CONTEMPORARY MUSIC THEORY

a complete guide for the worship musician

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Foundations of Music Notation

1-1 The Staff, Notes, and Pitch Direction

In Western musical notation, a **musical staff** is a set of five horizontal lines and four spaces used to notate musical pitches. Each line and space represent a specific note name.

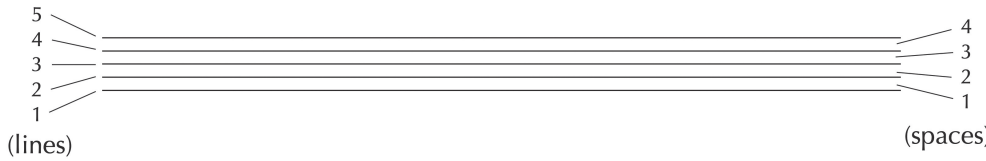


Figure 1–1 | The musical staff

A notehead is the oval-shaped (or elliptical-shaped) part of a note that indicates which pitch on the staff is to be sounded. Depending on the rhythmic value, a notehead will either be filled-in (black) or open (white).

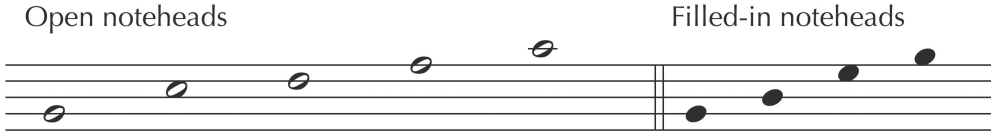


Figure 1-2 | Notehead types

The motion between two different musical pitches is either ascending or descending. This motion determines **pitch direction**. Upward motion on the musical staff is ascending pitch motion and results in higher sounding notes. Conversely, downward motion on the

musical staff is descending pitch motion and results in lower sounding notes.

Stepwise motion is movement between adjacent positions on the staff (from a line to the next space, or from a space to the next line in either direction). Any movement larger than a step is considered a **leap**.

AS = Ascending Step

AL = Ascending Leap

DS = Descending Step

DL = Descending Leap

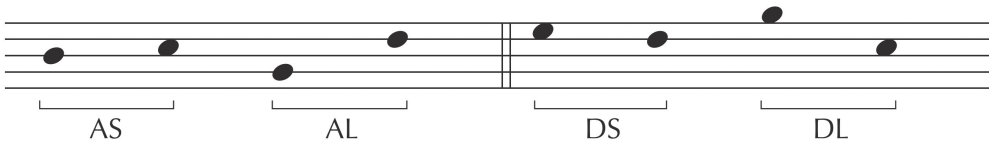


Figure 1–3 | Motion of pitch in steps and leaps

Ledger lines are extensions of the staff body and are used to notate pitches that are too high or too low for the five lines and four spaces of the musical staff.

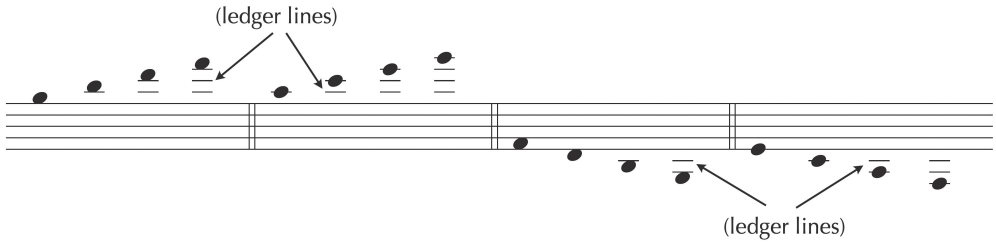


Figure 1-4 | Ledger lines

1-2 The Musical Alphabet, Keyboard, Treble Clef, and Bass Clef

The **musical alphabet** uses only seven letter names, and each line or space of the musical staff represents a different letter. (For now, we are dealing with only the natural notes of the musical alphabet.) The musical alphabet is as follows:

A B C D E F G

Here is how the musical alphabet appears on a **musical keyboard**. Again, only the natural notes—the notes that occupy the white keys on a keyboard—are indicated.

