

Chapter 1: The Keyboard

Pitch:

- Designation for key pitches
 - Do = C
 - Re = D
 - Mi = E
 - Fa = F
 - Sol = G
 - La = A
 - Ti = B
 - **Repeats with higher pitches**

Letter Names and Key Groups:

- 88 Keyboard = 52 white keys, 36 black keys
 - First white key on the left is A
 - Last white key on the right is C

Half and Whole Steps

- Half step (semitone) is when a key is played right next to another
 - White to black
 - Black to white
 - Sometimes white to white
 - NEVER black to black
 - Smallest distance for keys to be played
- Whole step (whole tone) is made up of two semitones
 - Non-adjacent keys played (one key in between whole steps)

Accidentals

- Sharp: #
 - Played to the right of a white note to raise the pitch by half a step
- Flat: b
 - Played to the left of a white note to lower the pitch by half a step
- White Key Accidental
 - B to C and E to F count as accidentals because they are half steps between each other
 - They can be labeled as sharps or flats



- Natural:

- This is just the white key (as opposed to G sharp/G flat, this is just the G key)
- This cancels out sharps and flats



- Double Sharps:
- Raises notes by two half steps (whole step)
- D double sharp would be the E key
- There is NO triple-sharp



- Double Flats:
- Lowers notes by two half steps (whole step)
- D double flat would be the C key
- There is NO triple-flat
- Enharmonic Pitches
 - Pitches that sound the same but look different on paper
 - D sharp = E flat, C sharp = D flat, etc.

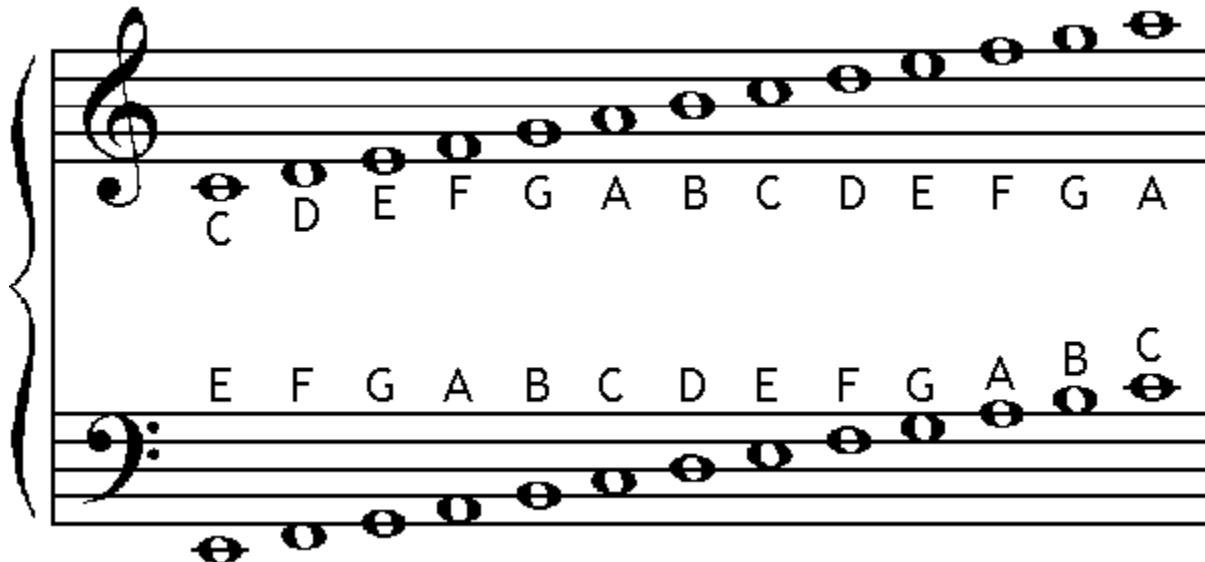
The Octave

- The distance of eight keys on a keyboard is an octave
- Keys separated by an octave have the same letter with a pitch higher/lower than the other
- No certain way to label octaves aside from putting numbers next to letters (C3, C4, C5)
- There are four notes before C1 and there is a single note in the eighth octave: C8
- Middle C is C4

Chapter 2: The Staff

Memorize These:

- Treble Clef Line Notes: Every Good Boy Deserves Fudge
- Treble Clef Space Notes: FACE rhymes with “space”
- Bass Clef Line Notes: Good Boys Deserve Fudge Always
- Bass Clef Space Notes: All Cows Eat Grass



- The notehead is the oval-shaped part of a musical note (like on the staff above)
- Each clef has 5 lines and 4 spaces
- The higher the line/space, the higher the pitch (vice versa for lower)

Ledger Lines

- Ledger lines are temporarily added for notes that go above the lines on clef
- Extends the staff higher or lower
- They are added to individual notes; they are not connected

Noteheads

- They can be open or filled
- They touch lines on spaces
- The notes on the lines are the same size
- They slant to the right

Notating Stems

- Downward stems are on the left side of the notehead
- Upwards stems are on the right side
- Stems are about an octave long
- Stems above the center line should be facing down (vice versa for below)
- Stems in the center usually go the direction of notes around it

Notating Accidentals

- Sharp symbols should be angles of 25 degrees

- Flats have their “b” part similar to where noteheads are placed and their stems are about two staff spaces tall
- Naturals have their horizontal lines slanting upwards

Clefs

- Treble, Bass, C (alto and tenor)
- Treble:
 - High-pitched instruments (flute, oboe, clarinet, violin, right-hand piano)
 - Starts at G
 - G clef
- Bass:
 - Low-pitched instruments (double bass, trombone, bassoon, cello, left-hand keyboard)
 - Starts at F below middle C on the fourth line
 - Octaves 2, 3, and 4
 - F clef
- C Clef:
 - Moveable clef
 - Always points to middle C
 - Alto: Fixes middle C into the third line and is used mainly for viola players because their range extends above middle C
 - Tenor: Fixes middle C into the fourth line and is used for lower instruments like a trombone because their notes get too high for the bass clef
- Bass clef is an octave lower than Treble and Alto

The Grand Staff



Grand Staff

- Located between the two staves, there is middle C (C4)
- Ledger lines can be written in between and above
- Ottava Sign:
 - **8va**
 - Notes should be played an octave higher

