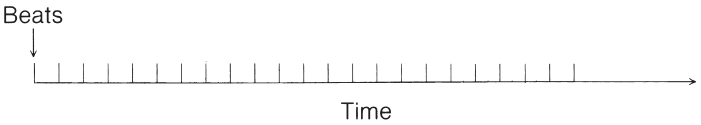
Rhythm

Rhythm is basic to life. We see it in the cycle of day and night, the four seasons, the rise and fall of tides. More personally, we find it in our heartbeats, and we feel it when we breathe and walk. The essence of rhythm is a recurring pattern of tension and release, or expectation and fulfillment. This rhythmic alternation seems to pervade the flow of time. Time, as we live it, has fantastic diversity; each hour has 60 minutes, but how different one hour may seem from another!

Rhythm is the lifeblood of music, too. In its widest sense, ***rhythm*** is the flow of music through time. Rhythm has several interrelated aspects, which we'll consider in turn: beat, meter, accent and syncopation, and tempo.

Beat

When you clap your hands or tap your foot to music, you are responding to its beat. ***Beat*** is a regular, recurrent pulsation that divides music into equal units of time. Beats can be represented by marks on a time line (see the illustration). In music, such beats occur as often as every $\frac{1}{4}$ second or as seldom as every $1\frac{1}{2}$ seconds. Sometimes the beat is powerful and easy to feel, as in marches or rock music. Or it may be barely noticeable, suggesting floating or aimlessness.



Beats can be shown as a series of marks on a time line.

The pulse of music is communicated in different ways. Sometimes the beat is explicitly pounded out—by a bass drum in a marching band, for instance. At other times, however, the beat is sensed rather than actually heard.

Sing the beginning of the song *America* up to the words *Land where my fathers died:*

My	coun-	try	'tis	of	thee,	Sweet	land	of	lib-	er-	ty,
|	|	|	|	|	|	|	|	|	|	|	|
Of	thee	I	sing.			Land (etc.)					
|	|	|	|	|	|	|					

Each of the marks represents a beat. Did you notice that you automatically held *sing* for 3 beats? You *sensed* the beat because you were aware of it and expected it to continue.

Beats form the background against which the composer places notes of varying length, and they are the basic unit of time by which all notes are measured. Notes last a fraction of a beat, or an entire beat, or more than a beat. In

the example from *America,* the syllables, or notes, range from ½ beat for *of* to 3 beats for *sing.*

Combinations of different note lengths create rhythm. Earlier, ***rhythm*** was defined as the flow of music through time; more specifically, it can be defined as the particular arrangement of note lengths in a piece of music. Rhythm is an essential feature of a melody's "personality." Indeed, we might be able to recognize *America* merely by clapping out its rhythm without actually singing the tones. The *beat* of *America* is an even, regular pulsation. But its *rhythm* flows freely, sometimes matching the beat, sometimes not.

Meter

In music, some beats feel stronger or more stressed—that is, more emphasized—than others, and we find repeated patterns of a strong beat plus one or more weaker beats. The organization of beats into regular groups is called ***meter.*** A group containing a fixed number of beats is called a ***measure.*** The first, or stressed, beat of the measure is called the ***downbeat.*** There are several types of meter, based on the number of beats in a measure.

When a measure has 2 beats, it is said to be in ***duple meter;*** we count **1**–2, **1**–2, etc., as in the following example (the vertical lines indicate the measures):

Ma- ry	had a	lit- tle	lamb,	lit- tle	lamb,	lit- tle	lamb
1	2	**1**	2	**1**	2	**1**	2

A pattern of 3 beats to the measure is known as ***triple meter;*** we count **1**–2–3, **1**–2–3, etc. *America* is in triple meter:

My	coun-	try,	'tis	of	thee,
1	2	3	**1** 2		3
Sweet	land	of	lib-	er-	ty,
1	2	3	**1** 2		3
Of	thee	I	sing.		
1	2	3	**1** 2		3

Quadruple meter has 4 beats to the measure. As usual, the downbeat is strongest, but there is another, slighter stress on the third beat; we count **1**–2–*3*–4, **1**–2–*3*–4, etc. In the following example, the first word is on the ***upbeat,*** an unaccented pulse preceding the downbeat:

