Community Health Network

INDIANAPOLIS SYMPHONY ORCHESTRA

DISCOVERY CONCERTS

JOURNEY through the JURASSIC

Jacob Joyce, Conductor

2020 Teacher Packet

This is designed for teachers attending the Indianapolis Symphony Orchestra's Community Health Network *Discovery Concerts*.
Questions or comments may be directed to the ISO Learning Community.

Indianapolis Symphony Orchestra | 32 E. Washington St., Suite 600 | Indianapolis, IN 46204

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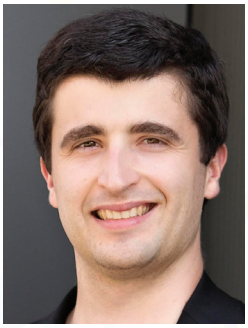
Don't forget – You can deepen your connection to this curriculum by participating in the Symphony in Color program as well! It's free! For more information visit

www.indianapolissymphony.org/education/teachers/symphony-in-color

Be sure to check out the brand new Indianapolis Symphony Orchestra Instrument Family Videos on our website!

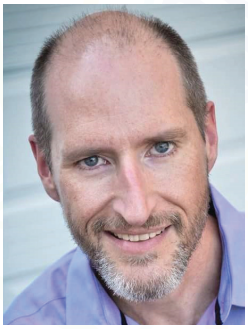
www.indianapolissymphony.org/education/teachers/young-peoples-discovery-concerts

Standards used throughout the curriculum are listed at the end of the packet as well as next to individual questions.



JACOB JOYCE, Conductor

Jacob Joyce is a conductor from Ann Arbor, MI. Recently appointed as the Associate Conductor of the Indianapolis Symphony, Jacob is quickly gaining recognition as an innovative and dynamic presence on the podium. Jacob graduated from Yale College in 2014, with a B.A. in Music and Economics. He received a M.M. in Violin Performance from the Yale School of Music in 2015, studying with Syoko Aki. Jacob most recently served as the Conducting Fellow for the Fort Worth Symphony Orchestra, and has previously held other distinguished positions such as Associate Conductor of the Yale Symphony Orchestra.
Jacob is also an accomplished violinist. He has performed with several orchestras nationwide, and was awarded the Broadus Erle Prize for an Outstanding Violinist at the Yale School of Music. He served as concertmaster of the Yale Symphony Orchestra, and performed regularly with the Boston Philharmonic and the Atlantic Symphony. He has previously attended the Tanglewood Music Center, the Bowdoin International Music Festival, and Encore School for Strings.



TODD D. NORRIS, Narrator

Todd is the Associate Vice President of Interpretation and Family Programs at TCM. He has a background in theatre and teaching, and previously worked at Colonial Williamsburg, both as characters and behind the scenes. He is the president of the International Museum Theatre Alliance, and he is delighted to bring three of his passions—music, theatre, and learning—to this concert series.

JOHN GOODSON, Narrator

John is the Humanities Interpretation Manager at The Children's Museum of Indianapolis as well as an actor, director, and teacher throughout the city. He loves sharing his passion for storytelling and learning with all ages, from the very youngest to the very oldest. "Every child is an artist. The problem is how to remain an artist once we grow up." —Pablo Picasso. Stay curious!

JASON GREENE, Narrator

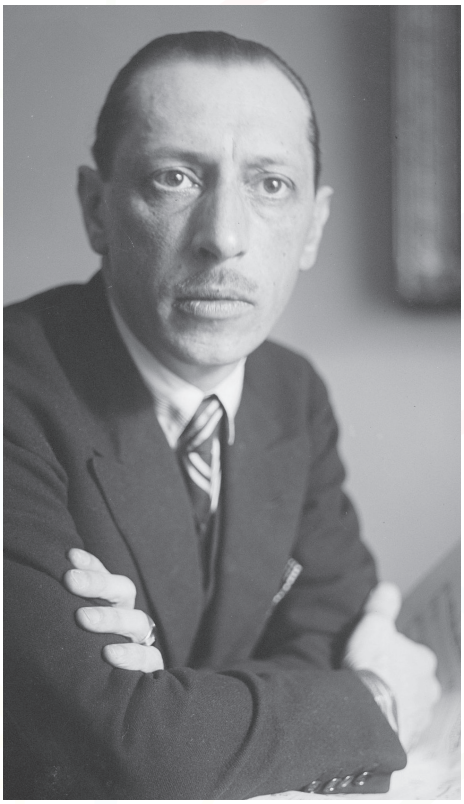
As a kid, he had an intense interest in dinosaurs and fossils. As an adult, he thought it would have to remain a hobby only. That was until he started working at the Children's Museum of Indianapolis seven years ago. Since then, he has gone on dino digs in South Dakota and Wyoming. But the coolest part is inspiring families to get interested in their world and science together.

THE CHILDREN'S MUSEUM, Collaborative Partner

The Children's Museum aims to create extraordinary learning experiences across the arts, sciences, and humanities that have the power to transform the lives of children and families. Special thanks to all of their incredible staff for sharing their time, talent, resources, and expertise. This year's program would not have been possible without them. For more information, or to book a tour, visit childrensmuseum.org or call 317.334.4000

IGOR STRAVINSKY

1882–1971 | Russian **Pronunciation: *Strah-Vin-Skee***



Stravinsky says that his "conscious life as an artist and musician" began when he heard a performance of Tchaikovsky's "Pathetique" Symphony. His father, a famous bass singer with the Russian Imperial Opera, discouraged a career as a musician and enrolled Igor in law school. But the young Stravinsky became friends with the sons of famous composer Nicolai Rimsky-Korsakov, and began taking orchestration lessons from this family friend. Stravinsky never completed a music degree.

However, Stravinsky still continued to write music, and luck followed him—the famous ballet patron Serge Diaghilev was in the audience at a concert of some of Stravinsky's latest compositions, and immediately commissioned him to write a ballet score. This would of course become *The Firebird*, an instant success in Paris.

Although he was born in Russia after the Russian Revolution of 1917, he voluntarily exiled himself to Paris, and became a French citizen in 1934. Five years later, however, he took a job at Harvard University and moved to America, becoming an American citizen shortly after World War II. He wrote over 100 different pieces, and his music has assured his immortality. His early compositions changed the course of musical history and still spark discussion and interest today.

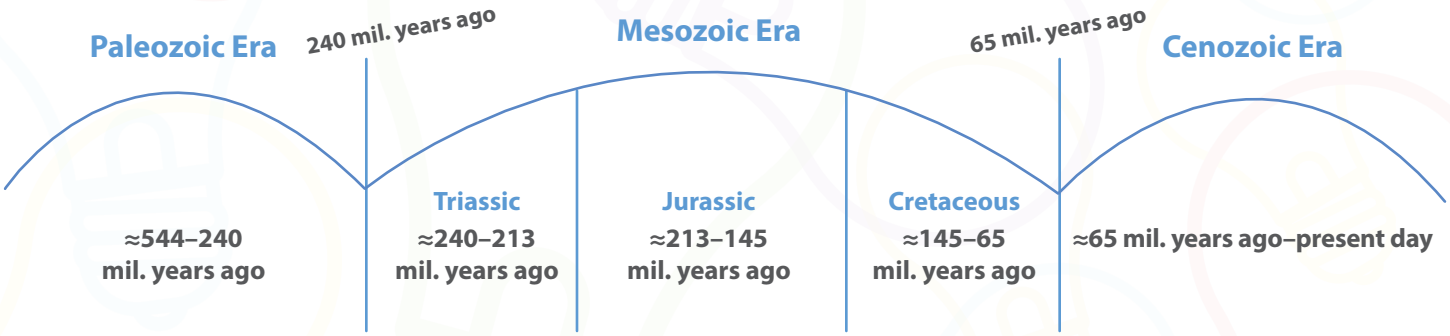
CHECK THIS OUT

The Rite of Spring was one of three ballets that Stravinsky composed for a French ballet company in Paris. This particular ballet was choreographed by Vaslav Nijinsky. It was very controversial at the time because it portrayed an ancient pagan ritual. While it literally caused riots at its premiere, it is now one of Stravinsky's most famous works. It was even used in Disney's *Fantasia*, which is where its famous connection to dinosaurs comes from.

