

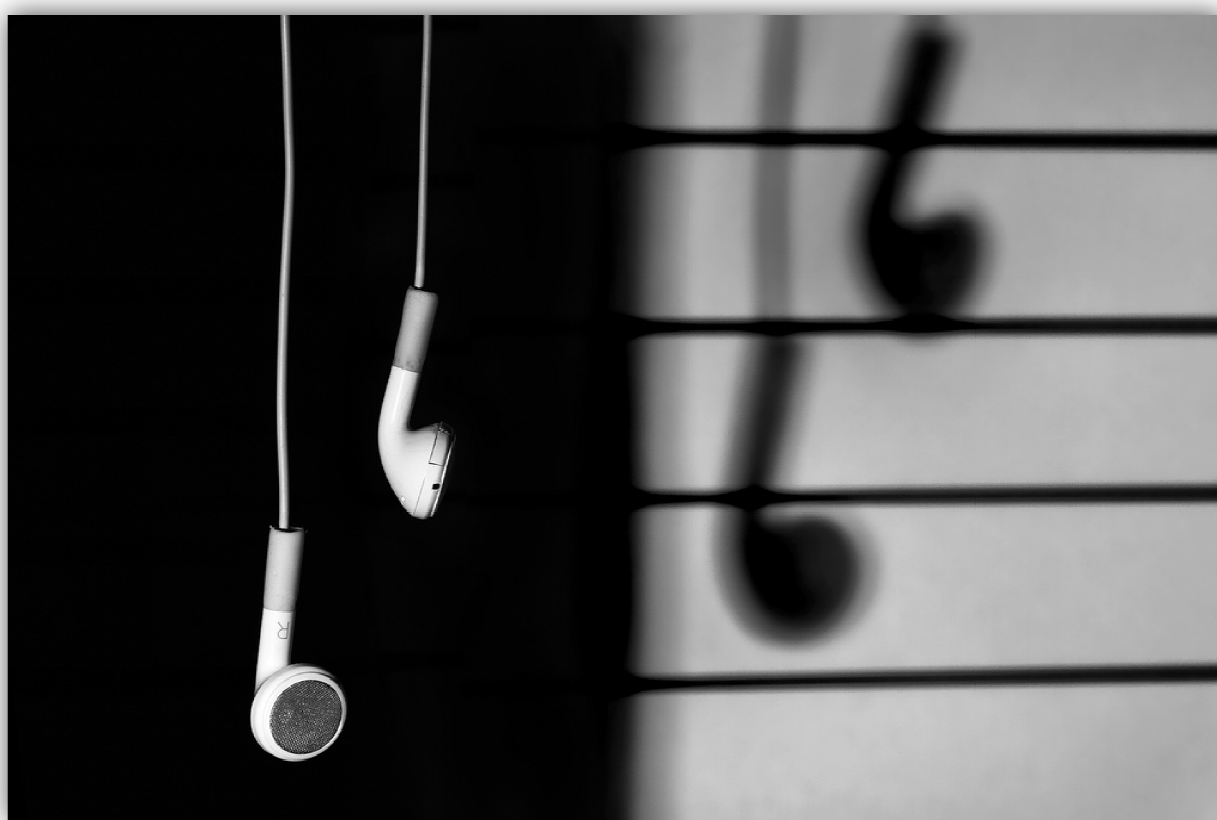
LISTEN, PLAY, CREATE - I (LOMCE)



ESTER LÓPEZ CARRICHES
JORGE BENAYAS AYUSO

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(LOMCE)



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JORGE BENAYAS AYUSO

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Autores: Ester López Carriches, Jorge Benayas Ayuso.

Maquetación: Patricia Penavella Soto, Jorge Benayas Ayuso.

