

## Music Fundamentals

- The staff
- Clefs
- The keyboard
- Accidentals
- Rhythm and meter
- Time signatures

## The Staff and Clefs

- Pitch is the highness or lowness of a sound
- Pitch is represented in music notation by placing notes on a five-line staff



- Clefs are used to indicate what the lines and spaces of the staff mean



treble clef      bass clef      C clef

## Clefs

- The treble clef, or *G clef*, specifies that the second line from the bottom of the staff is a **G**



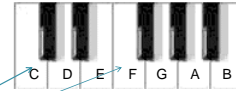
- The bass clef, or *F clef*, specifies that the second line from the top of the staff is an **F**



- The C clef always points to **C** on the staff → C

## The Keyboard

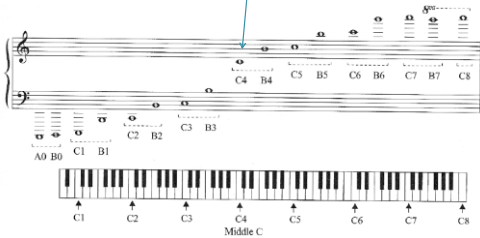
- The keys on a piano keyboard are named using the letters A through G



- C is found to the left of the two black keys
- F is found to the left of the three black keys
- The distance between any two adjacent piano keys is a *half step*; two half steps equals a *whole step*
- The distance between any two keys with the same letter name is an *octave*

## Octave numbers

- Octave numbers can be used to identify a specific pitch
- Octave numbers begin with C and continue up to B
- Middle C is in octave 4 (C4)



## Accidentals

- Sharps, flats, and naturals are *accidentals* that can alter the height of a pitch
- Sharps *raise* any pitch by one half step
- Flats *lower* any pitch by one half step
- Naturals are used to *cancel* previous sharp and flats



- Double sharps raise a pitch by two half steps
- Double flats lower a pitch by two half steps

## Rhythm

- Various symbols are used to represent duration in music
- A whole note is the same duration as two half notes
- A half note is the same length as two quarter notes, and so on...
- Rests indicate similar durations for silence

Name	Note	Rest
Breve (Double Whole Note)	⌘ or ⌘	
Whole Note	○	
Half Note	◐	
Quarter Note	◑	
Eighth Note	◒	
Sixteenth Note	◓	
Thirty-second Note	◔	
Sixty-fourth Note	◕	

## Dots and Ties

- A dot after a note increases its duration by half of its original value



- A tie connects two adjacent notes such that the duration of the second note is added to the first note—the second note is not played separately



## Meter

- Meter is a recurring pattern of strong and weak beats (or pulses)
- There are three main types of meter in music:
  - Duple = two beats [strong – weak]
  - Triple = three beats [strong – weak – weak]
  - Quadruple = four beats [strong – weak – less strong – weak]
- Meter can also be classified by whether the beat divides into two or three parts:
  - Simple = each beat divides into two parts
  - Compound = each beat divides into three parts

## Simple meters

- The beats in simple meters divide into two parts
- In simple *time signatures*, the top number indicates the number of beats per measure (2, 3, or 4)
- The bottom number indicates what the value of the beat is (2 = half note beat, 4 = quarter note, etc.)

Meter Signature	Beat (Pulse)	Division
$\frac{2}{2}$ $\frac{3}{2}$ $\frac{4}{2}$		
$\frac{2}{4}$ $\frac{3}{4}$ $\frac{4}{4}$		
$\frac{2}{8}$ $\frac{3}{8}$ $\frac{4}{8}$		

## Compound meters

- Beats in compound meters divide into three parts
- In compound time signatures, the top number indicates the number of beat *divisions* per measure (6, 9, or 12)
- The bottom number indicates what the value of the beat *division* is (8 = eighth note beat division, etc.)

Meter Signature	Beat (Pulse)	Division
$\frac{6}{4}$ $\frac{9}{4}$ $\frac{12}{4}$		
$\frac{6}{8}$ $\frac{9}{8}$ $\frac{12}{8}$		
$\frac{6}{16}$ $\frac{9}{16}$ $\frac{12}{16}$		

## Compound meters

- To determine what the beat is in compound meter, you need to perform some simple calculations
- Each beat contains three beat divisions, so the beat duration is equal to three of the bottom number
  - Example: in  $\frac{6}{8}$ , the beat would be  $3 \times \frac{1}{8} = \frac{3}{8}$ .
  - In compound meters, the beat is always a *dotted value*
- To determine the number of beats per measure, divide the top number of the time signature by 3
  - Example: in  $\frac{6}{8}$ , the number of beats is  $6 / 3 = 2$
  - In  $\frac{12}{8}$ , the number of beats is  $12 / 3 = 4$