What you will hear: **STRAVINSKY**—"The Augurs of Spring (Dance of the Young Girls)" from *Le Sacre du printemps (The Rite of Spring)*

Questions to discuss before and as you listen:

1. **This piece was used in Disney's *Fantasia*, where it depicted a storyline in the time when dinosaurs roamed the earth. How much do you know about dinosaurs? Do you have any idea of a timeline of when they might have roamed the earth? Based on the fossils that paleontologists have discovered, we have a theory about the time period when dinosaurs lived. Check out this timeline for an idea.** Science Standards 3.ESS.4, 4.LS.1



2 **This piece opens with an instrument playing solo. Can you tell which one it is? What instrument family does it belong to? How would you describe the way it is playing (forte, piano, what kind of tempo)?**

It is the bassoon. It is a member of the woodwind family. It's playing at a very slow tempo. It's playing legato, and mostly mezzo piano or mezzo forte. Music Standard: 3-5(LR.6.5.3), 6-8(LR.6.8.3)

3 **How would you describe the overall mood of the piece? What specific things about the music make you feel that way? Can you think of a time in your life that would connect to the music? Maybe when you were excited or scared?**

Overall, the piece is kind of scary and intense. There are a lot of big booms from the percussion section, harmony that clashes, and rapidly changing notes. It is very frenzied. Yes! I remember playing hide and seek with my friends and being so nervous when I heard them running around outside the spot where I was hiding! Music Standard: 3-5(Cn.3.5.1), 6-8(Cn.3.8.1)

4 **Would you say that the music mostly stays the same throughout the piece, or do the musical ideas change a lot? How can you tell? What's an example? Change your position in the room or your level (high, medium, low) any time the music drastically changes to test your theory.**

The music changes a lot throughout. Sometimes all the instruments are playing together, and sometimes they trade back and forth. There are a few places where it slows down and is more legato, but overall it is fast and staccato.

Music Standard: 3-5(LR.6.5.1), 6-8(LR.6.8.1)

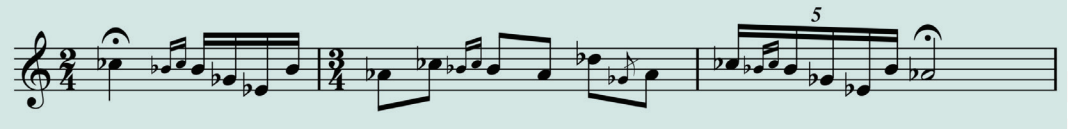
Listening Map

WHAT TO LISTEN FOR:

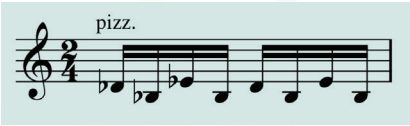
Huge orchestral forces, with constantly changing timbral colors. Violent rhythmic conflicts (changing meters, shifting accents). Stagnant harmony built on eight-note chord. Melodies derived from folk tunes. Blocks of sound that alternate and merge together.

INTRODUCTION, CLOSING MEASURES:

Principal Instruments: bassoon, clarinets, pizzicato violins. Tempo: Lento (slow)
Folk tune played by the bassoon, from opening:



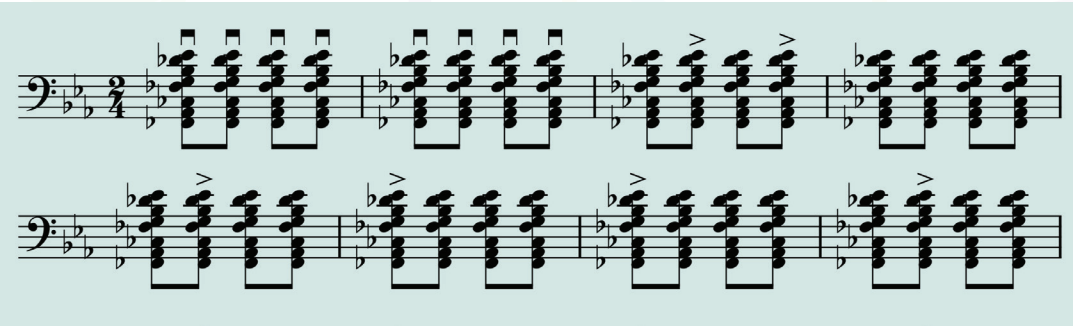
Pizzicato rhythmic figure in violins:



Clarinet flourish, followed by sustained string chord.
Violin figure returns to establish meter for next section.

DANCE OF THE YOUTHS AND MAIDENS

Principal Instruments: strings, woodwinds, and brass. Tempo: Tempo giusto (twice as fast as the Introduction)
Form: Sectional **(A-B-A'-C-A-D-E-F-G-A"-F')**
Strings play harsh, percussive chords (A), reinforced by horns, with unpredictable accents:



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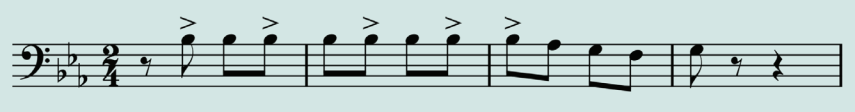
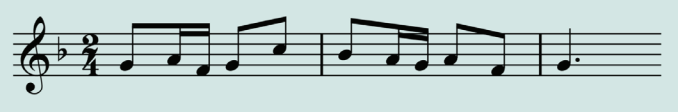
Listening Map (continued)

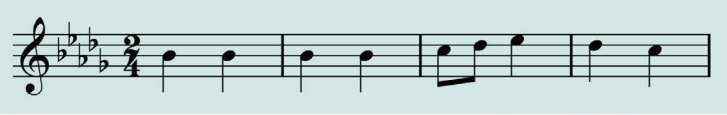
English horn **(B)** plays the pizzicato motive from Introduction. Brief return of opening accented chords **(A')**. Motives combine with new ideas **(C)**. Strings continue chords; English horn repeats its 4-note motive; loud brass interruptions and a descending melodic fragment. Return of opening accented chords **(A)**.Bassoon plays syncopated folk melody **(D)**, over accented string chords:



Steady eighth-note pulse **(E)**; 4-note motive alternates between the English horn and trumpet; scurrying motives in the winds and strings, and sustained trills. Four-note motive (English horn, then violins) and sustained trills; low strings hit strings with the wood of their bows (col legno). French horn and flute introduce a folklike melody **(F)**; texture thickens with activity:



Flutes repeat theme **(from F)**. New melody **(G)** appears in trumpets with parallel chords:



END:
Texture abruptly reduced; accents of the opening section **(A")** return; frenetic activity continues Melody **(F)** in piccolo, then in lutes and strings; unpredictable accents, scurrying activity, and an expanding texture leads to climax.

Used courtesy of Norton Music

Questions and activities to try after you listen:

1. **Like we mentioned, this piece was featured in Disney's *Fantasia*. You can watch a version (not in English) here: *www.youtube.com/watch?v=EiAFUJ4Shao*. The section of the piece we are playing is featured from 3:30-7:00 in the video. Instead of featuring dinosaurs at this point, it shows a depiction of the setting. Do you think it matches the music? Why/why not? Keep watching to see some of the dinosaur-inspired scenes!** Music Standards: 3-5(Cn.2.5.2), 6-8(Cn.2.8.2)

2. **This was originally a ballet. How would you move to it? Focus on just 0:51-1:27. You don't have to use ballet movement, but try to incorporate as much from the movement vocabulary that you can (locomotor, non-locomotor, levels, facings, shapes, weight, etc).** Music Standard: 3-5(LR.6.5.1), 6-8(LR.6.8.1)

3. **Take a look at the book *What on Earth? Explorer Dinosaurs*. You can find a lot of information about a variety of dinosaurs as well as illustrations of what they may have looked like. Which dinosaurs do you like best? Which ones do you think go best with the music (you can suggest different dinos for different sections of the piece)? Which ones do you think the composer might have liked best based on the way the music sounds? Why?** Standard:3-5(Cn.1.5.1), 6-8(Cn1.8.1)

4. **See the chart below with theories about the sizes of some dinosaurs. Can you put them in order of length from shortest to longest and fill in any missing measurements? (Depending on your grade level, feel free to leave certain boxes blank for your students to solve. Also, you can make a line graph to help you, or use <,>,= symbols) Knowing that a piccolo is approx. 13" long, how many piccolos long is each dinosaur?**

Music Standard: 3-5(Cn.2.5.1), 6-8(Cn.2.8.1) Math Standards: 3.M.2, 3.NS.1, 3.C.5, 4.M.3, 4.M.2, 4.NS.2, 4.NS.1, 5.C.1, 5.M.1, 5.AT.1, 6.C.1, 6.GM.1

Dinosaur	Nyasasaurus	Diplodocus	Stegosaurus	Megalosaurus	Irritator	Giganotosaurus	Omeisaurus
Length (ft.)	6 ½ ft.	89 ft.	30 ft.	33 ft.	23 ft.	42 ft.	66 ft.
Length (in.)	78 in.	1,068 in.	360 in.	396 in.	276 in.	504 in.	792 in.
Length (cm.)	198.12 cm.	2,712.72 cm.	914.4 cm.	1,005.84 cm.	701.04 cm.	1,280.16 cm.	2011.68 cm.
Piccolo Count	6 piccolos	82.15 piccolos	27.69 piccolos	30.46 piccolos	21.23 piccolos	38.77 piccolos	60.92 piccolos

5. **As a bonus, you can check out this mashup of Beyonce's "Single Ladies" music video with the music from "Augurs of Spring" - *https://bit.ly/34uOwKE*** Music Standard: 3-5(Cn.2.5.2), 6-8(Cn.2.8.2)

JOHN WILLIAMS

b. 1932 | American **Pronunciation: *Will-Yums***

John Williams was born in Queens, New York, and grew up in Los Angeles, California. He had a love of music from a young age because his father happened to be a musician and he gave young Williams piano lessons.