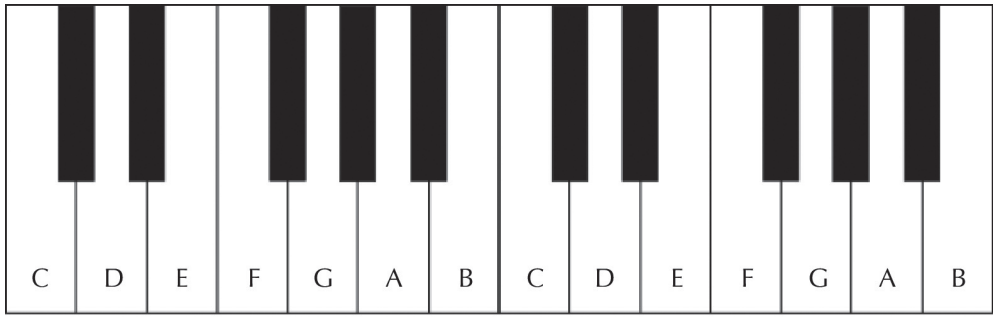


Figure 1-5 | The musical keyboard

A **musical clef** is a symbol placed at the beginning of the staff and assigns letter names to each line and space. Depending on which clef is used, the placement of the letter names on the staff changes. More than one clef exists in order to accommodate instruments and voices that have different ranges (high or low pitch).

The **treble clef**, also known as the **G clef**, is used for higher voices and instruments. Notice how the lower portion of the clef wraps around the line that indicates the pitch G, hence the name G clef. Make note of how the ledger lines extend the available range of the musical staff.

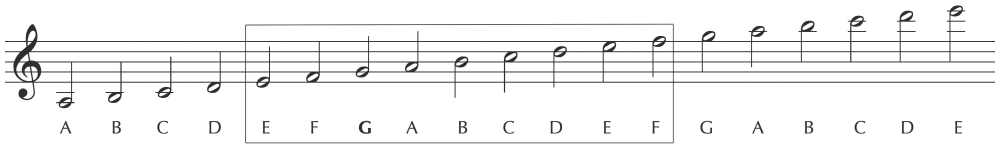


Figure 1-6 | Notes on the treble clef

One way to remember the note names of the lines and spaces on the treble clef is using acronyms.

Lines: E G B D F / **E**very **G**ood **B**oy **D**oes **F**ine

Spaces: **F A C E**

The **bass clef**, also known as the **F clef**, is used for lower voices and instruments. Notice how the two dots of bass clef symbol surround the line that indicates the pitch F, hence the name F clef.

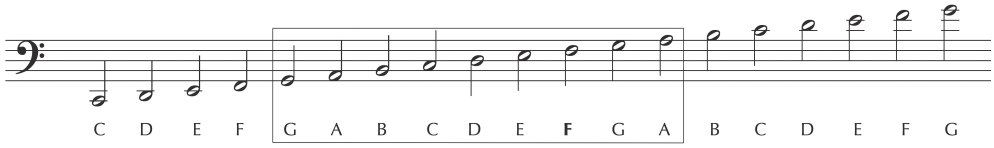


Figure 1-7 | Notes on the bass clef

The acronyms for remembering the names of the lines and spaces on the bass clef are:

Lines: G B D F A / **G**ood **B**oys **D**o **F**ine **A**lways

Spaces: A C E G / **A**ll **C**ows **E**at **G**rass

In the above staves, the boxed area indicates the notes that fall on the lines and spaces of the staff. The notes outside of the box are pitches that are too low (below the staff) and too high (above the staff). Ledger lines are used to notate these pitches. Just like on the staff, ledger lines follow the same pattern—each adjacent line or space is the adjacent letter name. When moving upward off the staff, the musical alphabet moves rightward; when moving downward off the staff, the musical alphabet moves leftward.

1-3 Accidentals

Some terminology you should know: each adjacent note on a keyboard is called a **semitone**, or **half-step**. Moving by two semitones or half-steps on the keyboard is called a **whole-step**, or **whole-tone**. We use the term **interval** to describe the relationship between two notes. Thus, a half-step and a whole-step are two different types of intervals. These terms will be important in subsequent chapters when constructing musical scales and chords.

Accidentals are used to name the black keys—the **sharp** (♯) and **flat** (♭) notes—on a keyboard. **Natural** notes (n) indicate the unaltered notes (the white keys on a piano). A sharp raises a note by one

semitone; a flat lowers a note by one semitone. Note that on the staff, the accidental is written before the notehead.

