

# A WORLD OF SOUNDS **A**

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I.S.B.N.: 978-84-8025-396-3  
Depósito Legal: V-1454-2015

Printing:  
Artes Gráficas Alcoy, SLU

Published by:  
Tabarca Llibres, S.L.  
Av. Ausiàs March, 184  
Tel.: 96 318 60 07  
[www.tabarcallibres.com](http://www.tabarcallibres.com)  
46026 VALÈNCIA

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# A WORLD OF SOUNDS A

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<b>UNIT 1</b> <b>SOUND.</b> A world full of sounds	Sound The auditory system The auditory function in a few animals The use of sound in musical compositions <b>Curiously enough</b> Activities 7 videos, 17 listening exercises	<b>2.1. Rhythm creation</b> Semibreves, breves, crotchets and rests 4 listening exercises <b>2.2. Rhythmic practise</b> Song: <i>Introito</i> Activities
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<p>2.3. Melody practise Left hand Right hand</p> <p>2.4. Melody creation Composition and improvisation with the left hand and both hands</p> <p>Activities</p>	<p><i>Branle de Champagne</i> (left hand) <i>When the Saints Go Marching In</i> (sing and play) <i>Prelude</i>, Bach (both hands) <i>Scarborough Fair</i> (for 2 voices)</p> <p>2 videos</p>	Choreography I Hip-hop
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<p>2.3. Melody practise Practise high E</p> <p>2.4. Melody creation Composition and improvisation with high E</p> <p>Activities</p>	<p><i>Let It Be</i> (for 2 voices) <i>I'm a Believer</i> <i>Déjame</i> (sing and play) Orff Instrument</p> <p>3 videos</p>	Choreography III Comeb. K.
<p>2.3. Melody practise Strengthen your high E and F#</p> <p>2.4. Melody creation Composition and improvisation with high E and F#</p> <p>Activities</p>	<p><i>Pirates of the Caribbean</i> <i>El ciclo de la vida</i> (sing and play) <i>Romeo and Juliet</i> (for 2 voices)</p> <p>3 videos</p>	
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<p>2.3. Melody practise Strengthen your sharps and flats (Bb, F# and G#)</p> <p>2.4. Melody creation Composition and improvisation with various sharps and flats (Bb, G# and F#)</p> <p>Activities</p>	<p><i>Star Wars</i> (triplets) <i>Cuéntame</i> (sing and play) Orff Instrument <i>Yesterday</i> (for 2 voices)</p> <p>3 videos</p>	
<p>2.3. Melody practise Practise high F</p> <p>2.4. Melody creation Composition and improvisation with high F</p>	<p><i>Es la noche del amor</i> (sing and play) <i>Les avions en papier</i> (for 2 voices) <i>It's a Small World</i></p> <p>3 videos</p>	Choreography V Compilation

# 1. Sound

*A world full of sounds*



## BLOCK 1 MUSICAL AND CULTURAL CONTEXTS. LISTENING

### 1.1. SOUND



In your daily life you are surrounded by sound, wherever you go. You hear some of these sounds all the time – at home, in class, in the street. Others are closer to you, like your breathing or your heartbeat. Whatever it is, the world of sound accompanies you every day.

**Sound** is a sensation in our brains produced through the ears which pick up vibrations of sound-producing bodies. Whenever there is a sound, there is an object that vibrates in some way.



Therefore, sound is a physical phenomenon consisting of a sound wave transmitted through the air, water or other bodies.

Sound travels at approximately **343 metres per second** through **air** (1,235 kph)

Sound travels at approximately **1,500 m/s** second through **water** (5,400 kph)

Sound travels at approximately **5,100 m/s** second through **steel** (18,360 kph)

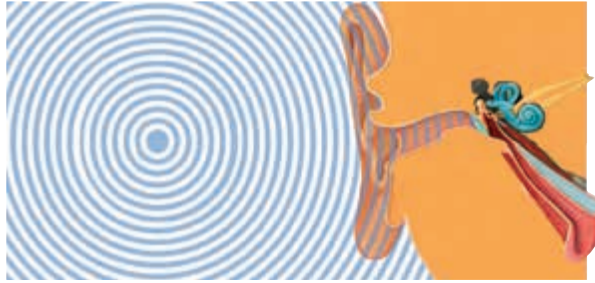
The speed of sound depends on the medium through which the sound waves travel. The higher the density of the medium, the greater the speed of the sound waves.

Research into all phenomena related to sound is part of the science of **acoustics** (from the Greek, “akouo”, meaning “to hear”) and one important part of this is the audio and the noise control industries: in cinemas, discotheques, auditoriums, using soundproofing materials in construction.



