Sound Production

- What causes sound?
  - Vibration—instruments and voices must have a **vibrator**
  - Most instruments have a **resonator**
  - Most instruments have a system for regulating pitch (producing higher and lower sounds)
Basic Terms

- Pitch
  - How high or low a sound is (the frequency of its sound wave)

100 hz

300 hz

500 hz
Music = A + B

Pitch + Time
(Maybe Pitch over Time)
Dynamics

- Volume
- From loudest FF+
- To Softest PP+
- Relative
- Chart on page 25
Tempo

- Speed
- “beats per minute”
- Italian terms listed on page 26
Basic Terms

- Range
  - The lowest to highest pitches an instrument or voice can produce
  - Measured in octaves
Timbre

- Sometimes called “tone color”
  - The characteristic sound an instrument or voice produces (nasal, breathy, gravelly, mellow)
  - Sound quality is often a matter of instrument’s materials or shape
The Orchestra

Sections:
Strings
Woodwinds
Brass
Percussion
Strings

- Composition
  - Wooden body (Spruce, Maple)
  - Gut or metal strings
  - Wooden bow with horsehair
- Instruments:
  - Violin, Viola, Cello, Bass
Strings

- Violin
Strings

- Viola
Strings

- Cello
Strings

- Bass
String Quartet

- Two Violins
- Viola
- Cello

Let’s mention Pizzicato
Strings

- Harp
Woodwinds

- piccolo
- flute
- bassoon
- saxophone
- English horn
Woodwinds

- Flute
Woodwinds

- Oboe
Double Reeds

- English Horn
Woodwinds

- Bassoon
Woodwinds

- Clarinet
Brass

- Trumpet
Brass

- French horn
Brass

- Trombone
Brass

- Tuba
Percussion: Pitched

- Timpani (Kettledrum)
Percussion

- Xylophone (Marimba)
Percussion

- Glockenspiel (Orchestra bells)
Percussion

- Tubular bells (Chimes)
Percussion: Unpitched

- Bass drum
Percussion: unpitched

- Snare (side) Drum
- Tambourine, Triangle, sleigh bells
- Blocks, whips, cowbells
Percussion: Unpitched

- Cymbals
- Gong
Unusual Percussion
“Instruments”

- Clapping with drum sticks
- Artillery
- Anvils
- Cardboard tubes
- A typewriter
Keyboard Instruments

- Harpsichord
- Strings are plucked
Keyboard Instruments

- Organ
Keyboard Instruments

- Piano
Voices: not just pitch - timbre too

- Soprano:
- Alto:
- Tenor:
- Bass
Meter: grouping of rhythm patterns

- Double:
- Triple:
Note Values

- Just be able to divide and multiply by 2
- All based on doubling and halving
- Time signatures
Key

- Major
- Minor
Texture

- **Phone-** sound
- **Mono-**
- **Homo-**
- **Poly-**
- **Monophonic:** (CD 1 #1)
- **Homophonic:** Most music
- **Polyphonic:** (CD 1 #2,3,11,13)