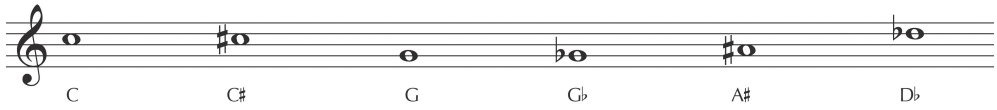


Figure 1-8 | Accidentals

Here are all of the notes on the musical keyboard:

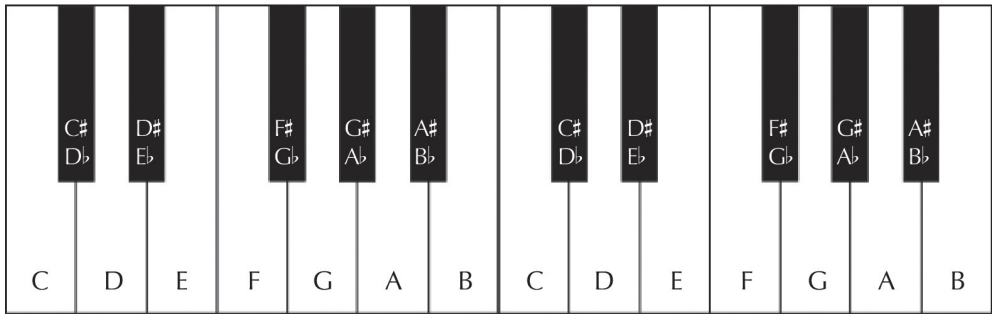


Figure 1-9 | Notes on the musical keyboard

There are a couple of important things to notice. First, there is no sharp or flat between the notes B and C or E and F. These are naturally occurring semitones in the musical alphabet. Second, it is important to understand that C♯ and D♭, while spelled differently, represent the same exact sounding note. We call these **enharmonic equivalents**, and the way we spell enharmonic equivalents is determined by the musical context, something we will explore later.

1-4 The Grand Staff

The **grand staff** (or great staff) is the combination of two individual staves joined by a bracket (to the left of the staff). Typically, it indicates that both staves are meant for a single performer (such as piano). The most common arrangement of the grand staff has a treble clef on its top staff and a bass clef for its bottom staff.

When the grand staff has a treble clef for its top staff and a bass clef for its bottom staff, **middle C** is located directly in the middle of the

two staves, framed within the narrow rectangle in the graphic below. This is the C that is located almost directly in the middle of an 88-key piano.

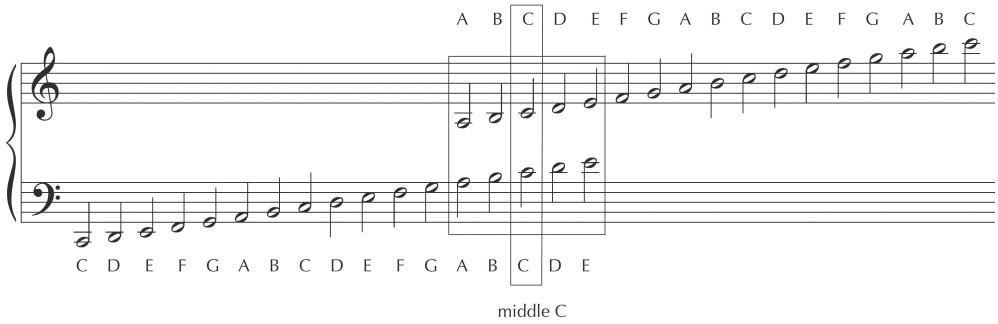


Figure 1-10 | Notes on the grand staff

There is also the possibility of notating the exact same pitches on both the treble and bass clef of the grand staff. The larger box in the graphic above shows five such notes. These notes are exactly the same—the A on the top line of the bass clef sounds the same pitch as the A two ledger lines below the treble clef.

1-5 Octave Designation and Register

In musical pitch space, there is a system of **octave designation** to describe accurately every possible musical note, from the lowest notes to the highest notes perceivable by human ears (even notes that we cannot consciously recognize). An **octave** is an interval that relates the different instances of the same letter name of the musical alphabet. For example, each adjacent instance of the note A is related by the interval of an octave.

Today, there are a number of different recognized systems for categorizing pitches. For this book we use a system where middle C is labeled “C4,” because it is the fourth C from the bottom range of the standard piano. The C above middle C is “C5,” the C above C5 is “C6,” and so on. Likewise, the C below middle C is “C3,” the C below C3 is “C2,” and so on.

It is important to know that the numerical system for octave designation revolves around C, not around the first letter of the alphabet, A. This is made clear in the example above; make note of where the numerical values change.

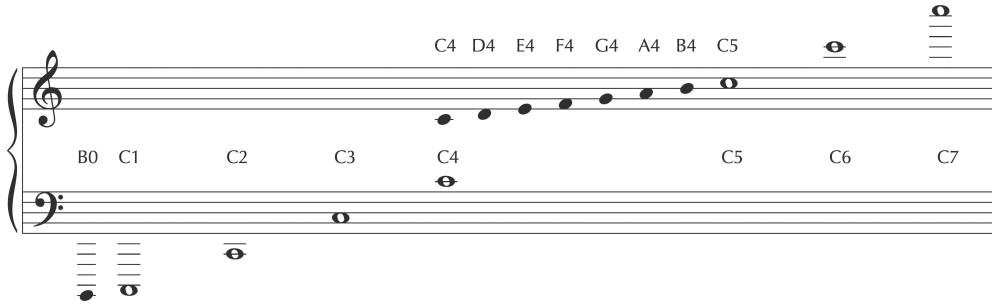


Figure 1-11 | Octave designations

When comparing different musical ideas, such as a single note, a group of notes, the notes of an instrument, or the notes of a voice, we use the term **register** to discuss their relative position in musical space. Generally, a higher register refers to a higher octave, and a lower register refers to a lower octave. Octave designation aids in our discussion of register. The example below shows a melodic idea, which is then repeated in two different registers.

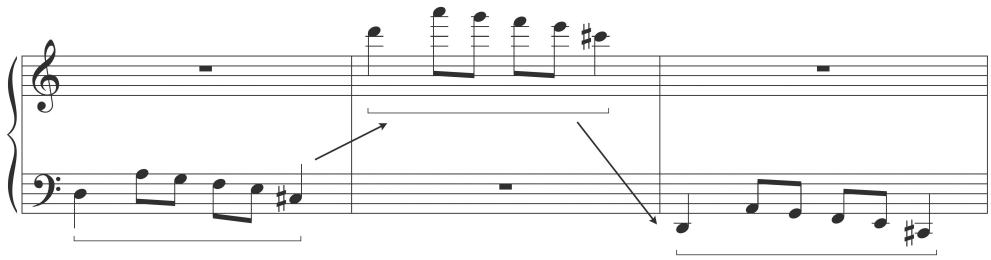


Figure 1-12 | A melodic idea written in different registers

1-6 Movable C Clef

Clefs are used to assign pitches to specific locations on the musical staff. In addition to the treble and bass clefs, there is a group of clefs known as **C clefs.** These clefs assign middle C to a specific location on the staff. Of the C clefs, the most widely used are the **Alto** and **Tenor**

clefs. The middle indentation of the clef design is what marks middle C.

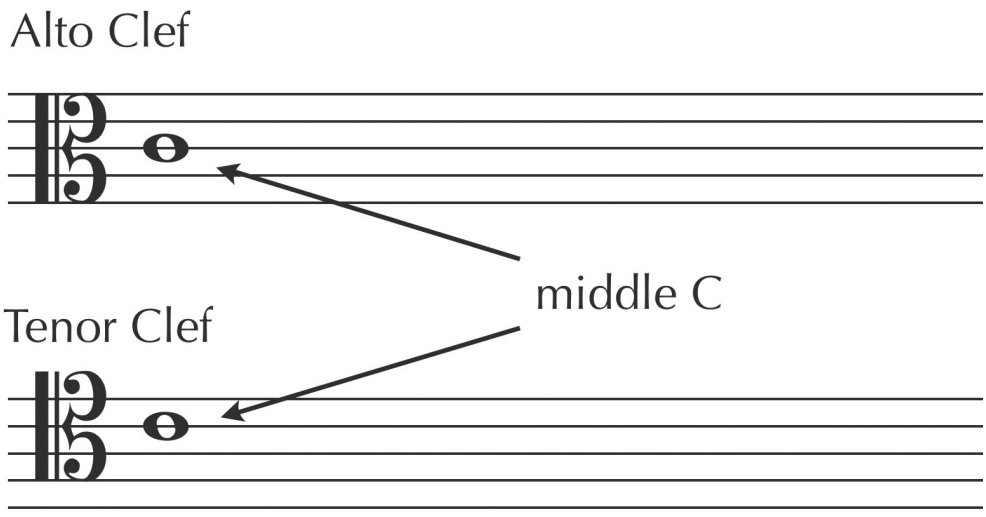


Figure 1-13 | The moveable C clef

Sometimes, when notes become too high or too low for the current clef, the clef will change to make it easier to read the music. For example, on cello, when the higher register of the instrument is used, it is common to switch from bass clef to tenor clef for ease of reading. The two excerpts below demonstrate this idea (a and b). Both show the same exact musical idea; however, it switches to tenor clef and keeps the musician from having to read so many ledger lines.

