measures to reduce noise pollution include:

* 1. Using soundproofing materials in buildings.
  2. Creating noise barriers along highways.
  3. Reducing the use of loud machinery.
  4. Implementing stricter regulations on noise in public spaces.
  5. Using quieter machines and vehicles.
  6. Using ear protection in noisy environments.
  7. Planting trees to absorb sound.

1. Differentiate audible and inaudible sounds

| **Aspect** | **Audible Sound** | **Inaudible Sound** |
| --- | --- | --- |
| **Definition** | Sound within the frequency range of human hearing. | Sound outside the frequency range of human hearing. |
| **Frequency Range** | 20 Hz to 20,000 Hz. | Below 20 Hz (infrasonic) or above 20,000 Hz (ultrasonic). |
| **Examples** | Music, speech, everyday noises. | Ultrasound, infrasound, certain animal sounds. |
| **Perception** | Can be heard by the human ear. | Cannot be heard by the human ear. |
| **Uses** | Communication, entertainment, alarms. | Medical imaging (ultrasound), earthquake detection (infrasonic). |
| **Effect on Humans** | Heard and perceived as sound. | Felt as vibrations or not detected at all by the human ear. |

1. Explain briefly how we can hear with our ears.

Either draw/ paste the picture of the ear and label it’s parts.

Refer (Pg 177)