

CHAPTER 1

Pitch Notation and the Grand Staff

Musical Contour

Listen to the lyrical clarinet solo drawn from Copland's ballet *Appalachian Spring*, shown in music notation in Example 1.1. Follow the shape of the musical line as you listen.

EXAMPLE 1.1 Copland, "Simple Gifts," from *Appalachian Spring*, mm. 1–3a

The musical notation shows a single staff with a treble clef and a key signature of two flats. It begins with a whole rest, followed by a quarter note with a stem pointing up and a note head. This is followed by a series of eighth notes, with a 'high point' label above the peak. The notation then descends, with a 'descending contour' label below the final notes. The piece is marked with a piano 'p' dynamic.

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The musical notation above—the **score**—shows various symbols that represent musical sounds. The most basic symbol is the **note**. Each note, written as a small oval (either black or hollow) attached to a **stem** going either up or down, represents a single musical sound, or **pitch**. Notes are written higher or lower on the five horizontal lines of a musical **staff**; this shows graphically the “shape,” or **contour**, of a melody. Pitches 1 to 5 of “Simple Gifts” represent an **ascending contour**, and the notation on the staff likewise moves upward from left to right, each note higher than the previous one. The final four pitches move downward in a **descending contour**. Most music—like Copland’s melody—moves both up and down, with melodic contours forming arches and waves, often with a single high point, as marked in the middle of this tune.

TOPICS

- musical contour
- introduction to pitch notation: letter names
- the piano keyboard: naming white keys
- staff notation
- treble and bass clefs
- naming pitches with octave numbers
- ledger lines
- the grand staff
- writing music in a score

MUSIC

- John Barnes Chance, *Variations on a Korean Folk Song*
- Aaron Copland, “Simple Gifts,” from *Appalachian Spring*
- James Horner, Barry Mann, and Cynthia Weil, “Somewhere Out There,” from *An American Tail*
- Elton John and Tim Rice, “Circle of Life,” from *The Lion King*
- Scott Joplin, “Solace”
- Joel Phillips, “Blues for Norton”
- Lalo Schifrin, theme from *Mission: Impossible*

As soon as possible, memorize the note names for each line and space. Learn the "line notes" together and the "space notes" together, as in Example 1.4. To remember note names of the lines (E G B D F), you might make up a sentence whose words begin with these letters, like "Every Good Bird Does Fly." The spaces simply spell the word FACE.

EXAMPLE 1.3 Treble clef (G-clef) ③

G = letter G →

middle C

EXAMPLE 1.4 Treble-clef lines and spaces

TRY IT #2

(a) Write the letter name of each pitch in the blanks below. ③

(1) B (2) ___ (3) ___ (4) ___ (5) ___ (6) ___ (7) ___ (8) ___ (9) ___ (10) ___ (11) ___ (12) ___

(b) Listen to the beginning of "Somewhere Out There," shown below, then write the letter names in the blanks. Circle the highest and lowest pitches.

Horner, Mann, and Weil, "Somewhere Out There," mm. 9–12 (voice) ③

(1) E (2) ___ (3) ___ (4) ___ (5) ___ (6) ___ (7) ___ (8) ___ (9) ___ (10) ___

Now listen to Example 1.5, the beginning of Chance's *Variations on a Korean Folk Song*, while looking at the music shown in the example. This lower-sounding melody is written in the bass clef.

EXAMPLE 1.5 Chance, *Variations on a Korean Folk Song*, mm. 1–4a ③

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The bass clef, representing the lower notes on a keyboard, is also known as the F-clef: it somewhat resembles a cursive capital F, and its two dots surround the line that represents F. Other pitches may be counted from F, or memorized according to their positions on the staff, shown in Example 1.6. Example 1.7 shows the lines and spaces labeled with their letter names. Two ways to remember the bass-clef spaces (A C E G) are "All Cows Eat Grass" and "All Cars Eat Gas." The bass-clef lines (G B D F A) might be "Great Big Doves Fly Away."