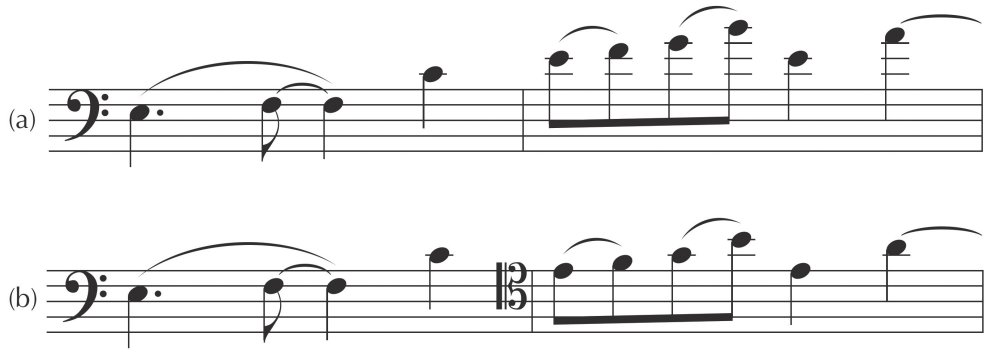


Figure 1-14 | Use of the tenor clef

1-7 Octave Transposition Clefs

There is also a set of clefs that transpose by octave—meaning that the notes written on the staff will sound either an octave higher or an octave lower than written. The octave transposition is indicated by the number "8" (octave) that appears above or below the clef depending on the direction of the transposition. Octave transposition symbols appear on both the treble clef and bass clef. Below are the four possible **octave transposition clefs**.

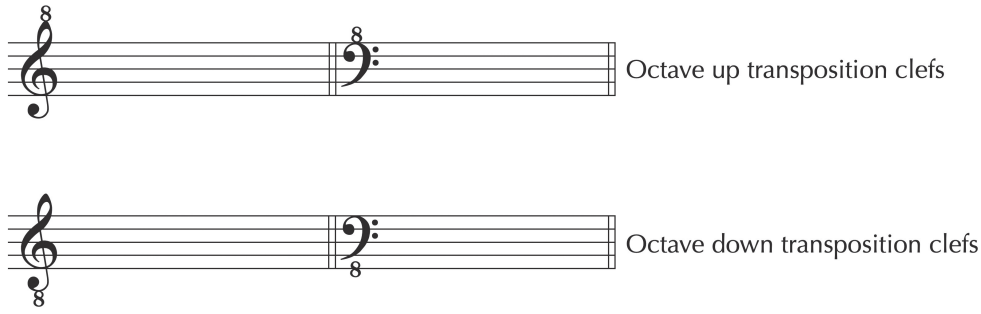


Figure 1-15 | Octave Transposition clefs

Guitar and bass both read music on clefs that transpose by octave. In both cases, the musical notes that are written sound an octave lower than they look on the staff. For both the guitar and bass, however, the use of octave transposing clefs have gone out of style. Today, standard bass and treble clefs are used with the octave transposition implied.

Below is an example of a guitar line (a) and a bass line (c), as written for the musician to read. Below each example is the line re-written as it sounds in actual musical space (b and d).

