



EDUCATIONAL
CONCERT SERIES

DETROIT SYMPHONY ORCHESTRA
TEACHER RESOURCE GUIDE

Holst: The Planets

WEDNESDAY, NOVEMBER 17 AT 10:30AM AND 11:45AM
THURSDAY, NOVEMBER 18 AT 10:30AM



Live from Orchestra Hall

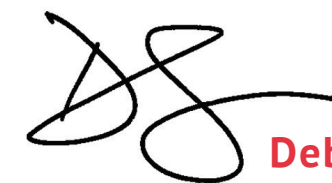
Classroom Edition

Welcome to the Detroit Symphony Orchestra

The DSO has been offering the Educational Concert Series to school audiences for over 80 years. Your students will get to experience a live orchestral performance at historic Orchestra Hall and will be part of a long-standing tradition here in Detroit.

This guide is divided into several sections each including activities for different age groups. To make the most of your Educational Concert Series experience, we encourage you to play the music provided in this guide for your students and incorporate a few activities into your lesson plans before attending the concert. The Detroit Symphony Orchestra strives to follow key elements of the Common Core by providing a Teacher's Resource Guide to supplement and enhance the viewing of the Educational Concert Series. Through the introduction of orchestral music, your students will learn to observe and describe, and to compare and contrast. During these lessons, your students will make music, develop musical creativity, learn the history of composers and the source of their works, and explore connections with other disciplines.

We hope you enjoy the lessons, indulge in listening, and most of all, we sincerely hope you have fun at your Educational Concert Series whether it's at Orchestra Hall or through our live webcasts. See you soon!



Debora Kang
Director of Education

INTRODUCTION

Gustav Holst

01

UNIT 1

Mars, The Bringer of War

02

UNIT 2

Venus, The Bringer of Peace

04

UNIT 3

Uranus, The Magician

06

UNIT 4

Saturn, The Bringer of Old Age

08

UNIT 5

Jupiter, The Bringer of Jollity

10

Educational Concert Series

Jader Bignamini, Music Director

Leonard Slatkin, Music Director Laureate

Jeff Tyzik, Principal Pops Conductor

Holst: The Planets

WEDNESDAY, NOVEMBER 17, 2021 AT 10:30AM AND 11:45AM

THURSDAY, NOVEMBER 18, 2021 AT 10:30:AM

Daniel Bartholomew-Poyser, *conductor*

Gustav Holst

(1874-1934)