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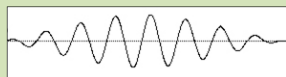
Avda. las jacarnadas, 2, loft 327, 46100 Burjassot-Valencia

Tel: 963 768 542 – 960 624 309

E-Mail: educaliaeditorial@e-ducalia.com

<http://www.e-ducalia.com/material-escolar-colegios-ies.php>

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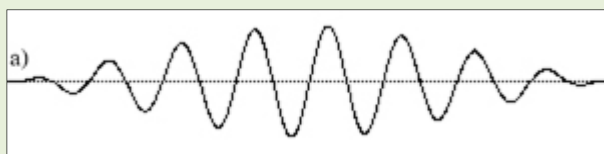


*The activities with listening/videos, the Internet resources and the digital activities in this book
can be found at the blog: <http://listenplaycreate.blogspot.com.es/>,
classified by lessons.*

LESSON 1.- WHAT IS SOUND?

1.- THE SOUND. PRODUCTION AND TRANSMISSION.

All sounds are **vibrations**. Those vibrations propagate as **waves** through a **medium** such as solids, liquids and gases. Sounds cannot propagate through the **vacuum** because the waves don't have a medium to pass through.



The **speed of sound** depends on the medium. For example, the speed of sound through air is around 340 meters per second (m/s). It is faster through water (more than 1,000 m/s) and the fastest through solids (more than 5,000 m/s through steel).

Sound and noise are physically the same. Noise is a sound that we don't like because it is unpleasant or because it disturbs us. That depends on our opinion.

Activity 1.- *Work in groups. Pick up one of the instruments below and explain to the rest of the class if you can see or/and feel with your fingers the vibration when you:*

- Pluck the strings of a guitar.
- Hit a cymbal.
- Hit a tambourine.
- Play a xylophone.

Activity 2.- *What happens when you stop the vibration of the instruments above?*

Activity 3.- *Where is sound propagating through when...*

- ...you hear while diving?
- ...you hear your neighbour through the wall?
- ...you feel and hear the tuning fork when it vibrates against your elbow?
- ...the Indians in the films lean their ears on the floor to hear the enemies coming?
- ...you can hear your friend with two plastic glasses joined by a tense string?
- ...you watch TV?

Activity 4.- *What is the speed of sound through air?*

Activity 5.- What is the medium through which sound propagates the fastest?

Activity 6.- Where is there no sound and why?

Activity 7.- Classify in noises or sounds according to your opinion:

A dog barking - The waves at the beach - The wind moving the leaves of a tree
A bird singing - An alarm - The school bell.

Add more noises or sounds and compare them with your partner.

Noises	Sounds

Activity 8.- We are always hearing something. It is impossible to be in total silence although we think we are. Check it like this:

*Be quiet. Close your eyes for a minute and focus on the sounds or noises that you can hear.
List everything that you heard. Compare with the things that your partners heard.*

Activity 9.- Listen to this excerpt and answer:

Do you think this piece consists of sounds or noises?

Why?

Activity 10.- Are these statements true or false?

- a) Sound is a vibration that propagates as a wave through solids, liquids and gases.
- b) The speed of sound through water is around 340 m/s.
- c) Noise is a pleasant sound.
- d) There are sounds everywhere in the Universe.

2.- PROPERTIES OF SOUND

The four properties or characteristics of sound are:

pitch, duration, timbre (also called tone colour) and intensity.

A) The pitch refers to **high-pitched or low-pitched sounds**. It depends on the **frequency**. The frequency is the number of vibrations per second. Its unit is the hertz (Hz). A high sound has a high frequency, a lot of hertz. A low sound has a low frequency, few hertz.

Human beings can't hear all frequencies. We can't hear frequencies lower than 20 vibrations per second (20 Hz). We name those sounds **infrasounds**. Some animals such as dolphins and whales can hear them. We can't hear frequencies higher than 20,000 vibrations per second (20,000 Hz). We call them **ultrasounds**. Some animals such as dogs and bats can hear them.

The **tuning fork** is made of metal. When it vibrates it always produces 440 vibrations per second (**440 Hz**). We call that sound **la or A**. It is like a compass in music. The instruments can be tuned from that note and it is useful for the choirs, too.

As a general rule, small instruments have high-pitched sounds and big instruments have low-pitched sounds. For example, a violin is higher than a bass because it is smaller.

(*Remember: **Large-Low**)

Women have higher voices than men because their vocal cords are smaller.



Activity 11.- Complete the sentences:

The pitch refers to _____. It depends on the _____.

Activity 12.-What is frequency and what is hertz?

Activity 13.-Has a high-pitched sound a high frequency?

