“Music [is] the favorite passion of my soul.”

—Thomas Jefferson
THE CLASSICAL PERIOD

DATES:
1750AD to 1820AD
CLASSICAL TIMELINE

Classical Era

**Composers and Works**

- (1732–1809) Joseph Haydn
  - Symphony No. 100, Military
  - The Creation

- (1756–1791) Wolfgang Amadeus Mozart
  - Piano Concerto, G major, K. 453
  - Don Giovanni
  - Eine kleine Nachtmusik
  - Requiem

- (1770–1827) Ludwig van Beethoven
  - Moonlight Sonata
  - Symphony No. 5

- (1797–1828) Franz Schubert
  - Erlkönig
  - The Dead

**Events**

- 1715: Reign of Louis XV begins
- 1732: George Washington born
- 1752: Benjamin Franklin's electricity discoveries
- 1765: Catherine II crowned empress of Russia
- 1771: First edition of Encyclopédie Britannica
- 1775: American Revolution begins
- 1785: Schiller writes Ode to Joy
- 1789: French Revolution begins
- 1790: Jenner discovers vaccination for smallpox
- 1804: Coronation of Napoleon
- 1815: Defeat of Napoleon at Battle of Waterloo
KEY POINTS

• The Classical era (1750–1825) is characterized by order, objectivity, and harmonious proportion. This is reflected in the art and architecture of the time, modeled on ancient Greek and Roman styles.
• The American Revolution (1775–83) and the French Revolution (1789–99) profoundly changed political systems and social order.
• The era saw significant advances in science and ideas, and the Industrial Revolution made mass production possible.
• German writers like Goethe and Schiller expressed the emerging romantic view of the world.
• Haydn, Mozart, Beethoven, Schubert—all members of the Viennese school—composed in large-scale forms (symphony, concerto, sonata).
• Classical music is characterized by a singable, lyrical melody; diatonic harmony; regular rhythms and meters; homophonic texture; and frequent use of folk elements.
• Music-making revolved around the court, with composers (especially Haydn) employed under the patronage system. Women also held court positions as musicians and teachers.
CURRENT EVENTS

• Strong aristocratic sovereigns continued their rule throughout Europe

• Europe consumed by French Revolution from 1789-1799

• Social upheaval – transfer of power from the aristocracy to the middle class

• This drastic shift made possible largely by the Industrial Revolution
CURRENT EVENTS

IMPORTANT INVENTIONS in CLASSICAL PERIOD

STEAM ENGINE

SPINNING JENNY

COTTON GIN
CURRENT EVENTS

ADVANCES IN SCIENCE AND MEDICINE

Benjamin Franklin discovers electricity

Joseph Priestley discovers oxygen

Edward Jenner perfects the vaccination
CURRENT EVENTS

THE AMERICAN REVOLUTION

• 1775 – 1783
• Broke out more than fourteen years before French Revolution
• Colonists angered at the economic injustices imposed on them by English King George III
• Larger issue of human equality and freedom
• Thomas Jefferson - all people have the right to life, liberty, and the pursuit of happiness
CLASSICISM IN THE ARTS

• In the Classical era, order, reason, and serenity were used to express emotions in the different art forms.

• Qualities of order, stability, unity and harmonious proportion, which were found in the art and literature of ancient Greece and Rome.

• This era has been called the Age of Reason due to the popularity of the social and political ideas of Voltaire and Rousseau.

The Parthenon, Athens (447–438 B.C.E.)

*Embody the ideals of order and harmonious proportions*
CLASSICISM IN MUSIC

The “Viennese School” – The name given to a group of Classical Era Composers: Haydn, Mozart, Beethoven

Their music characterizes the Classical Period with lyrical and appealing treatment of melodic and harmonic elements, as well as the development of highly structured instrumental forms.

Haydn  Mozart  Beethoven
CLASSICISM IN MUSIC

Musical Characteristics:

- Singable, lyrical melodies
- Symmetrical four-bar phrases
- Diatonic harmony – built from the tones of the major or minor scale
- Regular rhythms and meters
- Homophonic texture (melody with accompanying harmony)
- Frequent use of folk elements

Mozart: Piano Concerto No. 21, II
https://www.youtube.com/watch?v=i2uYb6bMKyI

Haydn: Trumpet Concerto in E flat, III
https://www.youtube.com/watch?v=vpFaWJQHwbA

Haydn: Symphony No. 94, III (folk elements)
https://www.youtube.com/watch?v=psJ8jWvetPY

The Rotunda of the University of Virginia – Thomas Jefferson’s design reflects his admiration for classical architecture
CLASSICISM IN MUSIC

The Patronage System

• Musicians were sponsored by the aristocracy, but under great scrutiny and with high expectations

• Social events – constant demand for new music

• Musicians little better than servants, but at least it provided economic security for composers

• Women became prominent figures in music as performers, teachers

• Public concerts held – audiences were eager to hear the latest works

Prince Esterhazy

“...The master of music, Mr. Haydn, is reminded to apply himself more assiduously to composition than he has done so far.....and, to show his zeal, he will hand in the first piece of every composition in a clean, tidy copy.”
“I alter some things, eliminate and try again until I am satisfied. Then begins the mental working out of this material in its breadth, its narrowness, its height and depth.”

—Ludwig van Beethoven
THE DEVELOPMENT OF CLASSICAL FORMS

Themes and Motives

- Musical ideas may be considered in terms of thought. Each thought flows logically to the next in a steady progression until it reaches a conclusion.
- **Themes** are the musical thoughts or ideas used as building blocks in the construction of a composition.

Mozart, *Eine kleine Nachtmusik*, K. 525, I

https://www.youtube.com/watch?v=UzEX0-nwN4Y
THE DEVELOPMENT OF CLASSICAL FORMS

Themes and Motives

- **Thematic development** is the expansion of a theme achieved by varying different elements, such as its melodic outline, rhythm, or harmony.

Henry Purcell: Rondeau from Abdelazer
[https://www.youtube.com/watch?v=VVivtti-n-w](https://www.youtube.com/watch?v=VVivtti-n-w)

Convex and Concave
1955 by M.C. Escher

Brain patterns are stimulated to recognize patterns and to perceive how the action draws the eye toward the center like the pull of the tonic in a piece of music.
THE DEVELOPMENT OF CLASSICAL FORMS

Themes and Motives

• Themes can be divided into *motives* which are short melodic or rhythmic fragments
• Motives are often treated in *sequence* – repeated at a higher or lower pitch level

**Beethoven: Symphony No. 5**
https://www.youtube.com/watch?v=POVjeuef0RY

**Mendelssohn: Italian Symphony, I**
https://www.youtube.com/watch?v=_HX_jF1_Tgc
Ostinato – a short, repeated musical pattern, often the organizing feature of a work

Example of an ostinato:
Pachelbel’s Canon in D -
https://www.youtube.com/watch?v=Xu5TlSXEzzs
Form – Structure and design in music, based on repetition, contrast, and variation; the organizing principle of music. Every musical work has a form which is sometimes simple, other times complex. Form is needed to hold the music together, especially when there is no story or text.

Large-scale musical works have an overall form with various movements, etc.

Within each movement there is an internal form that binds different sections into one artistic whole.
An important characteristic of music of the Classical Period was the use of the **Multimovement Cycle**

- Cycle generally consists of three or four movements in prescribed forms and tempos
- Used in various musical settings including the *symphony*, the *sonata*, the *string quartet*, and the *concerto*.

**First Movement** is usually FAST

**Second Movement** is usually SLOW

**Third Movement** (optional) is usually a triple-meter DANCE

**Fourth Movement** is usually FAST & LIVELY
# THE DEVELOPMENT OF CLASSICAL FORMS

## Form and Multimovement Cycles

<table>
<thead>
<tr>
<th>SYMPHONY &amp; STRING QUARTET</th>
<th>Sonata &amp; Concerto</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usually four-movement works in the following order:</td>
<td>Usually three-movement works in the following order:</td>
</tr>
<tr>
<td>• I – Fast</td>
<td>• I – Fast</td>
</tr>
<tr>
<td>• II – Slow</td>
<td>• II – Slow</td>
</tr>
<tr>
<td>• III – Triple-meter dance</td>
<td>• III – Fast</td>
</tr>
<tr>
<td>• IV – Fast</td>
<td></td>
</tr>
</tbody>
</table>

Mozart: Symphony No. 40, I
https://www.youtube.com/watch?v=p8bZ7vm4_6M

Beethoven: Piano Sonata No. 8
https://www.youtube.com/watch?v=SrcOcKYQX3c
# THE DEVELOPMENT OF CLASSICAL FORMS

## Form and Multimovement Cycles

## Multimovement Cycle: General Scheme

<table>
<thead>
<tr>
<th>MOVEMENT</th>
<th>CHARACTER / TEMPO</th>
<th>FORM/KEY</th>
<th>PLAYLIST</th>
</tr>
</thead>
</table>
| FIRST     | Long, dramatic    | Sonata-allegro | Mozart: *Eine kleine Nachtmusik*, I  
Beethoven: Symphony No. 5, I |
|           | Allegro           | Tonic Key |          |
| SECOND    | Slow, lyrical     | Theme and variations  |
|           | Andante, Adagio   | (or A-B-A) or modified |
|           |                   | sonata-allegro       |
|           |                   | Related Key          |
|           |                   |          |
| THIRD     | Dancelike         | Minuet and Trio (18th c.)  |
| (optional)| Allegro, Allegretto| Scherzo and Trio (19th c.) |
|           |                   | Tonic Key            |
|           |                   |          |
| FOURTH    | Lively, spirited  | Rondo (or sonata-rondo,  |
| (last)    | Allegro, Vivace   | sonata-allegro)      |
|           |                   | Tonic Key            |
|           |                   |          |

Haydn: *Emperor* Quartet, II  
Haydn: Symphony No. 100 (*Military*), II  
Mozart: *Eine kleine Nachtmusik*, III  
Beethoven: Symphony No. 5, III  
Haydn: Trumpet Concerto, last mvmt.  
Beethoven: Symphony No.5, IV
The Classical Period

Chamber Music

- Chamber Music - music for a small ensemble of 2 to about 10 players, usually with one on a part, though each player functioning as a member of a team rather than as a soloist

- The Classical era was considered to be the golden age of chamber music

- Established by Haydn, Mozart, Beethoven, and Schubert
The Classical Period

Chamber Music

Typical Chamber Ensembles:

String Quartet – 2 violins, 1 viola, 1 cello

Duo Sonata – violin & piano

Piano Trio – violin, cello, & piano

Quintet – combination of strings with a solo instrument

Other Ensembles – sextets, septets, octets, etc.
The Classical Period

Chamber Music – The String Quartet

The String Quartet

• Most important type of chamber music in the Classical period

• Instrumentation: two violins, viola, cello

Beethoven: String Quartet in F
https://www.youtube.com/watch?v=JDonq3gQqf8
# Common String Quartet Structure

<table>
<thead>
<tr>
<th></th>
<th>Tempo</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st movement</td>
<td>Fast</td>
<td>Sonata-allegro</td>
</tr>
<tr>
<td>2nd movement</td>
<td>Slow</td>
<td>A-B-A or Theme &amp; variations</td>
</tr>
<tr>
<td>3rd movement</td>
<td>Moderate</td>
<td>Minuet &amp; trio</td>
</tr>
<tr>
<td></td>
<td>dance</td>
<td></td>
</tr>
<tr>
<td>4th movement</td>
<td>Fast</td>
<td>Sonata-allegro or rondo</td>
</tr>
</tbody>
</table>
The Classical Period

**Joseph Haydn & The String Quartet**

- Wrote 68 string quartets
- Played a central role in the importance of the string quartet in the Classical Period

"Can you see the notes behave like waves? Up and down they go! Look, you can also see the mountains. You have to amuse yourself sometimes after being serious so long."

Joseph Haydn

[String Quartet, Op. 76 No. 3 Emperor Quartet](https://www.youtube.com/watch?v=mBmCcSz6HWw)
The Classical Period

Joseph Haydn – *The Father of the Symphony*

- One of the most prolific composers of the Classical era
- Wrote over one hundred symphonies in the four-movement structure, thus he earned the nickname “Father of the Symphony”
- At the age of 29 he entered the service of the Esterhazy family – a very wealthy family of Hungarian princes known for their patronage of the arts
- He served the Esterhazy family for 30 years directing an orchestra, an opera company, a marionette theater, and a chapel
- Died in 1809 and was acknowledged throughout Europe as the premier musician of his time
The Classical Period
Joseph Haydn – *The Father of the Symphony*

*Haydn Wrote:*

- 68 String Quartets
- Over 100 Symphonies
- Concertos for violin, cello, harpsichord, and trumpet
- Sacred vocal music (masses, motets, oratorios)
- Keyboard Music

*Eszterhaza Palace – Where Haydn lived and worked*

*PHOTO GALLERY:*
http://en.wikipedia.org/wiki/Eszterh%C3%A1za
The Classical Period

Joseph Haydn – *The Father of the Symphony*

*Haydn: Symphony No. 100 in G Major Military*

[https://www.youtube.com/watch?v=KOFpHyKQoiI](https://www.youtube.com/watch?v=KOFpHyKQoiI)
The Classical Period
The Classical Symphony

“I frequently compare a symphony with a novel in which the themes are characters. After we have made their acquaintance, we follow their evolution, the unfolding of their psychology.”
— Arthur Honegger

The hall in the Eszteráza Palace where Haydn presented his symphonies
The Classical Period

The Classical Symphony

• The Symphony was a principal form of instrumental music in the Classical Era

• It’s origins were from Italian Opera

• Composers began using long, drawn-out crescendos and quick, aggressive rhythmic themes in extreme ranges of the instruments
The Classical Period

The Classical Symphony Orchestra

- The Classical Era composers established the orchestra as we know it today with four families of instruments: strings, woodwinds, brass, percussion
- It was smaller in size – 30 to 40 players total
- String section was the heart of the orchestra
- Extensive use of interchange and imitation of themes among the various sections of the orchestra

Mozart: Symphony No. 40, I

VERSION 1: https://www.youtube.com/watch?v=o7FLGmJm4As
VERSION 2: https://www.youtube.com/watch?v=fT4KjUwL3IE
# The Classical Period

**The Classical Symphony**

## The Movements of the Symphony:

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>II:</td>
<td>Slow</td>
<td>Beethoven: Symphony No. 7, II  <a href="https://www.youtube.com/watch?v=J12zprD7V1k">https://www.youtube.com/watch?v=J12zprD7V1k</a></td>
</tr>
<tr>
<td>III:</td>
<td>Moderate</td>
<td>Haydn: Symphony No. 94 (Surprise), III  <a href="https://www.youtube.com/watch?v=EOr62j3WQZo">https://www.youtube.com/watch?v=EOr62j3WQZo</a></td>
</tr>
<tr>
<td>IV:</td>
<td>Fast</td>
<td>Mozart: Symphony No. 40, IV  <a href="https://www.youtube.com/watch?v=zyeirAdUeBo">https://www.youtube.com/watch?v=zyeirAdUeBo</a></td>
</tr>
</tbody>
</table>
The Classical Period - *Ludwig van Beethoven*

- German-born composer and pianist
- His father was prone to alcoholism. At the age of eleven he supported his mother and two younger brothers by performing as an organist and harpsichordist
- Performed for Mozart at age 17 and did so well that Mozart commented “Keep an eye on him – he will make a noise in the world some day”
- Became known as the greatest pianist of his time
- Moved to Vienna where he was welcomed by the aristocracy and treated as an equal rather than as a servant

Ludwig van Beethoven
(1770 – 1827)
The Classical Period - *Ludwig van Beethoven*

- Beethoven operated under a modified patronage system. He was not responsible to a specific patron, but was supported financially by many different patrons.
- His career was further aided by the emergence of the middle-class public, which brought revenue through the growth of concert life and music publishing.
- Beethoven began to suffer a hearing loss in his late 20s that eventually led to total deafness.
- He was regarded as an eccentric genius.
- He died at the age of 57, at the height of his fame and reverence – one out of every 10 people who lived in Vienna came to pay their respects.

Ludwig van Beethoven (1770 – 1827)
The Classical Period - *Ludwig van Beethoven*

**Beethoven’s Musical Career Spans Three Periods:**

1. The first was reflective of the Classical influence of composers such as Haydn and Mozart
2. The middle period saw experimentation with elements more associated with the nineteenth century “Romantic” era
3. Beethoven’s late works used more chromatic harmonies and all non-essential musical components were removed

In Beethoven’s own words: “I carry my thoughts about with me for a long time . . . Before writing them down. I change many things, discard others, and try again and again until I am satisfied . . . . I turn my ideas into tones that resound, roar, and rage until at last they stand before me in the form of notes.”
The Classical Period - *Ludwig van Beethoven*

*Beethoven Wrote:*
Nine Symphonies  
Concertos  
Chamber Music  
Piano Sonatas  
Opera  
Choral Music

"What you are, you are by accident of birth; what I am, I am by myself. There are and will be a thousand princes; there is only one Beethoven."

*Ludwig van Beethoven*

Beethoven contributed to many genres. Here are some examples:

*Beethoven: Piano Sonata No. 8 in C, *(Pathétique)*, I*  
[https://www.youtube.com/watch?v=cg9KQ610biU](https://www.youtube.com/watch?v=cg9KQ610biU)

*Beethoven: String Quartet in F, Op. 59, No. 1, I*  
[https://www.youtube.com/watch?v=2_nHdYtH3LQ](https://www.youtube.com/watch?v=2_nHdYtH3LQ)

*Beethoven: Moonlight Sonata*  
[https://www.youtube.com/watch?v=zJL3D1kuCyY](https://www.youtube.com/watch?v=zJL3D1kuCyY)
Beethoven: Symphony No. 5 in c minor, Op. 67

- Best known of all symphonies
- Based on a famous 4-note motive
- Utilized additional instruments to amplify the intensity of the orchestra

4 Movements:
- Mvmt 1 – Allegro con brio
- Mvmt 2 – Andante con moto
- Mvmt 3 – Scherzo and trio
- Mvmt 4 – Allegro

https://www.youtube.com/watch?v=zM3y09RjKLS
https://www.youtube.com/watch?v=gt1V61SPI_w
The Classical Period – The Concerto

Concerto: a musical composition for a solo instrument or instruments accompanied by an orchestra, especially one conceived on a relatively large scale.
The Classical Period – *The Concerto*

- **The Movements of the Concerto:**
  - **I: fast**  
    - Mozart: Piano Concerto No. 21, I (cadenza)
  - **II: slow**  
    - Mozart: Piano Concerto No. 21, II - *(13 min 30 sec)*  
      [https://www.youtube.com/watch?v=smEjNGgGx8E](https://www.youtube.com/watch?v=smEjNGgGx8E)
  - **III: fast**  
    - Mozart: Clarinet Concerto, III  
      [https://www.youtube.com/watch?v=O0yV_mcthIA](https://www.youtube.com/watch?v=O0yV_mcthIA)

- **Cadenza** - an improvised or written-out ornamental passage played or sung by a soloist or soloists, usually in a "free" rhythmic style, and often allowing for virtuosic display

  - Mozart: Piano Concerto No. 21, I (cadenza)  
    [https://www.youtube.com/watch?v=NoeeJkeht9U](https://www.youtube.com/watch?v=NoeeJkeht9U)
“People make a mistake who think that my art has come easily to me. Nobody has devoted so much time and thought to composition as I. There is not a famous master whose music I have not studied over and over.”

- W. A. Mozart
The Classical Period – Wolfgang Amadeus Mozart

The most extraordinarily gifted child in the history of music!

- Austrian composer, pianist, violinist
- Mozart was a child prodigy who began writing music before the age of five
- He rebelled against the social restrictions of the patronage system, which resulted in his dismissal by his patron, the Archbishop of Salzburg
- Mozart then began a career as a freelance musician at age 25
The Classical Period – Wolfgang Amadeus Mozart

Salzburg, where Mozart was born, is in the northwest corner of Austria. Vienna (where he worked in his later life) is on the Eastern side of Austria.

Salzburg, Austria
The Classical Period – Wolfgang Amadeus Mozart

- Mozart moved to Vienna at the age of 25, after his dismissal by the archbishop of Salzburg. He struggled financially, because he did not have a steady income provided by a patron.

- In 1782, he married his landlord’s daughter, Constanza Weber against his father’s wishes.

- He reached the peak of his career in the late 1780s with his three comic operas, which were a result of collaboration with librettist Lorenzo da Ponte.

- He died on December 4, 1791 at the age of 35. Possible causes of death include rheumatic fever, heart disease, and trichinosis.
The Classical Period – Wolfgang Amadeus Mozart

Mozart Wrote:

- Chamber Music – Including 23 string quartets
- Keyboard Music – Including 17 piano sonatas
- Orchestral Music – Including 40 symphonies
- Concertos – Including 27 for piano, 5 for violin, others for solo winds
- Operas
- Sacred Choral Music – Including the incomplete Requiem
The Classical Period – Wolfgang Amadeus Mozart

Mozart’s music was catalogued chronologically by Ludwig Köchel. Works are listed with a K followed by a number:

**Title**: Eine kleine Nachtmusik,  
**Catalog Number**: K. 525,  
**Movement**: I
The Classical Period – Wolfgang Amadeus Mozart

Here are some of Mozart’s most well-known pieces:

- **Mozart - Serenade in G major, K. 525 'Eine kleine Nachtmusik' - I. Allegro**
  https://www.youtube.com/watch?v=Qb_jQBgzU-I

- **Mozart - Symphony no. 40 in G minor, KV. 550**
  https://www.youtube.com/watch?v=_JAPx7_ra_A

- **Mozart – Piano concerto no. 17 in G KV 453**
  https://www.youtube.com/watch?v=fLK1f_C4Bpg

- **Mozart - The Marriage of Figaro, Overture**
  https://www.youtube.com/watch?v=Dsk70zWGZyY

- **Mozart - Horn Concerto Nr.3 KV.447**
  https://www.youtube.com/watch?v=lNuJVfe-t3o
Franz Joseph Haydn

- Prominent and prolific composer of the Classical Period
- Instrumental in the development of chamber music
- Nicknamed the “Father of the Symphony”
- Composed over 100 symphonies and over 60 string quartets

Franz Joseph Haydn (1732 – 1809)

Haydn: Symphony No. 94 in G major ("Surprise") - Movement 2
https://www.youtube.com/watch?v=mNwMXj0Y1_Y
Wolfgang Amadeus Mozart

- Child prodigy
- Composed music beginning at age 5
- Body of work spans over 600 compositions
- Died young at the age of 35

Eine Kleine Nachtmusik 1st Movement
https://www.youtube.com/watch?v=cQuE4otVycQ
IMPORTANT CLASSICAL PERIOD COMPOSERS

Antonio Salieri

- Italian composer, conductor, teacher
- Pivotal role in development of 18\textsuperscript{th} century Opera
- Friends with Haydn and gave music lessons to Beethoven

Antonio Salieri Symphony "VENEZIANA"
https://www.youtube.com/watch?v=s1bRATRhSeA

Antonio Salieri
(1750 – 1825)
Christoph Willibald Gluck

- German composer of Italian and French Opera
- Helped reform and revolutionize opera
- Wrote scores in line with operas text

Gluck - Orfeo ed Euridice
https://www.youtube.com/watch?v=svLGvg-cLhg
IMPORTANT CLASSICAL PERIOD COMPOSERS

Muzio Clementi

- English composer, pianist, conductor
- Strong promoter of the Piano
-Produced his own brand of pianos
- Taught future greats: Chopin and Mendelssohn

Muzio Clementi - *da gradus ad parnassum* n 15
https://www.youtube.com/watch?v=xDWvykIzISwA

Muzio Clementi (1752 – 1832)
Luigi Boccherini

- Italian composer and cello player
- Music is closely related to that of Haydn’s
- Most noted for his cello sonatas and his guitar quintets

Boccherini – Minuet from String Quintet, Op. 13
https://www.youtube.com/watch?v=sC7d0GmAfG4
Carl Philipp Emanuel Bach

- Son of Johann Sebastian Bach
- German musician & composer
- Known as the “Berlin Bach”
- Most valuable contribution to the music world was his piano technique book which is still used today

Carl Philipp Emanuel Bach: Allegro from Cello Concerto in A major
https://www.youtube.com/watch?v=Uz1YDnDe0FM
**Ludwig van Beethoven**

- German composer & pianist
- Known as the greatest pianist of his time
- Worked under a modified patronage system
- An eccentric genius who was treated as an equal among the aristocracy
- Suffered a hearing loss in his late twenties

Ludwig van Beethoven (1770 – 1827)

Beethoven: *Symphony No. 5 in C minor, Op. 67*

[https://www.youtube.com/watch?v=1lHOYvIhLxo](https://www.youtube.com/watch?v=1lHOYvIhLxo)