EXAMPLE 1.6 Bass clef (F-clef) ③

F = letter F →

middle C

EXAMPLE 1.7 Bass-clef lines and spaces

TRY IT #3

(a) Identify the pitches on the bass staff below with letter names. ③

(1) F (2) ___ (3) ___ (4) ___ (5) ___ (6) ___ (7) ___ (8) ___ (9) ___ (10) ___ (11) ___ (12) ___

(b) Listen to the beginning of "Blues for Norton." The lowest part is shown below. Then write the letter names for the pitches that have blanks beneath them. Circle the highest and lowest pitches.

Phillips, "Blues for Norton" (bass line), mm. 2–3 ③

(1) F (2) ___ (3) ___ (4) ___ (5) ___ (6) ___ (7) ___ (8) ___

ASSIGNMENT 1.1

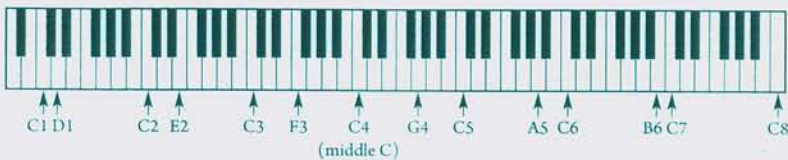
Naming Pitches with Octave Numbers

In the bass and treble clefs, letter names reappear in different octaves, as seen in the previous examples. To specify exactly in which octave a pitch appears, use octave numbers.

KEY CONCEPT As Figure 2.1 shows, the lowest C on a standard piano keyboard is designated C1, and the highest is C8; middle C is C4. The number for a particular octave includes all the pitches from C up to the following B.

The B above C4, for example, is B4; the B below C4 is B3. The white notes below C1 on the piano are A0 and B0. This pitch labeling system is standard for today's musicians, acousticians, and engineers.

FIGURE 1.2 Piano keyboard with octave numbers



Ledger Lines

Some of the pitches on the piano keyboard, including middle C, cannot be notated on the five lines and four spaces of the treble or bass staff.

KEY CONCEPT When music extends above or below the staff, extra lines—called ledger lines—are drawn to accommodate these notes (Example 1.8). Read ledger lines (and the spaces between them) just like other staff lines and spaces: by counting forward or backward in the musical alphabet.

EXAMPLE 1.8 Ledger lines above and below the staff

(a) Treble clef

(b) Bass clef

(c) Octaves from C2 to C6

KEY CONCEPT The highness or lowness of a pitch (in other words, the octave in which it lies) is called its **register**. Whether an instrument is playing in its higher or lower register can determine its **timbre**, or sound quality.

Singing voices also have different registers, which can be used to create certain moods and effects. In Example 1.9, from "Circle of Life," the low range of the melody is important to setting the mood. Some pitches are marked with their octave numbers; try identifying others.

EXAMPLE 1.9 John and Rice, "Circle of Life," from *The Lion King*, mm. 1–8

It takes a little practice to identify notes written with ledger lines. Example 1.10 provides a few landmarks for each clef.

KEY CONCEPT The ledger-line notes below the treble staff are F A C; those above the staff are A C E. The ledger-line notes below the bass staff are A C E; those above the staff are C E G.

EXAMPLE 1.10 Ledger-line landmarks

(a) Treble clef

(b) Bass clef

TRY IT #4

Write the letter name and octave number for each pitch given below.

(a)

(1) B3 (2) ___ (3) ___ (4) ___ (5) ___ (6) ___ (7) ___ (8) ___ (9) ___ (10) ___

(b)

(1) G3 (2) ___ (3) ___ (4) ___ (5) ___ (6) ___ (7) ___ (8) ___ (9) ___ (10) ___

ASSIGNMENT 1.2

The Grand Staff

Keyboards, and other instruments that play very high and low notes, read music on the grand staff like the one in Example 1.11.

KEY CONCEPT A treble staff and a bass staff connected by a curly brace make a **grand staff**.

Ledger lines may extend above and below the grand staff. Notes that fill in the middle, between the two staves, may be written in either clef. In the example, the notes in parentheses are alternate notations for those without parentheses.