- Avoids having to use excessive ledger lines
- Bassa sign **8vb** (octave lower)

Chapter 3: Rhythm and Meter

- Noteheads, stems, flags, rests, dots, and ties to indicate pitch duration
- Beat: Constant pulse through a song
- Rhythm: Varies and changes and forms around the beat

Pulse and Tempo

- Pulse is the beat; the steady feeling throughout a song
- Tempo is the speed of that pulse (represented in BPM [beats per minute])
- The average tempo ranges between 80 - 120
- Can be indicated by Andante and Allegro

Largo	very slow	(40 - 60 bpm)
Adagio	slow	(60 - 76 bpm)
Andante	at a walking pace	(76 - 106 bpm)
Moderato	moderate	(106 - 120 bpm)
Allegro	fast	(120 - 168 bpm)
Vivace	quick	(140 - 168 bpm)
Presto	very fast	(168 - 200 bpm)

Note Values

- Duration refers to the length of time that a sound or silence is
- Notes indicate pitch and duration



Note Value	Whole	Half	Quarter	Eighth	Sixteenth
Symbol	○	○	●	●	●

- Flags always go on the right side of the note and curve toward the notehead
- Longest is whole
- It is possible to go lower than a sixteenth by adding more flags to the notes which doubles the fraction (sixteenth -> thirty-seconds -> sixty-fourths)
- A double whole-note is the longest duration in Western music (twice a whole note)

Rests

- Duration of silence is indicated by rests
- Each note has a corresponding rest size

Note Name	Note Value	Rest
Whole	○	—
Half	○	—
Quarter	●	♪
Eighth	●	♩
Sixteenth	●	♩

- Whole rest is below the 4th line. Half rest is above the 3rd line
- Flags on the eighth and sixteenth are the same as their corresponding notes

Dots

- Duration of notes are lengthened via dots
- Dots are placed to the right of notes

- Dots increase duration by one-half

Note Value	Symbol and Equivalent Value	Equivalent Rest
Dotted Half	 = 	
Dotted quarter	 = 	
Dotted Eighth	 = 	
Dotted Sixteenth	 = 	

Ties

- Ties extend the duration of notes by combining them via the curved line
- Ties only join notes of the same pitch
- Ties are drawn from notehead to notehead
- They can be drawn across barlines
- Rests are never tied

Dotted Rhythms

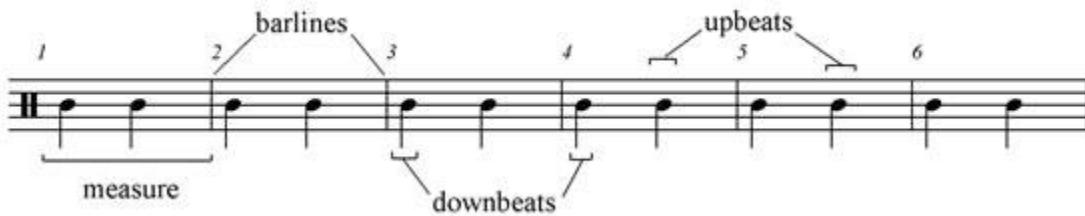
- Subdividing songs (+ = and)
 - Two parts = 1 + 2 + 3 + 4 +
 - Four parts = 1 e + a 2 e + a 3 e + a 4 e + a

Meter

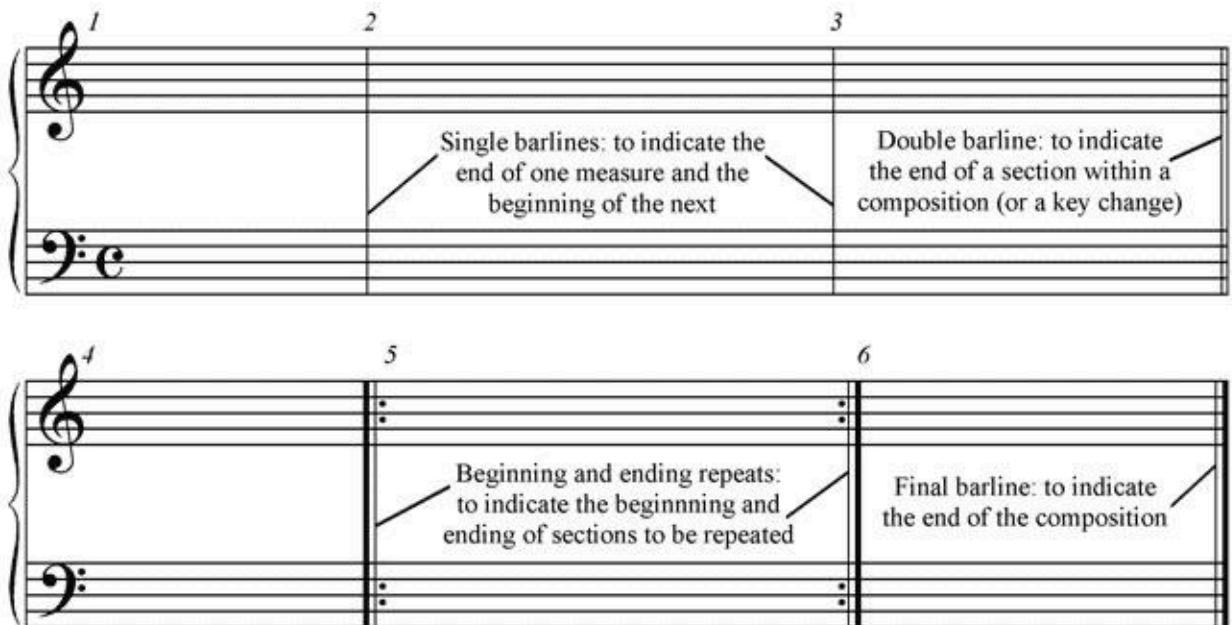
- Recurring pattern of strong and weak pulses
- Greater rhythmic stress pulses have strong beats
- Lesser rhythmic stress pulses have weak beats
- 3 common patterns (duple, triple, and quadruple)
- Duple is every other beat is strong
- Triple is every three beats is strong
- Quadruple is every 4 beats is strong