Has a low-pitched sound few hertz?

Activity 14.-Where do you find the low-pitched sound in a keyboard or a xylophone: to your left or to your right?

Which are the high-pitched keys, the short keys or the long keys?

Activity 15.- How many holes do you have to cover to get the lowest pitch with the recorder?

Activity 16.- Do women have a higher or a lower voice than men?

Why?

Activity 17. Classify these sounds into low or high and add another example of every kind.

School bell - A door slam - Motor - Siren - Bird - Thunder

Low	High

Activity 18. How do we name the sounds higher than 20,000 Hz?

Which animals can hear them?

How do we name the sounds lower than 20 Hz?

Which animals can hear them?

B) The duration refers to **long and short** sounds.

C) The timbre or tone colour allows the listener to identify the instrument, the voice or object that is producing the sound.

If a piano and a violin play the same pitch, with the same volume and the same duration, we differentiate them thanks to their timbre. It depends on the material that vibrates and the specific components of the sound waves.

D) The intensity or volume refers to **loud and soft**. It depends on the **amplitude** of the sound wave.

Don't mix up pitch and intensity: a sound can be high and loud or high and soft, low and loud or low and soft.

We live surrounded by sounds of different volumes. Think of examples in your daily life that are soft or very soft, intermediate, loud and very loud:

- Soft and very soft:
- Intermediate:
- Loud:
- Very loud:

We measure the intensity with **decibels (dB)**: These are the decibels of some daily life sounds:

Sound	Decibels	Other examples
<i>Sounds in the countryside</i>	10	
<i>Quiet library</i>	20-30	
<i>Conversation among few people</i>	40	
<i>Conversation among a lot of people</i>	60	
<i>Vacuum cleaner</i>	70	
<i>Train</i>	80	
<i>Traffic</i>	90	
<i>Hand drill</i>	100	
<i>Loud rock concert</i>	110	
<i>Plane engine</i>	120	
<i>Pain begins</i>	130	
<i>Permanent damage</i>	140	

Activity 19.- Write in the right cell these sounds (you can guess or find it in the Internet):

Disco - Phone ringing - Shot - Motorcycle - Light rain
Alarm clock - Leaves moving - Explosion - Television

Activity 20.- Listen and answer: Is the sound of a woodblock shorter or longer than a cymbal?

Activity 21.- Classify the following sounds in the chart: A whistle, a cat purring, a door slamming, an alarm.
Add another four. Share with your partner.

<i>Low and soft</i>	<i>Low and loud</i>	<i>High and soft</i>	<i>High and loud</i>

Activity 22.- How can we distinguish two sounds of the same pitch, duration and volume?

3.- THE INTENSITY IN MUSIC: DYNAMICS

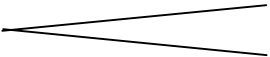
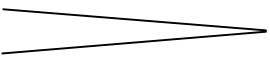
The intensity in music expresses different emotions, because the effect of music is different depending on its volume. It can even define styles or types of songs: Heavy metal has to be loud, but a lullaby has to be soft.

The composers show in the scores the volume or intensity of every passage with Italian words or their abbreviations. This is called **dynamics**:

ABBREVIATION	ITALIAN WORD	MEANING
<i>pp</i>	<i>pianissimo.</i>	VERY SOFT
<i>p</i>	<i>piano</i>	SOFT
<i>mf</i>	<i>mezzo forte</i>	INTERMEDIATE
<i>f</i>	<i>forte</i>	LOUD
<i>ff</i>	<i>fortissimo</i>	VERY LOUD

Gradual changes of intensity

Sometimes a passage gets gradually softer or gradually louder. There are two ways of expressing it:

ITALIAN WORD AND ABBREVIATION	HAIRPIN	MEANING
<i>Crescendo o cresc.</i>		GRADUALLY GETTING LOUDER
<i>Diminuendo o dim.</i>		GRADUALLY GETTING SOFTER

Activity 23.- Write the dynamics in order, from the softest to the loudest:

mf - ff - f- p -pp

Activity 24.- Which are the two ways of expressing that the intensity gets louder and softer?