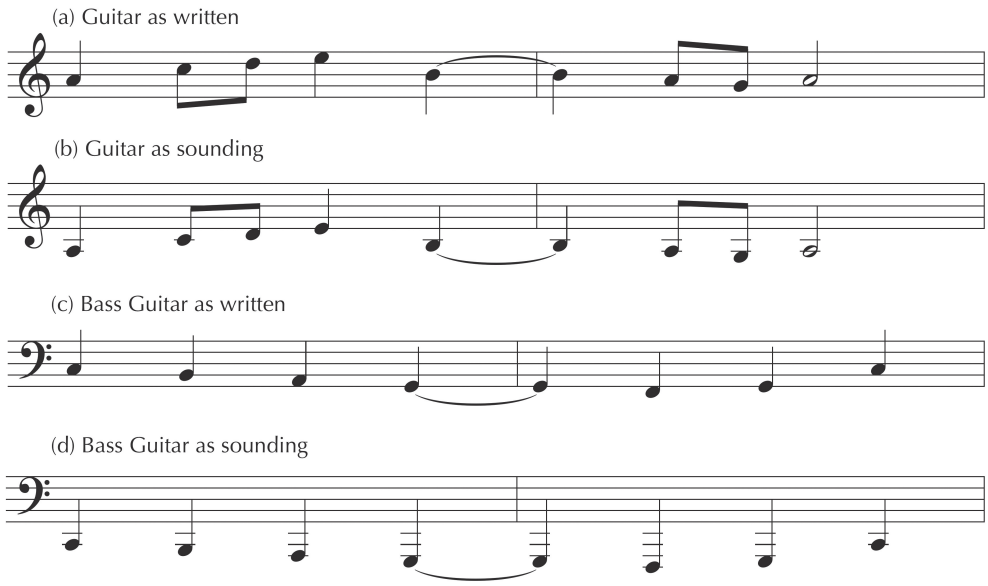
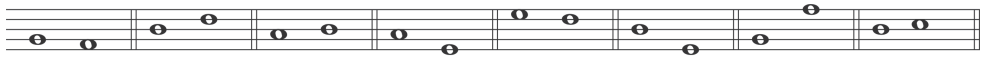


Figure 1-16 | Transposing Guitar and Bass melodies

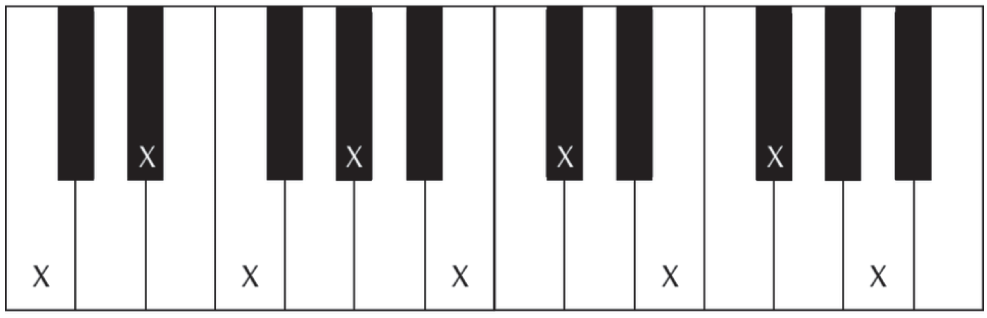
Chapter 1 Review

1. Identify each pair of notes as either an ascending step (AS), ascending leap (AL), descending step (DS), or descending leap (DL).



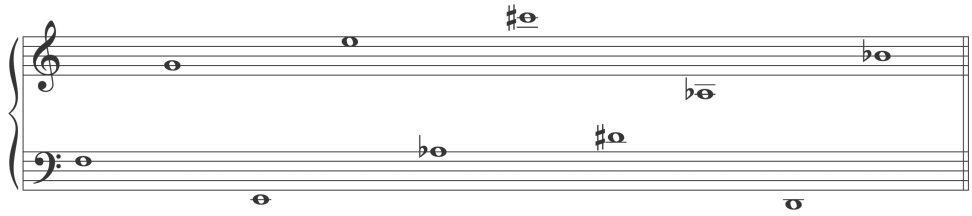
_____ _____ _____ _____ _____ _____ _____ _____

2. Label each note on the keyboard marked with an "x."



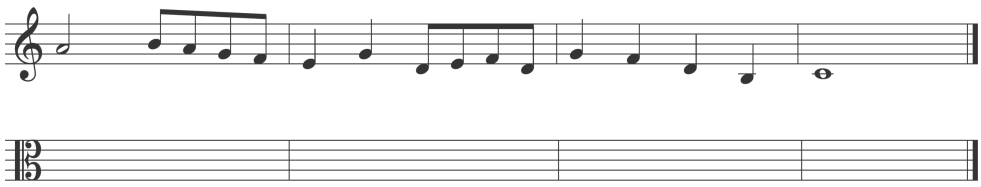
_____ _____ _____ _____ _____ _____ _____ _____ _____

3. Identify and label each note by letter name and octave designation number.



_____ _____ _____ _____ _____ _____ _____ _____ _____ _____

4. Rewrite the melody in treble clef shown below onto a staff of alto clef. Be sure to write it in the same octave. Try and make it look identical to the provided melody.



5. Rewrite the melody in bass clef shown below onto a staff of tenor clef. Be sure to write it in the same octave. Try and make it look identical to the provided melody.