Barlines and Measures

- Barlines on sheet music are how you tell



- The initial beat is called downbeat
- Beat before downbeat is called upbeat
- There are measures, sections, repeated sections and end of composition



Time Signatures

- Used to indicate the meter for a piece of music
- Two numbers placed on top of each other



Four-four Time Signature

- The top number indicates how many beats (pulses) are in each measure (bar)
- The bottom number represents the note value (4 in four-four signatures means a quarter note)

Beaming

- In four-four, every measure must have the equivalent of four quarter notes

- Beams are the lines that indicate the location of beats within the measure (they join notes together)
- Beaming multiple notes together which usually are the same value
- Sometimes there is mixing like an eighth note and two sixteens (one beam touches the eighth, two beams touch the sixteenth notes)

Incomplete Measures

- Measures can be incomplete which has a piece that must be accounted for later
- Pieces that contain an upbeat, their first measure is the first complete measure in the score, not the upbeat measure
- When a piece begins with a pickup, the last measure is an incomplete measure to make up for the missing rhythmic values

Chapter 4: Scales and Modes

- Chromatic scale: Series of all 12 half steps between two notes (octave apart)
- Scale: a collection of pitches arranged in ascending/descending order
- The scales are used in most old songs and Western music today (the tonal system or tonality)
- Scales use patterns of whole and half steps

Diatonic Scales

- Diatonic scale: any collection of seven natural pitches that includes five whole steps and two half steps
- This can be represented by their white notes (C Major Scale: C, D, E, F, G, A, B, C)
- The half steps are separated by two or three whole steps
- Use the letter names only once in each scale with the initial note being shown at the top again to end the scale

The Major Scale

- Steps in a scale are known as scale degrees (1, 2, 3 [with ^ above their heads])
- The 1 shows the start and end of the scale and is called the tonic
- All scales are named after their tonics (C Major = C scale, D Major = D scale)
- Major Scale: Two whole steps, a half step, three whole steps, and a final half step
 - W W H W W W H
- Tetrachords: Divides the scale into two equal halves
 - W W H **W** W W H (the bolded W represents the divider of the tetrachords)
- Most songs have a key of composition which means the song is based on the scale, therefore most if not all notes will be in pitches from the chosen scale

Applying the Major Scale Pattern

- Major scales can be played on any note
- Must follow the major scale pattern for discerning notes
- The seventh degree in a scale is called the leading tone (it leads up to the tonic)
- Make sure to use sharps and flats so as to not reuse letter names

Transposing the Major Scale

- To move a scale up, every degree must be moved by half a step to maintain the scale pattern
- The C Major scale doesn't use any sharps or flats
- Moving a piece of music from one key to another is called transposing

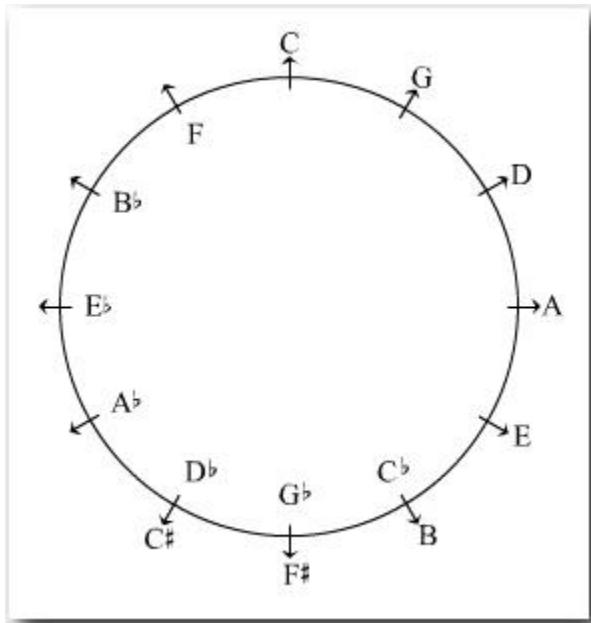
Scale Degree Names and Solfege Syllables

Scale Degree	Scale Degree Name
1	<u>tonic</u>
2	<u>supertonic</u>
3	<u>mediant</u>
4	<u>subdominant</u>
5	<u>dominant</u>
6	<u>submediant</u>
7	<u>leading tone</u>

- Can also use Solfege Syllables
 - Do, Re, Mi, Fa, Sol, La, Ti (all in the same order)
- The most important ones are the tonic (degree 1, Do), the dominant (degree 5, Sol), the subdominant (degree 4, Fa)
- These represent the backbone of tonality in Western music

Scale Degree	Name	Function
1	<u>tonic</u>	The most stable scale degree. All of the other scale degrees revolve around it.
2	<u>supertonic</u>	Located a <i>step</i> above the tonic (<i>super</i> = above). It tends to resolve <i>down</i> to the tonic or <i>up</i> to the mediant.
3	<u>mediant</u>	Located <i>halfway</i> between the tonic and the dominant. It is relatively stable, but not as stable as either the tonic or the dominant. It also tends to resolve <i>down</i> to the tonic.
4	<u>subdominant</u>	Located a <i>step</i> below the dominant (<i>sub</i> = below). It may move <i>up</i> towards the dominant, <i>down</i> to the median, or function as a "lower dominant."
5	<u>dominant</u>	A relatively stable scale degree that often resolves directly to the tonic.
6	<u>submediant</u>	Located <i>halfway</i> between the tonic and the subdominant. It tends to resolve <i>down</i> to the dominant. Otherwise, it can also function as a steppingstone in the motion from the dominant to the tonic (5→6→7→8).
7	<u>leading tone</u>	Located a <i>half step</i> below the tonic. It has a strong upwards pull towards the tonic except when it is part of the descending scale starting on 1.

