



THE QUALITIES OF SOUND


Clave A
Unit 1






The qualities of sound – Contents


- Sound, noise and silence
 - Sound
 - Noise
 - Silence
- The qualities of sound and their graphic representation
 - Pitch
 - Duration
 - Loudness
 - Timbre





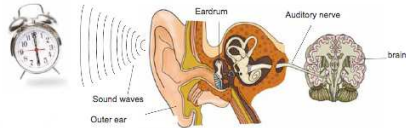
1. Sound, noise and silence

- To carry out their works
 - A writer uses words,
 - A painter uses colours
 - what does a musician use?**



1.1. Sound

- Sound is the feeling we experience when we **hear the waves** created by the **vibration** of a resonant body.

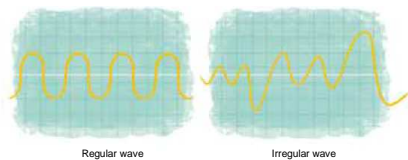


1.1. Sound

- Sound is created when a body or object **vibrates**.
- Vibration is transmitted in the form of **sound waves**.
- Sonic waves reach our ears through different **means**: air, water, wood, etc.
- Inside our **ear** is the **eardrum**, which vibrates when the sonic waves reach it.
- Eardrum vibrations are transformed into **information** that reaches the **brain**.
- When the information reaches the brain, **we experience sound**.


1.2. Noise

- Noise is a type of sound which creates an **irregular wave**.




1.2. Noise

- Although noise has traditionally been described as an unpleasant sound, there are **pleasant noises** and **unpleasant noises**:
 - Birds singing
 - Plane over a city
 - Conversation
 - Motorcycles without a silencer
 - Murmur of tree leaves
 - Drums in a parade
 - Interior of a discotheque
 - Traffic





1.2. Noise

- An excess of noise causes **noise pollution**, which has become a problem in our society.
- Noise pollution has some effects on our **health**:
 - Stress, irritability and insomnia
 - Digestive and heart diseases
 - Hearing and communication difficulties




1.2. Noise

- Noise level is measured in **decibels (dB)**. An average of 65 dB a day is the maximum noise recommended by the World Health Organisation (WHO).
- The **sound level meter** is the device used to measure sound level.





1.3. Silence

- Silence is what is perceived as an **absence of sound** or noise.
- The combined use of sound and silence is the basis of music creativity.
- **John Cage** was one of the first composers to experiment with silence as the basis of his creative work.




1.3. Silence

- On what occasions have you experienced silence?
- Was it complete silence?



2. The qualities of sound and their graphic representation

- What makes the following sounds different?:
 - A baby's cry and an adult man's voice
 - A whisper and a scream
 - Sea waves and the slam of a door
 - A whistle and a guitar
- The differences we perceive are due to the qualities of sound: **pitch, loudness, duration and timbre.**



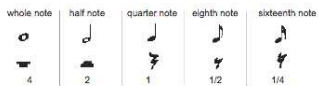
2.1. Pitch

- Pitch is the sound quality that makes it possible to differentiate between *lower* and *higher* sounds.
- Pitch can be represented by **notes** in a **pentagram**.



2.2. Duration

- Duration is the sound quality that makes it possible to differentiate between *longer* and *shorter* sounds.
- Sound and silence duration is represented by **note values** and **rests**.



2.3. Loudness

- Loudness is the sound quality that makes it possible to differentiate between *loud* and *soft* sounds.
- Sound loudness is represented by **dynamics**.



2.4. Timbre

- Timbre is the quality which indicates *who* or *what* is making the sound and gives it its colour.
- Timbre is represented by instructions which are specific to each type of instrument.



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The qualities of sound

- What sounds would you use for this scene?
- Describe their **pitch**, **loudness**, **duration** and **timbre**.



Scene from Alfred Hitchcock's film *Psycho*

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