



SYMPHONY SAFARI

TEACHER GUIDE

THIS BOOKLET BELONGS TO: _____

Dear Teachers:

The Arkansas Symphony Orchestra is presenting *Symphony Safari* this Fall; it is a program to integrate the concert experience into the lesson plans across the curriculum so students understand what is happening in the concert and can relate it to what they are learning in the classroom. This program is an opportunity for the students to understand how music is a reflection of a culture, a moment in history, or a need for entertainment or serious contemplation.

You will receive a teacher's guide that contains a Listening Preparation in a purple box. There are two multi-disciplinary projects which you can plan with other teachers to complete. There are many suggested activities that relate to the subjects you are teaching. These are intended for use throughout the year whenever your lesson plans touch on the subject, e.g. waterways, earth formation.

Additionally, you have a DVD with the music accompanied by graphics to make preparation more interesting. Students receive a Student Journal. Distribute the journal to the students when doing the exercises and collect them between usage. You may also load them (from the website) on their iPads (or similar) so they have them when needed to use the materials most effectively.

BEFORE THE CONCERT:

- Prepare the students in advance of the concert by completing the Listening Preparation exercise for each work. Two pieces are longer, so you might play a portion each day. Playing the piece twice at different times provides reinforcement and recognition. The preparation for serious music is similar to teaching a child to swim before letting him jump into the deep end of the pool. (The conductor will only play excerpts of the longer works.)
- Discuss appropriate etiquette (Social Studies or Music teacher) - sometimes a grade is given. The music teacher can review the instruments of the orchestra, information about the conductor and about conducting. See a YouTube video by searching for *Audience Concert Etiquette* by Dawn Hopper or United Streaming Video/Concert Etiquette (**Music Frameworks:** P.6.3-6.3)
 - Plan with other teachers how and when to use the multi-disciplinary Safari lesson planning Guide.

IMMEDIATELY AFTER THE CONCERT: Have the students complete the "After the Concert" writing exercise on page 31 of the Student Journal. Please send a few copies to the HS/HSV Symphony Guild (address below).

DURING THE YEAR: It is not necessary to complete all the suggested activities prior to the concert. They should be used when they fit with the curriculum. Replay the music for reinforcement.

ABOUT THE CONTENT: There are 3 major sections - **rivers, mountains, jungles**. The team of curriculum teachers should determine the most relevant time to cover the material since each section focuses on different parts of the curriculum. A different curriculum teacher may take the lead on the section. Suggested assignments might be as follows:

Launching the Safari: Raiders of the Lost Ark (all teachers) - multi-disciplinary
Rivers ---- Jungles ---- Mountains (primarily Science, Social Studies and Literacy)
Finale - Celebration (Social Studies)

In all cases, the Music and Art teachers can reinforce the teaching by the curriculum teacher by completing the suggested music or art activities at the time the material is being covered. Have the librarian create a display of books related to the sections at the time they are being covered.

For further information, contact MarthaSmither@aol.com, HS/HSV Symphony Guild, P.O. Box 8354, HSV 71909 or Barbara Burroughs, Arkansas Symphony Orchestra, 2417 N. Tyler St., Little Rock 72207, 501-666-1761

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LAUNCHING THE SAFARI!

John Williams, *Raiders March*
from the movie *RAIDERS OF THE LOST ARK*

About the Composer: John Towner Williams is a most remarkable American composer because of his breadth of compositional works and performing experience. From a musical family, he studied in a traditional classical approach but was constantly exposed to the more popular American traditions of music (jazz, Broadway and film music). While the magic of John Williams seems to have sparked due to his association with Steven Spielberg, his classical career was equally stellar.

About Film Music: While film music may be considered by some as not to the standard of "classical" music, others consider it similar in genre as the development of opera starting in the early 1600's. Opera was the movies of yesteryear, and opera music is what made the stories come alive for the people. Opera was certainly not exclusive to the wealthy. Italians of all walks of life streamed into the opera houses, just as if they were going to the movies. One Italian city had as many as 80 opera houses in the 1700's.

Contemporary film music, largely loved but overlooked by the viewers, can be as stimulating as the music of an earlier era. Sometimes learning to listen to familiar pieces can spark the fire of passion for music of all kinds. Using the well-known music of the moment can catch the listener's mind and can help draw the link to the music of yesterday. The goal is to teach them to listen actively to the music, not just having it be background music that is taken for granted. Before long, your students will be listening critically to the music in their favorite movies and television shows.

Listening Preparation: The teacher who does the listening preparation for the *Raider's March* should also do the preparation for the *Radetzky March*. There is an exercise in the latter section to compare and contrast the two marches. Have them decide which conducting style is appropriate for a march.

Follow the listening map and identify the two themes. Have the students write descriptive words that they think of when they hear each theme. Have the students share the words or thoughts that the themes evoke.

There is a multidisciplinary lesson planning on page 20 involving map reading, map making and creating. Science, social studies, literacy and art teachers should plan together a coordinated project.

Rolling on the River!