Circle of Fifths



- Top of the circle is C major
- Moving clockwise: each key starts on the fifth degree of the predecessor and adds one sharp, until C# major which has 7 sharps
- Moving counterclockwise: each key starts on the fourth degree of the predecessor and adds one flat until C-flat major which has 7 flats
- Enharmonic keys: where the sounds are the same (C# [7 sharps] and D flat [5 flats], F# [6 sharps] and G flat [6 flats], B major [5 sharps] and C flat [7 flats])
- Adding accidentals across the circle is always 6
- Each major key has a relative minor key (C major and A minor both have no accidentals)

Using the Circle

- Want to write the B major scale:
 - B has five sharps
 - The sharps are in order of the sharps sequence on the circle (F C G D A)
- Want to write the A-flat major scale:
 - A-flat has four flats
 - The flats are in order of the flats sequence on the circle (B E A D)

Pentatonic and Blues Scales

- Scale that contains five pitches
- Major and minor pentatonic scales
- Major pentatonic is the 1st, 2nd, 3rd, 5th, and 6th degree of a major scale
 - C Major: C, D, E, G, A
- Same concept for minor pentatonic scale

- The Blues Scale (C, E-flat, F, F-sharp, G, B-flat)
- A chromatic variation of the minor pentatonic with a raised fourth

Chromatic and whole-tone scales

- If a half step is spelled A to B-flat: diatonic (two different letter names)
- If a half step is spelled A to A-sharp: chromatic (same letter name and chromatic change)
- The chromatic scale is only half steps
 - Uses every key within an octave span (12 keys)
 - Twelve-tone scale
- The whole tone scale is all whole tones
 - Symmetrical Scale

Chapter 5: Key Signatures

- The tonic is the most important key of a song (a song with the tonic E in played in E major scale)
- Key signatures are placed at the beginning of the staff to make it easier to find sharps and flats
- Order of sharps (F, C, G, D, A, E, B)
- Order of flats (B, E, A, D, G, C, F)

Function of the Key Signature

- Indicate pitches requiring accidentals for the entire musical piece (regardless of octave)
- They are placed after the clef but before the time signature

Sharp Keys

- Fat Cats Go Down Alleys Eating Birds (**Memorize**)
- In a sharp major key signature, the last sharp is always the leading tone
- The tonic is always a half step above the last sharp
- Making a sharp key signature: Ex: A major
 - Find the sharp that is half a step below A (G#)
 - Add all of the sharps up to that point (F#, C#, and G#)
 - Build the signature with the sharps

Flat Keys

- BEAD + Greatest Common Factor (**Memorize**)
- Aside from F major, the next to last flat in the signature is always the tonic
 - F major has one flat (B flat)
- Making a flat key signature: Ex: E flat major
 - Find E in the order of flats and add flats to that point (B flat, E flat)
 - Add one more flat in order (A flat)
 - Build the signature with the flats

Key Signature Transposition

- When transposing to another key, the sharps or flats need to be accounted for when transposing keys (C major to E major requires the 4 sharps to come with it)

Chapter 6: Meter Types

- Three different types:
 - Simple
 - Divided into two parts
 - 1 and 2 and 3
 - Number on top of time signature is 2, 3, or 4
 - Compound
 - Divided into three parts
 - 1 la le 2 la le 3
 - Number on top of time signature is 6, 9, or 12
 - Irregular
 - Number on top of time signature is 5, 7, 11, etc.

Simple Duple Meter

- Two beats per measure divided into two equal parts per beat (subdivides into four equal parts)
- Conducting in duple meter
 - Start with hand in raised position
 - Bring it down for 1st beat (downbeat)
 - Sway hand back to center for and upwards for 2nd beat (upbeat)
- Common time signatures: 2/2, 2/4, 2/8 (half note, quarter note, eighth note)
- 2/2 can be referred to as cut time with C and a line through it (Alla Breve)

Simple Triple Meter

- Three beats per measure divided into two equal parts per beat (subdivides into four equal parts)
- Conducting in triple meter
 - Start with hand in raised position
 - Bring down for 1st beat (downbeat)
 - Sway hand to the right for 2nd beat
 - Sway hand back to center and up for 3rd beat (upbeat)
- Have the same common time signatures as duple meter: 3/2, 3/4, $\frac{3}{8}$

Simple Quadruple Meter

- Four beats per measure divided into two equal parts per beat (subdivides into four equal parts)
- Conducting in quadruple meter
 - Start with hand in raised position
 - Bring down for 1st beat (downbeat)
 - Sway hand to the left for 2nd beat

- Swing hand to the right for 3rd beat
- Sway hand back to center and upwards for 4th beat (upbeat)
- Common time signatures: 4/2, 4/4, 4/8
- 4/4 is referred to as common time with a C symbol

Compound Meter

- Divided into three equal parts
- The beat in compound meter is always a dotted value
- Simple duple vs compound duple
 - Simple has four divisions per measure ($2/4 [2 \times 2 = 4]$)
 - Compound has six divisions per measure ($6/8 [2 \times 3 = 6]$)
- Time signatures are not the same for compound meters ($6/8$ is a compound duple meter NOT $2/8$)
- Top number divided by 3 ($6/3 = 2$ beats per measure, $9/3 = 3$ beats per measure, $12/3 = 4$ beats per measure)
- Bottom number is note value of the division of the beat since there is no number to represent dotted notes
 - Bottom value is equal to three of the duration of the note represented by the bottom number ($8 = 3$ eighth notes, $4 = 3$ quarter notes, $2 = 3$ half notes)

Compound Duple Meter

- Same beat pattern
- Same conducting pattern
- Most common time signature: 6/8 (6/16 and 6/4 are much less common)

Compound Triple Meter

- Same beat pattern
- Same conducting pattern
- Most common time signature: 9/8 (there is also 9/16 and 9/4)

Compound Quadruple Meter

- Same beat pattern
- Same conducting pattern
- Most common time signature: 12/8 (there is also 12/16 and 12/4)

Triplets, Duplets, and Tuples

- Duplets and triplets are types of tuplets (quadruplets, quintuplets, sextuplets, etc.)
- First two are the most common
- Triplets:
 - Dividing a beat into three rather than two parts

- Triplet symbol is a 3 written above the group of notes
- Triplet notes are performed faster to maintain the same beat pattern
- Duplets:
 - Dividing a beat from a compound meter into two rather than three equal parts
 - Duplet symbol is the number 2 written above the group of notes
 - Only occur in compound meters
 - Duplet notes are performed a little slower to maintain the beat pattern