EXAMPLE 1.11 The grand staff with pitches in its middle register

Listen to the opening of Joplin's "Solace," while following the score in Example 1.12. This passage shows ledger lines between the staves. The octave designation of the bass-clef F, written with ledger lines at the beginning of the example, is F4. This note could also have been written in the treble clef on the bottom space. In piano music with ledger lines written between the staves, the ranges of the two hands overlap; the clef shows which hand is supposed to play a particular note. Treble clef generally indicates the right hand, bass clef the left hand.

EXAMPLE 1.12 Joplin, "Solace," mm. 5–12

TRY IT #5

The example on the grand staff below includes many notes written with ledger lines. For each note with a blank beneath it, write the letter name and octave number. Then locate these pitches on a keyboard.

Schifrin, theme from *Mission: Impossible*, mm. 1–2

Writing Music in a Score

Writing music correctly (and neatly) helps those performing your music to read fluently and without errors. You can draw a treble clef in a single continuous curved line, or in two strokes as shown in Example 1.13: (1) first draw a wavy line from top to bottom, like an elongated S; then (2) draw a second line that starts at the top and curves around it (ending on the G line). The bass clef is drawn in two steps as well: (1) draw an arc that looks a bit like a backward C, then (2) add two dots that surround the F line.

EXAMPLE 1.13 Drawing clefs

When you draw note heads on the staff, make them oval-shaped rather than round, and they should not be so large that it's hard to tell whether they sit on a line or in a space (Example 1.14a).

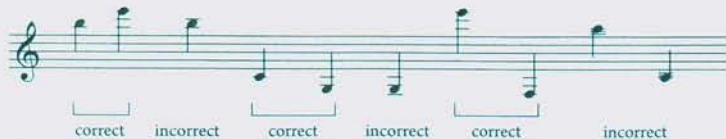
KEY CONCEPT Most notes have thin vertical lines, called stems, that extend above or below the note head. If a note lies below the middle line of the staff, its stem usually goes up, on the right side of the note head; if a note lies on or above the middle line, its stem goes down, on the left side (part b).

The stem of a note on the middle line can, however, go up if the notes around it have stems up (both stem directions are shown in part b). The length of the stem from bottom to top spans about an octave.

EXAMPLE 1.14 Notation guidelines

Example 1.15 shows ledger lines drawn correctly and incorrectly. When you write notes above the staff, draw ledger lines through the note heads or beneath them, but never above them. Note heads below the staff have ledger lines through them or above them, but never beneath. Draw ledger lines the same distance apart as staff lines.

EXAMPLE 1.15 Ledger-line pitches



SUMMARY

When notating music, write neatly so that others can read your score easily and accurately.

- Draw a clef at the beginning of each staff.
- To indicate a grand staff, draw a long line and curly brace to connect the treble and bass staves on the left side.
- Draw both black and hollow note heads as neat ovals on or between staff lines.
- For ledger-line notes, draw ledger lines parallel to staff lines, the same distance apart, and between the note head and the top or bottom staff line.
- Draw straight, thin stems that span about an octave and follow the guidelines for stem direction.

You will learn more notational guidelines for rhythm and other topics in later chapters.

ASSIGNMENT 1.3, AURAL SKILLS 1.1

Did You Know?

Sir Elton John was born Reginald Kenneth Dwight in 1947. The child of a musician, he began studying piano at age four and won a scholarship to the Royal Academy of Music at age eleven. By the 1970s, John had become a pop superstar with a Top 40 single every year from 1970 to 1996. Among his most famous songs are “Your Song,” “Goodbye Yellow Brick Road,” songs from *The Lion King* (including “Circle of Life,” Example 1.9), and “Candle in the Wind.” This last song, originally a tribute to Marilyn Monroe, John rerecorded as a tribute to Princess Diana after her untimely death in 1997. “Candle in the Wind” became his biggest hit ever, selling over three million copies in the United States in its first week. John contributed royalties from this recording to Princess Diana’s favorite charities.