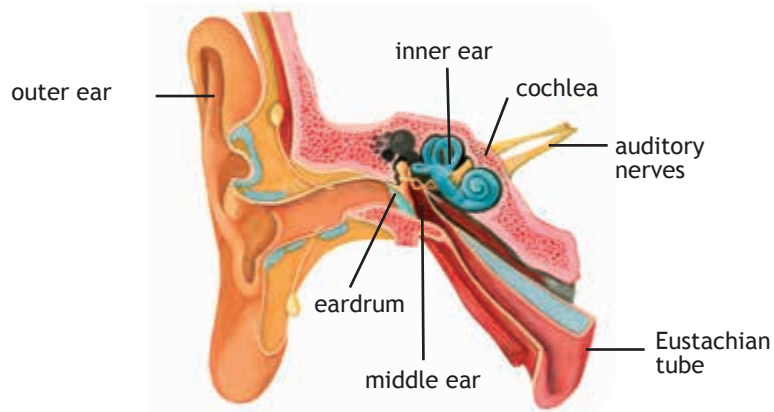
Do the exercises given in your **WORKBOOK.**

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**1.2. THE AUDITORY SYSTEM**

Sound waves are perceived through the ears, which are the organs that receive and transform sound waves into nervous impulses sent to the brain.

To get a detailed view of the auditory system, look at the following drawing



From the moment a body vibrates until you become conscious of the sound, a complex process is initiated, as described below.

1. The outer ear receives the sound and channels it to the eardrum, or tympanic membrane.
2. The eardrum is set into vibration, and these vibrations are picked up by the ossicles, the smallest bones in the body (hammer, anvil and stirrup), which transmit them to cochlea in the inner ear, containing fluid.
3. These vibrations stimulate cells that transform them into electrical impulses or signals that are conveyed to the brain.



The brain stores all this information, so when you receive the same stimuli again, you can recognise it. You relate an auditory stimulus to another one that you have heard before thanks to what is called our **auditory memory**. Thus, you can recognise the voice of a friend, the sound of an instrument, or the flow of water in a stream, etc. without having to see it.



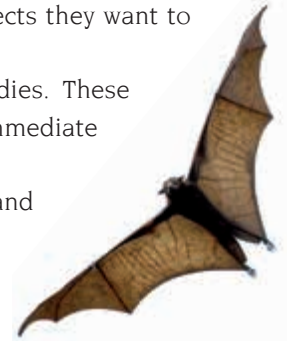
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Do the exercises given in your  
**WORKBOOK.**



### 1.3. THE AUDITORY FUNCTION IN A FEW ANIMALS

- ✓ **Bats:** Bats have very sensitive hearing. They are capable of flying in the dark thanks to their high-pitched sounds that are inaudible to humans, which can reach 500,000 waves per second. These sounds are sent out at short intervals and bounce back from objects, and the echoes provide the bat with information on their surroundings, including the flying insects they want to catch!
- ✓ **Cockroaches:** Cockroaches capture sound through the hairs on their bodies. These hairs are sensitive enough to detect the slightest air movement in their immediate surroundings.
- ✓ **Worms:** Worms do not have ears as such, but they detect vibrations in the soil and can react in consequence.
- ✓ **Grasshoppers:** Grasshoppers have tympanic membranes, their “ears”, in the central section of their bodies.
- ✓ **Dinosaurs:** The general theory is that dinosaurs were probably similar to certain large land mammals today, like the elephant, but with hearing abilities much poorer in relation to the higher frequencies. Generally, animals hear in the range in which they produce sounds. Dinosaurs could probably hear the footsteps of other dinosaurs quite well, and so recognise friend or foe. It is said that elephants are capable of hearing very low frequency sounds over long distances – the kind produced by the footsteps of other elephants.



Larger animals usually hear lower frequencies better (*infrasound*), whereas smaller animals hear better in the higher ranges (*ultrasound*).



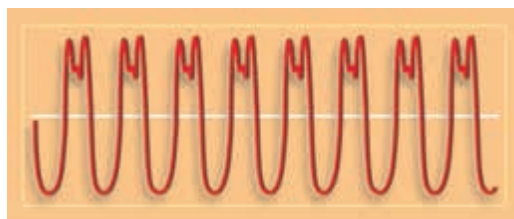
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Do the exercises given in your WORKBOOK.

### 1.4. THE USE OF SOUND IN MUSICAL COMPOSITIONS

Sound is the “material” from which music is made. It is produced by a series of actions on instruments: striking, bowing, plucking, blowing, or simply by means of the voice in singing.