Irregular and Mixed Meter

- AKA Asymmetric Meter
- Combines 2 and 3 beat patterns
- Most common meters are quintuple meter (five beats per measure) and septuple meter (seven beats per measure)
- Combines duple and triple meters in various patterns ($2 + 2 + 3$, $2 + 3 + 2$, $3 + 2 + 2$)
- Use beams and accents (>) to determine the pattern
- Irregular time signatures:
 - $5/4$ ($2 + 3$ quarter notes or $3 + 2$ quarter notes)
 - $5/8$ is the most common ($2 + 3$ or $3 + 2$ eighth notes)
 - $7/8$ (grouped in various ways of 2s and 3s)
- Mixed meter is when time signatures change within the piece

Chapter 7: Intervals

- Distance between two pitches
- Two pitches played simultaneously, the result is **harmonic interval**
- Played one after another, **melodic interval (ascending or descending)**
- **Interval size** is the number of letter names or lines and spaces it encompasses
 - Interval C-F is a fourth (C, D, E, F)
- Doesn't matter what accidentals are applied, size is **generic** and remains the same
- **Quality**
 - Unisons, fourths, fifths, and octaves form **perfect intervals**
 - Seconds, thirds, sixths, and sevenths for **major and minor intervals**
- **Augmented intervals** are one half-step larger than a perfect or major interval
- **Diminished intervals** are one half-step smaller than a perfect or minor interval
- Intervals between unison and octave are **simple intervals**, while anything larger than an octave is a **compound interval**
- Flipping notes is **interval inversion**
- Intervals that don't need to resolve (stable) are **consonant** while **dissonant** intervals are less stable as if they need to resolve

Interval Size

- Interval name = quality + size
- Unison, second, third, fourth, ..., seventh, octave
 - Unison is the same note
- Count based on how many letters are between two notes (including the notes)
- Count the lines (two lines and one space = 3 letter names)
- Odd intervals: line to line or space to space
 - Third: stacked
 - Fifth: one space/line in between
 - Seventh: two lines/spaces in between
- Even intervals: line to space or space to line
 - Second: adjacent
 - Fourth: line and space between
 - Sixth: two lines and two spaces between
- Ascending A-B is a second (A, B)
- Descending A-B is a seventh (A, G, F, E, D, C, B)
- Accidentals have no effect on size

Interval Quality

- Major and minor intervals are never perfect intervals
- Major intervals vs minor intervals
 - Major = M, sounds happier

- Minor = m, sounds darker
- Minor intervals are a semitone smaller than major
- Perfect interval = P
 - Unisons, 4ths, 5ths, and octaves
 - 0 semitones in perfect unison, 12 semitones in perfect octave
 - Perfect 4th contains 5 semitones (F-B-flat is the only perfect 4th with white keys that requires an accidental)
 - Perfect 5th contains 7 semitones (B-F# is the only pair that requires an accidental)
 - When counting, you don't count the initial key
- Augmented = A, aug, or +
 - C-G# has increased one half-step from perfect 5th (8 semitones)
- Diminished = d, dim, or o
 - C-G-flat has decreased one half-step from perfect 5th (6 semitones)

Spelling and Identifying Perfect Intervals

- Counting method
 - Start with the letter and count the semitones above that letter to get the interval you want
 - You also need to know the letters it encompasses
 - A4 - C#5 has four semitones and encompasses A, B, C (major third)
 - A4 - D-flat5 also has four semitones and encompasses A, B, C, D (diminished fourth, one semitone smaller than P4)
- White-Key method
 - All white-key fourths and fifths are naturally perfect (5 and 7 semitones)
 - Exception is B and F which are 6 semitones and are called a tritone
 - To fix this you need either a B-flat or F# (NOT both)
 - Whenever fourths and fifths have the same accidental, they are perfect aside from B and F (either a b-flat or f# is needed)
- Identifying Perfect Intervals
 - Start with the white key equivalent (F to C-flat → F to C)
 - Then add accidentals to see the change (C-flat is one semitone smaller, makes it a diminished fifth)
- Spelling Perfect Intervals
 - Make an augmented fourth above C:
 - Start with white key: C - F (perfect)
 - Augmented = semitone larger
 - C was a given, don't change, instead raise F to F#
 - C - F# = augmented fourth above C

Intervals in the Major Scale

- Second, third, sixth, and seventh are always major
- Finding a major interval
 - Bottom note is scale degree 1
 - Is the top note in the major scale of the key
 - If yes, then the interval is major or perfect
 - If no, then the interval has been altered from major or perfect
- E to G
 - Start with E major
 - G is sharp in E major, top note G is not in the E major
 - E to G# is a major third
 - The interval E-G is a semitone smaller, minor third
- If there is an accidental on the bottom note, ignore it at first and just use the natural pitch
- Then determine the interval
- Factor accidental back in and determine how the interval changes

Major/Minor Intervals

- A major interval decreases, it becomes minor (and vice versa)
- Major second = 2 semitones, minor second = 1 semitone
- Major third = 4 semitones, minor third = 3 semitones
- Major sixth = 9 semitones, minor sixth = 8 semitones
- Major seventh = 11 semitones, minor seventh = 10 semitones
- Diminished/Augmented
 - When a minor interval is decreased by a half-step, it becomes diminished
 - When a major interval is increased by a half-step, it becomes augmented
 - (smaller) dim ↔ m ↔ M ↔ aug (larger)\
- Keep the same letter names, even with double sharps and double flats

Spelling and Identifying Major/Minor Intervals

- Using the pattern from bottom notes: C4 - B5
- Natural Seconds
 - M, M, m, M, M, M, m
- Natural Thirds
 - M, m, m, M, M, m, m
- Natural Sixths
 - M, M, m, M, M, m, m
- Natural Sevenths
 - M, m, m, M, m, m, m
- White-Key Method
 - Ignore the accidentals and figure out the quality of the white-key interval

- Add accidentals back to determine the effect
- B - C#
 - Use B - C
 - This is a minor second
 - Apply the sharp, add a semitone to the top
 - B - C# = major second
- Spelling Intervals
 - Write down white-key interval
 - Add accidentals to make it smaller or larger as needed
 - Major third above E:
 - Start with E - G
 - This is a minor, need an extra semitone
 - Change to E - G#
 - E - G# = major third above E

Hearing Intervals

- Consonant Intervals (pure/stable sounding)
 - Unison, 8ve, P5, Major and minor thirds and sixths (M3, m3, m6, M6)
- Dissonant Intervals (unstable sounding)
 - M2, m2, M7, m7, and all augmented/diminished intervals
- P4 can be considered either depending on context
- These categories are not absolute

Interval Inversions

- Reverse the order of the two pitches
 - Raise the lower pitch an octave
 - Lower the upper pitch an octave
 - Inversion of F - A (M3) to A - F (m6)
 - Inversion of C - F (P4) to F - C (P5)
- Letter names do not change
- An interval and its inversion create a perfect octave
- P4 + P5 = P8
- Interval sizes invert to equal nine
 - 2nd inverts to 7th ($2 + 7 = 9$)
 - 3rd inverts to 6th ($3 + 6 = 9$)
 - 4th inverts to 5th ($4 + 5 = 9$)
 - Octave inverts to Unison ($1 + 8 = 9$)
 - These all apply vice versa
- Quality changes
 - Perfect remains perfect

- Major → Minor
- Minor → Major
- Aug → Dim
- Dim → Aug
- Spelling with Inversion
 - Want minor seventh above F#
 - m7 → M2
 - M2 = E - F#
 - Invert: F# - E = m7 above F#

Compound Intervals

- Intervals that go beyond an octave (ninthths, tenths, eleventhths, etc.)
- Augmented Octave and above are compound
- Identifying Compound Intervals
 - Simplify the interval to a simple one: C4 - E5 → C4 - E4 (or C5 - E5)
 - Figure out the simple interval: C4 - E4 = third
 - Then add 7 to the simple: $3 + 7 = 10$, C4 - E5 = tenth
- Compound intervals have the same quality as their simple variants
 - C4 - E4 = M3
 - Add 7
 - C4 - E5 = M10
- Spelling
 - Reduce the compound to simple
 - Spell the simple
 - Add the octave(s) back to create compound
- Example:
 - P11 above middle C
 - 11th → 4th
 - C4 - F4
 - Add the octave: C4 - F5 = P11

Chapter 8: Minor Scales

- Major scales are bright and cheerful, minor scales are dark and sad

The Natural Minor Scale

- Five whole steps, two half steps
- W H W W H W W
 - Half steps between degrees 2 and 3, 5 and 6
- Songs will use all of the notes in a specified scale (A to A)
- Scale degree names are the same except for the seventh degree (subtonic)

Harmonic and Melodic Minor

- Basic form of minor scale (natural)
- The difference between Harmonic, Melodic, and Natural happens with scale degrees 6 and 7
- Natural minor scale has a whole step between scale degrees 7 and 8
- Harmonic minor raises the subtonic a half step to be more like a leading tone
- The Melodic Minor Scale eliminates the awkward augmented second that occurs in the harmonic scale (raises scale degrees 6 and 7 by a half-step)
 - Descending melodic minor scale is the same as the natural minor scale (scale degrees are restored to normal)

Building Minor Scales

- A minor scale has only white keys
- Add accidentals to notes in order to maintain a minor scale pattern

Minor Key Signatures

- Order of sharps: F C G D A E B
- Order of flats: B E A D G C F

Relative Keys

- Two keys with same key signature and pitch are relative keys
- A minor and C major use the same notes making them relative
- Relative Keys:

Minor	Major
A	C
E	G
B	D

F#	A
C#	E
G#	B
A-flat	C-flat
D#	F#
E-flat	G-flat
A#	C#
B-flat	D-flat
F	A-flat
C	E-flat
G	B-flat
D	F

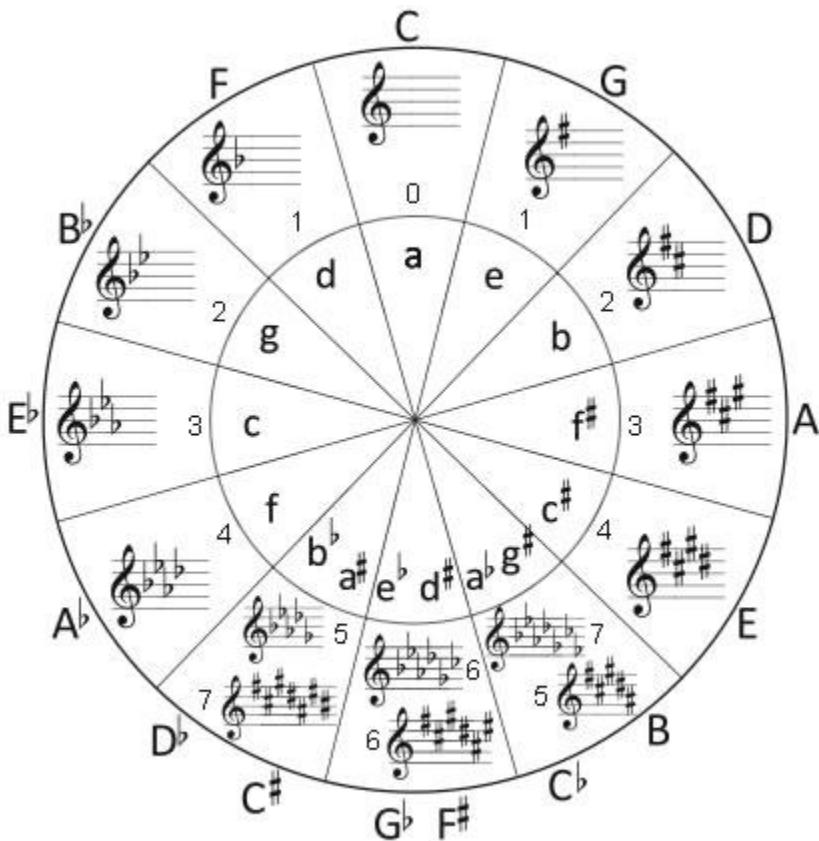
- Each relative major scale starts on the mediant (scale degree 3) of its relative minor
- Relative minor keys start on the submediant (scale degree 6) of their relative major
- Building Keys:
 - Using a given major scale, find its relative minor by looking at degree 6
 - Given: D major, Relative: B minor
 - Start on B and build using notes in D major up from B
- Building Without Given
 - Asked to build D minor scale
 - Move up a minor third to find relative major (D to F)
 - D minor uses same signature as F major (1 flat = B-flat)
 - Build the scale from D using the B-flat