Terms You Should Know

clef	letter name	octave equivalence
treble	ledger line	pitch
bass	middle C (C4)	register
contour	musical alphabet	score
ascending	note	staff (staves)
descending	note head	stem
grand staff	octave	timbre

Questions for Review

1. Which alphabet letters represent pitches?
2. Why are clefs necessary?
3. Why is a treble clef also called a G-clef? Why is a bass clef also called an F-clef?
4. What are the letter names for the lines on the treble staff? on the bass staff?
5. What are the letter names for the spaces on the treble staff? on the bass staff?
6. How many letter names apart are notes that span an octave?
7. What is the purpose of ledger lines?
8. When is a grand staff used? What does it consist of?
9. To which side of the note head do ascending stems connect? To which side do descending stems connect?
10. How do you decide whether stems should go up or down?

Reading Review

Match the terms on the left with the best answer on the right.

- | | |
|------------------------------|--|
| _____ (1) E-G-B-D-F | (a) |
| _____ (2) score | (b) five lines and four spaces on which music is notated |
| _____ (3) ledger lines | (c) notation of a piece of music |
| _____ (4) octave equivalence | (d) letter names for treble-clef spaces |
| _____ (5) clef | (e) attached to note heads above the middle line |
| _____ (6) musical contour | (f) similarity in sound of notes with the same letter name |
| _____ (7) F-A-C-E | (g) the shape of a musical line |
| _____ (8) treble-clef symbol | (h) letter names for treble-clef lines |
| _____ (9) G-B-D-F-A | (i) used to notate pitches above or below the staff lines |
| _____ (10) A-C-E-G | (j) ovals written on a staff to represent pitches |
| _____ (11) bass-clef symbol | (k) attached to note heads below the middle line |
| _____ (12) notes | (l) specifies the octave register of a pitch |
| _____ (13) octave number | (m) middle C |
| _____ (14) grand staff | (n) treble- and bass-clef staves joined with a curly brace |
| _____ (15) stems down | (o) letter names for bass-clef lines |
| _____ (16) C4 | (p) letter names for bass-clef spaces |
| _____ (17) stems up | (q) symbol that gives notes on a staff their letter names |
| _____ (18) staff | (r) |

Additional review and practice available at wnorton.com/studyspace

Class Activities

Because singing and playing piano can help you understand and remember musical concepts, these performing activities will make up a significant part of your study. Most of these activities can be completed in class: sing as a group, or arrange to use the piano in groups. Others can be practiced on your own, if you have access to a keyboard.

When singing:

- Don't be shy; sing out with enthusiasm!
- Don't worry about the quality of your voice. For our purposes, you only want to sing accurate pitches and rhythm.
- Sing every chance you get. Everything improves with practice.
- Sing a warm-up pattern first (like the one below) to orient your voice and ear to the music.

When playing:

- Keep your fingers curved.
- Don't depress any pedals for now.
- Typically, play different notes with different fingers. When it matters, specific fingering will be suggested.

A. Singing

For each warm-up pattern below, sing on the syllables given, in order to achieve an open and free sound. Also practice on the "lyrics" shown, *do-re-mi-fa-sol*, or numbers 1̂ to 5̂. You will learn more about these lyrics in Chapter 6.

(1)

(2)

(3)

Refer to this page when warming up by yourself. Sing these melodies often until your voice becomes stronger and your range wider. To begin, play a pitch on the keyboard that you can sing comfortably; sing a pattern starting on this pitch. Then play the next-higher note and sing the pattern again. Continue, each time one note higher, until the melody gets too high; then stop. Choose a new pattern and repeat the process.

B. At the keyboard

1. Play the following notes on the keyboard in two or more different octaves.

Solo: Play additional random white-key notes, then say their letter names. **Duet:** One person plays a pitch and the other person names it, then switch roles. **Variation:** Sing each note as you play.

- | | | | |
|-------|-------|-------|-------|
| (a) C | (f) D | (k) G | (p) C |
| (b) A | (g) B | (l) F | (q) E |
| (c) E | (h) A | (m) D | (r) D |
| (d) G | (i) C | (n) A | (s) B |
| (e) F | (j) E | (o) B | (t) G |

2. Play the following notes on the keyboard in the octave specified.

- | | | | |
|--------|--------|--------|--------|
| (a) B5 | (f) F5 | (k) E5 | (p) D6 |
| (b) F3 | (g) D4 | (l) F4 | (q) G4 |
| (c) E2 | (h) G6 | (m) A3 | (r) A5 |
| (d) A4 | (i) B3 | (n) C1 | (s) E3 |
| (e) C6 | (j) A2 | (o) B4 | (t) F6 |

C. Listening and writing

After establishing a home pitch, your teacher will create a melody by pointing to a series of items—pitches, letter names, or piano keys—like those shown below.