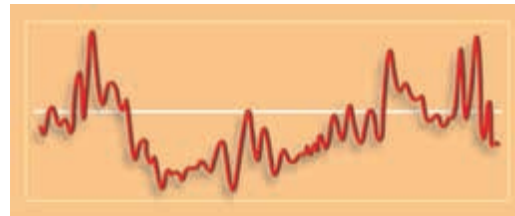
All these actions produce regular vibratory waves, that is, waves with a regular frequency that can be numbered in waves per second. These wave types make up **musical sound**, which is *sound of a definite pitch represented by musical notes*.



Graphic representation of musical sound



But when certain actions produce vibratory waves with irregular frequencies, we call it **noise**, which is *sound without a definite pitch and which cannot therefore be represented on a musical score in a rhythmic way* (if it is, it is placed on one single line).



Graphic representation of noise



The most important **difference** between **noise** and **sound** is that *musical sound has a frequency that can be measured in waves per second (Hertz), whereas noise is so irregular that it cannot really be measured.*

But we should remember that not all noise is disagreeable. There are noises that give us pleasure and a sense of well-being, such as the sound of waves on the shore, or the sound of the rain falling, and so on.

Musical sounds can also sometimes be sounds that are not initially related to music. But from the time a composer includes them in his or her work, these sounds can be classed as coming from “musical instruments”. This means that almost any object can conceivably be included in a musical composition, in accordance with specific aesthetic criteria, as you will see below.

pages 8-9

Do the exercises given in your WORKBOOK.



### CURIOSLY ENOUGH

**John Cage** was one of the most important avant-garde composers in the United States, considered to be one of the most influential and revolutionary creators in the modern world, who explored many forms of sensitivity throughout his career.

Cage innovated in his way of composing music. For example, he used “prepared pianos” to make new sounds. A prepared piano was a normal piano to which different “preparations” or objects (paper, nuts, bolts, forks, knives), were attached to the strings to produce different sounds.



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Do the exercises given in your WORKBOOK.









**CHECK YOUR LEARNING**

# BLOCK 2 MUSICAL CREATION AND PRACTISE

## 2.1. RHYTHM CREATION

We start off with the simplest music notes: the semibreve, minim and crotchet. Their values in the commonest times, such as  $\frac{2}{4}$ ,  $\frac{3}{4}$  and  $\frac{4}{4}$ , are 4 beats (semibreve), 2 beats (minim) and 1 beat (crotchet).

	SEMIBREVE	MINIM	CROCHET
			
Rhythmic syllables:	ta a a a	ta a	ta
	SEMIBREVE	MINIM	CROCHET
	REST	REST	REST
			
Rhythmic syllables:	chs s s s	chs s	chs



Do the exercises given in your **WORKBOOK**.

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## 2.2. RHYTHM PRACTISE

Practise the notes you have learned. You can use rhythmic syllables, body sounds or small percussion instruments.



### INTROITO

palms/metal

1 2 3 4

5 6 7 8

thighs/membrane

9 10 11 12

13 14 15 16

:||

**2.3. MELODY PRACTISE**

Now practise sounds using your recorder and playing the notes given below. In this case you will use your left hand.



Practise with your left hand



1 2 3 4 5 6

7 8 9 10 11 12

13 14 15 16 17 18

19 20 21 22 23 24

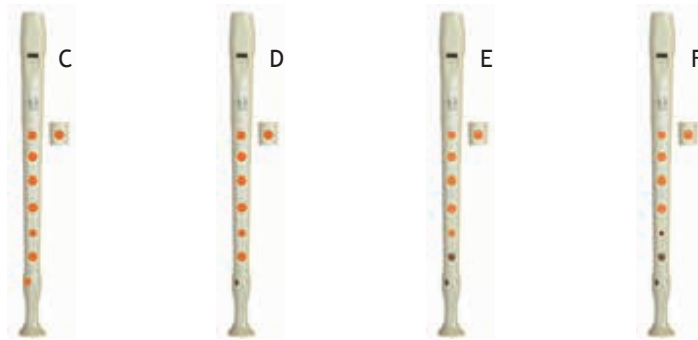
25 26 27 28 29 30

31 32 33 34 35 36 37

A musical exercise consisting of six staves of music in 4/4 time. Each staff contains six measures. The notes are: Staff 1: G, rest, B, rest, D', rest; Staff 2: D', rest, G, rest, B, rest; Staff 3: B, rest, D', rest, G, rest; Staff 4: G, rest, B, rest, D', rest; Staff 5: D', rest, G, rest, B, rest; Staff 6: B, rest, D', rest, G, rest. The notes G, B, and D' are represented by half notes, while the notes A and C' are represented by rests.

Now practise sounds using your recorder and playing the notes given below with your right hand.