Parallel Keys

- Two keys that share the same tonic are called parallel keys
- Scale degrees that differ: 3, 6, 7
 - Major: forms major intervals above the tonic
 - Minor: forms minor intervals above the tonic
- Solfege: mi, la ,ti = me, le, te
- Switching them from major to minor parallels is a mode change
- Lower the scale degrees (3, 6, 7) by a half-step
- Parallel Key Signatures

- Minor scales have three more flats or three fewer sharps than the parallel major scale
- Take major scales amount of sharps, subtract three flats worth, and then add flats that are left over
- G major = 1#, G minor = 2 flats, 3 flats - 1 sharp = 2 flats

The Circle of Fifths and Minor Scales



- Order of sharps: F C G D A E B
- Order of flats: B E A D G C F

Chapter 9: Triads

- Two simultaneous pitches create a harmonic interval
- More than two pitches create a chord
- Triads are three-pitch chords
- Most compressed form is when the three notes are stacked, creating thirds between them
- Most chords are based on triads with a major or minor third between the intervals
- Components:
 - Root - the lowest pitch in the triad, the chords and the intervals are named after it
 - Middle Note - the third of the root
 - Highest Note - the fifth of the root
 - F-A-C
 - F = root
 - A = third
 - C = fifth
 - When played after another, they form an arpeggio/broken chord
- Triads are named after their root note
- Triads can be major or minor (G major triad or A minor triad)

Triad Qualities

- Four types: major, minor, diminished, augmented
- Quality is determined on the quality of thirds in the triad
 - Major and minor triads have different quality thirds but perfect fifths
 - Diminished/Augmented triads are based on diminished/augmented fifths

Triad Quality	Major	Minor	Diminished	Augmented
Top Third	m3	M3	m3	M3
Bottom Third	M3	m3	m3	M3

- Major triads = major third on bottom, minor third on top (also their fifth is perfect)
- Minor triads = minor third on bottom, major third on top (perfect fifth)
- Diminished triads = two minor thirds stacked (diminished fifth)
- Augmented triads = two major thirds stacked (augmented fifth)

White-Key Triads and Transformations

- Three major triads: C, F, and G
 - C E G
 - F A C
 - G B D
- Three minor triads: D, E, and A
 - D F A
 - E G B
 - A C E
- One diminished triad: B
 - B D F
- Transforming:
 - Major and Augmented
 - F major → F augmented: raise the fifth a half step (C to C#)
 - F augmented → F major: lower the fifth a half step (C# to C)
 - Major and Minor
 - F major → F minor: lower the third a half step (A to A-flat)
 - F minor → F major: raise the third a half step (A-flat to A)
 - Minor and Diminished
 - F minor → F diminished: lower the fifth a half step (C to C-flat)
 - F diminished → F minor: raise the fifth a half step (C-flat to C)

Spelling Triads

- Names are based on the root and the quality: G major or f# minor
 - Uppercase letter for major: G
 - Lowercase for minor: g
 - Lowercase with degree symbol for diminished: g°
 - Uppercase with a plus sign for augmented: G⁺
- White-Key Method:
 - Determine quality of white key triad with the same root as the triad you want to spell
 - Add accidentals to get the triad quality you want
- Example: E major
 - E triad = E G B which is E minor
 - Raise the third a semitone to make major from minor: E G# B
- Adding the same accidental to all of the notes of a white key triad doesn't change its quality
- Example: F# minor
 - F A C is the major triad
 - Root note is sharp, apply to all notes F# A# C#

- Transform to minor (lower the third) F# A C#

Identifying Triads: White-Key Method

- Given: D F# A
 - White-key is D F A (minor triad)
 - Raise the third (D F# A = major)
 - D F# A = D major triad
- Given: E G# B#
 - White-key is E G B (minor triad)
 - Third and fifth are raised
 - Raising the third makes it major
 - Raising the fifth makes it augmented
 - E G# B# = E augmented triad
- Given: A# C# E
 - White-key is A C E (minor triad)
 - Accidental root, make it all accidental (A# C# E# = A# minor triad)
 - Fifth has been lowered (minor to diminished)
 - A# C# E = A# diminished triad

Identifying Triads: Key Signature Method

- Spell D major
 - Root = D
 - Stack the thirds (F and A)
 - Major key signature of root (contains C# and F#)
 - Apply the accidentals (F to F#)
 - Drop any accidentals that don't apply to the notes in the chord (no C so drop C#)
 - D major triad = D F# A
- Spell A-flat minor
 - Root = A-flat
 - Stack the thirds (C and E)
 - Major key signature of root (contains B-flat, E-flat, A-flat, and D-flat)
 - Apply the accidentals (E to E-flat, A is already flat)
 - Drop any accidentals not used (B and D are not so drop B-flat and D-flat)
 - Minor triad contains a minor third, transform major to minor by lowering third a half step (C to C-flat)
 - A-flat minor triad = A-flat C-flat E-flat

Triad Inversions

- If the root is not the lowest note, the triad has been inverted
- When the notes of a triad are stacked in thirds, the root is always the lowest note

- Bass note \neq root note
- If the lowest sounding pitch is the root, the triad is in root position
- If the lowest sounding pitch is the third, the triad is in the first inversion
- If the lowest sounding pitch is the fifth, the triad is in the second inversion
- Inversion doesn't change the pitch names and doesn't change triads name

Triad Spacing and Doubling

- Closed or open positions
 - Closed = notes are as close as possible
 - Open = notes are NOT as close as possible
- Triad doubling:
 - Double some of the pitches in a triad
 - Makes it sound fuller
- Four voices: Soprano, Alto, Tenor, Bass
 - Acronym: SATB
 - Soprano and Alto are female voices
 - Tenor and Bass are male voices

Figured Bass

- Shorthand system of symbols instead of written out notes
- AKA thorough-bass or basso continuo
 - C triad root position = 5/3 (third [E] and fifth[G] above bass note C)
 - C triad first inversion = 6/3 (third[G] and sixth[C] above bass note E)
 - C triad second inversion = 6/4 (fourth[C] and sixth[E] above bass note G)
 - Bass note \neq root
- First inversion = 6
- Second inversion = 6/4
- Spelling Inversions
 - Spell chord in root position
 - For first inversion, move root up an octave so third is on the bottom
 - For second inversion, move the fifth down an octave so the fifth is on the bottom