Bedřich Smetana

THE MOLDAU (Vltava) from "My Fatherland" ("Ma Vlast")

Listening Preparation: Have the students read Page 14 in the Journal about the story of the piece - all the different parts and what is happening in each different section. Watch and listen to the DVD

Geography: Discuss the rivers of Arkansas.

- Have the students name as many as possible, using the map on page 12 of the Student Journal.
- What are the different things they might see on the shore of a river?
- What cities are located on these rivers? Why did towns spring up on rivers?
- Have them identify which rivers are tributaries of other rivers.

Complete both exercises "What Do You Know About Rivers?" on pages 6 and 7 in this Guide.

Music: After the concert, play the music again and focus on the themes, particularly how the main theme is in the minor key at the beginning and in a major key when it is repeated toward the end. Discuss what a different picture or feeling a change from major to minor can make. Have them compare the two presentations using adjectives. Why might Smetana's feelings have changed during the piece? (Perhaps he started with a pessimistic view about life that was improved by his view of the lovely Moldau River.)

Science: Have the students complete the questions and crossword puzzle on page 12 of the Student Journal.

Have the students design a water crossword puzzle after the students read about water systems. Distribute grid paper or go to a crossword puzzle maker on the Internet. There should be at least 10 words and clues. Exchange with a partner and complete the partner's puzzle.

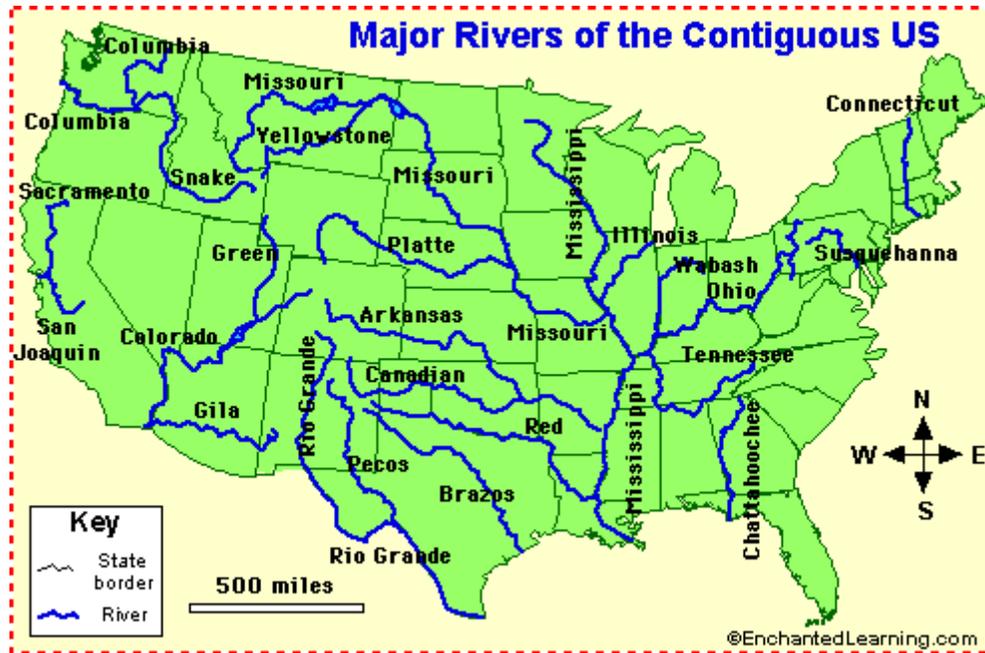
Social Studies and Art: Have the students (individually or in groups) make a poster of the Arkansas River, showing the river and its surrounding land forms. Have them draw the animals found in and around the river that allowed the early settlers to survive.

CROSSWORD PUZZLE ANSWERS: Across: 1. Dam, 3. Canal, 4. Current, 6. Sandbar, 8. Stream, 9. Bed;
Down: 1. Delta, 2. Bayou, 4. Channel, 5. Marsh, 7. Rapids

Connections to Arkansas State Frameworks: 4-5-ESS2-1 Earth Material and Systems 6-ESS2-4 Illustrate the water cycle. G.10.5.2 Examine effects of environmental and cultural characteristics on the distribution and movement of people, goods and ideas using multiple sources of information G.11.6.1 Compare ways spatial patterns of economic activities in a place change over time because of interactions with nearby and distant places.

What Do You Know About Rivers?

(Select the best answer from the Wordbank below.)



1. The Arkansas River flows all way the from the mountains in _____ to the _____ River. That means it is a _____ of that river.
2. Notice the legend on the map. Using a ruler or other measurement tool, estimate the length of the Mississippi River. (_____ miles) Estimate the length of the Arkansas River. (_____ miles) Which river is longer? _____ By how much _____?
3. Generally, in which direction does the Mississippi River flow? _____ to _____ In what direction does the Arkansas River flow? _____ to _____ What causes a river to flow a certain direction? _____

Cities are often located on rivers. What cities are located near the:

Arkansas River _____
 Mississippi River _____
 Moldau River (look on page 13 of the Student Journal) _____

What reasons cause cities near rivers to grow? 1) _____
 2) _____ 3) _____

Why is it sometimes dangerous to build near a river? _____

Wordbank: trade, Colorado, Memphis, south, tributary, Little Rock, 2,320, north, west, elevation, transportation, east, Mississippi, compass rose, tourism, flooding, Prague, New Orleans, Kansas City, 1,460, Minneapolis, Wichita.