Activity 25.-Identify the dynamics and fill in the chart below:

The musical score consists of three systems of piano music. The first system shows a treble and bass staff with a melody in the treble and accompaniment in the bass. Dynamics include *mf*. The second system continues the piece with similar textures. The third system begins with a *p* (piano) dynamic, followed by a *cresc.* (crescendo) marking, and ends with a *f* (forte) dynamic. Fingerings (1-5) are indicated throughout the score.

Bar	Dynamics	Meaning
2		
3		
7		
7		
9		

Activity 26.- Listen to the piece "In the hall of the mountain king" , from Peer Gynt by Edvard Grieg. The same passage is repeated several times, but the volume changes. How?

What is the effect that it produces?

Activity 27.- Listen to these two versions of the same song: Mr Sandman, by The Chordettes and by Blind Guardian.

How does the intensity change?

How does the song change because of that?

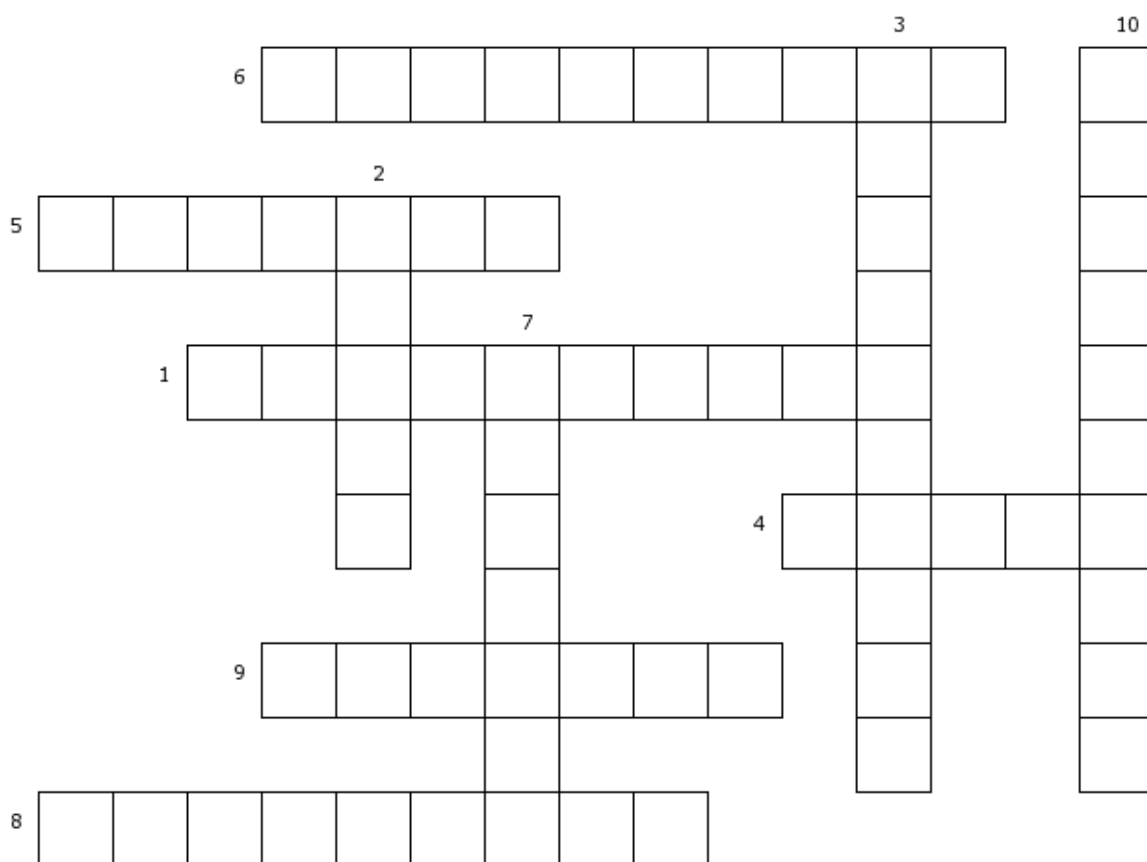
Activity 28.- Work with your partner. Solve the crossword:

ACROSS

- 6. Very loud.
- 5. Sign to indicate *crescendo* or *diminuendo*.
- 1. Very soft.
- 4. Loud.
- 9. Unit of intensity.
- 8. Gradually becoming louder.