The Planets

I. Mars, The Bringer of War

II. Venus, The Bringer of Peace

VI. Uranus, The Magician

V. Saturn, The Bringer of Old Age

IV. Jupiter, The Bringer of Jollity



A COMMUNITY-SUPPORTED ORCHESTRA

Jader Bignamini, MUSIC DIRECTOR

Music Directorship endowed by the Kresge Foundation

Jeff Tyzik, PRINCIPAL POPS CONDUCTOR

Terence Blanchard, Fred A. & Barbara M. Erb Jazz Creative Director Chair

Leonard Slatkin, MUSIC DIRECTOR LAUREATE

Neeme Jarvi, MUSIC DIRECTOR EMERITUS

FIRST VIOLIN

Kimberly Kaloyanides Kennedy

ACTING CONCERTMASTER

Katherine Tuck Chair

Hai-Xin Wu

ACTING ASSOCIATE CONCERTMASTER

Schwartz Shapero Family Chair

Jennifer Wey Fang

ASSISTANT CONCERTMASTER

Walker L. Cisler/Detroit Edison

Foundation Chair

Marguerite Deslippe*

Laurie Goldman*

Rachel Harding Klaus*

Eun Park Lee*

Adrienne Rönmark*

Laura Soto*

Greg Staples*

Jiamin Wang*

Mingzhao Zhou*

SECOND VIOLIN

Adam Stepniewski

ACTING PRINCIPAL

The Devereaux Family Chair

Will Haapaniemi*

David and Valerie McCammon Chair

Hae Jeong Heidi Han*

David and Valerie McCammon Chair

Sheryl Hwangbo Yu*

Sujin Lim*

Hong-Yi Mo*

Alexandros Sakarellos*

Drs. Doris Tong and Teck Soo Chair

Marian Tanau*

Alexander Volkov*

Jing Zhang*

VIOLA

Eric Nowlin

PRINCIPAL

Julie and Ed Levy, Jr. Chair

James VanValkenburg

ASSISTANT PRINCIPAL

Caroline Coade

Glenn Mellow

Hang Su

Shanda Lowery-Sachs

Hart Hollman

Han Zheng

Mike Chen

CELLO

Wei Yu

PRINCIPAL

James C. Gordon Chair

Abraham Feder

ASSISTANT PRINCIPAL

Dorothy and Herbert Graebner Chair

Robert Bergman*

Jeremy Crosmer*

Victor and Gale Girolmai Chair

David LeDoux*

Peter McCaffrey*

Joanne Danto and Arnold Weingarden Chair

Haden McKay*

Úna O'Riordan*

Mary Ann and Robert Gorlin Chair

Cole Randolph*

African American Orchestra Fellow

BASS

Kevin Brown

PRINCIPAL

Van Dusen Family Chair

Stephen Molina

ASSISTANT PRINCIPAL

Linton Bodwin

Christopher Hamlen

Brandon Mason

Nicholas Myers

HARP

Patricia Masri-Fletcher

PRINCIPAL

Winifred E. Polk Chair

FLUTE

Hannah Hammel

PRINCIPAL

Women's Association for the DSO Chair

Amanda Blaikie

Morton and Brigitte Harris Chair

Sharon Sparrow

ASSISTANT PRINCIPAL

Bernard and Eleanor Robertson Chair

Jeffery Zook

PICCOLO

Jeffery Zook

OBOE

Alexander Kinmonth

PRINCIPAL

Jack A. and Aviva Robinson Chair

Sarah Lewis

ASSISTANT PRINCIPAL

Monica Fosnaugh

Open

Maggie Miller Chair

ENGLISH HORN

Monica Fosnaugh

Shari and Craig Morgan Chair

CLARINET

Ralph Skiano

PRINCIPAL

Robert B. Semple Chair

Jack Walters

PVS Chemicals Inc./

Jim and Ann Nicholson Chair

Laurence Liberson

ASSISTANT PRINCIPAL

Shannon Orme

E-FLAT CLARINET

Laurence Liberson

BASS CLARINET

Shannon Orme

Barbara Frankel and Ronald Michalak Chair

BASSOON

Michael Ke Ma

ACTING PRINCIPAL

Victoria King

Marcus Schoon

Jaquain Sloan

AFRICAN AMERICAN ORCHESTRA FELLOW

CONTRABASSOON

Marcus Schoon

HORN

Karl Pituch

PRINCIPAL

Johanna Yarbrough

Scott Strong

Bryan Kennedy~

David Everson

ASSISTANT PRINCIPAL

Mark Abbott

TRUMPET

Hunter Eberly

PRINCIPAL

Lee and Floy Barthel Chair

Kevin Good

Stephen Anderson

ASSISTANT PRINCIPAL

William Lucas

TROMBONE

Kenneth Thompkins

PRINCIPAL

David Binder

BASS TROMBONE

Ilan Morgenstern#

ACTING BASS TROMBONE

TUBA

Dennis Nulty

PRINCIPAL

PERCUSSION

Joseph Becker

PRINCIPAL

Ruth Roby and Alfred R. Glancy III Chair

Andres Pichardo-Rosenthal

ASSISTANT PRINCIPAL

William Cody Knicely Chair

James Ritchie

TIMPANI

Jeremy Epp

PRINCIPAL

Richard and Mona Alonzo Chair

James Ritchie

ASSISTANT PRINCIPAL

LIBRARIANS

Robert Stiles

PRINCIPAL

Ethan Allen

PERSONNEL MANAGERS

Heather Hart Rochon

DIRECTOR OF ORCHESTRA PERSONNEL

Hannah Wetherholt

MANAGER OF ORCHESTRA PERSONNEL

STAGE PERSONNEL

Dennis Rottell

STAGE MANAGER

Ryan DeMarco

DEPARTMENT HEAD

Noel Keese

DEPARTMENT HEAD

Steven Kemp

DEPARTMENT HEAD

Matthew Pons

DEPARTMENT HEAD

Michael Sarkissian

DEPARTMENT HEAD

LEGEND

* These members may voluntarily revolve seating within the section on a regular basis

~ Extended Leave

^ On sabbatical

Substitute musician

INTRODUCTION

Gustav Holst

Gustav Holst was born in 1874 in Cheltenham, UK and was one of the most important composers of his generation. He is best known for his large orchestral work *The Planets*, but he also wrote stage works including ballets and opera, songs, choral works, and music for small and large instrumental ensembles.

Not just a composer, Holst also played the trombone. He was a principal trombone with the Carl Rose Opera Company and also played with the Scottish National Orchestra. In 1903, he would also pursue teaching – and in 1905 he became head of music at the St Paul's Girls School in Hammersmith (London) where he remained until his death. He also taught briefly in America as a visiting lecturer at Harvard University, and he was even offered an opportunity to become a professor at the University of Michigan in 1923!

In 1914, Holst tried to enlist in the military to fight in World War I, but he was continuously denied because of ongoing health concerns. As a child, he had struggled with asthma and poor vision, and he suffered from neuritis in his right arm – which had kept him from becoming a pianist like his father. This even caused Holst to hold his conducting baton in his left hand. During this same time, Holst had begun composing his best-known work, *The Planets*, which would make him an international celebrity.

With an initial inspiration of astrological signs and meanings, Holst used *The Planets* to solve structural problems he had struggled with when composing major works. Holst was insistent that movements should not be performed separately, likely owing to his use of a hymn he composed for the poem 'I vow to thee, my country' by Cecil Spring-Rice which had become quite popular.

Holst's poor health and complications would continue through his adult life. He eventually died in 1934 in Ealing, London from heart failure, and his ashes were buried in Chichester Cathedral.

Holst was interested in many things in addition to classical music, including culture and folksong, European literature, Hindu literature and mysticism, and astrology. Through these interests, Holst's *The Planets* is not supposed to be about the planets themselves, but rather the astrological characteristics of them, as they might apply to real people. *The Planets* is often performed along with connections to astronomy, or the study of the physical universe consisting of planets, stars, and galaxies. Even NASA has been involved 'planet' projects, but Holst did not intend for this to be the case, and the music is supposed to be linked with astrology, which is the study of how stars and planets influence people and events.

UNIT 1

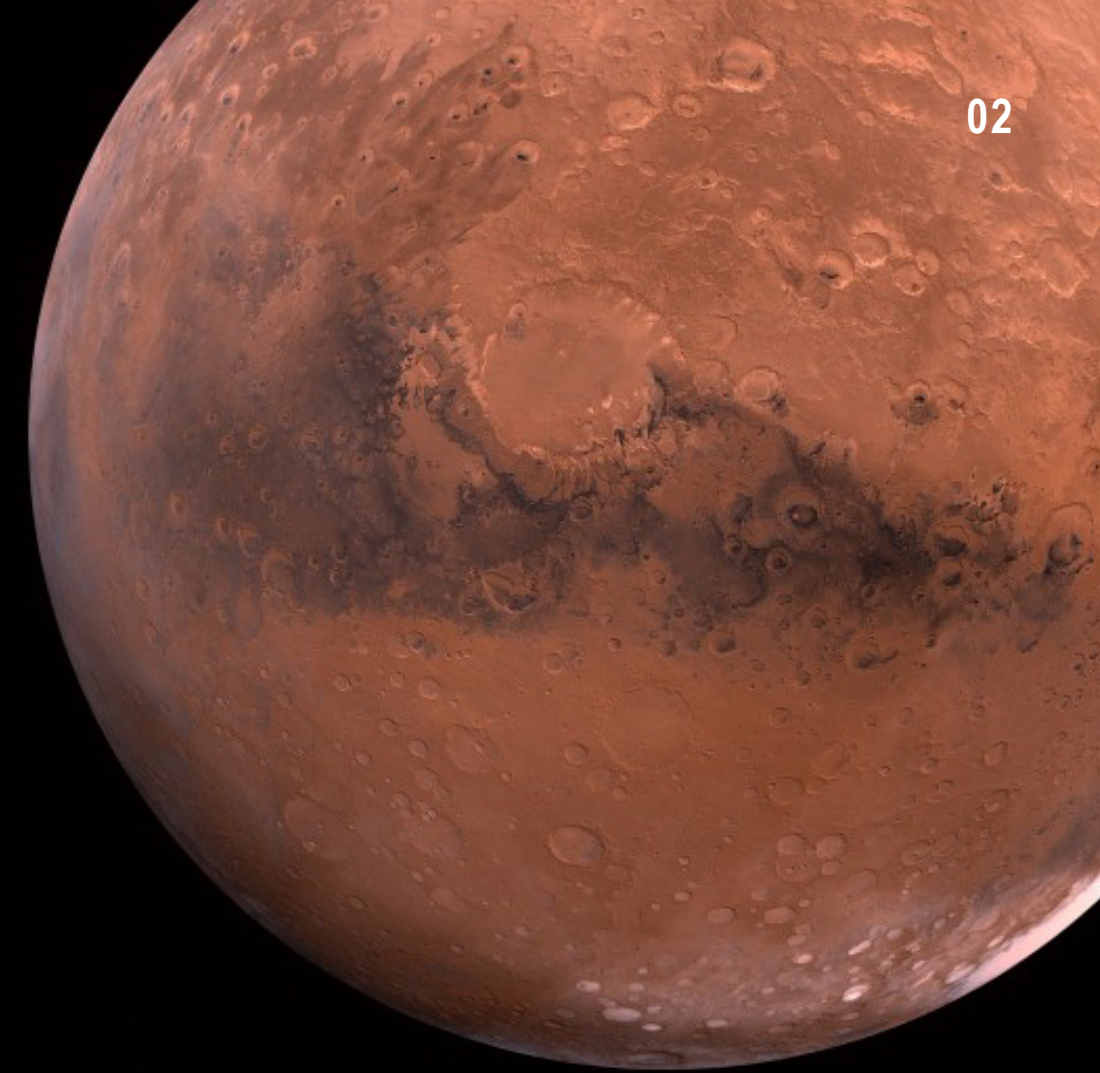
Mars, The Bringer of War

Scientific Facts:

- 4th planet from the sun
- Distinctive red/brown color due to iron minerals on its surface that have rusted (think of a rusty nail!)
 - Sometimes called “The Red Planet”
- Smooth northern hemisphere, and rugged southern hemisphere with lots of craters and highlands
- Contains the largest volcano in the solar system (Olympus Mons)
 - Three times taller than Earth’s Mt. Everest!
- Evidence that there used to be water on Mars (ancient river valley networks and lakebeds)
 - Today, all water found on Mars is frozen below the surface at its poles. This makes Mars the only planet in our solar system (besides Earth) to contain water, and possibly even be hospitable for life
- Seasons on Mars last twice as long as seasons on Earth (due to the axis tilt)
- Two small moons: Phobos and Deimos
- Dust storms are frequent, and every decade a giant dust storm occurs that engulfs the entire planet in thick clouds
- 1 day on Mars is equivalent to 24 hours and 37 minutes on Earth
- Named after the Roman god of war, because the color red is often associated with war/battles

Musical Information:

- Overall character: war, conflict
- This was the first movement Holst composed
- The persistent snare-drum rhythm and trumpet fanfares imitate the sound of an army going to battle (like you’d hear in Star Wars)
- Listen for the stringed instruments playing the opening rhythm col legno, meaning that instead of drawing their bow across the string, they bounce the bow’s wooden edge against the string (creating a tapping sound)
- Loud brass melodies swell suddenly, showing the violence of war as well as Mars’ frequent dust storms
- Ostinato (continually repeated) rhythm in 5/4 time -- aggressive, unsettling, unwavering
- Begins the orchestral suite even though Mars is not the first planet, suggesting that the aggressive, warlike character is primal (and also grabs audience’s attention)



ASTROLOGY vs. ASTRONOMY – MARS, THE BRINGER OF WAR

The Astrology

- Mars is an ancient Roman god
- Is the god of war and the protector of agriculture, guarding crops and animals – the two main traits of early Rome
- Roman celebrations of Mars were in fall (harvest) and spring (military campaigns)
- Legend claims Mars was the father of Romulus and Remus, the founders of Rome
- Mars represents a person's drive, determination, and ambition

The Astronomy

- Mars is about half the size of the Earth
- Has seasons, volcanoes and weather just like Earth, and it probably had life at one point in time
- Even though a day on Mars is almost the same as on Earth, a year on Mars is nearly twice as long
- Ancient civilizations knew of Mars because it is so easily seen in the night sky, even without a telescope

Listening Activity

Mars is clearly visible in the nighttime sky, even with the naked eye. While listening to Mars, The Bringer of War, imagine a cloudy night where the sky is so covered with clouds that you can't see the space beyond it. Holst was able to create music that sounds like the music itself is covered in clouds. Then, almost immediately, the sky clears away giving a full view of the planet Mars. The orchestra at this moment is playing all together in unison in the most clearly written passage in the piece.

Most composers tell a story with their music. Holst is depicting a mood or a feeling instead.

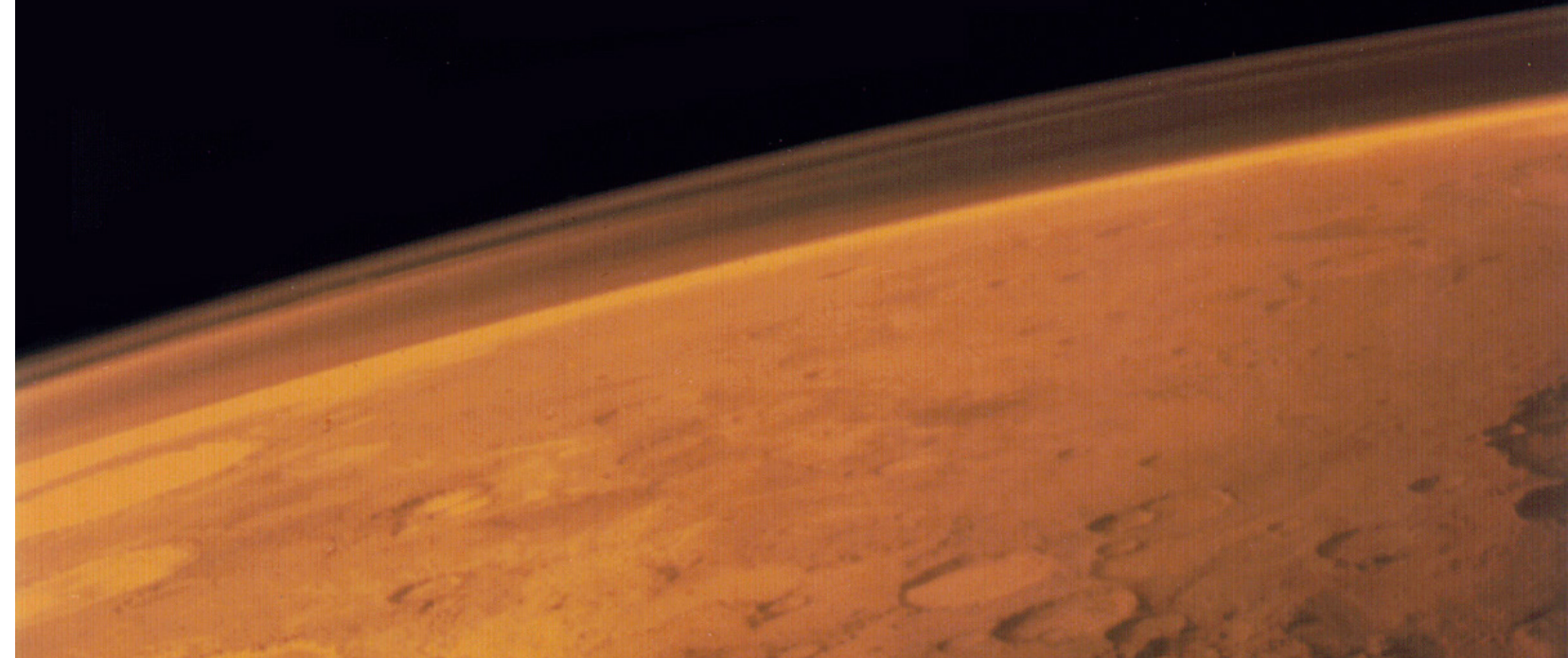
After listening to this passage once more, draw or create a picture that depicts the mood or feeling Holst is trying to portray in Mars, the Bringer of War. Try using different techniques to give texture to your art by using different tools and color.



GUSTAV HOLST - MARS, THE BRINGER OF WAR



<https://www.youtube.com/watch?v=Jmk5frp6-3Q>



UNIT 2

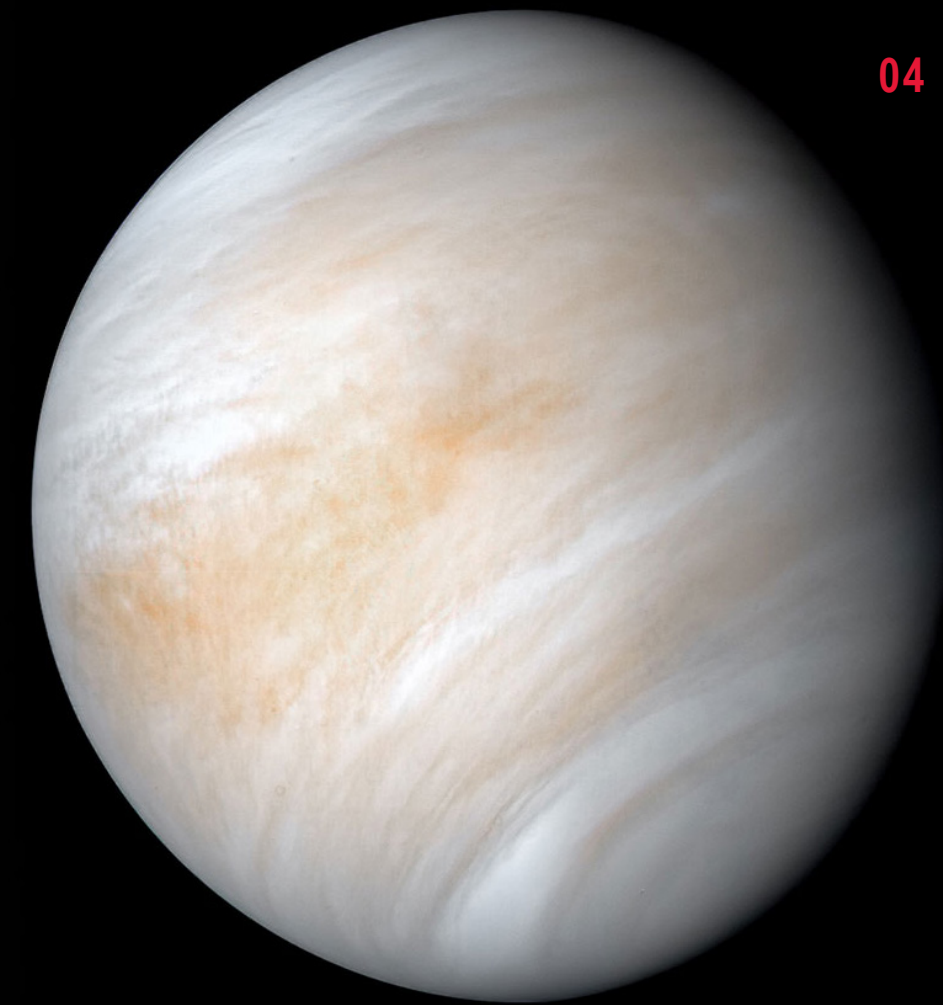
Venus, The Bringer of Peace

Scientific Facts:

- 2nd planet from the sun
- The hottest planet in the solar system (surface temperature = 863 F)
 - Its thick atmosphere traps heat from the sun
- The brightest object in our night sky besides the moon
 - Thick, yellow sulfuric clouds cover the planet and reflect 60% of sunlight back into space, thus making it appear so bright to us
- Has the most volcanoes of any planet in our solar system: 1600 volcanoes total
 - Most are dormant, but scientists believe some may still be active
- No moons or rings
- “Retrograde rotation” -- spins clockwise instead of counterclockwise like most other planets, likely due to a collision with a large space object billions of years ago
 - Only Uranus also rotates clockwise
- 1 day on Venus is equivalent to 116 days and 18 hours on Earth
 - This means a day on Venus is longer than a year on Venus, as it only takes Venus 224.7 (Earth) days to orbit the sun
- Named after the Roman goddess of love and beauty

Musical Information:

- Overall character = peace
- In astrology (and in Holst’s interpretation), Venus restores the peace after Mars’ conflict/disorder
 - Imogen Holst (Holst’s daughter) said that “Venus has to try and bring the right answer to Mars”
- The horns that were so aggressive in the Mars movement are now playing long, slow, mystical melodies
- Listen to how the horns and the flutes seem to call and respond to each other in the opening, as if in peaceful dialogue
- Contrasts with Mars:
 - dynamics mainly between pp and mp (vs. ff and ffff in Mars)
 - Primarily higher register instruments (vs. low and heavy brass in Mars)
 - Slower, smoother tempo (vs. persistent, faster paced beats in Mars)
- Listen for the harp, flute, and celesta at the end of the movement, whose sounds appear to “sparkle” and depict the heavens



ASTROLOGY vs. ASTRONOMY – VENUS, THE BRINGER OF PEACE

The Astrology

- Venus is not an original Roman goddess, but rather one borrowed from a group of native Italians called the Latins, and is the goddess of gardens and cultivation
- Venus became associated with Aphrodite, the Greek goddess of love, but in the Roman tradition, this came to also represent military victory, hence the “bringer of peace”
- The ‘victory’ association was popular because of two important temples built in Rome, one by Pompeius and another by Julius Caesar
- Venus represents a person’s relationships, finances and material possessions

The Astronomy

- Not the closest planet to the sun, but it is the hottest
- Atmosphere is primarily greenhouse gases, trapping heat on planet surface
- Venus is so hot, metal would melt into pools of liquid on the surface
- Venus spins backwards so the sun rises in the west and sets in the east, but sunrise only happens every 117 days
- A single day on Venus is longer than a whole year on Venus

Writing Activity – PEACEFUL DIALOGUE

The opening of Venus, The Bringer of Peace is a peaceful and calm dialogue between French horns and flutes. The horn line ascends (goes up) like how the pitch of your voice goes up when you’re asking a question and the flute line descends, like how the pitch of your voice goes down when you’re answering a question.



GUSTAV HOLST - VENUS, THE BRINGER OF PEACE



https://www.youtube.com/watch?v=EE6_PacCnRw

A writing composition can be quite musical. Spoken word poetry is a form of poetry that doesn’t have to rhyme, but certain parts can be rhymed to emphasize an image or give it a lyrical or musical quality. Spoken word poems will sometimes contain elements of hip-hop, folk music, or jazz to enhance the rhythmic presentation.

Using Holst’s peaceful conversation example, write a lyrical poem using the question and answer model.

Example Poem by Christina Rossetti:

Who has seen the wind?

Neither I nor you:

But when the leaves hang trembling

The wind is passing thro’.

Who has seen the wind?

Neither you nor I:

But when the trees bow down their heads

The wind is passing by.

UNIT 3

Uranus, The Magician

Uranus is barely visible without a telescope because it is not a bright, shiny planet. It also has rings like the very bright planet Saturn, but the rings are also very dark.

Scientific Facts:

- 7th planet from the sun
- Uranus is HUGE. It's about four times wider than earth.
 - If Earth were a large apple, Uranus would be the size of a basketball.
- Most of its mass is a hot, dense fluid of "icy" materials – water.
- Has 27 known moons all named after characters from the works of William Shakespeare and Alexander Pope.
- Has 13 known rings. The inner rings are narrow and dark and the outer rings are brightly colored
- Discovered in 1781 by astronomer William Herschel, although he originally thought it was a comet or a star.

Musical Information:

- Overall character = magical
- Just like a magician, Holst shows many tricks musically almost immediately.
 - Holst uses lots of different rhythm, dynamics and textures throughout the piece to give it a "magical" feel.
- Towards the end, there are some mysterious incantations, long chords which then disappears into thin air.

ASTROLOGY vs. ASTRONOMY – URANUS, THE MAGICIAN

The Astrology

- Uranus is another ‘borrowed’ Roman god, and is known as the Greek god Caelus, but is also the Jewish god Yahweh
- Holst refers to Uranus as the magician, and the astrological name is also ‘The Awakener’ but the magician title comes from the astrological association with big surprises
- Uranus represents changes in a person’s life

The Astronomy

- Uranus has at least 27 moons
- Uranus, like Saturn has rings, but they are difficult to see because they are much darker
- It takes 84 years for Uranus to travel around the sun one time

Listening Activity

Have you ever seen a magic show or someone showing a magic trick? At first, you’re feeling excited to see what the trick is, but then, you’re immediately left wondering what just happened, feeling shock and wonder. Finally, when the trick is finished, you’re left speechless and amazed at the same time! Holst can take us on this roller coaster of a movement, making us feel many different emotions and thoughts.



GUSTAV HOLST - URANUS, THE MAGICIAN



<https://www.youtube.com/watch?v=aDFGmiXnLjU>

As you listen to Uranus, The Magician, ask your class to listen for patterns and have them draw those patterns with lines and shapes on a piece of paper. Listen for possible changes in the pattern. When you hear a difference in the music, change the lines and/or shapes to fit the new pattern. This will be an abstract representation of the whole piece.

UNIT 4

Saturn, The Bringer of Old Age

Saturn is the second largest planet in our solar system, but because it is mainly made of hydrogen and helium, it is the least dense planet. How would a composer depict weightlessness in music?

Scientific Facts:

- 2nd largest planet in the solar system
- A gas giant, just like Jupiter -- made of swirling gases and liquids that are held together by gravity; doesn't have a hard "surface" you can stand upon like on Earth
- Made primarily of hydrogen and helium, just like Jupiter and the sun
- Like Jupiter, Saturn has visible "spots" that are giant storms
- 62 moons
- Most famous for its 30 or more rings, grouped into 7 larger ring formations
 - These rings are not solid, they are made of chunks of ice and dust ranging in
 - Each ring orbits around Saturn independently of the other rings, each at their own speed
- Saturn is less dense than water, meaning if it was put in a giant bathtub it would float!
- 1 day on Saturn is equivalent to 10 hours and 42 minutes on Earth
- Named after Jupiter's father Saturn, who was the god of agriculture and usually portrayed as a very old man

Musical Information:

- Overall character: growing older and fulfilling life experiences
- Holst's favorite movement
- This movement shows growth over time, not just details of a particular character/mood
- Overall slow tempo suggests slow walking pace of the elderly
- Begins by briefly portraying the drama and wonder of the start of human life through slow, eerie/unsettling chords
 - The alternating of the chords represents the ticking of a clock (the passing of time)
- The music slowly builds up, getting louder and more intense as the human grows older
- After the loudest point, the music drops down to a soft, calm, and mature melody, depicting the serenity and acceptance of old age once one has experienced many things in their lifetime
- Saturn's portrayal of old age can be viewed both positively and negatively: the tragedy of life ending and physical decay, or the happiness of having lived a full life

The Astrology

- The festivals for Saturn were the most popular in Rome
- We still see influences in Saturn in modern day Christmas and New Year's celebrations
- In Greek myth, Saturn was exiled by Zeus and taught his followers peaceful arts and agriculture
- Saturn represents the traditions in a person's life

The Astronomy

- Saturn's rings are made up of ice and rock
- When Galileo saw Saturn's rings in the 1600s through a telescope, he thought the planet had handles
- One year on Saturn is the same as 29 Earth years

Movement Activity

Play the first 2 minutes of the movement Saturn, The Bringer of Old Age, and have the students move to the music, encouraging the students be creative in their movement interpretation.



GUSTAV HOLST - SATURN, THE BRINGER OF OLD AGE



<https://www.youtube.com/watch?v=MO5sB56rfzA>

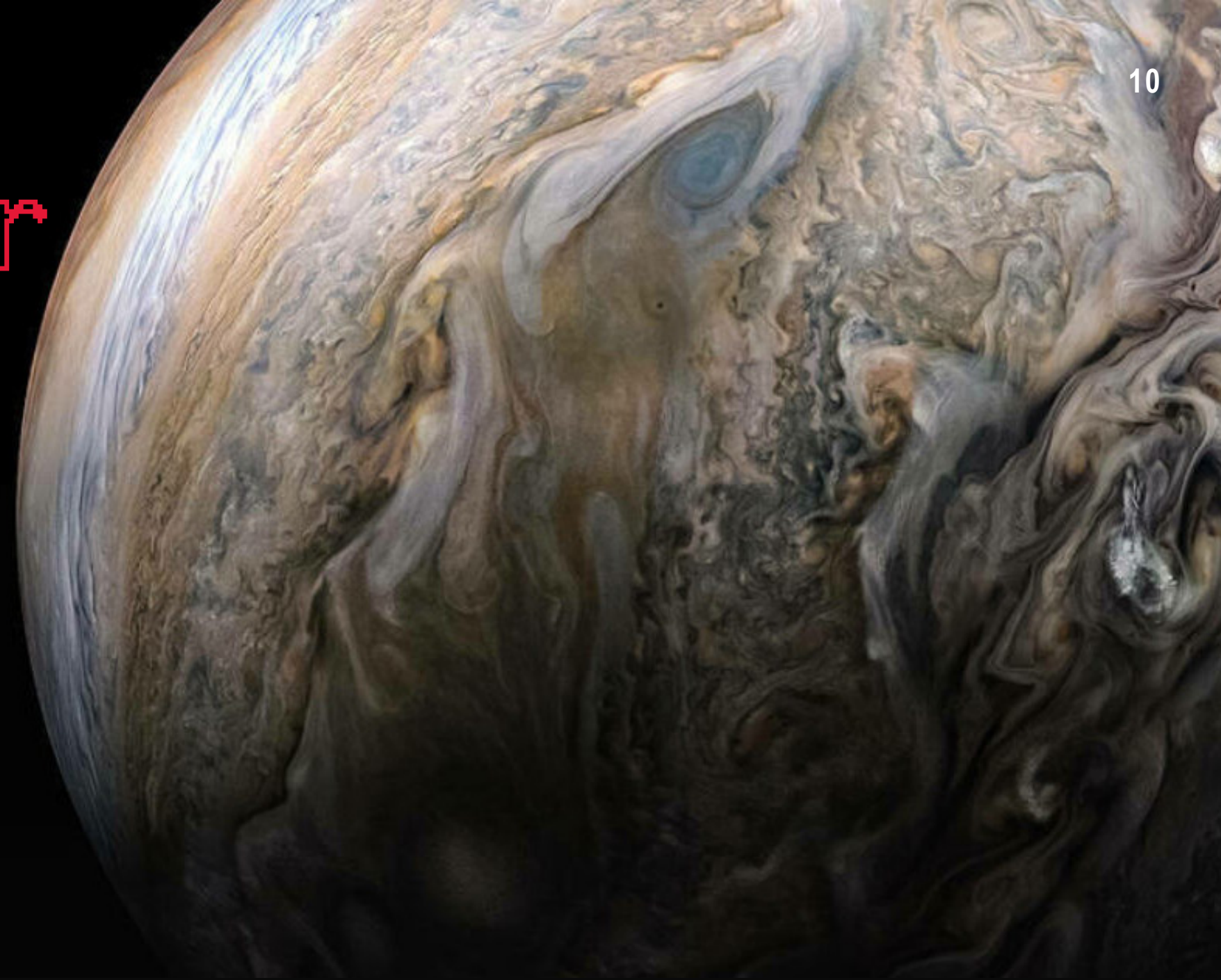
What did each student hear? How did Holst achieve the “weightless” feel in this movement? Did you know that the slow pulse of the flutes in the beginning and throughout the first two minutes represent the ticking of a clock? It's much slower than a normal “second”, making the tempo feel much slower.

There are also very few musicians playing, making it feel light and almost empty.

Jupiter, The Bringer of Jollity

Scientific Facts:

- The largest planet in the solar system
 - Jupiter is as wide as 11 earths side-by-side
 - In total mass, Jupiter is equivalent to about 317 Earths
- 4 rings
- 79 moons
- 1 day on Jupiter is equivalent to 9 hours and 56 minutes on Earth
- Gas giant -- made of swirling gases and liquids that are held together by gravity; doesn't have a hard "surface" like on Earth
- The main gases on Jupiter are the same gases that make our sun: hydrogen and helium
- "Spots" are visible on Jupiter -- these are actually giant storms that last for years!
 - The most famous spot is The Great Red Spot, which is a storm twice as wide as the Earth that has been going on for over 300 years
- Named after the Roman king of the gods since it is the largest planet



Musical Information:

- Overall character: joy, celebratory
- Opens with energizing waves of 16th notes in the strings (a sound that almost shimmers) and joyous brass fanfares
- Transitions abruptly between brass fanfares, folktunes, patriotic themes

The Astrology

- Jupiter was the chief of Roman gods, and is the same as Zeus in Greek myth
- A sky-god, he was known as the bringer of light
- Jupiter represents growth, good fortune and miracles

The Astronomy

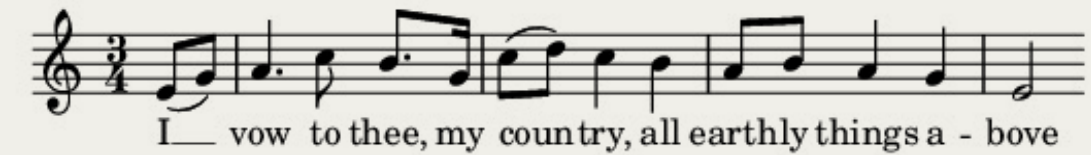
- The surface of Jupiter is actually gas, so it is not solid
- Jupiter has at least 79 moons
- The big red spot on Jupiter is actually a giant storm that has been going non-stop for hundreds of years and is more than twice the size of the Earth

Listening Activity

In Jupiter, The Bringer of Jollity, the slow middle section's melody was later turned into the British patriotic song "I Vow to Thee, My Country"

 **GUSTAV HOLST - JUPITER, THE BRINGER OF JOLLITY**
 <https://www.youtube.com/watch?v=Gu77Vtja30c>

 **"I VOW TO THEE, MY COUNTRY"***
 <https://www.youtube.com/watch?v=o6ZvyIOSy5A>



ACTIVITY IDEA #1:

Play a clip of the original melody and a clip of the British tune for students to compare and contrast.

ACTIVITY IDEA #2:

Did you know Jupiter has at least 79 moons that we know of? Listen to Jupiter, The Bringer of Jollity, and see how many different parts there are in this music – it's not 79, but it's a lot! You can hear there is so much happening. The steady beat is not as clear as it usually is in the rest of the movement. How many different instruments were you able to identify?

*The lyrics come from a poem by British poet Sir Cecil Spring Rice

*excerpt from Wikipedia page

Additional Activities

1. Create your own planet!

Play an excerpt from one of the movements of The Planets and have the students listen to it and draw their own planet based on what they hear. Have them make up scientific facts and create their own astrological story. Prompt students with questions like: How big is your planet? Is your planet hot or cold? What kind of life is found on your planet, if any? Does your planet have any moons or rings?

2. Listening Activity

Play a few short excerpts from The Planets and have the students write down what mood or character they think is being portrayed.

3. Horoscope Activity

Have students create a horoscope for three different zodiac signs, following a basic template that highlights moods and positive things that might occur in someone's life.

Planetariums in/near Detroit:

- **Wayne State Planetarium:** <https://planetarium.wayne.edu/>
 - Free public planetarium shows Friday nights at 7pm and 8:30pm
 - Free young astronomers planetarium shows on second Saturday of each month at 11am
 - In-person shows currently cancelled, but virtual shows and lectures available
- **Dassault Systemes Planetarium**
 - At the Michigan Science Center
 - Show times varied Wednesdays-Sundays
 - Cost: must pay admission to museum and additional planetarium show fee, ~\$23/adults, \$19/ages 2-12, free/kids under 2, \$3/members
 - Unclear if shows still happening during COVID
- **Hammond Planetarium:** <https://www.hfcc.edu/campus-life/planetarium>
 - At Henry Ford College in Dearborn
 - Hours unclear
 - Free admission
- **Vollbrecht Planetarium:** <https://vollbrechtplanetarium.org/>
 - At Morris Adler Elementary School in Southfield
 - Shows at 7pm on Wednesdays for series of 8 shows each spring, fall, and winter
 - Interactive lecture, visual presentation, star show, and prizes
 - Must pre-register at Southfield Parks & Recreation Dept.
 - Cost: \$5/Southfield residents, \$5.50/others
 - Unclear if shows still happening during COVID
- **Longway Planetarium:** <https://sloanlongway.org/longway-planetarium/>
 - In Flint (longer drive, but consistent shows and currently open to the public with social distancing measures)
 - Cost: \$7/adults, \$5/children 2-11 and seniors 60+, free/under 2

Credits

CONTRIBUTORS:

Sophia Janevic, *Education Assistant*

Kenneth Thompson, *CYE Director*

Debora Kang, *Director of Education*

Joanna Goldstein, *Training Ensembles Student Development Coordinator*

DESIGN:

Wes Larsen & Lindsey Larsen

PRODUCTION TEAM :

Debora Kang, *Director of Education*

Lucy Alessio, *Education Assistant*

Jessica Ruiz, *Senior Director of Artistic Planning*

Marc Geelhoed, *Director of Digital Initiatives*

with Special thanks to Anne Parsons and Erik Ronmark

Thank you to our generous donors!



Mandell and Madeleine Berman Foundation

| The Penny and Harold Blumenstein Future Audiences Fund



FORD
FOUNDATION

With Additional Support From

PAUL M. ANGELL
FAMILY FOUNDATION

| Young Woman's Home Association

| Betsy and Joel Kellman

Detroit Symphony Orchestra

Max M. & Marjorie S. Fisher Music Center | 3711 Woodward Avenue | Detroit, MI 48201