Triads, Chords, and Roman Numerals in a Major Key

- Major triads are called diatonic
- Triads in a major scale are named after their root note and their corresponding scale degree
- Triad qualities have the same pattern for every major scale
 - Degrees 1, 4, 5 are major triads
 - Degrees 2, 3, 6 are minor triads
 - Degree 7 is a diminished triad

- Can use Roman numerals
 - Uppercase for major
 - Lowercase for minor
 - The degree symbol next to lowercase means diminished (vii^o)
- Major Roman Numerals (I, ii, iii, IV, V, vi, vii^o)

Triads, Chords, and Roman Numerals in a Minor Key

- Triads for minor keys
 - 1, 4 are minor triads
 - 3, 5, 6 are major triads
 - 2, 7 are diminished triads
- The same concept for Roman numerals
- Minor Roman Numerals (i, ii^o, III, iv, V, VI, vii^o)

Seventh Chords

- A triad plus a seventh above the root
- A four note chord
- Seventh chord structure:
 - Root
 - Third
 - Fifth
 - Seventh
- Types of sevenths:
 - Major-major seventh (Dmaj7)
 - Major triad on the bottom
 - Major seventh above the root
 - Major-minor seventh or Dominant Seventh (D7)
 - Major triad on the bottom
 - Minor seventh above the root
 - Minor-minor seventh (Dm7)
 - Minor triad on the bottom
 - Minor seventh above the root
 - Half-diminished seventh (D^o/7)
 - Diminished triad on the bottom
 - Minor seventh above the root
 - Fully diminished seventh (D^o7)
 - Diminished triad on the bottom
 - Diminished seventh above the root
- Making Sevenths
 - Start from Dmaj7

- Lower the seventh to get D7
- Lower the third to get Dm7
- Lower the fifth to get D^o/7
- Lower the seventh again to get D^o7
- Sevenths in Major
 - I - major seventh
 - ii - minor seventh
 - iii - minor seventh
 - IV - major seventh
 - V - dominant seventh
 - vi - minor seventh
 - vii^o/ - half-diminished seventh
- Sevenths in Minor
 - i - minor seventh
 - ii^o/ - half-diminished seventh
 - III - major seventh
 - iv - minor seventh
 - v - minor seventh
 - VI - dominant seventh
 - VII - major seventh

Seventh Chord Inversions

- Root position (root on bottom)
- First inversion (third on bottom)
- Second inversion (fifth on bottom)
- Third inversion (seventh on bottom)
- Symbols (in order)
 - 7
 - 6/5
 - 4/3
 - 4/2 or 2

The Dominant Seventh Chord

- Most common seventh chord in music
- AKA major-minor seventh (major triad, minor seventh)
 - Major triad and a minor third stacked on top
- In minor keys, the leading tone must be raised to create a dominant seventh
- All dominant sevenths are major-minor chords
- Dominant seventh is above the dominant of a key
 - Dominant seventh for C major key is G7

- Dominant seventh needs a resolution
 - Seventh of a dominant seventh resolves down a step
 - The leading tone in a dominant seventh resolves up a step

Chapter 10: Cadences

Perfect, Imperfect, and Half Cadences

- Harmonic function refers to three categories of chords: tonic, predominant, and dominant
 - Tonic is stable while predominant and dominant seek resolution
- Musical phrases are determined by the typical flow of chords and their harmonic functions
 - A phrase needs at least a tonic and a dominant
- Cadence: short harmonic progression that occurs at the end of a musical phrase
 - Authentic (Perfect PAC and Half HC)
 - Dominant to tonic (V - I in major or V - i in minor)
 - Not all V-I chord progressions are authentic cadences
 - Perfect (PAC): The top voice must end on the tonic and the bass must progress from V to I in the root position
 - Imperfect (IAC): Any authentic cadence that doesn't meet the perfect criteria
 - Half Cadence (HC): Any phrase that ends on the dominant (V) since it doesn't resolve to the tonic and is preceded by i, ii, or IV in major keys and i or iv in minor keys
 - Plagal
 - Deceptive
- Phrases with a half cadence are often paired with a perfect cadence to finish the piece
 - Antecedent and Consequent
- Hearing Cadences
 - Listen and mark potential points of rest, goal, or closure
 - Check the harmonies involved in potential cadence points
 - x-V = potential HC (x is one of the predominant chords in major or minor)
 - V-I = potential AC
 - If 1 is in the top voice (soprano) over I, it's a potential PAC
 - If something else is in the soprano over I, it's a potential IAC
 - If V, I, or both harmonies are inverted, it's a potential IAC
 - If it's none of these, it's not a potential cadence
 - Listen for what happens after each potential cadence point
 - True cadence points have a sense of beginning
 - If it is repetition in the middle of the previous phase, it may be a cadence that has been subverted

Plagal and Deceptive Cadences

- Plagal: IV-I (iv-i in minor)
 - Conclusive but not as strong as the authentic cadence
- Deceptive: V-vi (v-VI in minor)

- Deceives by making it sound like it will lead to the tonic but going somewhere else

Harmonic Analysis

- Step 1: Determine the key
 - Look at the key signature (doesn't tell everything though, could be major or minor key)
 - Music often begins and nearly always ends on the tonic so looking at the bass line can help
 - Listen to the music (try to tell if it's major or minor sounding)
- Step 2: Reduce the chords to simple triads
 - Simplify the triads by reducing inversions or moving them to proper root positions
- Step 3: Analyze the simplified chords with Roman numerals
 - Knowing the key, finding the root notes of triads can be easy, then you can number what chords are like I or V
- Analyzing inverted chords
 - Determine the key
 - Determine the chord progression
 - Take out the non-chord tones (passing tones)
 - Add inversion symbols when done
 - If the original bass line contains a fifth chord, then the chord is in second inversion
 - If it is a third chord, then the chord is in first inversion

Harmonic Progressions

- The tonic is the center of gravity and ultimate resting point in harmonic progressions
- Most basic chord progression is just two chords (I-V-I: joint of stability)
- The dominant provides tension which the tonic resolves