DOWN

- 2. Soft.
- 7. Dynamics are written in this language.
- 3. Moderate.
- 10. Gradually becoming softer.



Activity 29.- Work with your partner. Choose between *high/low, long/short and loud/soft* and tell your partner. He/she has to play it with the object or instrument that he/she prefers.

Example: Play a high, long and loud sound. Then your partner plays a cymbal.

The rest of the class has to say if the sound is right or not.

Activity 30.- Fill in the gaps according to the sound that your teacher or partner makes.

	<i>Pitch</i>		<i>Duration</i>		<i>Intensity or volume</i>		<i>Timbre or tone colour</i>
	High	Low	Long	Short	Loud	Soft	What is it?
1							
2							
3							
4							

Activity 31.- Listen to these musical portraits of animals form "*The carnival of the animals*" by Camille Saint-Saëns and fill in the gaps.

	<i>1ª Cocks and hens</i>	<i>2ª The elephant</i>
Pitch: Is it high or low?		
Duration: Does it have long or short sounds?		
Intensity: Is it soft or loud?		
Timbre or tone colour: Which are the instruments?		

Activity 34.- Play the melody from the Ode to Joy by Beethoven, changing the sound properties:

1st) Low and then high

2nd) Soft and then loud

3rd) Long sounds and then short sounds

4th) Recorders and then xylophones



Low melody:



Activity 35.- Contest of versions.



Work in pairs. After learning this rhythm, record in **Audacity** your own performance. We will listen to all your versions and we will vote for the one that we like best.

You can play...

✓ *Different pitches:*

The high sounds are written on the line and the low ones under the line. Respecting that, you can choose the notes or sounds that you want.

✓ *Different durations:*

The long sounds are crotchets and the short ones are quavers. Keeping that relationship you can play them as long or short as you want.

✓ *Different intensities or volumes:*

You can play as softly or loudly as you prefer.

✓ *Different tone colours or timbres*

You can play it with your body, objects, your voice, instruments...

Activity 36.- Look for the words that complete the statements in this word search puzzle:

- A) The sound is a _____
- B) The sound vibrations travel as a _____
- C) The sound wave travel through the air, solids and the _____
- D) We finally hear in the _____
- E) The sound can't exist in the _____
- F) We call a sound that disturb us a _____
- G) The four properties of the sound are:

V	A	C	U	U	M	Z	U	T	Y
D	I	R	S	O	H	C	T	I	P
U	T	B	I	L	E	H	J	M	O
R	A	C	R	M	W	D	C	B	N
A	D	W	O	A	A	L	V	R	I
T	F	X	V	C	T	N	K	E	A
I	G	E	S	M	E	I	F	J	R
O	H	Q	D	H	R	H	O	U	B
N	O	I	S	E	N	D	Y	N	I
K	M	U	Z	D	R	A	V	C	E
E	P	X	E	S	G	I	N	O	L
L	Y	T	I	S	N	E	T	N	I

Activity 37.- Fill in the gaps:

			Duration				
					Soft		

Activity 38.- Fill in the summary of the lesson:

1. THE SOUND. PRODUCTION AND TRANSMISSION.

All sounds are _____. Those vibrations propagate as _____ through a **medium** such as _____, liquids and gases. Sounds cannot propagate through the _____ because the waves don't have a medium to pass through.

The _____ of sound depends on the medium. The speed of sound _____ air is around 340 meters per second (m/s). It is _____ through water (more than 1,000 m/s) and _____ through solids (more than _____ m/s through steel).

Sound and _____ are physically the same. Noise is a sound that we don't like because it is _____ or because it disturbs us. That depends on our _____.

2. PROPERTIES OF SOUND

The four properties or _____ of sound are:
_____, **duration**, _____ (also called **tone colour**) and _____.

A) The pitch refers to _____. It depends on the _____. The frequency is the number of vibrations per _____. Its unit is the **hertz** (____). A _____ sound has a high **frequency**. A low sound has a _____.

Human beings can't hear frequencies lower than _____ vibrations per second (20 Hz): _____.