1. When the teacher points to an item, immediately sing it with its letter name.
2. Once the melody is complete, sing it until you have memorized it.
3. Write the melody with letter names, or notate it on a treble or bass staff with pitches.
4. Make your own point-and-sing exercises. **Solo:** Point to an item, sing it, then check your pitch by playing it at the keyboard. **Duet:** Point to the chart while a partner sings, then switch roles.

B C D E F G A
↑
home

B C D E F G A
↑
home

B C D E F G A
↑
home

NAME _____

Workbook ASSIGNMENT 1.1

1. Letter names

a. Fill in the letter name requested. Remember to count the letter you begin with.

- | | | |
|------------------------------|------------------------------|-------------------------------|
| (1) 6 above C: <u> A </u> | (5) 4 above D: <u> </u> | (9) 7 above C: <u> </u> |
| (2) 3 above G: <u> </u> | (6) 2 above E: <u> </u> | (10) 5 below B: <u> </u> |
| (3) 2 below F: <u> </u> | (7) 4 below D: <u> </u> | (11) 7 above G: <u> </u> |
| (4) 7 below A: <u> </u> | (8) 5 below E: <u> </u> | (12) 3 below A: <u> </u> |

b. On the keyboards below, write each letter name on its corresponding key.

(1) C, D, G, B

(2) E, F, A, B

c. On the keyboards below, write each letter name on every key with that name (in three octaves).

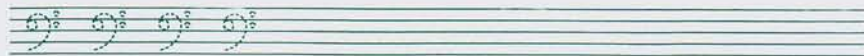
(1) C, E, A

(2) G, B, D

2. Drawing clefs

a. Trace the treble clefs given in dotted lines; then draw additional clefs.

b. Trace the bass clefs given in dotted lines; then draw additional clefs.



3. Reading notes in treble and bass clefs

a. Write the letter name of each pitch in the blank provided. ④



b. In each blank, write the letter name of the note above.

(1) Stevie Wonder, "You Are the Sunshine of My Life," mm. 5-11 ④



(2) Horner, Mann, and Weil, "Somewhere Out There," mm. 13-16 ④

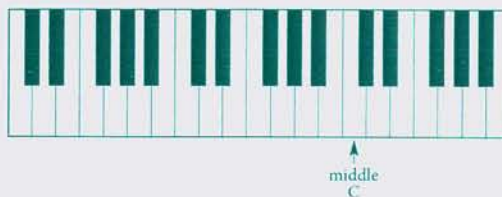
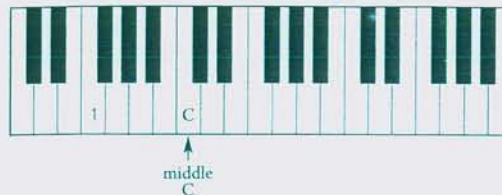


NAME _____

Workbook ASSIGNMENT 1.2

1. Identifying pitches with ledger lines and octave numbers

a. For each pitch notated on the staff, write its number on the correct key of the keyboard. Write the letter name and octave number on the blank beneath, as shown. ④



b. Beneath each pitch, write its letter name and octave number. ④



c. In the passages below, write the letter name and octave number for any ledger-line note marked with an arrow.

(1) Mozart, *Variations on "Ah, vous dirai-je Maman,"* mm. 1–8

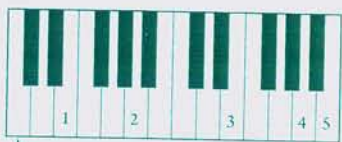
C4 _____

(2) Mozart, *Variations, Var. VII,* mm. 187–192

(3) Horner, Mann, and Weil, "Somewhere Out There," mm. 16b–20

2. Writing pitches with ledger lines and octave numbers

For each number on the keyboard, write the corresponding hollow note head on the staff below it. Write the letter name and octave number in the blank provided.