Williams was pursuing music as a career in college when he was suddenly drafted to be in the Air Force at age 19. He served for three years and decided to move to New York City when he returned. He studied at Julliard and worked as a jazz pianist there until he changed his focus to composing music.

He found his way back to Los Angeles, this time playing in studios and writing musical scores for movies. To this day, he has written scores for more than 100 films including *Harry Potter*, *Star Wars*, and *E.T.* His IMDB (Internet Movie Database) page details his 234 award nominations and 120 awards won, noting that he has the most Academy Award nominations of anyone currently alive.

CHECK THIS OUT

The film *Jurassic Park* premiered in movie theaters in 1993. The piece you're hearing is the main theme for the movie. It comes and goes throughout the movie, and gives an overall sense of the wondrous setting in which the movie takes place. Here is a summary of the overall plot: "On a remote island, a wealthy entrepreneur secretly creates a theme park featuring living dinosaurs drawn from prehistoric DNA. Before opening the attraction to the public, he invites a top paleontologist, a paleobotanist, a mathematician/theorist, and his two eager grandchildren to experience the park, and help calm anxious investors. However, their park visit is anything but tranquil as the park's security system breaks down, the prehistoric creatures break out, and the excitement builds to surprising results." from https://www.imdb.com/title/tt0107290/plotsummary

What you will hear: **WILLIAMS**—Main Title from *Jurassic Park*

Questions to discuss before and as you listen:

1. **Even though there are different sections to the piece, how would you describe the overall mood? What are some musical characteristics you heard that helped you decide?**
   There is a sense of a journey and a happy ending. The harmony is very pleasing, there are many legato sections, and the dynamics build to exciting levels. Music Standard: 3-5(LR.5.5.1), 6-8(LR.5.8.1)

2. **Which instrument family was the most prominent at the beginning of the piece? How do string instruments produce their sounds? Can you describe their sound?**
   The string family. They make sound by plucking or using a bow to make the strings on their instruments vibrate. Their sound was warm, smooth, and the melody was pleasant. Music Standard: 3-5(Cn.2.5.1), 6-8(Cn.2.8.1)

3. **Do a think-pair-share with 2-3 neighbors. Was the main melody repeated a lot, or were there lots of different musical melodies?**
   The main melody repeated a lot throughout the piece. Sometimes it was played by different instruments, and sometimes it was slightly different. Language Art Standard: 3.SL.1 (4.SL.1, 5.SL.1, 6.SL.1)

4. **Which instrument families were most prominent at the end of the piece? How do they produce sound? Can you describe their sound? Using a percussion instrument, demonstrate for a partner or the class how to properly play the instrument and make a sound.**
   The brass and percussion instruments. The brass instruments buzz their lips into a mouthpiece to create a sound, and the percussion instruments strike, shake or scrape to create the vibrations of sound. They are bold, loud, and exciting!

   Music Standard: 3-5(LR.5.5.1), 6-8(LR.5.8.1), Science Standard: 3.PS.3, 3.PS.4

Listening Map

0:00 – 0:35 We hear the first melody idea, soft and gentle, mostly in in the strings

0:36 – 1:02 The melody idea expands, and woodwinds, brass and percussion join in

1:03 – 2:05 The main melody returns again, with the full symphony orchestra playing together

2:06 – 2:43 We hear a variation on the main melody

2:44 – 3:09 We hear a new, second melody ring through in the brass, then get handed to the strings and woodwinds

3:10 – 3:37 The strings and woodwinds expand on the new melody

3:38 – 4:13 Brass and percussion join back in and repeat the second main melody

4:14 – end All instrument families play a final melody together that builds to a big finish

Questions and activities to try after you listen:

1 **Here is a chart of when scientists theorize some of the dinosaurs roamed the earth. Can you put the dinosaurs in order from oldest to youngest (those who lived the most millions of years ago are oldest, etc…)? Use a timeline or symbols like <, >, and = to help you answer the question.** Math Standards: 3.NS.1, 4.NS.1, 5.NS.1, 6.NS.3

Dinosaur	Brachiosaurus	T. rex	Stegosaurus	Nyasasaurus	Microraptor	Velociraptor	Plateosaurus
Period	Jurassic	Cretaceous	Jurassic	Triassic	Cretaceous	Cretaceous	Triassic
Millions of years ago	154	68	155	240	125	75	214

2 **Read the book *Tyrannosaurus Wrecks* and add unpitched and pitched percussion to the rhythm/phrase "Tyrannosaurus Wrecks" each time it is spoken.** Music Standard: 3-5(P.8.5.1), 6-8(P.8.8.1)

3 **Wouldn't it be awesome to go back to a world where dinosaurs roamed the earth, just like they tried to do in the movie? If you had the chance, would you go? Why/why not? What if you could create a special kind of armor or camoflauge to keep you safe so you could be in the same environment as dinosaurs? What would it look like? What kind of materials would you use? Use technology like iPads and Chromebooks if available. Work solo or with a partner to come up with a drawing prototype, then share with the class.**

Technology Standard: ETE – 2.2, Engineering Standard: 3-5(3-5.E.1), 6-8(6-8.E.1)

4 This music is part of a soundtrack for a film about dinosaurs. How much do you know about dinosaur names? Try this activity from the Children's Museum of Indianapolis:

Science Standards: 3.LS.1, 4.LS.3

Tell students that scientists generally name dinosaurs in three different ways. Write the following on the board:

Dinosaur Name
(1) body part or behavior
(2) where found
(3) person – finder or famous

The *Triceratops horridus* is named after body parts. The *Diplodocus carnegii* is named after Andrew Carnegie, the 19th/early 20th century millionaire who funded the expedition that discovered the dinosaur. *Edmontosaurus annectens* is named for Edmonton, Canada, where it was found.

List on the board the following words and their meanings (see below for more Greek and Latin roots):

uni – one
bi – two
tri – three
quad – four
cera – horn
rhino – nose
ops – face

Ask students how many horns a "Quadceratops" might have. Since "quad" means four, the answer is four horns. Ask students to make as many different types of combinations of the words on the board as they can. Have them draw a picture of the head of their new dinosaur. That shows the correct number of body parts for the name. Ask them to write sentences to describe their dinosaur.

Part 2 – Create a Dinosaur Name

1. Print the list of Greek and Latin roots below and give each student a copy.
2. Have students choose three of the roots to create the genus name of their dinosaur and write it down.
3. To create their species name, have them use either a place or a person. For example, a four-horned dinosaur found in Indianapolis might be named *Quadceratops indianapoliensis*.
4. Finally, have their students draw a picture of the dinosaur they created, following the description they generated when creating the genus name.
5. A fun twist on this activity is to run it backwards: have the students draw a new dinosaur, and then use the Greek and Latin roots list to give it an accurate and descriptive name.

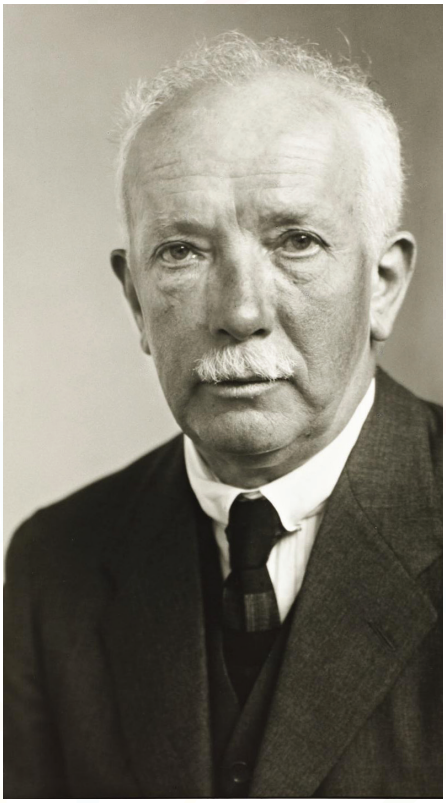
Greek/Latin Root List

[This should be on a separate page from the rest of it so it can be printed out.]