Mine	eyes	have	seen	the	glo-	ry	of the	com-	ing	of	the	Lord;	He	is
1	2	*3*	4	**1**	2	*3*	4							

Sextuple meter has 6 rather quick beats to the measure. The downbeat is strongest, but the fourth beat also has a stress; we count **1**–2–3–*4*–5–6. Actually, the measure is subdivided into two 3-beat groups, **1**–2–3/*4*–5–6, so that sextuple meter is a combination of duple and triple meter. For example:

Oh,	give	me	a	home	where	the	buf-	fa-	lo	roam,	where	the
1	2	3	*4*	5	6	**1**	2	3	*4*	5	6	

Quintuple meter (5 beats to the measure) and ***septuple meter*** (7 beats to the measure) also combine duple and triple meter. In quintuple meter, for example, the measure is subdivided into 2- and 3-beat groups: **1**–2–3/*4*–5 or **1**–2/*3*–4–5. These meters occur frequently in twentieth-century music but only occasionally in earlier music.

Accent and Syncopation

An important aspect of rhythm is how individual notes are stressed. One way to emphasize a note is by giving it a dynamic ***accent,*** that is, by playing it more loudly than the notes around it. A note can also be emphasized by being held longer or being higher in pitch than nearby notes.

When an accented note comes where we would normally not expect it, the effect is known as ***syncopation.*** A syncopation occurs when an "off-beat" note is accented (that is, when the stress comes *between* beats). In the following example, syncopation occurs on the accented *my,* which comes between beats 1 and 2:

Give	**my**	re-	gards	to	Broad-		way		
1	2		3	4	1	2	3	4	

A syncopation also occurs when a weak beat is accented (as in 1–**2**–3–4 and 1–2–3–**4**). It creates rhythmic excitement and is one of the most characteristic features of jazz.

Tempo

Tempo—the speed of the beat—is the basic pace of the music. We associate fast tempos with energy, drive, and excitement, and slow tempos with solemnity, lyricism, or calmness.

A ***tempo indication*** is usually given at the beginning of a piece. As with dynamics, the terms that show tempo are usually in Italian:

Term	Meaning
largo	very slow, broad
grave	very slow, solemn
adagio	slow
andante	moderately slow, a walking pace
moderato	moderate
allegretto	moderately fast
allegro	fast
vivace	lively
presto	very fast
prestissimo	as fast as possible

Tempo indications are often made more specific by qualifiers, such as *molto (much)* and *non troppo (not too much):* thus *allegro molto* means *very fast* and *allegro non troppo* means *not too fast.* The same tempo is not always used throughout a piece. Gradual speeding up may be indicated by ***accelerando*** *(becoming faster),* and slowing down by ***ritardando*** *(becoming slower).*

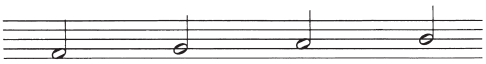
All these terms (again, like dynamics) are relative and approximate; different performers interpret them differently, and there is no one "right" tempo for a piece. This is true even though, since about 1816, composers have been able to indicate tempo by a metronome setting. A ***metronome*** is a device that ticks or flashes a light at any desired musical speed, and a metronome setting indicates the exact number of beats per minute.

Music Notation

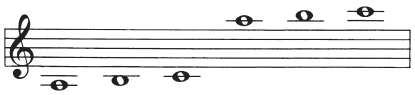
We use written words to express our thoughts and communicate with others when we cannot be with them. In music, ideas are also written down, or *notated*, so that performers can play pieces unknown to them. ***Notation*** is a system of writing music so that specific pitches and rhythms can be communicated. It is explained here—very briefly—primarily to help you recognize rising and falling melodic lines and long and short notes so that you can follow the music examples in this book. (You will find it helpful to review the material on pitch in Section 1, and rhythm in Section 3.)