↑
middle
C



↑
middle
C

(1) E4 (2) _____ (3) _____ (4) _____ (5) _____

(6) _____ (7) _____ (8) _____ (9) _____ (10) _____

NAME _____

Workbook ASSIGNMENT 1.3

1. Writing pitches with ledger lines, stems, and octave numbers

a. For each note requested, neatly write a hollow note head on the correct line or space of the staff, then add a stem that extends in the correct direction.

E4 A5 C6 G4 F3 G5 B3 E5 F6 C4 G3

F2 C4 B2 A3 D2 E4 G3 F4 C2 B3 G2

b. In the first row of blanks below the staff, label each pitch with letter name and octave number. Then, above or below the given note, rewrite the note in the new octave as specified. In the second row of blanks, write the letter name with its new octave number.

(1) Rewrite exactly two octaves lower.

Original: A3 _____
New letter name: A1 _____

(2) Rewrite exactly two octaves higher.

Original: B3 _____
New letter name: B5 _____

2. Arranging: Changing clef and octave

Rewrite the pitches of each melody down one or two octaves as specified, on the staff provided. Copy the original notation, but change stem direction as needed.

a. Elton John and Tim Rice, "Circle of Life," from *The Lion King*, mm. 1–3. Write the music down one octave.

From the day we ar-rive...

b. Billy Joel, "Piano Man," mm. 71b–78. Write the music down two octaves.

Well we're all in the mood...

c. Rewrite the beginning of "Amazing Grace" up one octave, as though scored for violin or flute. You'll need to use ledger lines.

A-maz-ing-grace, how sweet the sound That saved a wretch like me!

NAME _____

Workbook AURAL SKILLS 1.1

Listen to an excerpt from a familiar melody. The excerpt consists of four segments. Segments 1 and 2 each include four pitches. Segments 3 and 4 each have three pitches.

1. Focus on segment 1, the first four pitches. Which of the following best diagrams the segment's contour?

a. b. c. d.

2. Focus on the ending. Which of the following best diagrams segment 4's contour?

a. b. c. d.

3. Which of the following best describes how the segments are organized?

Segment 1	Segment 2	Segment 3	Segment 4
a. idea 1	idea 1 repeated	idea 2	idea 1 returns
b. idea 1	idea 1 repeated	idea 2	idea 2 repeated
c. idea 1	idea 2	idea 3	idea 4
d. idea 1	idea 2	idea 1 returns	idea 2 returns

4. On the staff below, notate segment 1 with the pitches C, D, and E.

a. Draw a treble-clef sign.

b. Begin on middle C. First, draw its ledger line below the staff, then draw its oval note head on this ledger line. (Don't worry about stems or rhythm for now.)

c. Notate the rest of segment 1's pitches. Make sure your note heads stay only on the appropriate line or in the appropriate space.

5. On the staff below, notate segment 4 with the pitches E, F, and G.

- Draw a treble clef.
- Begin on E4, the first (lowest) staff line. Draw its oval note head on this line. (Again, don't worry about stems or rhythm.)
- Notate segment 4's remaining pitches. Make sure your note heads stay only on the appropriate line or in the appropriate space. Hint: Think of the segment's contour (the answer to question 2).



6. On the staff below, notate the pitches of the *entire* melody.

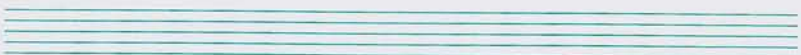
- Draw a treble clef.
- Begin with segment 1, your answer to question 4.
- To continue with segments 2 and 3, consult your answer to question 3.
- Conclude with segment 4, your answer to question 5.



Play your answer at the keyboard. Sing with the letter names C, D, E, F, and G. Tune your singing to the sound of the keyboard.

7. On the staff below, notate the pitches of the entire melody in the bass clef, down one octave.

- Draw a bass clef.
- Consult your answers to question 6.



Again, play your answer at the keyboard.

8. On the staff below, notate the entire melody in bass clef, beginning on middle C, and using ledger lines. It should sound in the same octave as your answer for question 6.