We can't hear frequencies _____ than 20,000 vibrations per second (20,000 Hz): **ultrasounds**.

The **tuning fork** is made of _____. When it vibrates it always produces _____ vibrations per second (**440 Hz**). We call that sound _____ or **A**.

B) The duration refers to _____ sounds.

C) The timbre or _____ allows the listener to _____ what is producing the sound.

D) The intensity or _____ refers to _____. It depends on the _____ of the sound wave. We measure the intensity with _____ (**dB**):

3. THE INTENSITY IN MUSIC: _____.

The intensity in music expresses different _____.

The composers show in the scores the volume or intensity of every passage with _____ or their abbreviations. This is called **dynamics**:

✓ *pp* - *pianissimo* - _____

✓ _____ - *piano* - _____

✓ *mf* - _____ - intermediate

✓ _____ - *forte* - _____

✓ *ff* - _____ - very loud

✓ *Cresc o* _____: gradually getting _____

✓ *Dim o* _____: _____ getting softer

KEY VOCABULARY

(to) listen	/ˈlɪsn/	duration	/dʒuˈreɪʃn/
(to) play	/pleɪ/	long	/lɒŋ/
(to) create	/kriˈeɪt/	short	/ʃɔ:t/
sound	/saʊnd/	timbre	/ˈtæmbə(r)/
production	/prəˈdʌkʃn/	tone colour	/təʊn/ /ˈklɒlə(r)/
transmission	/trænsˈmɪʃn/	(to) identify	/aɪˈdentɪfaɪ/
vibration	/vaɪˈbreɪʃn/	instrument	/ˈɪnstɾəmənt/
wave	/weɪv/	voice	/vɔɪs/
medium	/ˈmi:diəm/	choir	/ˈkwaɪə(r)/
(to) propagate	/ˈprɒpəgeɪt/	piano	/piˈænəʊ/
vacuum	/ˈvækjuəm/	violin	/ˌvaɪəˈlɪn/
speed	/spi:d/	recorder	/rɪˈkɔ:də(r)/
through	/θru:/	xylophone	/ˈzaɪləfəʊn/
noise	/nɔɪz/		
unpleasant	/ʌnˈpleznt/	intensity	/ɪnˈtensəti/
(to) disturb	/dɪˈstɜ:b/	volume	/ˈvɒlju:m/
hearing	/ˈhɪərɪŋ/	dynamics	/daɪˈnæmɪks/
silence	/ˈsaɪləns/	loud	/laʊd/
excerpt	/ˈeksɜ:pt/	intermediate	/ˌɪntəˈmi:diət/
composer	/kəmˈpəʊzə(r)/	moderate	/ˈmɒdərət/
notation	/nəʊˈteɪʃn/	soft	/sɒft/
(to) perform	/pəˈfɔ:m/	gradual	/ˈgrædʒuəl/
performance	/pəˈfɔ:məns/	change	/tʃeɪndʒ/
(to) record	/ˈrekɔ:d/	hairpin	/ˈheəpɪn/
property	/ˈprɒpəti/	amplitude	/ˈæmplɪtju:d/
		(to) measure	/ˈmeʒə(r)/
		decibel	/ˈdesɪbel/
pitch	/pɪtʃ/	<i>pianissimo</i>	/ˌpiəˈnɪsɪməʊ/
high	/haɪ/	<i>piano</i>	/piˈænəʊ/
low	/ləʊ/	<i>mezzo forte</i>	/ˌmetʒəʊˈfɔ:teɪ/
melody	/ˈmelədi/	<i>forte</i>	/ˈfɔ:teɪ/
frequency	/ˈfri:kwənsi/	<i>fortissimo</i>	/fɔ:ˈtɪsɪməʊ/
hertz	/hɜ:ts/	<i>crescendo</i>	/krəˈʃendəʊ/
infrasound	/ˈɪnfɾəsəʊnd/	<i>diminuendo</i>	/dɪˌmɪnjuˈendəʊ/
ultrasound	/ˈʌltrəsəʊnd/		
tuning fork	/tju:n ɪŋ/ /fɔ:k/		
(to) tune	/tju:n/		