Notating Pitch

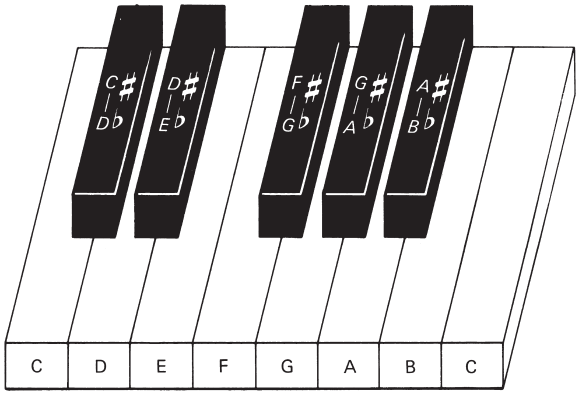
With music notation, we can indicate exact pitches by the upward or downward placement of symbols—called *notes*—on a *staff*. A ***note*** is an oval. (Its duration is indicated by whether it is black or white or has a *stem* and *flags*, as will be explained later, under "Notating Rhythm.") A ***staff*** (plural, *staves*) is a set of five horizontal lines. Notes are positioned either on the lines of the staff or between them, in the spaces; the higher a note is placed on the staff, the higher its pitch:



If a pitch falls above or below the range indicated by the staff, short, horizontal ***ledger lines*** are used:



Seven of the twelve pitches (tones) that fill the octave in western music are named after the first seven letters of the alphabet: A, B, C, D, E, F, G. This sequence is repeated over and over to represent the "same" tones in higher and lower octaves, and it corresponds to the white keys of the piano. The other five tones of the octave correspond to the black keys of the piano and are indicated by one of the same seven letters plus a ***sharp sign*** (♯) or a ***flat sign*** (♭) (see the illustration on page 36). Thus the pitch between C and D may be called C sharp (C♯; higher than C) or D flat (D♭; lower than D). A ***natural sign*** (♮) is used to cancel a previous sharp or flat sign.

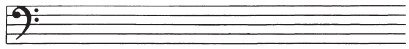


The twelve pitches of the octave and their positions on the piano keyboard.

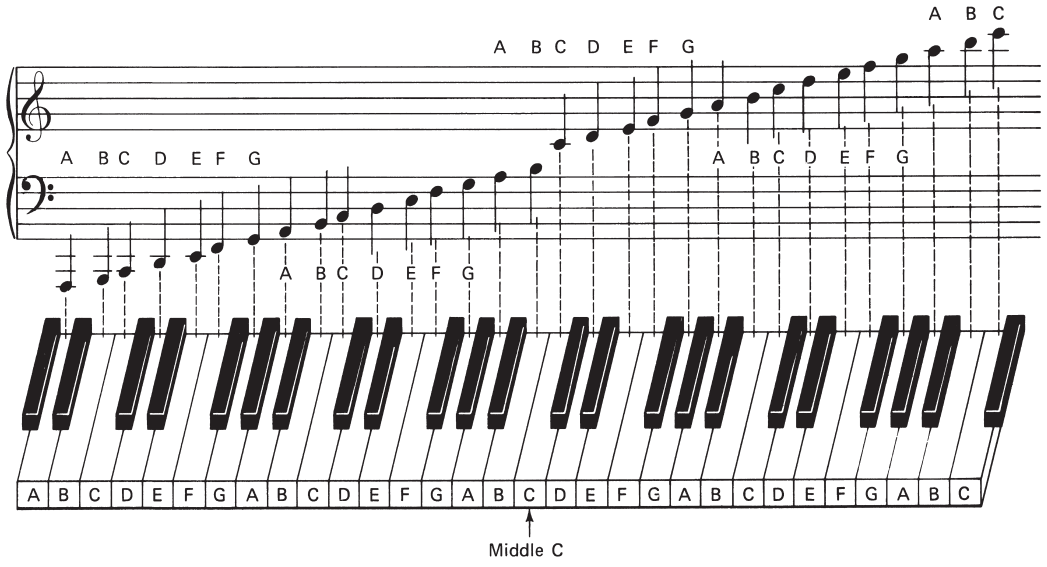
A ***clef*** is placed at the beginning of the staff to show the pitch of each line and space. The two most common clefs are the ***treble clef,*** used for relatively high ranges (such as those played by a pianist's right hand), and the ***bass clef,*** used for relatively low ranges (played by the pianist's left hand):

Treble Clef

Bass Clef



Keyboard music calls for a wide range of pitches to be played by both hands; for such music, the ***grand staff***—a combination of the treble and bass staves—is used. The following illustration shows how the notes on the grand staff are related to the piano keyboard. Note that the C nearest to the middle of the keyboard is called ***middle C.***

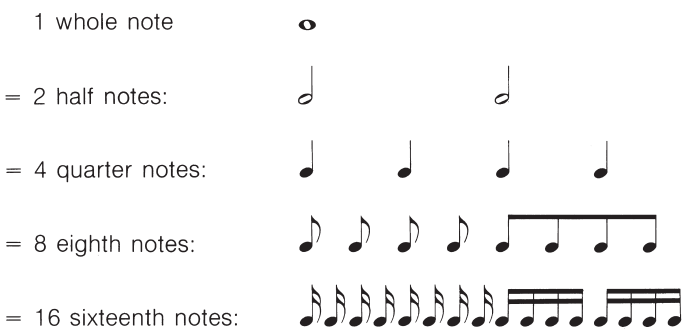


Notes on the grand staff and their positions on the piano keyboard.

Notating Rhythm

Music notation does not indicate the exact duration of tones; instead, it shows how long one tone lasts in relation to the others in the same piece. A single note on the staff lasts longer or shorter depending on how it looks—on whether it is white or black and has a ***stem*** or ***flags.***

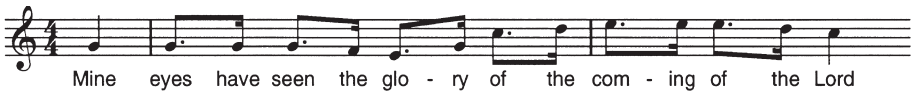
The chart below shows the relationships of the duration symbols:



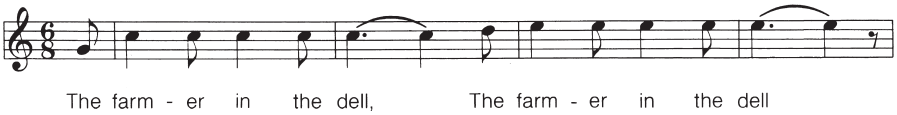
One whole note lasts as long as 2 half notes or 4 quarter notes, and so on. As shown, the flags of several eighth notes or sixteenth notes in succession are usually joined by a horizontal ***beam.***

To lengthen the duration of a tone (and add rhythmic variety), we can make it a ***dotted note;*** adding a dot (·) to the right of a note increases its duration by half. Thus, 1 quarter note ordinarily equals 2 eighth notes, but 1 dotted quarter note equals 3 eighth notes:

Frequently, a dotted note is followed by a note that is much shorter; this long-short pattern, called ***dotted rhythm,*** strongly emphasizes the beat (and is therefore often used in marches).



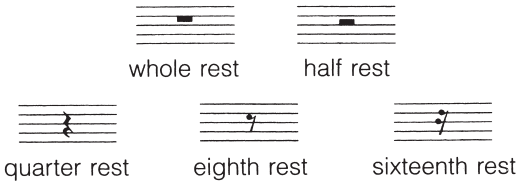
A ***tie*** (⁀) is another way to lengthen the duration of a note. When two notes in a row are the same pitch and are connected by a tie, the first note is lengthened by the duration of the second. In the following example, the tone on *dell* lasts as long as 1 dotted quarter note plus 1 quarter note; the two tied notes become one continuous sound:



We can also add rhythmic variety by shortening the duration of a note. One method is the ***triplet,*** three notes of equal duration notated as a group within a curved line and the number 3. Such a group lasts only as long as if it were two notes of equal value:

Notating Silence (Rests)

Duration of silence is notated by using a symbol called a ***rest.*** Rests are pauses; their durations correspond to those of notes:

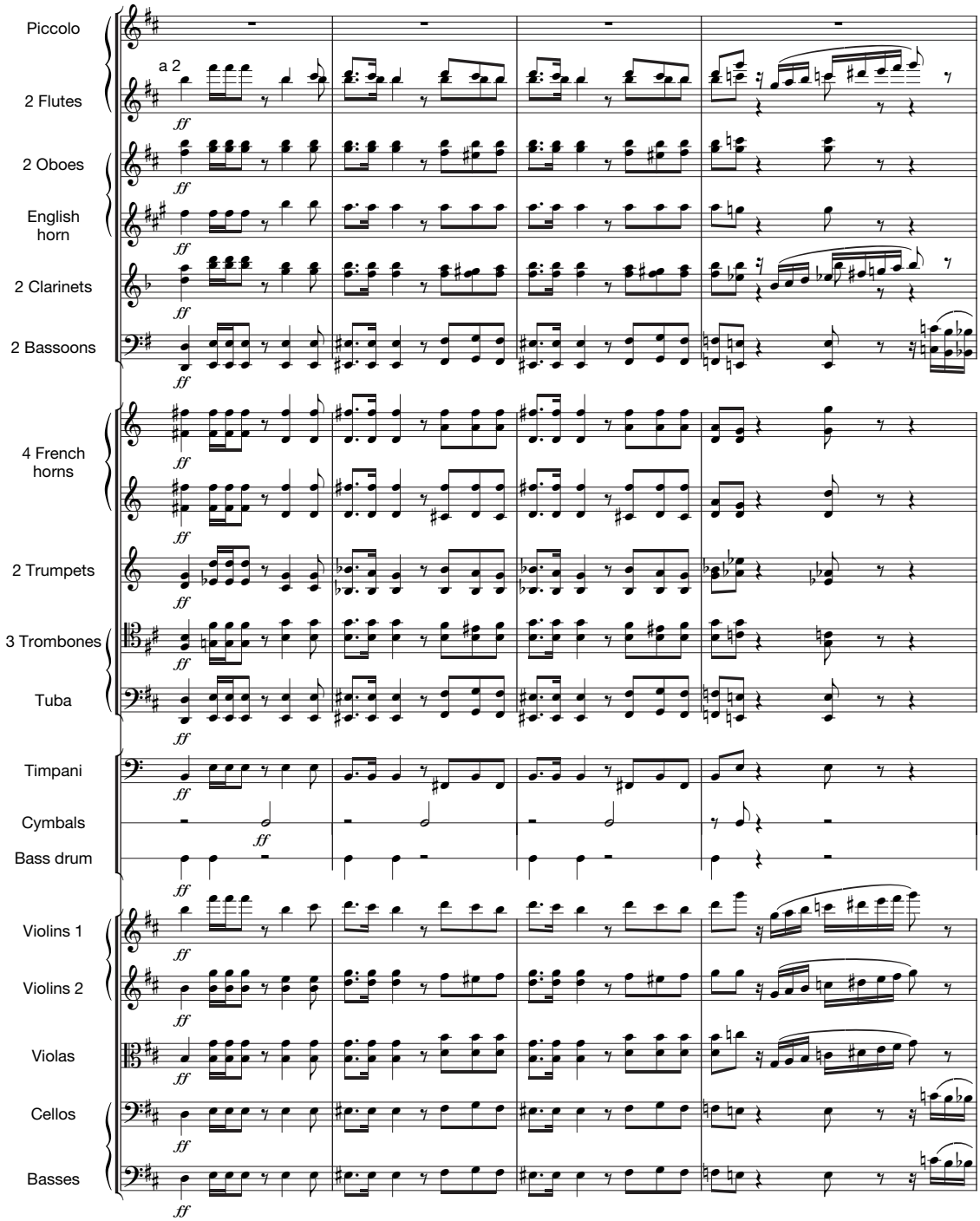


Notating Meter

A ***time signature*** (or ***meter signature***) shows the meter of a piece. It appears at the beginning of the staff at the start of a piece (and again later if the meter changes) and consists of two numbers, one on top of the other. The upper number tells how many beats fall in a measure; the lower number tells what kind of note gets the beat (2 = a half note, for instance, and 4 = a quarter note). Thus a $\frac{2}{4}$ time signature shows that there are 2 beats to the measure (duple meter) and a quarter note gets 1 beat. Duple meter may also be shown as $\frac{2}{2}$ (or by its symbol, ¢); quadruple meter is usually $\frac{4}{4}$ (or 𝐜). The most common triple meter is $\frac{3}{4}$.

The Score

An orchestral ***score*** shows the music for each instrumental or vocal category in a performing group; often, a score will show more than twenty different staves of notation (see the illustration on the next page).



A page from the orchestra score of Tchaikovsky's *Romeo and Juliet.*