Practise with your right hand



A musical exercise consisting of six staves of music in 4/4 time, numbered 1 to 35. Each staff contains six measures. The notes are as follows:

- Staff 1: 1 (C), 2 (D), 3 (E), 4 (F), 5 (G), 6 (A)
- Staff 2: 7 (B), 8 (C), 9 (D), 10 (E), 11 (F), 12 (G)
- Staff 3: 13 (A), 14 (B), 15 (C), 16 (D), 17 (E), 18 (F)
- Staff 4: 19 (G), 20 (A), 21 (B), 22 (C), 23 (D), 24 (E)
- Staff 5: 25 (F), 26 (G), 27 (A), 28 (B), 29 (C), 30 (D)
- Staff 6: 31 (E), 32 (F), 33 (G), 34 (A), 35 (B)

### 2.4. MELODY CREATION

Show off your skills as a composer and player by composing a simple melody and improvising.



Do the exercises given in your WORKBOOK.

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**BLOCK 3 PLAYING MUSIC**

Play with your left hand

The **branle** (or *bransle*) is a type of old French dance from the early 16th century danced by couples or in groups, with the main movements going from side to side.

*Branle de Champagne*

The musical score for 'Branle de Champagne' is written in 4/4 time and consists of 28 measures. The notation is as follows:

- Measure 4: A whole rest.
- Measures 5-8: A sequence of quarter notes: G4, A4, B4, C5, B4, A4, G4, F4.
- Measures 9-12: A sequence of quarter notes: E4, D4, C4, B3, A3, G3, F3, E3.
- Measures 13-16: A sequence of quarter notes: D3, C3, B2, A2, G2, F2, E2, D2.
- Measures 17-20: A sequence of quarter notes: C2, B1, A1, G1, F1, E1, D1, C1.
- Measures 21-24: A sequence of quarter notes: B1, A1, G1, F1, E1, D1, C1, B1.
- Measures 25-28: A sequence of quarter notes: A1, G1, F1, E1, D1, C1, B1, A1.

Play with your left hand



*When the Saints Go Marching In* is an American gospel hymn composed in 1896 in New Orleans (Louisiana) and first recorded in a jazz version 1938 by Louis Armstrong and his Orchestra. It is often played during funeral processions.



*When the Saints Go Marching In* K. Purvis (lyrics) – M. Black (music)

Oh when the saints go mar-ching in, oh when the saints go mar - ching in, I wan-na be be in that num-ber oh when the saints go mar - ching in. And when the star be - gin to shine, and when the star be - gin to shine, I wan-na be be in that num - ber oh when the saints go mar - ching in.





## Play with both hands



This piece you are going to play here is the work of Johann Sebastian Bach, the outstanding German organist and clavichordist born in Eisenach in 1685 and dying in Leipzig in 1750.

It is part of the first volume of his *Well-Tempered Clavier*, composed around 1721 and containing 24 Preludes and Fugues in each of the 24 major and minor keys for the clavier. These musical pieces were intended, in the composer's words: "for the profit and use of musical youth desirous of learning, and especially for the pastime of those already skilled in this study...".

You should know, however, that it is essential to have a good level of piano playing to interpret these pieces, as most are quite difficult and require a good command of piano technique.

*Prelude**J. S. Bach*

1 2 3 4 5

6 7 8 9

10 11 12 13

Repeat twice





Play with two voices



This is a traditional English folk song, although it is now well-known after appearing in the film *The Graduate*, sung by the duo Simon and Garfunkel. In Spain, it was covered by groups such as Luar na Lubre and Mago de Oz, appearing in the TVE series *Águila Roja* in the second season, interpreted by one of the characters in Spanish.

## *Scarborough Fair* English traditional

1 2 3 4 5 6

Recorder 1

Recorder 2

7 8 9 10 11

Recorder 1

Recorder 2

12 13 14 15 16

Recorder 1

Recorder 2

17 18 19 20 21

Recorder 1

Recorder 2

## BLOCK 4 MOVEMENT AND DANCE

### BODY EXPRESSION

Choreographers use music to accompany a series of bodily movements known as dancing.

In this block we will be looking at **movement** and **dance** with the help of the well-known Argentinean choreographer Néstor Tosqui, using **Coreografía I Timo Mass**.

Follow the instructions step by step and you will see that the music is divided into sections with 8 beats each. This will help you to remember the steps. Note that you can mark the beat with your body, your feet and also with your hands. By following the instructions, you can set up a dance team with your classmates and do a great choreography in the musical style known as **hip-hop**.



Hip hop is a cultural and artistic movement arising in the United States in the late 1970s, in Afro-American and Latin American communities in the New York boroughs of the Bronx, Queens and Brooklyn.