MORE QUESTIONS ABOUT RIVERS!

What is the largest river in North America? (circle one)

1. Amazon River _____
2. Nile River _____
3. Chang Jiang River _____
4. Mississippi River _____

Write the name of the continent next to each possible answer.

What animal is not found in a river ecosystem? (circle one)

1. Whale
2. Otter
3. Frogs
4. Bullhead Catfish

Name two other animals in a river ecosystem? _____

Which river animal is an invertebrate? (circle one)

1. Water Moccasin
2. Otter
3. Bass
4. Crayfish

What does that animal have as a protective cover? _____

Which of the following was formed because of erosion? (circle one)

1. River basin
2. Volcano
3. Desert
4. Mountain

What animals might you find in the correct answer? _____

Which river animal is the highest in the food chain? (circle one)

1. Minnow
2. Otter
3. Fish
4. Insect

What other river animals are high in the food chain? _____

Which river is a tributary of the Mississippi River? (circle one)

1. Arkansas River
2. Colorado River
3. Chesapeake River
4. Nile River

Name two other tributaries of the Mississippi River. _____

OVER THE MOUNTAINS AND INTO THE CAVES!

These activities are primarily related to mountains, kinds of weathering and types of rocks found in Arkansas. Many of the activities are derived from the information in their textbook. These exercises should be completed when these subjects are studied in the classroom. Play the music again at that time to refresh the students' memory of how composers write in response to their surroundings. Work with the Art teacher to develop a visual of the ecosystems.

Science: Mechanical weathering: 1) Have the students bring in small rocks to use for testing.

Can they crush the rocks with their hands? What types of rock crush easily?

2) Demonstrate how the slow dripping of water on ice deteriorates the ice. Discuss how the slow dripping of water (rain, river or oceanic) has an effect on mountains, river basins, and coastlines.

3) Have the students bring in rocks that are typical of Arkansas. Have them observe the different characteristics - softness/hardness, color, and shape.

4) Chemical weathering: Demonstrate chemical reactions between a substance and a rock causing erosion:

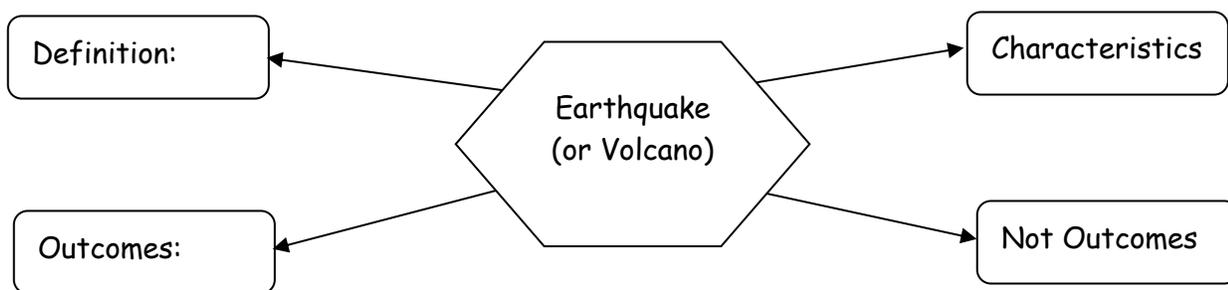
- > Place a stone containing iron in water and have the student record the changes over time. Chart those changes.
- > Pour acidic water on limestone and note changes.
- > Pour a cola drink on a stone with limestone and note bubbling effect. Is it the same as the acidic water? Why might it be different?

What other factors lead to chemical weathering - raindrops, decayed material, etc. Lead a discussion about how chemical weathering effects the ecosystem and its inhabitants of the ecosystem (e.g. humans, animals, etc.)

5) Classify what kinds of rocks or minerals weather easily (mechanical or chemical)? What kinds of rocks or minerals retain their shape for a long time?

Social Studies: Have the students complete questions *Over the Mountains and Into the Caves* exercise on page 15 in the Student Journal and *What Do You Know about Mountains and Caves?* on page 9 in this Guide.

Literacy: Create idea maps for an earthquake and a volcanic mountain, as follows:



Connections to Arkansas State Frameworks: 3-ESS2-2 Obtain and combine information to describe climates in different regions. 3-ESS3-1 Merit of a design that reduces the impacts of weather 3-LS4-1 How do fossils provide evidence of ancient organisms and environments. 4-ESS2-1 Water, ice, wind, living organisms and gravity break rocks...into smaller particles; weathering 5-6-ESS2-4 Roles of Water in Earth's Surface Processes 5-PS1-1 Structure and Properties of Matter; Compare and contrast gases to solids and liquids. 5-ESS2-1 Earth Materials and Systems; Examination of rocks; Identify physical properties of minerals. 4-ESS2-2 Plate Tectonics and Large-Scale System Interactions; Mineral properties and how volcanic activity relates to mountain formation; Diagram and explain how volcanoes work. Analyze changes to the Earth's surface.

WHAT DO YOU KNOW ABOUT MOUNTAINS AND CAVES?

<p>Which type of rock will weather the fastest? (circle one)</p> <ol style="list-style-type: none">1. Sandstone2. Granite3. Quartz4. Lava <p>_____ is a rock that comes out of a volcano.</p>	<p>When you were in 1st grade, you found a rock in a rushing river where you left it. You just found it again. What did you notice? (circle one)</p> <ol style="list-style-type: none">1. It was larger now.2. It's composed differently now.3. It looked exactly the same.4. It is smoother and smaller where the water touched it.
<p>Which statement best describes mountains? (circle one)</p> <ol style="list-style-type: none">1. Mountains are never changing.2. Mountains are always changing.3. Mountains are created by rain water.4. Mountains have no ecosystems. <p>The _____ mountains are in Colorado.</p>	<p>Earthquakes are caused by: (circle one)</p> <ol style="list-style-type: none">1. Movement of the earth's plates.2. Tsunami's waves.3. Landslides.4. Fast flowing rivers. <p>Heavy rains often cause _____.</p>
<p>Which is not formed by a volcano? (circle one)</p> <ol style="list-style-type: none">1. Mountain2. Island3. Cave4. Swamp <p>_____ can be found in mountains and islands.</p>	<p>Which best describes a mineral? (circle one)</p> <ol style="list-style-type: none">1. Minerals are non-living.2. Minerals are gases.3. Most minerals are manmade.4. Minerals do not have a chemical makeup. <p>Name a valuable mineral found in Arkansas. _____</p>

Felix Mendelssohn

FINGAL'S CAVE, The Hebrides, Opus 26

Listening Preparation: Have students listen to each section without telling what might be happening; have them list adjectives that come to their mind. Then play the section again after telling about what Mendelssohn envisioned. Compare the similarities and differences of what they heard.

00:00 Section 1: The piece begins in a dark tone using the violas, cellos and bassoons, all low and somber-sounding instruments; the first melody or **theme** pictures a gentle and rhythmic ebb and flow of the tide washing into Fingal's Cave.



00:22 Section 2: Soon, the violins and the higher-sounding woodwinds pick up the singing melody depicting the rhythmic rocking of the boat as it sails near the cave. The tympani rumbles occasionally as a sign of the storm.



01:53 Section 3: The cellos start a second melody that continues in the violins. It is much warmer and more pleasant; one thinks of blue skies and calm winds, perhaps the calm before the storm.

03:05 Section 4: The lengthy storm section begins with an agitated full orchestra led by the brass, (03:46) is followed by a quiet energetic passage (woodwinds and violins) after which (04:46) both themes are re-appear in violins and cello. (05:26) There is a lull in the storm as the violins quietly interchange with the woodwinds and brass and the themes compete. (05:47) The storm builds again to an agitated full orchestra again, primarily woodwinds and brass. (06:36) The storm concludes when full orchestra plays a series of heavy chords when the big storm is most violent. It doesn't last very long. (06:56) Calm returns gradually.

06: 59 Section 5: The opening theme re-enters, but not so somber. The second **theme** also returns, but not as lyrical (sounding like a song).

08:45 Section 6: Finally, the full orchestra plays, but more quietly. The overture ends by just fading away mysteriously, just the way Fingal's Cave faded away from Mendelssohn's view into the rain and ocean mist.

Social Studies: Have the students research the variety and attributes of Arkansas caves (Arkansas.org) such as Blanchard Springs Caverns, War Eagle Cavern, and Mystic Caverns. (Secure travel brochures to aid in discussion.) Note that all caves on National Forest lands (except Blanchard Springs) are closed due to an epidemic called White-Nose Syndrome which kills bats by the thousands. Why do bats live in caves? (For further information go to www.whitenosesyndrome.org or search on www.fs.usda.gov)

Science: Discuss ways caves are formed and what lives inside caves and what might live inside Fingal's cave, in particular. Discuss why the ecosystem of the Fingal's Cave might be different (or similar) to caves in Arkansas. Talk about how ancient tribes lived in caves and made drawings in some caves.

- ♦ Discuss formation of stalagmites and stalactites (picture in Student Journal).
- ♦ Have the students create a foldable art project by making cave outfitting as it might have when it was lived in. Point out that there is no electricity or plumbing in a cave. Have them search the internet for examples of cave drawings and then create a drawing on one of the walls using pictures to tell a story. The students can make the content from paper or clay or add small plastic objects.

Instructions for making foldable art: Take a square piece of paper and fold into quarters. Cut on one fold line into the center and create a 3-D triangle into which they can place or draw the important items. Connect the two foldable projects with double-sided tape (forming a flat back) and display on a bulletin board.

Connections to Arkansas State Frameworks: 5-ESS2-1 Earth Materials and Systems; origins and ecosystems of caves G.8.5.3 Synthesize information from a variety of sources to construct maps and other geographic representations and (G.8.6.3) to ask and answer compelling questions. G.9.5-6.3 Analyze ways climate and environment characteristics influenced where groups lived and how they adjusted to the environment. H.13.6.1 Compare hunter-gather and agrarian societies.

Edvard Grieg

In The Hall Of The Mountain King from Peer Gynt

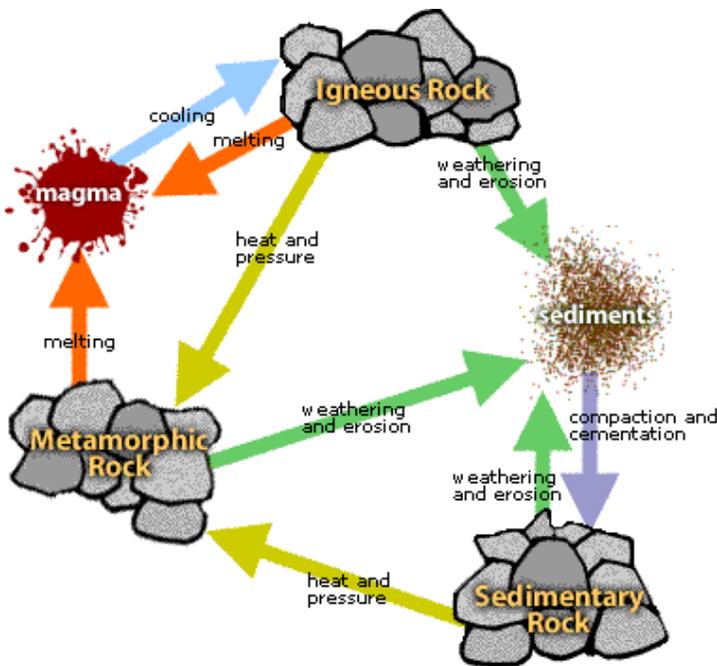
Listening Preparation: There is one melody or theme that repeats continuously starting in the lower tones of the orchestra and ending in the higher registers. Each time it repeats, it is presented in a new style, with different chords and different instruments. It is a short piece and can be played several times. It is likely that the students have heard it, perhaps in cartoons.

- 1) Have the students listen the first time without instruction, following the listening map on Page 11 or the DVD.
- 2) The second time it is played, have the students clap to the beat throughout the playing.
- 3) Before the third playing, have the students pat their knees to the rhythm of the melody which is in the Student Journal. They can also "sing along" by saying *tah tah tah* to the rhythm. Use the music chart to demonstrate the rhythm. (page 19 of the Student Journal)
- 4) The fourth time, divide the students so that one half claps to the beat and the other half pats their knees and sings to the rhythm.

Literacy: Discuss trolls (small magical beings) and determine where they have ever heard of them (Three Billy Goats Gruff - a folk tale, Harry Potter books and movies, Lord of the Ring books and movies). Watch the YouTube video Three Billy Goats Gruff (by Mantra Lingua) and discuss. Have the students create their own short play about the goats that they act out. Characters are goats, troll, bridge, trees, etc. The story may differ from the traditional story. Find a story from Arkansas or Indian folklore and read it with the class. Compare it to *Peer Gynt*.

Art: Have students create their own clay troll. Show various images of trolls from the Internet.

Art and Science: Have the students create a mountain from play dough or clay showing the different levels of the terrain. Mechanical erosion: Make a second mountain from sand, small stones and clay. Drop water and demonstrate erosion and building of river banks; follow the mounds of sediment as a river forms. Drop water from two points to demonstrate how one river flows into another and the effect of gravity.



Connections to Arkansas State Frameworks: 3-LS4-1 Use data from fossils to provide evidence of ancient organisms and environments. 4-ESS1-1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time. 6.8.5-6.2 Explain relationships between physical and human characteristics and changes over time using a variety of geographic representations. 4-ESS2-2 Plate Tectonics and Large-Identify the three categories of rocks 5-ESS2-1 Earth Materials and Systems

Science: Discuss the ways that mountains were created (plate tectonics and glaciers). Do an exercise creating plates and how they might move (possibly use candy bars). Talk about what rocks are in Arkansas. What is the rock cycle? Work with the art teacher to build a mountain out of play dough (or colored clay) creating a topography with layers. See sciencespot.com

Peer Gynt Suite: In the Hall of the Mountain King

Edvard Grieg

Orchestra Trumpet

Oboe

1 Strings
2 Oboe

Strings

Chord

Pizzicato

means to repeat section. Each □ is 2 eighth notes. Each | is a quarter note.
 is the marking for drums playing and means the cymbals and brass play.

Nicholai Rimsky-Korsakov

The Flight of the Bumblebee

About the Music: This short piece of music has become recognizable because of its distinctiveness and its adoption into movies, commercials and TV episodes, sometimes for just a few seconds. It is noted for its frantic tempo and easily conveys to the listener a sense of frenetic activity and tension. The composer creates this impression by filling the work with uninterrupted runs of chromatic sixteenth notes that are played at lightning speed. This piece requires a great deal of skill to perform.

Listening Preparation:

00:00 The strings are heard buzzing hurriedly about at the outset, brilliantly conveying images of a busy bee racing about. This is the chromatic theme which is shared by different themes.

00:30 A flute and later at 00:38, a clarinet, joins in the fun, though the orchestral soloists negotiating the myriad of notes at breakneck speed may consider it anything but fun.

00:35 A second theme of seven notes each a third apart is introduced and repeats at :40 in the flutes and 01:05 repeats three more times while the bee is still buzzing.



01:20 begins the ending which is a long upward chromatic scale played by the clarinet.

2nd theme

Literacy: When the swan transforms the prince, she sings a song to him. Parts of her song maybe heard in this work in the strings. Have the students write a couplet that reflects some aspect of the work - the Prince, the evil sisters, the Swan or the flying bumblebee. Let them perform their work for each other. Then let them reflect and consider how they might revise their couplet.

SWAN-BIRD Song:

Well, now, my bumblebee, go on a spree,
catch up with the ship on the sea,
go down secretly,
get deep into a crack.
Good luck, Gvidon, fly,
only do not stay long!
(The bumblebee flies away.)

Music: Discuss chromatic scales and thirds and how the composer picked two patterns and created interweaving themes. Have students write a short theme based on a chromatic pattern or patterns of thirds.

Science: How do bumblebees fly? Their body outweighs their wings, but they beat at 200 beats every second. Visit www.buzzaboutbees.net for more information about bees and pollination. Discuss pollination and its importance, i.e. what would happen if bee populations decline. Discuss the role of the different plant organs and how they interrelate. Create small groups to discuss these topics and how we might preserve the bee population.

Connections to the Arkansas State Frameworks: 3-LS2-1 Social Interaction and Group Behaviour 4-LS1-1 Structure and Function 4-LS1-2 Information Processing 5-LS2-1 Interdependent Relationships in Ecosystems 6-LS1-4 Animals engage in characteristic behaviors that increase the odds of reproduction

INTO THE JUNGLE!

These activities relate to "INTO THE JUNGLE" worksheet in the Student Journal and are primarily focused on having the students identify the structure and function of various processes that result in today's ecosystems. Have students complete "WHAT DO YOU KNOW ABOUT JUNGLES" on the next page.

Social Studies: Have the students identify both national and state forests in Arkansas and create a map noting the location of the forests. Put students in groups to research some attributes of the state and national parks. Have them share their information with the class.

Science: Discuss the characteristics of a jungle, such as Jurassic Park, and how that differs from a deciduous and/or coniferous forest, particularly relationship to water, weather, and sunlight. Compare and contrast the animals and plants in a jungle versus other types of forests. Discuss why there are no jungles in the United States and what factors might prevent the development of a jungle in Arkansas.

The Jurassic Park story features a lizard that looks like a dinosaur. Have students research the era during which dinosaurs lived and the factors that allowed them to survive and the changes in their ecosystem that might have led to their demise. Have students consider the animal behaviors and attributes that allow them to survive in a jungle.

Have students draw and illustrate the food chain in a jungle and the water cycle. Collaborate with the art teacher to have them create an artistic rendition of one of the drawings.

Scientific knowledge of their existence is based on fossilized bones and other formations. Have students research the process of fossil formation and discover why oil and gas are considered fossil fuels. Have them determine the difference in between creating animal fossils and fossil fuels (oil, gas and coal).

Have students research how plant life can become fossils and discuss how its process is different. Have students make leaf rubbings with leaves they have collected. See directions for leaf rubbing on www.wikihow.com/Make-a-leaf-rubbing. Find a good leaf to draw from

1. Place the leaf on a hard surface
2. Put a white sheet of paper on the leaf and tape in place
3. Rub a crayon or pastel on its side and gently color on the paper over the leaf.
4. Repeat this craft with other leaves and colors, using soft and hard leaves.
5. Cut out the leaves and make a fall display of leaf art.

Have them draw the structure of a leaf including internal structure noting what they learned from making the leaf rubbing. (Demonstrate cellular activity of a plant by placing celery into water dyed with food coloring.) Compare the appearance of the leaf rubbing to images of fossilized leaves. (Search google.com)

Math - Have the students make paper using recycled materials, discussing how much paper is thrown away each year and that it could be recycled. Directions may be obtained by searching for "making recycled paper in the classroom." Work with the **Art** teacher to have the students create something (printmaking) on the newly made paper. Go to www.epa.gov for information about discarded materials. Have students make a line plot to record the data regarding how much paper is discarded every year for the last 10 years.

Connections to Arkansas State Frameworks: 3-LS4-4 Effect of changes in ecosystems on organisms. 3-LS4-1 Evidence of common ancestry - extinction and fossils 4-LS1-1 Structure and function 4-ESS1-1 History of Planet Earth - fossils 4-ESS2-1 Earth materials and systems - water cycle 4-ESS2-2 Plate tectonics - formation of continents, oceans, islands 5-ESS2-2 Roles of water in earth's surface processes 5-LS1-1 Plants acquire their material for growth chiefly from air and water 5-LS2-1 Cycles of matter 6-LS1-1 Structure and function - cells 6-ESS2-4 Roles of Water in Earth Surfaces Processes

What Do You Know About Jungles?

<p>Which animal is not typically found in a jungle? (circle one)</p> <ol style="list-style-type: none">1. Macaw2. Elephant3. Boa constrictor4. Shark <p>Write the type of animal next to each one listed.</p>	<p>The canopy in a jungle is made of:</p> <ol style="list-style-type: none">1. Rocks and soil2. Jack rabbits and tumbleweed3. Leaves, branches and vines4. Bricks and boards <p>What does the canopy protect? _____.</p>
<p>Fossils are created when: (circle all that apply)</p> <ol style="list-style-type: none">1. Animals die and rot2. Organisms are suddenly encased in sediment3. Earthquakes erupt4. Earth's plates move <p>Fossils show that _____</p>	<p>The water cycle involves the following processes: (circle all that apply)</p> <ol style="list-style-type: none">1. Photosynthesis2. Evaporation3. Plate tectonics4. Transpiration <p>Name 3 forms of water: _____</p>
<p>Plants contain DNA which: (circle one)</p> <ol style="list-style-type: none">1. Determines its growth pattern and rate2. Releases nitrogen3. Drives photosynthesis4. Is a dangerous element	<p>What is not a structure in a plant's leaf: (circle one)</p> <ol style="list-style-type: none">1. Epidermis tissue2. Subcutaneous tissue3. Pore4. Vessel tissue

John Williams

The Lost World

ABOUT THE COMPOSER: See information about John Williams on page 8 of the Student Journal.

ABOUT THE MUSICAL WORK: See the notes in the Student Journal.

CLASSROOM ACTIVITIES (See www.scienceviews.com for useful information on dinosaurs, formation of fossils, geological formations and a glossary of paleontology terms.)

Art: Before the concert

Create a scene (ecosystem) in a rain forest that includes dinosaurs, using various alternative and traditional techniques and media, perhaps a collage of materials/pictures. (Work with the science teacher to bring in all the elements of an ecosystem.) Play the piece while they are working.

Music: Before the concert and after the students have listened to the music in art class

- 1) Have them compose a four-measure phrase that sounds like a dinosaur.
- 2) Identify musical instruments by sound and musical timbre. What are the sounds portraying?
- 3) Review the etiquette on Page 2 of the Music Journal.

Social Studies: Have the students find Costa Rica and Central America on a map and identify the major areas of jungle and bodies of water on either side of the area.

What kinds of geography are found in Costa Rica? (The coastal plains are low, hot, and heavily forested with jungles. The north east is the Nicoya peninsula, a semiarid plain. Cutting from north to south is a volcanic range which creates a temperate, spring-like valley.)

Where is Costa Rica in relation to the Gulf of Mexico and Pacific Ocean? - Equator? - Tropic of Cancer?

What countries border Costa Rica? (Nicaragua is on the north and Panama is to the southeast.)

What are the primary resources of Costa Rica? (Agriculture, petroleum.)

What are the products? (In addition to agriculture (bananas, pineapples, melons, cocoa and sugar cane from the coastal plains and coffee from the central valley) and industry (electronic components, textiles, clothing, construction materials and petroleum).

Science: Have the students research the difference between a jungle and a rain forest and define their major attributes.

Take the opportunity to talk about the natural selection process and how the dinosaurs developed. What kinds of dinosaurs are herbivores/carnivores/omnivores and how might that have been a factor in their extinction. Have the students define different events that might have led to their disappearance, e.g. temperature change, loss of food, fires, drought, floods, impact craters from space, etc. Discuss how the break-up of Pangaea might have effected animals and earth structures.

Have the students research information about what kinds of islands there are and how they were formed.

Connections to Arkansas State Frameworks: 3-LS4-4 Effect of changes in ecosystems on organisms. 3-LS4-1 Evidence of common ancestry - extinction and fossils 4-LS1-1 Structure and function 4-ESS1-1 History of Planet Earth - fossils 4-ESS2-1 Earth materials and systems 4-ESS2-2 Plate tectonics - formation of continents, oceans, islands 5-ESS2-2 Roles of water in earth's surface processes 5-LS1-1 Plants acquire their material for growth chiefly from air and water 5-LS2-1 Cycles of matter

CELEBRATE! CELEBRATE!

Discuss with the students about the traditions of celebrating in different cultures. Include the traditions that are unique to the people in the United States (e.g., Thanksgiving Day, President's Day, and Martin Luther King Day). Discuss how traditions develop and why they are important.

Have the students complete the table on "Why Do We Celebrate?" (page 24 in the Student Journal). For "Family" or "Personal," consider birthday, anniversaries or accomplishments, such as graduation. For the category of Organization, have them consider school celebrations or some other organizations, such as Boys Scouts or Girl Scouts. When and what do they celebrate? In the "Other" category, have them think about celebrations that might be related to Arkansas, such as the *RiverFest* in Little Rock, the *Shortest St. Patrick's Day Parade* in Hot Springs or the *Watermelon Festival* in Hope. Have them describe one aspect of each celebration. Compare and contrast the traditions of each type of celebration.

Have students select a patriotic symbol and explain its importance and the meaning behind the symbol and how it represents national spirit. Have students pair up and compare and contrast (using Venn diagrams) the symbols they selected. Have them write about their comparisons and share with the class.

Have the students write a paragraph about their favorite (family) tradition, what happens during the celebration and why that tradition is special to them.

Social Studies: The rise of a national spirit in the United States came particularly after the War of 1812. The words for the Star-Spangled Banner were written by poet Francis Scott Key in response to the battle at Fort McHenry. The Americans were defending their young democracy. Compare this national feeling to the four composers in this concert who were affected by oppressive rule in their homeland; one work deals with the actions of a dictator. There is often a cause and effect relationship between the rise of nationalism and the factors that created it, the resulting actions of individuals regarding their own lives and on the national level, and the changes in style of government.

Rise of national spirit (nationalism) in Europe

Cause: Desire for self-rule. Factors: oppression by a dictator, brutality, poverty and lack of opportunity.

Effect: Each of the composers or characters listed below were affected by the political climate of the country in which they were living. Have students research their lives and see how it affected their actions or compositions.

<u>Composer or Character</u>	<u>Country</u>	<u>Resulting Form of Government</u>
Handel (under George I)	England	constitutional monarchy
(under George III)	America	democratic republic
Smetana	Bohemia (now Czech Republic)	parliamentary republic
Khachaturian, Rimsky Korsakov	Soviet Union (now Russia)	dictatorship/democracy
Indiana Jones	Germany under Nazi rule	democratic republic/dictator

Discuss why it is important to celebrate and defend freedom for ourselves and for others. Discuss 9/11 and its effect on bringing a resurgence of patriotism. Play current patriotic songs, such as *Rugged Old Flag* (Johnny Cash), *Where Were You When the World Stopped Turning?* (Alan Jackson) and *I'm Proud to be an American* (Lee Greenwood). Compare to the words to the *Star-Spangled Banner* and their similarity.

Discuss what parts of the world are fighting for their freedom this year.

Connections to Arkansas State Frameworks: C.2.6.1 Compare ways in which various civilizations foster social responsibility and civic virtues. C.2.3-6.2 Demonstrate proper procedures for recitation of the Pledge of Allegiance and flag etiquette C.3.5-6.2 Analyze ways rules and laws change society and reasons why people change rules and laws. G.10.5-6.2 Examine/analyze effects of environmental and cultural characteristics on the distribution and movement of people, goods and ideas. H.12.3-4.4 Analyze individuals, groups and events to understand why their contributions are important.

Fridrich Handel

ALLA HORNPIPE from "Water Music Suite," Suite No. 2

Listening Preparation: This work is from the Baroque era when a suite was made up of a group of dance movements. Explain that Baroque music composers often used a melodic or rhythmic figure as the basis for a piece and repeated it throughout the work. In this work there are two themes: 1) the A melody which is played by the brass and strings interchangeably and repeated and 2) the B rhythmic section which changes into the minor mode and has a repetitive 6 beat pattern.



These paintings were of the Thames River, probably in the 1600 - 1750 time frame. The left depicts a Royal barge party likely in George I's day. The right is the old London Bridge during the winter. Europe experienced a little ice age from the 14th - 19th century and London had severe winters. The Thames was shallow at that timing (prior to later dredging) and the old London Bridge slowed the current so that the moderately still water became frozen solid. River Thames Frost Fair Festivals sprung up during the years it froze, the first in 1603 and the last in 1815. Purportedly, Henry VIII traveled by sleigh on the Thames.

Social Studies: Discuss the well-known traditions in England: changing of the Guard at Buckingham Palace, the coronations, royal weddings. How do traditions begin? Does the United States have similar traditions? (changing of the guard at the Tomb of the Unknown Soldier, Presidential Inauguration, Thanksgiving dinner).

Science: Consider the effects of global warming versus global cooling experienced in Europe centuries ago. Have students discover other time periods of warming and cooling and the possible effects on people.

Aram Khachaturian

SABRE DANCE from "Gayne", Suite I

Listening Preparation: Music: Discuss what a sabre is (a sword) and then why sabre dances were performed. (It is a dance with a sword.) Sabre or sword dances were part of the folk dance history. They depicted hunting scenes, historic battles, used as an exercise in preparation for battle or for recreation after their farm work was done.

This *Sabre Dance* is a whirling war dance in the Armenian style. The dancers display their skill with swords. Because of its exciting rhythm, it has been used as dance music in circuses, particularly when the acrobats do their routines or during the plate spinning acts on television shows. It has been used in popular cartoons (such as Lion King 1½), in Walt Disney's movie *Fantasia* and the recent *Scrubbing Bubbles* commercial for bathroom cleaning product!

Have the students listen once to *Sabre Dance* without looking at the listening map in the Student Journal.

Ask them what it makes them think about. Are there two different pictures being drawn by this music? How are they different?

Have the students look at the listening map. Note that there are two themes played by different instruments. The short transition helps the composer return to the first theme. Ask the students to listen again and then write words that come to their minds when they hear the different sections. (You might say Theme A, B and transition at the noted seconds to aid in the listening or ask them to raise their hands when a new section starts.) Have the students share their words.

Music: An ostinato is a repetitive melody or rhythmic phrase that is often played by a single instrument. Have the students identify the instrument playing the ostinato (the tympani). Have them listen in *Sabre Dance* for the ostinato and also for a glissando - a fast sliding through a series of consecutive notes. