4. Rhythm

Tempo and beat

In the preceding Unit we saw that the pulse or beat enabled us to recognise the speed at which a piece of music is to be played (*movement* or *tempo*).

In this Unit we will look at beats and listen to music and see how there are a series of beats that stand out from the others, called **accented beats.**

When these accented beats are repeated over time in a regular and constant way, we get what we know as the **beat or rhythm** of the music.

You can also see how a musical score is divided into bars, and that each bar has its own time, and that composers use different times to create different effects in their music.

So now let's look at the **rhythm** and **beat** of music in this Unit.

SECTION 1 MUSICAL CONTEXT

Rhythm is present in all our lives. There are many activities, some even unconscious, that are governed by a natural sequence or rhythm: your heart beats rhythmically, you breathe in and out at a certain speed, you may get hungry at certain times, and so on. Nature has these rhythms too: day and night, or the succession of the seasons of the year.

Many human activities have observable rhythms too. When you walk, there is a certain rhythm to your steps, and a frequency of your feet hitting the ground, either more slowly or faster. In music this happens too.

Musical **rhythm** is the ordering of sounds depending on their duration and their intensity or accent.

So one of the essential elements of rhythm is the intensity of the **accents**. Imagine you are travelling on a train. The wheels run along the tracks and produce a repetitive sound at regular intervals when they hit the joins in the rails.

Instinctively, our minds are capable of imagining a division of these sounds into groups of two, three or four beats if they occur at regular intervals, forming an imaginary **rhythm**.

To see this >, knock on your desk with your hand to generate the pulse shown below, with one strong knock and two lighter knocks.

> - - > - - > - - > - - > - - > - -

There are various rhythmic combinations, depending on whether there is an accented beat every two, three or four beats.

BINARY RHYTHM

This is the simplest beat because it has an even number of pulses (2), which we use, for example, during walking (left-right, left-right), creating a rhythmic sensation of one accented beat and one unaccented beat, or balanced movement.

> - | > - | > - | > - | > - | > - |
1 2 1 2 1 2 ...

TERNARY RHYTHM

This is an odd (3) rhythmic sequence, with one accented beat and two unaccented beats, such as the beat used in certain dances, like the waltz, giving us a sensation of circular movement.

> - - | > - - | > - - | > - - | > - - | > - - |
1 2 3 1 2 3 1 2 3 1 2 3 ...

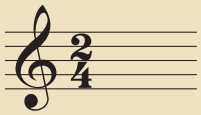
QUATERNARY RHYTHM

This is a 4-beat rhythm (even numbered) with one accented beat, which transmits the same sensation of balanced movement as the binary kind.

> - - - | > - - - | > - - - | > - - - | > - - - | > - - - |
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 ...

In musical works, the organisation of the rhythm in a regulated way is indicated by means of a metric unit called the **time signature**.

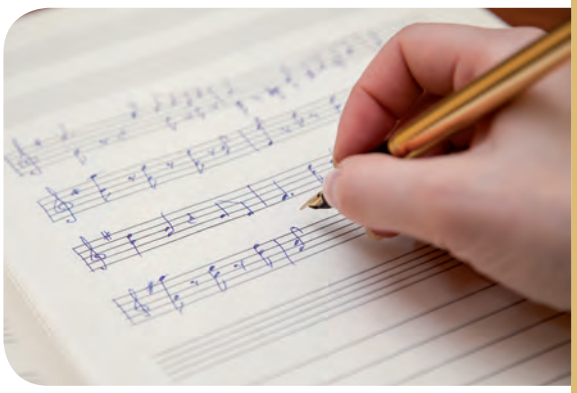
The **time signature** is given at the beginning of the piece, after the clef, using two numbers in the form of a fraction.



The time signature is used to order the natural rhythms of the music and make it easier for the musicians to read and interpret it.

If you look at a musical score you will see that it is divided into bars and that each bar may have different beats in it: 2, 3 or 4 depending on whether the rhythm is binary, ternary or quaternary. You also know that the denominator or lower number appearing in the time signature tells you what kind of note corresponds to one beat.

So now we will see that, depending on whether the beat is divisible by 2 or 3, we can have various kinds of time signatures:

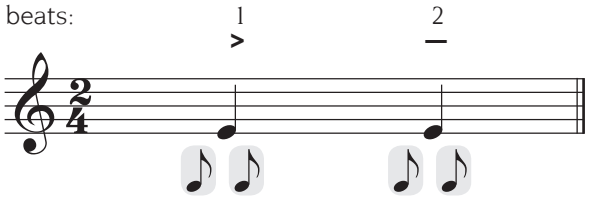


1. SIMPLE TIME SIGNATURES

These have the numbers 2, 3 or 4 as numerators, and that each of their times can be divided into two equal parts.

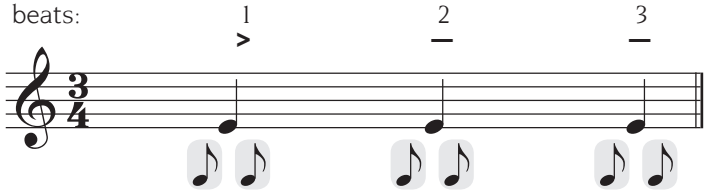
DUPLE TIME

This time signature indicates that it has 2 beats and that each crotchet, or quarter note, equals 1 beat.



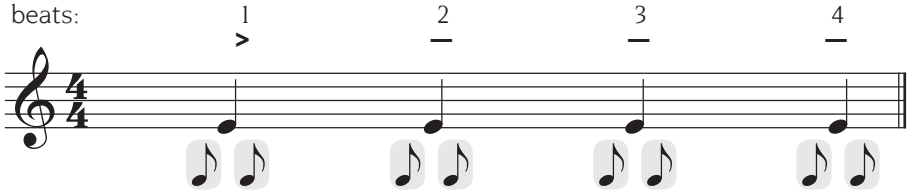
TRIPLE TIME

This time signature indicates that it has 3 beats and that each crotchet, or quarter note, equals 1 beat.



QUADRUPLE TIME

This time signature indicates that it has 4 beats and that each crotchet, or quarter note, equals 1 beat.



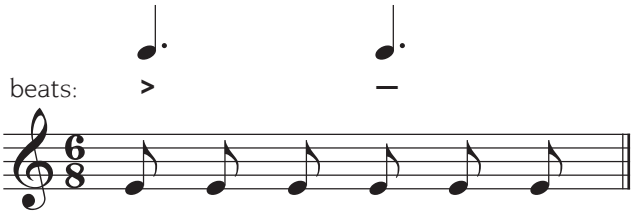
Video 4

2. COMPOUND TIME SIGNATURES

These are time signatures where the numerators are the numbers 6 (binary: 2 beats), 9 (ternary: 3 beats) or 12 (quadruple: 4 beat) and with beats that can be divided in three parts or thirds.

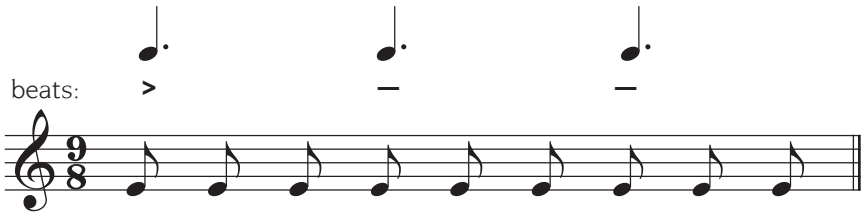
DUPLE TIME

This time signature indicates that it has 2 beats and that 3 quavers, or eighth notes, equal 1 beat. In total, the bar has 6 quavers.



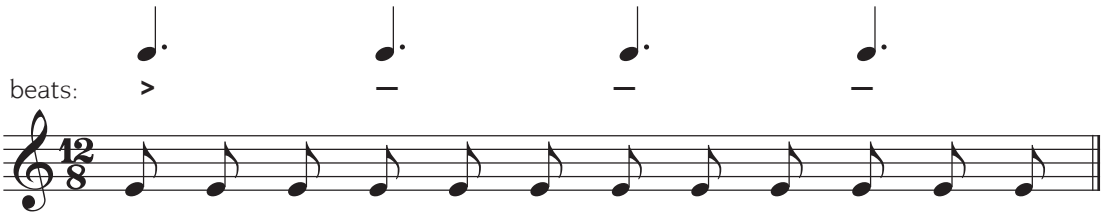
TRIPLE TIME

This time signature indicates that it has 3 beats and that 3 quavers, or eighth notes, equal 1 beat. In total, the bar has 9 quavers.



QUADRUPLE TIME

This time signature indicates that it has 4 beats and that 3 quavers, or eighth notes, equal 1 beat. In total, the bar has 12 quavers.



Note that the accents or stresses are the same in both simple and compound time: > — for binary times, > — — for ternary times and > — — — for quaternary times. The only difference is the internal rhythm of the beats (2 in simple time, and 3 in compound time).

Video 5

As you can see, the accented notes appear regularly ever certain number of beats, i.e., every 2, 3 or 4 beats. This is how a certain rhythmic stability is created for listeners.

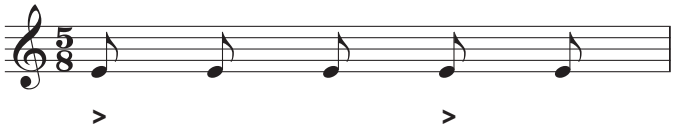
Despite this, some composers consider that these precise metric forms make the rhythm often too predictable and even monotonous.

This is why they have searched for new formulas for refreshing and enriching the rhythm and break away from monotony in rhythm. To do so, they use a series of resources such as **syncopation**, **missed-beat** and **off-beat notes**, or **accents** (**>**), to place the natural accent of a bar of music in different places, creating a sensation of broken or unstable rhythm in the listener.

Video 6

This type of metre is called **mixed metre** and, as you can hear in the Listening Exercises of this unit, many composers use mixed time signatures in different types of pieces.

Here is an example of mixed metre. It is the typical metrical pattern of a "zortzico" (5/8), which combines bars in 3/8 and 2/8. This is a rhythm used in dances from the Basque Country. Each bar has 5 beats in it (3/8: three beats + 2/8: two beats), with 5 quavers in the bar. See how the stress falls:



Video 7

Now do the exercises given in your WORKBOOK.

page 46

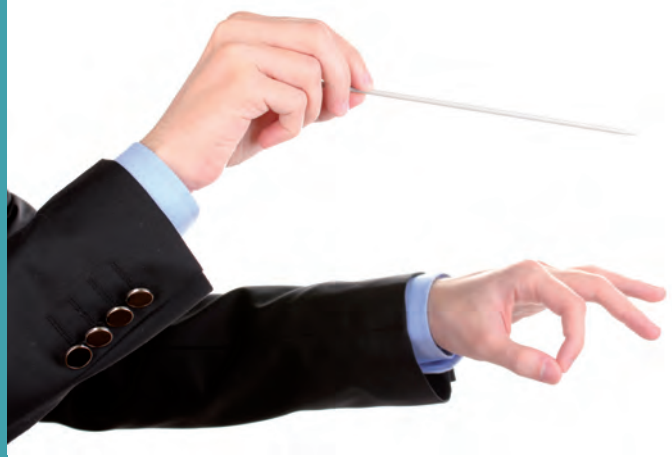
SECTION 2 LISTENING

Now that you know the various types of musical **beat**, let's try to distinguish them by listening to some musical fragments.

pages 47-50

Now do the exercises given in your WORKBOOK.

CURIOUSLY ENOUGH



Orchestra conductors mark or "beat the time" in a specific way.

For binary time signatures, his hand goes down and up.

For ternary times signatures the hand follows a path like a right triangle (down, right and up).

For quaternary time signatures, his hand makes something like the sign of a cross (down, left, right and up).

Video 8

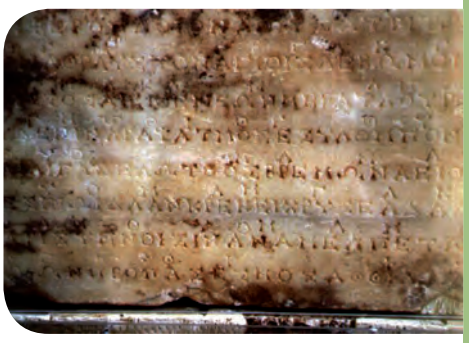
SECTION 3 CULTURAL CONTEXT

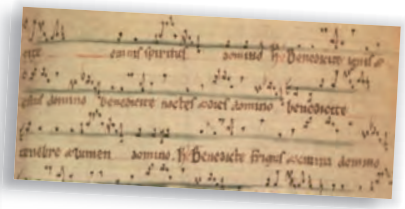
Rhythm is an essential element in music and closely linked to the development of musical notation, so it has been reflected in different ways by composers in different historical periods. Here are a few examples of musical notation since Ancient times and its development up to the present.

8th-2nd C B.C.

✓ In Ancient Greece

The Greeks wrote music using alphabetical signs in certain positions that corresponded to specific pitches or sounds. They also used two types of duration modifiers: brief and long.



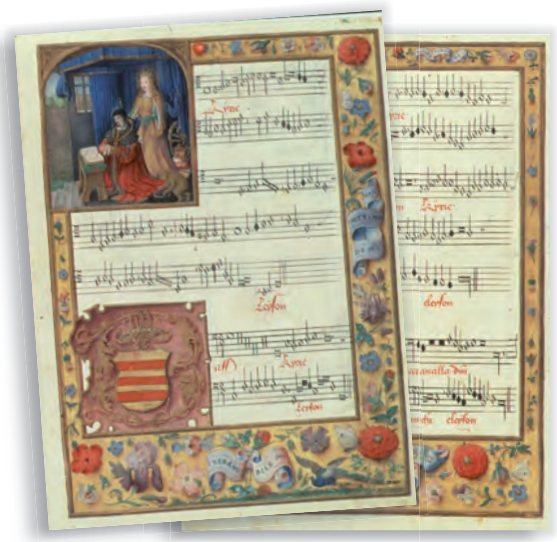


5th-14th C

✓ The Middle Ages

The oldest signs used are called "neumes", which were written above a test to indicate different pitches for the sounds, depending on their height. Later they were written above or below a line to indicate higher or lower sounds.

Still later, this writing developed into square-headed notes and horizontal lines were added to obtain a tetragram (four-line staff), and these were mostly used in Medieval compositions.



15th-16th C

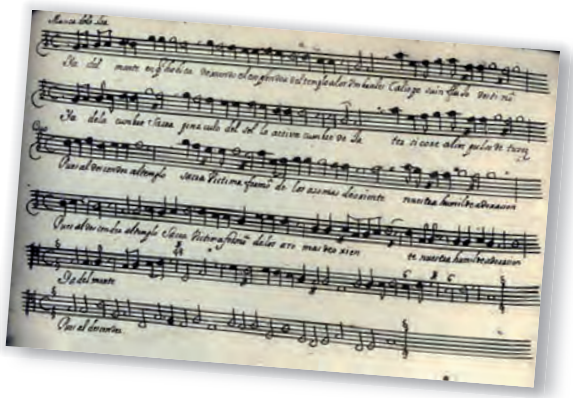
✓ The Renaissance

The great French composer and music theorist Philippe de Vitry introduced new concepts such as the metrical units and time signatures to indicate different durations of sounds, and *"hollow notes"* (white mensural notation) began to appear, forerunners of today's notes.

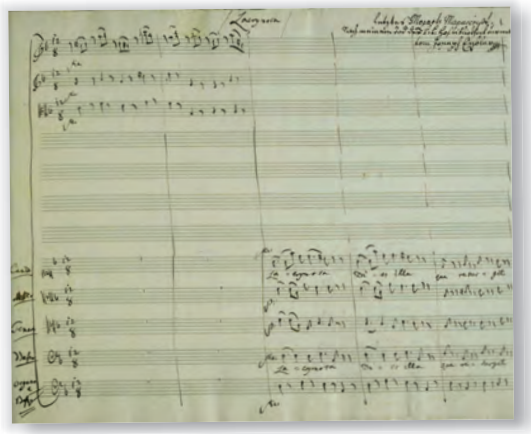
1600-1750

✓ The Baroque

It is in this period that white mensural notation from the Renaissance begins to develop to a complete system of figures and measures as we know it today.



1750-1800 and 19th C



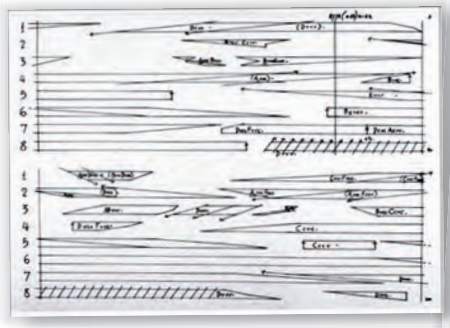
✓ Classical and Romantic Periods

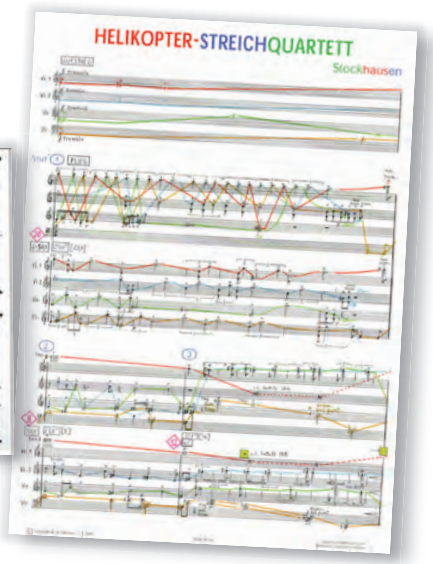
Throughout these years, musical notation hardly changes at all, with conventional notes that can still be recognised and play by the majority of musicians today.

20th-21st C

✓ 20th C to present

Some innovative new music in this period start to use new and different forms of writing music, some so complicated that the composer himself has to explain how it should be played using his score.





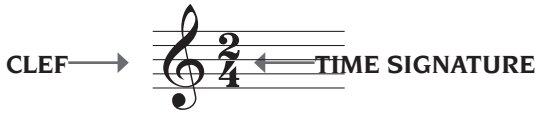
Now do the exercises given in your WORKBOOK. page 51

Video 9

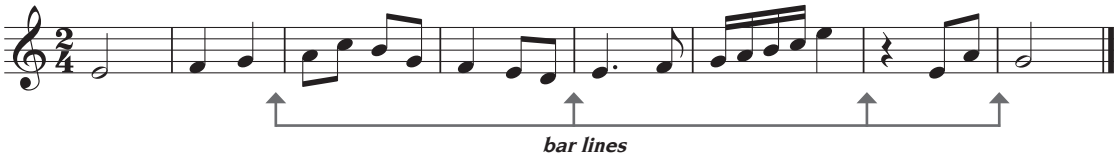
TIME SIGNATURES

1. BASIC TIME SIGNATURE INFORMATION

Time signatures are written onto the staff at the beginning of the first line, just after the clef.



The numbers tell us how many notes and of what kind fit into one bar, between two bar-lines.



The **upper number** (numerator) tells us two things:

1. The number of beats to the bar.

2. The figures or notes that fit into the bar.

The **bottom number** (denominator) gives us the note name.

The number to note relation is as follows:

2. SIMPLE TIME SIGNATURES

Simple time signatures use 2, 3 or 4 as their upper numbers (numerators). The lower number (denominator) indicates what note corresponds to one beat.

Beats in simple time signatures can be subdivided into 2 parts or halves.

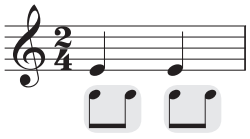
Note that in simple time signatures, the note with a value of one beat is a crotchet, so quavers are joined in groups of two.

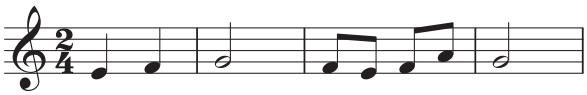
Example

- **Simple duple (binary) time (2 beats):**

This is a binary time signature (2 beats) with two crotchets to the bar.

Example:



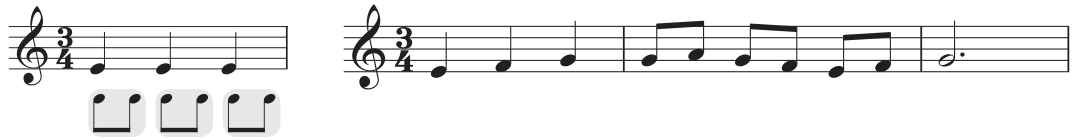


- **Simple triple (ternary) time (3 beats):**

$\frac{3}{4}$ = 3 ← three, crotchet ← crotchet

This is a ternary time signature (3 beats) with three crotchets to the bar.

Example:

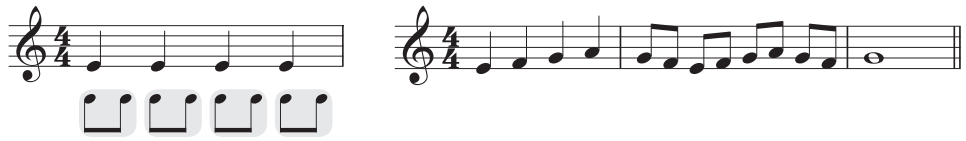


- **Quadruple time (4 beats):**

$\frac{4}{4}$ = 4 ← four, crotchet ← crotchet

This is a quaternary time signature (4 beats) with four crotchets to the bar.

Example:



3. COMPOUND TIME SIGNATURES

Compound time signatures use 6, 9 and 12 as their upper numbers (numerators). The lower number (denominator) indicates what note corresponds to one beat.

Beats in compound time signatures can be subdivided into 3 parts or thirds.

Note that in compound time signatures, the note with a value of one beat is a dotted crotchet, so quavers are joined in groups of three.

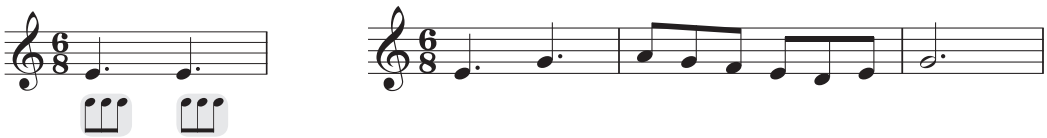
Example: 

- **Quadruple time (2 beats):**

$\frac{6}{8}$ = 6 ← six, quavers ← quavers

This is a binary time signature (2 beats) with six quavers to the bar.

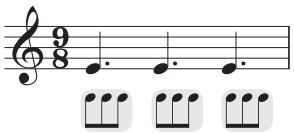
Example:



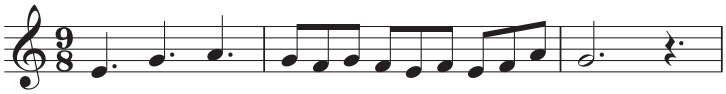
- **Ternary time (3 beats):**

$\frac{9}{8}$ = 9 ← nine, $\flat$ ← quavers

This is a ternary time signature (3 beats) with nine quavers to the bar.



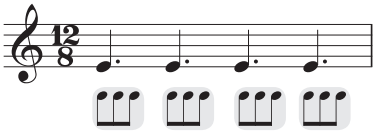
Example:



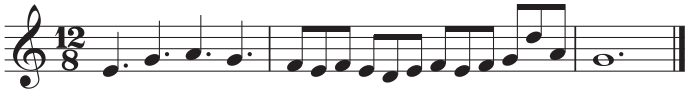
- **Quaternary time (4 beats):**

$\frac{12}{8}$ = 12 ← twelve, $\flat$ ← quavers

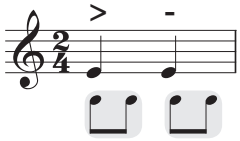
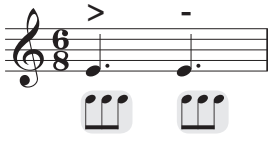
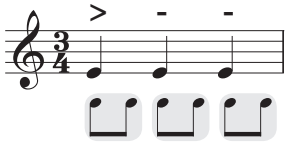
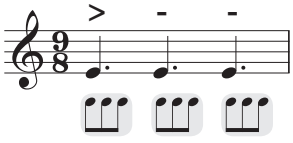
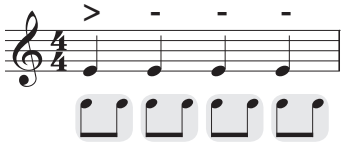
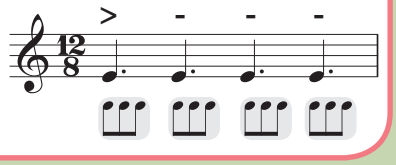
This is a quaternary time signature (4 beats) with twelve quavers to the bar.



Example:



SUMMARY

TIME SIGNATURES	SIMPLE	COMPOUND
BINARY		
TERNARY		
QUATERNARY		

Now do the exercises given in your WORKBOOK. pages 52-55

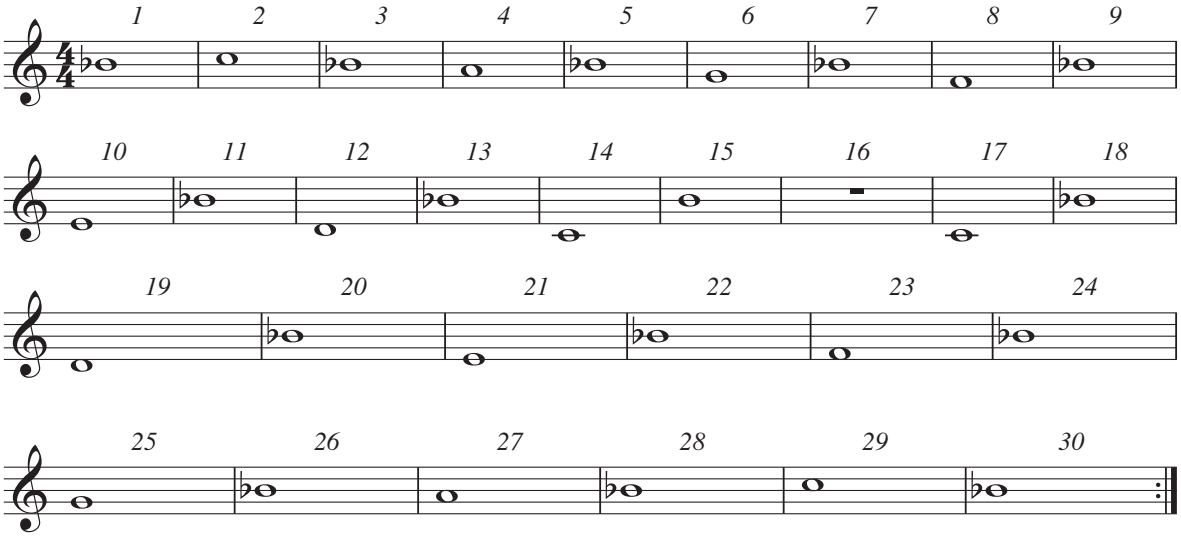
SECTION 5 MUSICAL INTERPRETATION

This section provides activities with melodic instruments that will help you to play and enjoy the music that we offer for interpretation.

INSTRUMENT PRACTICE

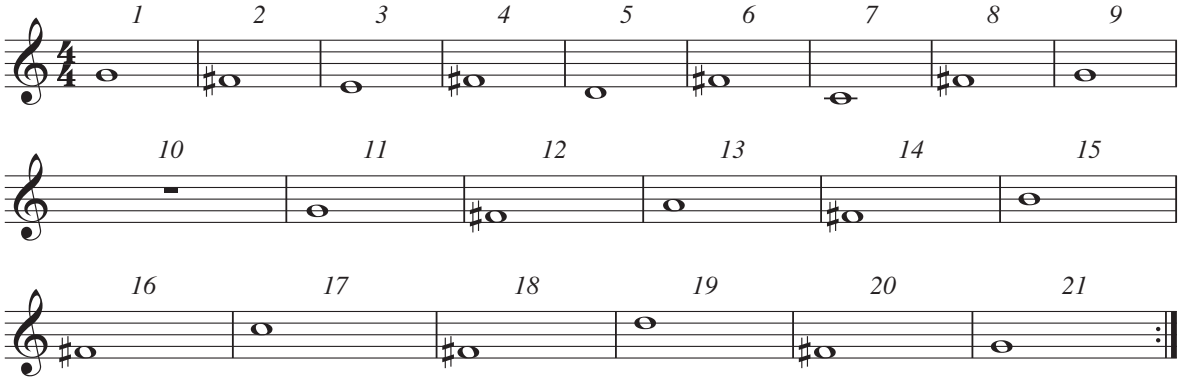
EXERCISE 11

Practise Bb



EXERCISE 12

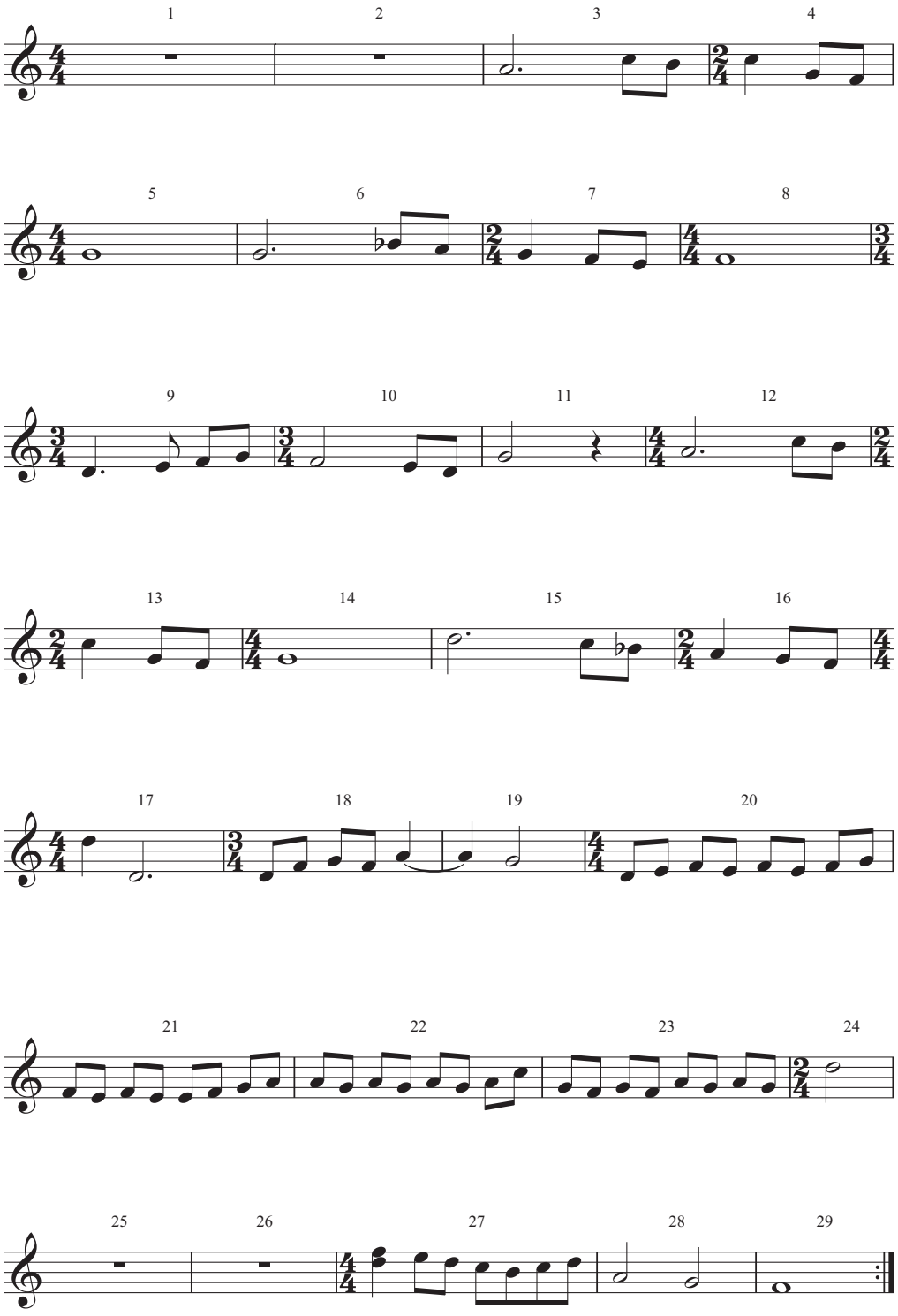
Practise F#



Caresse sur l'ocean

Bruno Coulais

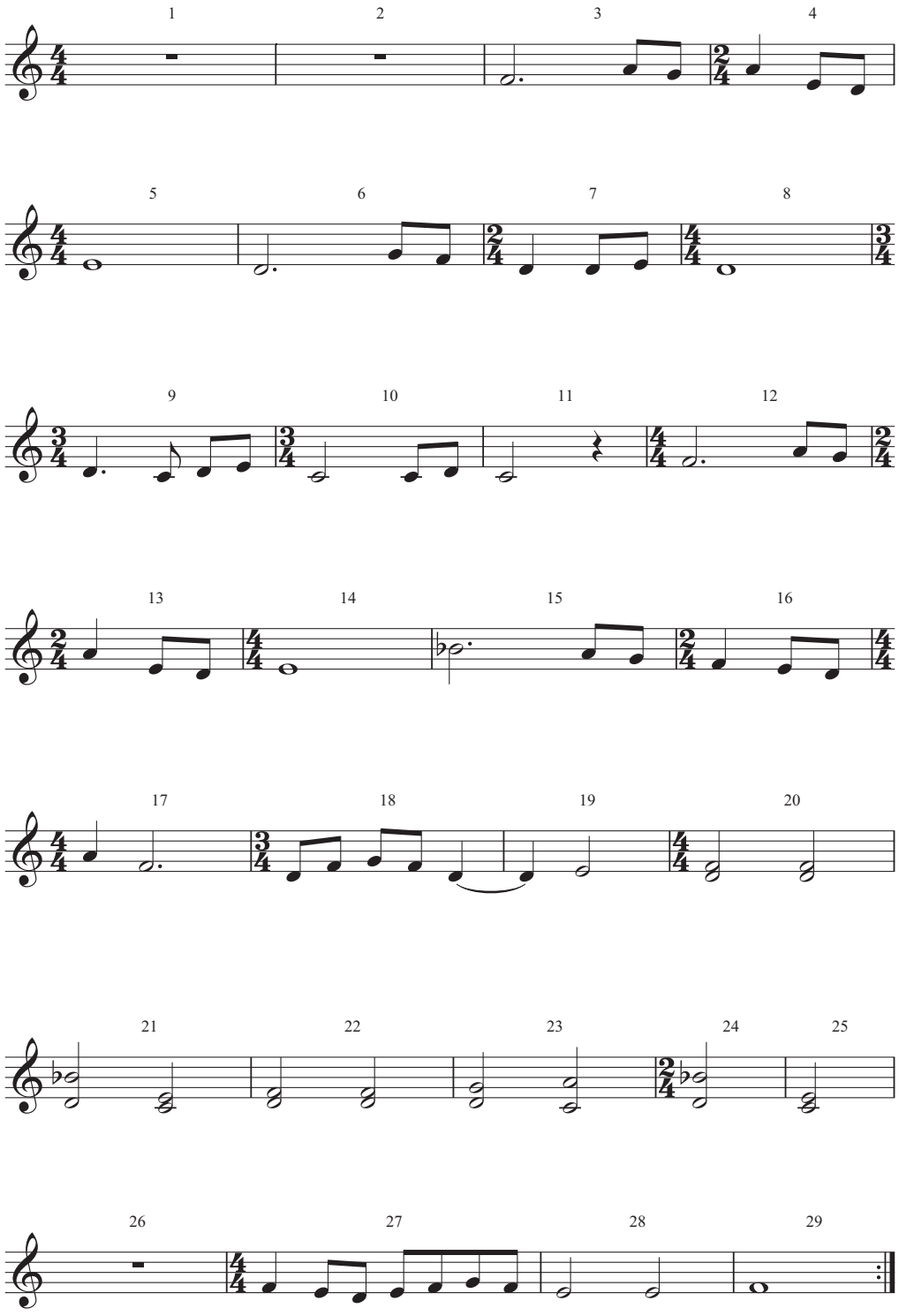
Recorder 1



Recorder 2

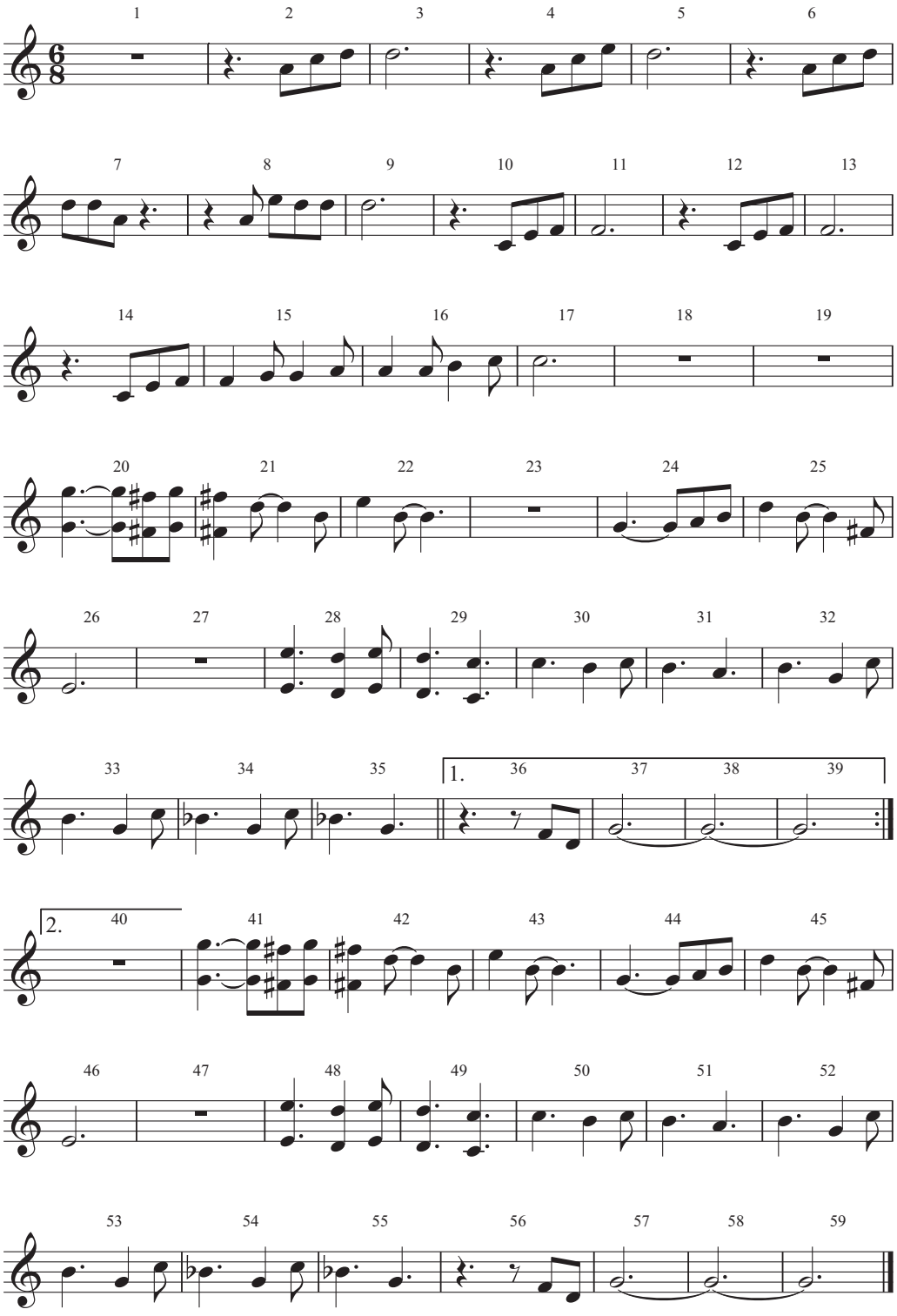
Caresse sur l'ocean

Bruno Coulais



We Are the Champions

Freddie Mercury

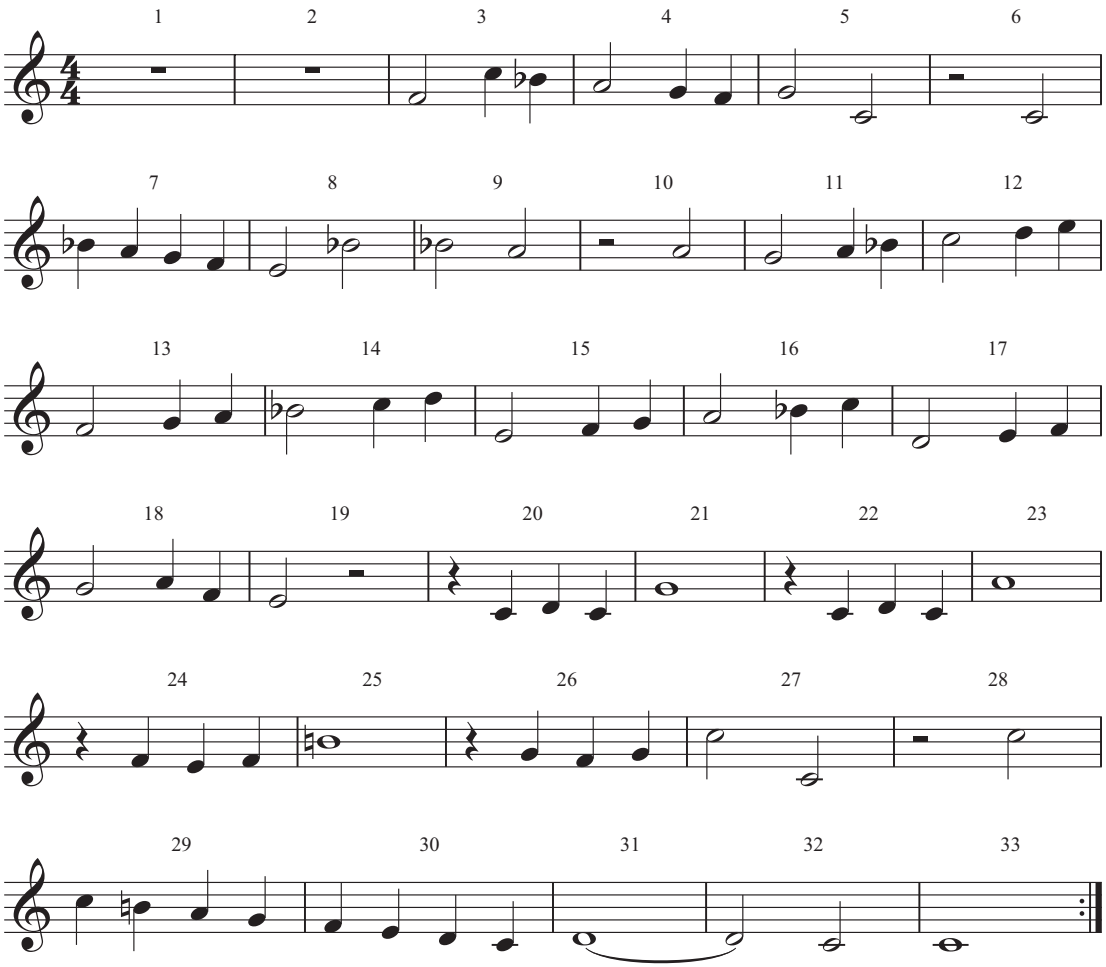


RECORDER 11

The piece you are going to play below is from the Venetian musician Antonio Vivaldi, an essential composer of the Baroque period. You will remember that the Baroque period, from 1600 to 1750, is characterised by an extraordinary command of vocal and instrumental technique amongst musicians, called virtuosity (virtuoso). One example of this can be found in this work, in which Vivaldi musically describes to perfection the joy of being home inside during the winter, in front of the fire, perhaps, safe from the rain and cold outside.

Winter
(2nd Movement)

A. Vivaldi



INTERPRETATIONS FOR ORFF INSTRUMENTS

In this section you can use the Orff instrument interpretation instructions for a musical piece that you can download from the website www.tabarcallibres.com *Winter*, 2nd Movement, A. Vivaldi.