Aero – air
Alpha – first
Amphi – both *or* around
Anato – duck
Ankylo – fused
Apato – deceptive
Aqua – water
Archae – ancient
Avi – bird
Bi – two
Brachio – arm
Bronto – thunder
Caco – bad
Cardio – heart
Celer – fast
Hypo – under, below
Icthy – fish
Lat – wide
Lun – moon
Macro – large
Mani – hand
Mega – large
Meso – middle
Micro – small
Milli – thousand
Mono – single
Multi – many
Nano – tiny
Nect – swim
Neo – new
Noct – night
Nonus – nine
Nycho – claw
Oct – eight
Opter – wing
Sinu – curve
Sol – sun
Spher – ball
Steg – roofed
Steno – narrow
Styra – spiked
Tach – swift
Terr – earth
Therm – heat
Tort – twist
Tri – three
Trude – push
Tyranno – tyrant
Ultra – beyond
Undul – wavy
Veloci – fast
Ventr – belly
Vibr – to shake
Xeno – strange
Zoo - animal
Centri – one hundred
Cephale – head
Cerat – horned
Corpus – body
Cycl – circle
Dactyl – finger/toe
Dec/Deca – ten
Deino – terrible
Derma – skin
Di – two
Dino – terrible
Diplo – double
Ella – small
Exo – outside
Form – form of
Geo – earth
Gnathus – jaw
Gravi – heavy
Hemi – half
Hemo – blood
Herb – plant
Hippo – horse
Hydra – water
Hyper – over, above
Onith – bird
Ortho – straight
Ovi – egg
Pachy – thick
Pelt – shield
penta – five
Phago – to eat
Phob – fearsome
Plate – flat
Plo – armored
Pod – foot
Poly – many
Pseudo – false
Pter – wing
Quad – four
Quint – five
Raptor – thief
Rex – king
Robust – strong
Saur – lizard
Scler – hard
Semi – half
Sept – seven
Sex – six

RICHARD STRAUSS

1864-1949 | German **Pronunciation: *Strowss***



Richard Strauss began composing music at age six, however, his first symphony premiered when he was 17. His father, Franz Strauss, gave him musical instruction from an early age.

Influenced by Wagner and Liszt, Strauss wrote his first tone poems. With their literary programs and dramatic depiction of events, these works led his artistic interests toward the theatre and in 1894, he wrote his first opera. Early in his career, he was known for writing music that had lots of clashing sounds, but later he changed his style to be more romantic, lush, and smooth like the piece you will hear.

In 1933, the Nazis came to power in Germany. Strauss was confronted with a crucial decision—to leave Germany or remain in his homeland. Staying in Germany, he was given the position of president of the Reichsmusikkammer (Reich Chamber of Music). For him, this created an uneasy relationship with the Nazi government. Because his daughter-in-law and grandsons were of Jewish ancestry, Strauss was forced to make a deal with the Nazis for their protection. After his opera *Die schweigsame Frau* was withdrawn by the Nazis because the author of the book, Stefan Zweig, was Jewish, Strauss was asked to resign from his post.

A fun story about Strauss details how he and his future wife, a singer in the opera house in Munich, had an argument during rehearsal. Strauss went to her dressing room to smooth things over and emerged an engaged man!

CHECK THIS OUT

Translated into English, the title means "The Knight of the Rose" or "Rose-bearer." In this comedic opera, the Knight of the Rose was supposed to deliver a silver rose as the customary silver engagement rose to one's love. The story follows several characters through good times and bad, and who fall in and out of love. It eventually builds to a happy ending, which is when this particular piece of music happens.

What you will hear: **STRAUSS**—"Something Waltz" from *Der Rosenkavalier*, Op. 59

Questions to discuss before and as you listen:

1. **Turn to someone near you and ask them how they would describe the overall mood. Then share your opinion with them. Have students volunteer their answers to put in a list on the board.**
   The overall mood is romantic and slow. It sounds like there is a happy ending.
   Language Arts Standard: 3.SL.2.1 (4.SL.2.1, 5.SL.2.1, 6.SL.2.1)

2. **Which instruments are the most prevalent?**
   The strings and woodwinds, and a little bit of the brass.
   Music Standard: 3-5(LR.5.5.1), 6-8(LR.5.8.1)

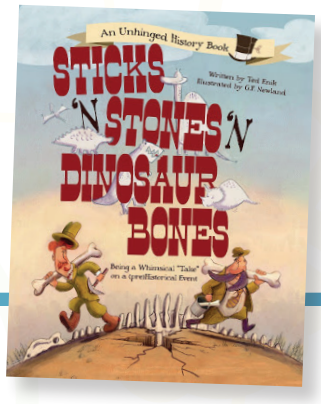
3. **There is a special instrument that doesn't come in until the piece is almost over. Can you name it? Which instrument family is it in?**
   The timpani or kettle drums. They are in they are pitched drums in the percussion family.
   Music Standard: 3-5(LR.5.5.1), 6-8(LR.5.8.1)

4. **This piece is a waltz. What do you know about a waltz? Where are some settings where you might see people waltz today?**
   Waltzes are felt in triple meter and they are typically performed by two people together. You are most likely to see them at weddings or dance recitals.
   Music Standard: 3-5(Cn.2.5.2), 6-8(Cn.2.8.2)

Listening Map

This piece has one main melody with variations.

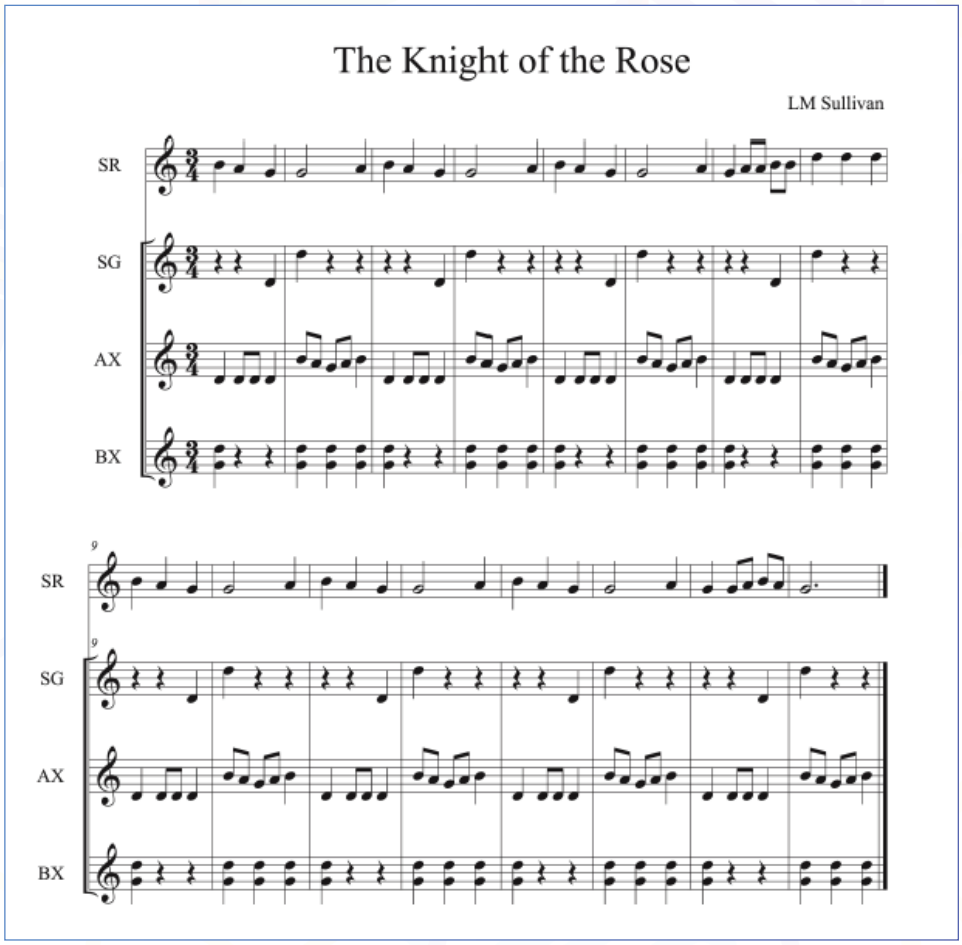
0:00 – 0:24	The main melody happens for the first time
0:25 – 0:50	The main melody repeats
0:51 – 1:18	We hear a variation on the main melody that builds in intensity
1:19 – 2:24	We hit the peak of the melody, and it changes slightly again
2:25 – end	There is a gentle ending that finishes the piece



Questions and activities to try after you listen:

1. **The next piece you will hear (*Firebird*) was written around the same time as this one, but the style is very different. Just like there are differences of opinion in art, there are differences of opinion in paleontology. Check out this famous rivalry of American Paleontologists O. Charles Marsh and Edward D. Cope. The book is written in rhyme and easily read over the course of a couple of classes. You could even take pictures and project the pages on your white or smartboard. What are your reactions to the story? Do you think it was a bad ending or a good ending? Why/why not?**
   Language Arts Standard: 3.SL.2.5 (4.SL.2.5, 5.SL.2.5, 6.SL.2.5)

2. **Lisa Sullivan created a piece especially for recorder (or voice) and orff ensemble that has a very similar feel to this piece. Try it with your students!**
   Music Standard: 3-5(P.7.5.1), 6-8(P.7.8.1)

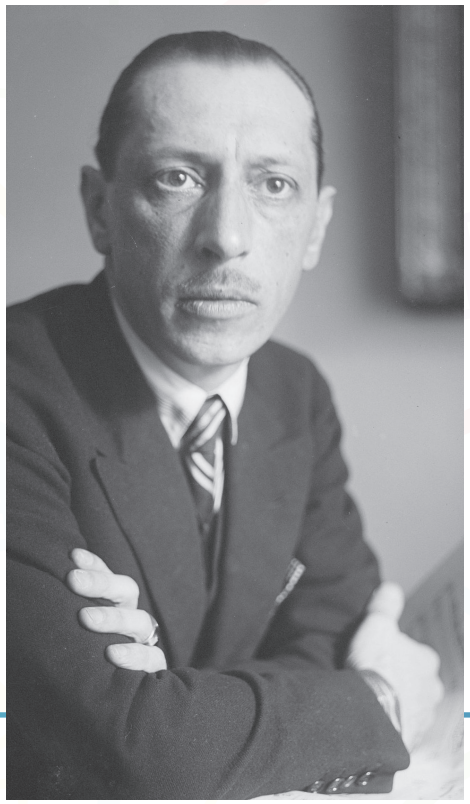


3. **If you had to make up a movement piece to this selection, what would it look like? Try creating a piece as a solo or in a small group. Props like scarves might help add dimension, and bonus points if you work in elements of what a waltz might look like!** Music Standard: 3-5(LR.6.5.1), 6-8(LR.6.8.1)

4. **When you listen to the music, what kind of setting do you imagine? What kinds of costumes do you think the characters are wearing? Do a think-pair-share with a neighbor, and then describe what you imagine by creating some visual artwork.**
   Visual Art Standards: VA:Cr1.1.3a (4a, 5a, 6a), VA:Cn10.1.3a (4a, 5a, 6a)

IGOR STRAVINSKY

1882-1971 | Russian **Pronunciation: *Strah-Vin-Skee***



Stravinsky says that his "conscious life as an artist and musician" began when he heard a performance of Tchaikovsky's "Pathetique" Symphony. His father, a famous bass singer with the Russian Imperial Opera, discouraged a career as a musician and enrolled Igor in law school. But the young Stravinsky became friends with the sons of famous composer Nicolai Rimsky-Korsakov, and began taking orchestration lessons from this family friend. Stravinsky never completed a music degree. However, Stravinsky still continued to write music, and luck followed him—the famous ballet patron Serge Diaghilev was in the audience at a concert of some of Stravinsky's latest compositions, and immediately commissioned him to write a ballet score. This would of course become *The Firebird*, an instant success in Paris.

Although he was born in Russia, after the Russian Revolution of 1917, he voluntarily exiled himself to Paris, and became a French citizen in 1934. Five years later, however, he took a job at Harvard University and moved to America, becoming an American citizen shortly after World War II. He wrote over 100 different pieces, and his music has assured his immortality. His early compositions changed the course of musical history and still spark discussion and interest today.

CHECK THIS OUT

The story of *The Firebird* is based on a Russian folk tale that goes something like this (the musical movement we are playing portrays the section in blue):

Long ago in Russia there lived a prince named Ivan. One day, he went in search of the magical tree that he had heard many stories about as a child. After traveling for quite a while, Prince Ivan found himself in a beautiful garden home to the magical tree with golden fruit.

As Ivan was thinking about taking a piece of fruit from the tree, a flash of light came down from the sky. It revealed the Firebird, the most beautiful creature he had ever seen. It was a bird with feathers that were a beautiful red—just like a flame!

Prince Ivan was dazzled by the Firebird and could not resist leaping out to capture her in his arms.

The Firebird was terrified and fought to break free. Realizing how desperately the Firebird sought freedom, Prince Ivan released her to fly away. As the Firebird flew up to the sky, she removed a feather from her tail and gave it to Prince Ivan to express her thanks. The magical feather was her promise to return whenever he needed her.

As Prince Ivan turned to leave the garden, he suddenly encountered 10 beautiful maidens. The most beautiful of all the maidens shared that they were all princesses who were taken prisoner by the evil king named Katschei who owned the garden and the magical tree.

Prince Ivan was very touched by their story, but before he could help them escape, the evil Katschei and his monsters appeared with a thunderous crash. The monsters surrounded Prince Ivan and began their attack.

Just when it seemed that all was lost, Ivan remembered the magical feather and the promise of the Firebird. He pulled the feather from his pocket and waved it through the air. The Firebird instantly appeared with a golden sword. Prince Ivan took the sword and whipped it through the air. The monsters disappeared, and the evil King Katschei was slain.

Prince Ivan and his princess returned to his kingdom to be married. They were forever grateful to the Firebird who saved the princesses and helped to rid the kingdom of evil.

What you will hear: **STRAVINSKY**—"Infernal Dance of All Kastchei's Subjects" from *The Firebird*

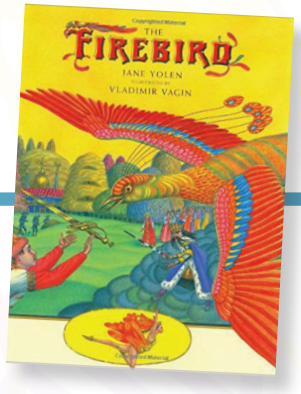
Questions to discuss before and as you listen:

1. **What is the overall mood of this piece? How can you tell? Does it do a good job of depicting the scene in the story?**
   The piece is really intense, and kind of scary and adventurous. I can tell because the instruments are playing loudly and at a fast tempo. There are lots of big pulses from the percussion and brass. Music Standard: 3-5(Cn.2.5.2), 6-8(Cn.2.8.2)

2. **How does the composer make the music sound scary/tense? What types of sounds do you hear? Is it a piece of music you would choose to listen to on your own? Why/why not?**
The notes clash and some of the sounds are played by multiple instruments and sound intimidating, while others are played by one or two instruments and the melodies sound like there is danger. I wouldn't choose to listen to it because it's kind of ugly and scary. I don't like the clashing notes. Music Standard:3-5(Cn.1.5.1), 6-8(Cn1.8.1)

3. **Do you think the piece has a happy ending? Why/why not?**
I'm not sure. It ends in a way that's kind of unresolved. It's still sounds pretty dangerous and exciting at the end...so I'm not sure if it's happy or not. Music Standard: 3-5(LR.5.5.1), 6-8(LR.5.8.1)

4. **Read the book and check out the illustrations from the book *The Firebird* by Jane Yolen with Illustrations by Vladimir Vagin. Do you like the illustrations? Why/why not? Do you think they fit the music? Why/why not?** Visual Art Standard: VA:Re9.1.3a (4a, 5a, 6a)



Listening Map

0:00 – 1:21 The first melody is introduced

1:22 – 2:26 A new melody is passed between the instrument families, then it builds up

2:27 – 3:23 The melodies from the beginning return again with some variation

3:24 – end A new melody comes in at a quick tempo (speed) and builds in a frenzied way to the end

Questions and activities to try after you listen:

1. **As stated above in the materials for *Der Rosenkavalier*, this piece was written about the same time, but is very different stylistically. Use a Venn Diagram to compare/contrast things about the two pieces (tempo, dynamics, instruments used, overall mood, harmony, length of the piece, etc.) Try it individually first, then share ideas as a whole group.**
Language Art Standards: 3.SL.2.5 (4.SL.2.5, 5.SL.2.5, 6.SL.2.5), 3.SL.2 (4.SL.2, 5.SL.2, 6.SL.2)

2. **This part of the larger piece represents a battle. In a small group, can you act out what you think the battle scene might look like? Or come up with some creative movement that matches the music? Starting at 3:20 to the end might be a good excerpt to use.** Music Standards: 3-5(LR.6.5.1), 6-8(LR.6.8.1), 3-5(Cn.2.5.2), 6-8(Cn.2.8.2)

3. **While the story involves a fictional bird, scientists now have evidence that birds may have been living during the same time as the dinosaurs! Check out this chart that lists theories about the size of the dinosaurs and some of the foods that they ate. Which do you think are predators, and which ones were prey? Why?** Science Standards: 3.LS.1, 4.LS.3, 5.LS.1, 6.LS.3

Dinosaur	Pisanosaurus	Diplodocus	Stegosaurus	Megalosaurus	Irritator	Giganotosaurus	Omeisaurus
Length (ft.)	3 ft.	89 ft.	30 ft.	33 ft.	23 ft.	42 ft.	66 ft.
Food	Plants	Plants	Plants	Meat	Meat	Meat	Plants

4. **Pretend you didn't have any idea about the story behind the music. Based on the same music, what kind of other scene do you think might be going on? Create a piece of visual artwork and explain it to your classmates. Then take 3 questions/comments in response.** Language Arts Standard: 3.SL.3.2 (4.SL.3.2, 5.SL.3.2, 6.SL.3.2)

JOHANN SEBASTIAN BACH

1685-1750 | German **Pronunciation: *Bahk***

Johann Sebastian Bach came from a musical family, and in turn, several of his own sons became composers. Born in the small town of Eisenach, Bach lived in Germany all his life, holding various posts as violinist, organist, and music director.

After living in several other towns, he settled in Leipzig in 1723, where he served as the director of a church choir, as well as a singing and Latin teacher in the church's school. Having married twice, he had twenty children (only ten of whom survived infancy).

Most of his works were written to fill specific needs. He wrote instrumental music for court functions, choral music for church services, and keyboard music for his children and students.

Bach became blind in 1749, after years of hurting his eyes studying under candlelight.

CHECK THIS OUT

A passacaglia is a type of music that is usually slow, feels like a waltz, and has a repeating bass melody with theme and variation in the higher voices. This is a small section of the entire piece. Bach originally wrote it to be played on the organ. Much later, Leopold Stokowski came along and arranged it for a symphony orchestra.

What you will hear: **BACH (orch. STOKOWSKI)**—"Passacaglia" from *Passacaglia and Fugue* in C Minor, BWV 582

Questions to discuss before and as you listen:

1. **How would you describe the overall mood?**
   The overall mood is solemn, the tempo is slow, and it sounds a bit serious. The harmony almost sounds sad.
   Music Standard: 3-5(LR.5.5.1), 6-8(LR.5.8.1)

2. **The low strings play the repeating melody. Can you tell how many times they play it throughout the piece? Use movements to help you keep track!**
   They play it 6 times.
   Music Standard: 3-5(LR.6.5.1), 6-8(LR.6.8.1)

3. **How does the composer make the music sound sad/solemn? What types of sounds do you hear?**
   The tempo (speed) is very slow and the instruments are playing legato (connected). The harmony (way the musical notes work together) makes it sound very depressing.
   Music Standard: 3-5(LR.6.5.3), 6-8(LR.6.8.3)

4. **The string and woodwind instruments are the main focus of the piece. Can you name some that you know?**
   String Instruments: *bass, cello, violin, viola.* ***Woodwinds:*** *flute, oboe, clarinet, bassoon.*
   Music Standard: 3-5(LR.5.5.1), 6-8(LR.5.8.1)

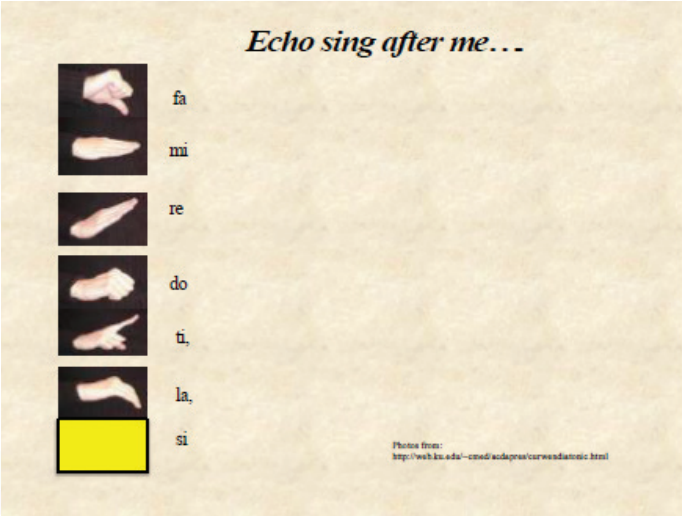
Listening Map

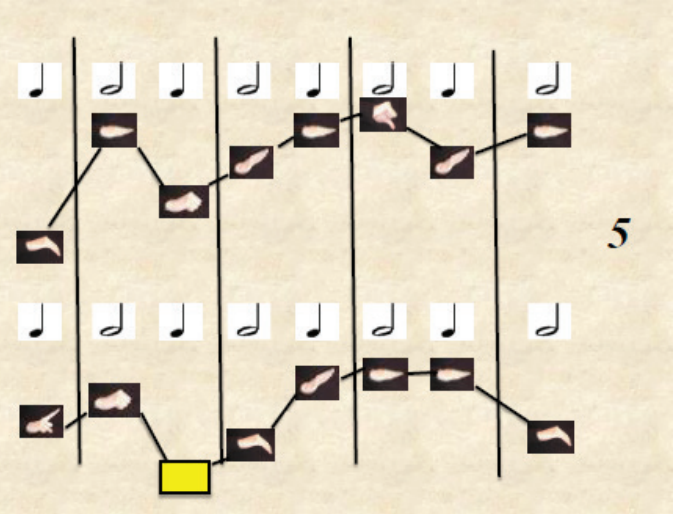
This piece has a melody that repeats on the low strings throughout its entirety. Other instruments join in with different melodies on top. See if you can hear when each different group joins.

0:00 – 0:22	The low strings play the main melody all alone
0:23 – 0:48	The higher strings add a new melody on top, as the low strings continue to play the original melody
0:49 – 1:12	The high strings drop out and the woodwinds take over the new melody on top, as the low strings continue to play the original melody
1:13 – 1:29	The woodwinds drop out and the higher strings take over again with a new melody on top, as the low strings continue to play the original melody
1:30 – 1:38	The woodwinds and higher strings share the new melody on top back and forth, as the low strings continue to play
1:39 – end	The higher strings take back over and build the melody on top, as the low strings continue to play until the piece comes to an end

Questions and activities to try after you listen:

1. **Now that you've heard it, try singing along with the ostinato using these awesome visuals created by Brent Gault!**
Music Standard: 3-5(P.7.5.1) , 6-8(P.7.8.1)





2. **If you had to create a dinosaur that matched this music, what would it look like? How big would it be? What would it eat? How would it move? Etc. Write or draw a short description, then move around the room like your dinosaur in groups of 4-6.**
Visual Art Standard:VA:Cr1.1.3a (4a, 5a, 6a), Music Standard:3-5(LR.6.5.1), 6-8(LR.6.8.1)

3. **This particular piece isn't based on a story. In groups of 2-4 come up with a story that you think might match the music, then share it with the class.** Language Arts Standard: 3.SL.2.1 (4.SL.2.1, 5.SL.2.1, 6.SL.2.1)

4. **This piece is also very waltz-like, and in triple meter. Use musical and expressive terms compare and contrast it with the waltz from *Der Rosenkavalier* that you heard earlier.** Musical Standard: 3-5(LR.5.5.1), 6-8(LR.5.8.1)

ANNA CLYNE

b. 1980 | British **Pronunciation: *Cline***

London-born Anna Clyne is a Grammy-nominated composer of acoustic and electro-acoustic music. Described as a "composer of uncommon gifts and unusual methods" in a *New York Times* profile and as "dazzlingly inventive" by *Time Out New York*, Clyne's work often includes collaborations with cutting-edge choreographers, visual artists, filmmakers, and musicians.

Clyne served as composer-in-residence for the Chicago Symphony Orchestra, Baltimore Symphony Orchestra, L'Orchestre national d'Île-de-France, and Berkeley Symphony. Clyne currently serves as The Scottish Chamber Orchestra's Associate Composer through the 2020-2021 season, with a series of works commissioned over three years.

In addition to her love of collaboration, Anna Clyne is also deeply committed to music education. She served as the Director of the New York Youth Symphony's award-winning program for young composers, Making Score, from 2008-2010, where she also worked with Jon Deak at the New York Philharmonic's Young Composers Program.

During her time at the Chicago Symphony Orchestra, she directed and taught workshops for young composers at Chicago's Public Schools and the Merit School of Music. She also worked with art-therapist Caroline Edasis to develop an exciting and innovative collaboration between the Chicago Symphony Orchestra's Learning Institute and Mather Pavilion Residential Nursing Home in Evanston.

Bio information taken from http://www.annaclyne.com/mentor and with kind permission of Boosey & Hawkes.

CHECK THIS OUT

Anna Clyne collaborated with choreographer Kitty McNamee to create the ballet *Rift*. The excerpt we are featuring on the Discovery Concerts is from the third movement of the ballet called "Space." Clyne described it as, "music and dance as a voice to reflect upon the chaos and destruction that is so prevalent in the world today." And she specifically mentioned that in the third movement "…we are then propelled back in time to a period of more refined and orderly beauty—a sacred and harmonious space. From here we are then propelled into the future where, through our journey, we find ourselves in a more optimistic sonic and visual world."

What you will hear: **CLYNE**—"Space" from *Rift*

Questions to discuss before and as you listen:

1. **There are some especially notable collaborations in the world of paleontology. For example, a paleontologist discovered dinosaur fossils in an archeological dig, and then went to an artist named Benjamin Waterhouse Hawkins for help. He told Hawkins everything he knew about where the bones were found and what he thought the dinosaurs might eat, and asked that Hawkins imagine and illustrate what the dinosaur might look like when it was alive. (Kind of like a police sketch.) The term for this kind of collaboration is "paleo art." Do a google search to see some famous paleo art. You can also go visit some in real life at The Children's Museum!** Visual Art Standard: VA:Cn10.1.3a (4a, 5a, 6a)

2. **Do you you hear any repeated patterns?**
   Yes! There is a sequence of notes that keeps repeating while other instruments play other melodies on top.
   Music Standard:3-5(Cn.2.5.1), 6-8(Cn.2.8.1)

3. **What is the overall mood of the piece?**
   It is a bit mysterious and exciting. Perhaps a bit scary. I can tell because of the way the melody sounds, the combination of the instruments being played, and the really fast tempo!
   Music Standard:3-5(LR.5.5.1), 6-8(LR.5.8.1)

4 **You can hear the woodwind family playing the exposed patterns at the beginning of the excerpt. What are some examples of woodwind instruments? How do woodwinds make a sound?**

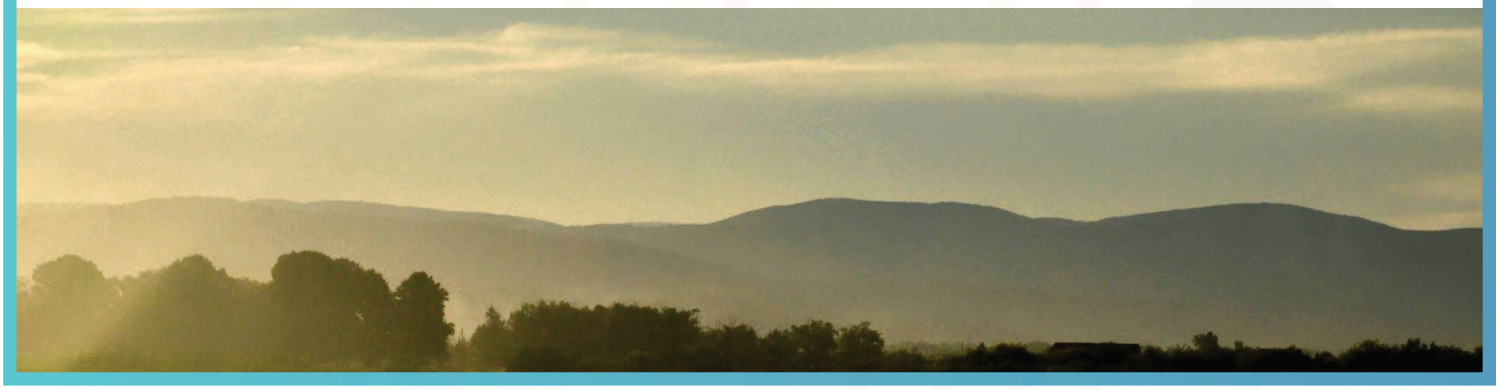
Some examples are clarinet, oboe, flute, bassoon, english horn. They blow air into a reed that vibrates. When they press down on the keys of their instruments, it changes the pitch.

Music Standard:3-5(LR.5.5.1), 6-8(LR.5.8.1)

Listening Map

Because this piece is so new, we weren't able to get a full recording of the excerpt. Here is an idea of what you will hear in the short clip as a teaser for the longer version you will hear at the concert:

0:00 – 0:35	The woodwinds play the main idea while sounds of chaos linger in the background
0:36 – 0:43	The strings take the main melody and play it aggressively and quickly
0:44 – 1:00	The brass join in with accented notes on top of what the strings are playing
1:01 – end	The woodwind and percussion take the melody back and lead us to what will be another melodic idea



Questions and activities to try after you listen:

1 **What is your initial reaction to the piece? Do you like it? Why/why not? Are you excited to hear more at the concert?**

My initial reaction is that I think it sounds kind of weird. The melodies are unpredictable and the harmony is kind of crunchy. I am excited to hear the rest of the piece, though, to see if I like it.

Music Standard:3-5(Cn.1.5.1), 6-8(Cn1.8.1)

2 **Create a piece with an ostinato. Play an ostinato on a pitched percussion instrument (like a xylophone in C Pentatonic) and plan or improvise other pitched and unpitched percussion rhythms on top of it that make musical sense/sound good to you.**

Music Standards: 3-5(Cr.11.5.2), 6-8(Cr.11.8.2), 3-5(P.8.5.1), 6-8(P.8.8.1)

3 **Create your own piece of paleo art with a partner! Have your partner describe all the details about a dinosaur, then use your creative skills to create a piece of visual art that represents the dinosaur. As a bonus, pair some pitched and unpitched percussion instruments to demonstrate what it might sound like! Then switch roles.**

Visual Art Standard: VA:Cn10.1.3a (4a, 5a, 6a), Science Standards: 3.PS.3, 3.PS.4, Language Arts Standard: 3.SL.2.5 (4.SL.2.5, 5.SL.2.5, 6.SL.2.5)

4 **This piece was originally written as a ballet. What kind of movement do you picture when you listen to the music? Demonstrate it or have a conversation with a partner about it.**

Music Standard: 3-5(Cn.2.5.2), 6-8(Cn.2.8.2) Language Arts Standard:3.SL.2.1 (4.SL.2.1, 5.SL.2.1, 6.SL.2.1)

ALAN SILVESTRI

b. 1950 | American **Pronunciation: *Sill-Ves-Tree***

Alan Silvestri was born in New York City, but raised in Teaneck, New Jersey. He got his start in the music world by playing jazz guitar. He spent two years studying at the Berklee School of Music in Boston, and then decided to begin his career as a performer and arranger. Landing in Hollywood at the age of 22, he found himself successfully composing the music for 1972's *The Doberman Gang* which established his place in the world of film composing.

He is known for his melodic rhythm and ability to match music to dramatic excitement, and he has scored children's movies, action films, romantic, and dramatic films. He has received two Oscar nominations, two Golden Globe nominations, three Grammy awards, two Emmy awards, and numerous other honors for his compositions.

Some of the movie scores he has written include *Forrest Gump*, *Polar Express*, *Lilo and Stitch*, and *Avengers: Endgame*.

He and his wife live in Central California and they own a vineyard. They are also passionate about supporting research efforts to find a cure for Type 1 Juvenile Diabetes.

CHECK THIS OUT

The movie *Back to the Future* premiered in 1985. The piece you're hearing is the main theme for the movie. It comes and goes throughout the movie, and gives an overall sense of the adventures that the characters experience. Here is a summary of the overall plot: "Marty McFly, a typical American teenager of the Eighties, is accidentally sent back to 1955 in a plutonium-powered DeLorean 'time machine' invented by a slightly mad scientist. During his often hysterical, always amazing trip back in time, Marty must make certain his teenage parents-to-be meet and fall in love—so he can get back to the future." Taken from: https://www.imdb.com/title/tt0088763/plotsummary?ref_=tt_stry_pl

What you will hear: **SILVESTRI**—Main Theme from *Back to the Future*

Questions to discuss before and as you listen:

1. **How would you describe the overall mood of the piece? How can you tell?**
   There is a sense of excitement, and adventure. The instruments the composer used and the harmony used helped me to draw my conclusion.
   Music Standard: 3-5(LR.5.5.1), 6-8(LR.5.8.1)

2. **Ask a partner near you: are there lots of different melodies throughout, or just a couple that repeat in different ways?**
   There are just a couple of main melodies that repeat in different ways.
   Language Arts Standard: 3.SL.1 (4.SL.1, 5.SL.1, 6.SL.1)

3. **Which instrument families are the most prominent throughout the piece?**
   The brass and percussion families are the loudest and carry the melody for the most part.
   Music Standard: 3-5(LR.5.5.1), 6-8(LR.5.8.1)

4. **What other event in history or in your own personal life do you think this might be a good soundtrack for? Why?**
   I think it would go well with something triumphant like the ending of a war or someone awesome winning an election.
   Music Standard: 3-5(Cn.3.5.1), 6-8(Cn.3.8.1)

Listening Map

0:00 – 0:20 Introduction

0:21 – 0:44 We hear the main melody for the first time

0:45 – 1:10 There is a second melody that we hear

1:11 – 2:07 Back to the main melody, and then we hear several slightly different repetitions of it

2:08 – 2:35 Main melody returns

2:36 – 2:57 The second melody returns

2:58 – end The two melodies blend together and build to the end

Questions and activities to try after you listen:

1. **This piece is all about time travel. What if dinosaurs could time travel to our current year? What instrument would you recommend for a T. rex to play? Why? If you could design a new musical instrument for a T. rex to play? What would it be? What instrument family would it be a part of? How would you adapt it especially for the T. rex? Use technology like iPads and Chromebooks to help you.**

   Technology Standard: ETE – 2.2, Engineering Standard: 3-5(3-5.E.1), 6-8(6-8.E.1)

2. **Isn't it cool to have music written by living composers featured on the concert? Make enough copies of the composer pages for each living composer for all students in the class. Divide the class into groups and give them 5-10 minutes of silent reading time for each composer. Go around the circle with each student telling what they found most interesting about the composer. Discussions are encouraged!**

   Language Arts Standard: 3.SL.2.5 (4.SL.2.5, 5.SL.2.5, 6.SL.2.5)

3. **Knowing a bit about the overall plot, what do you think Marty McFly is like? What do you think he might look and act like? Would you get along with him/would he be your friend at school? Choose to demonstrate how you feel by acting out a scene, writing something, or creating a work of visual art.**

   Music Standard: 3-5(Cn.2.5.2), 6-8(Cn.2.8.2)

4. **How did the composer use the dynamics to make the piece of music appealing? Was it loud all the time or quiet all the time? Constantly changing?**

   Music Standard:3-5(LR.6.5.3), 6-8(LR.6.8.3)

OTHER ACTIVITIES:

Discuss in a Literature Circle!

Make enough copies of the composer pages for all students in the class. Divide the class into groups and give them 5 to 10 minutes of silent reading time for each composer. Assign one student in each group the duty of also watching the clock. Go around the circle with each student telling what they found most interesting about the composer. Discussions are encouraged!

Draw from the Music!

Make sure everyone has a blank sheet of paper and drawing utensils, anything from crayons to coloring pencils to regular pens and pencils. Play a recording of a musical selection from this packet and tell students to draw whatever the music inspires to them. (If needed, play the selection more than once to allow students to complete their drawing.)

Afterwards, have all the students sit in a circle. Go around the circle with each student asking what they drew and what about the music inspired that drawing.

Write a Review!

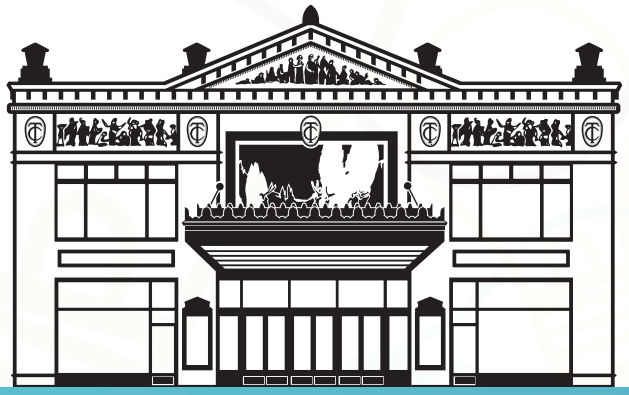
Writing a review is a great way to foster communication skills in students. There are no wrong opinions, as long as the students can explain their thoughts effectively through their writing.

Review Writing Prompt Examples:

1. Write a critique of the performance. Using musical terms, discuss what you liked or disliked about the performance.
2. Did you have a favorite part of the performance? What did you think about while listening to the music?
3. Did you have a favorite instrument? What would you choose to play if you had the opportunity to perform with the Orchestra?

We welcome letters from our audience members.
Our musicians enjoy hearing what students have to say!
Reviews of the performance may be mailed to:

The Learning Community, Indianapolis Symphony Orchestra
32 East Washington Street, Suite 600, Indianapolis, IN 46204



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Indiana Academic Standards Covered in Community Health Network *Discovery Concert* FY20

Visual Art

VA:Cr1.1.3a (4a, 5a, 6a)	Generate and conceptualize artistic ideas and work.
VA:Re9.1.3a (4a, 5a, 6a)	Apply criteria to evaluate artistic work.
VA:Cn10.1.3a (4a, 5a, 6a)	Apply criteria to evaluate artistic work.

Science

3.PS.3	Generate sound energy using a variety of materials and techniques, and recognize that it passes through solids, liquits, and gases.
3.PS.4	Investigate and recognize properties of sound that include pitch, loudness (amplitude), and vibration as determined by the physical properties of the object making the sound.
3.ESS.4	Determine how fossils are formed, discovered, layered over time, and used to provide evidence of the organisms and the environments in which they lived long ago.
3.LS.1	Analyze evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.
4.LS.1	Use evidence to support the explanation hat a change in the environment may result in a plant or animal will survive and reproduce, move to a new location, or die.
4.LS.3	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction in a different ecosystems.
5.LS.1	Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
6.LS.3	Describe specific relationships (predator/prey, consumer/producer, parasite/host) and symbiotic relationships between organisms. Construct an explanation that predicts why patterns of interactions develop between organisms in an ecosystem.

Technology

ETE – 2.2	Apply knowledge and skills learned in science, mathematics, language arts, fine arts, and social studies classes when completing engineering and technology based assignments.

Engineering

3-5(3-5.E.1)	Identify a simple problem with the design of an object that reflects a need or a want. Include criteria for success and constraints on materials, time, or cost.
6-8(6-8.E.1)	Identify the criteria and constraints of a design to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

Math

3.M.2	Choose and use appropriate units and tools to estimate and measure length, weight, and temperature. Estimate and measure length to a quarter-inch, weight in pounds, and temperature in degrees Celsius and Fahrenheit.
3.NS.1	Read and write whole numbers up to 10,000. Use words, models, standard form and expanded form to represent and show equivalent forms of whole numbers up to 10,000.
3.C.5	Multiply and divide within 100 using strategies such as the relationship between multiplication and division, or properties of operations.

Math (continued)

4.NS.1	Read and write whole numbers up to 1,000,000. Use words, models, standard form and expanded form to represent and show equivalent forms of whole numbers up to 1,000,000.
4.NS.2	Compare two whole numbers up to 1,000,000 using >, =, and < symbols.
4.M.2	Know relative sizes of measurement units within one system of units, including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec. Express measurements in a larger unit in terms of a smaller unit within a single system of measurement. Record measurement equivalents in a two column table.
4.M.3	Use the four operations (addition, subtraction, multiplication, division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money.
5.NS.1	Use a number line to compare and order fractions, mixed numbers, and decimals to thousandths. Write the results using >. =, and < symbols.
5.C.1	Multiply multi-digit whole numbers fluently using a standard algorithmic approach.
5.M.1	Convert among different-sized standard measurement units within a given measurement system, and use these conversions in solving multi-step real-world problems.
5.AT.1	Solve real-world problems involving multiplication and division of whole numbers (e.g. by using equations to represent the problem). In division problems that involve a remainder, explain how the remainder affects the solution to the problem.
6.C.1	Divide multi-digit whole numbers fluently using a standard algorithmic approach.
6.NS.3	Compare and order rational numbers and plot them on a number line. Write, interpret, and explain statements of order for rational numbers in real-world contexts.
6.GM.1	Convert between measurement systems (English to metric and metric to English) given conversion factors, and use these conversions in solving real-world problems.

Music

3-5(Cn.1.5.1)	Demonstrate and explore how personal interests and skills relate to choices when creating, performing, and responding to music.
6-8(Cn1.8.1)	Identify and demonstrate individual preference for music that is performed, created, and/or listened to in daily life.
3-5(Cn.2.5.1)	Discover, identify, and explore how music connects to language arts and/or science, mathematics.
6-8(Cn.2.8.1)	Describe and explore how the study of music applies to language arts, mathematics, and/or science.
3-5(Cn.2.5.2)	Discover, identify, and explore how music connects to other arts and humanities.
6-8(Cn.2.8.2)	Compare and describe how the characteristic elements of music and the other arts can be used to depict and/or transform events, scenes, emotions, and/or ideas into works of art.
3-5(Cn.3.5.1)	Identify, explore, and perform music associated with historical periods and connect to state, regional, and national events.
6-8(Cn.3.8.1)	Identify, describe, and perform the distinguishing characteristics of musical works from a variety of genres, styles, historical periods, and cultures.
3-5(LR.5.5.1)	Define expressive music terms and apply them to selected musical examples.
6-8(LR.5.8.1)	Recall, explore, comprehend, and apply appropriate music vocabulary.
3-5(LR.6.5.1)	Use conducting and other types of movement to demonstrate rhythmic patterns and simple and compound meters)
6-8(LR.6.8.1)	Explore the muscular sensations of time and energy through the performance of choreographed movement, including conducting, both in place and in space.
3-5(LR.6.5.3)	Identify and express age appropriate music concepts including form, phrasing, expressive qualities, and timbre through movement in listening examples, singing games, and/or simple folk dances.
6-8(LR.6.8.3)	Identify and express age appropriate music concepts including form, phrasing, expressive qualities, and timbre through movement in listening examples, singing games, and/or simple folk dances.
3-5(P.7.5.1)	Sing in groups and independently, while demonstrating appropriate breath control, pitch, diction, tone quality, and posture.

Music (continued)

6-8(P.7.8.1)	Sing accurate pitches and rhythms, as modeled and/or visually notated, with appropriate intonation, breath control, diction, and tone quality throughout one's singing range.
3-5(P.8.5.1)	Play pitched and unpitched percussion, keyboard, string, and/or wind instruments using correct techniques for producing sound.
6-8(P.8.8.1)	Play accurate pitches and rhythms, as modeled and/or visually notated, in tune with a steady beat, good tone quality, and appropriate technique throughout the known range of the instrument(s).
3-5(Cr.11.5.2)	Create, notate, and perform songs in a variety of meters.
6-8(Cr.11.8.2)	Utilize both traditional and/or non-traditional notation to compose short pieces within specified guidelines and demonstrate one's knowledge of the elements of music and how they might be used to create unity or variety, tension and release, and/or balance.

Language Arts

3.SL.1 (4.SL.1, 5.SL.1, 6.SL.1)	Listen actively and adjust the use of spoken language to communicate effectively with a variety of audiences and for different purposes.
3.SL.2.1 (4.SL.2.1, 5.SL.2.1, 6.SL.2.1)	Engage effectively in a range of collaborative discussions on grade-appropriate topics and texts, building on others' ideas and expressing personal ideas clearly.
3.SL.2.5 (4.SL.2.5, 5.SL.2.5, 6.SL.2.5)	Explain personal ideas and understanding in reference to the discussion.
3.SL.3.2 (4.SL.3.2, 5.SL.3.2, 6.SL.3.2)	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.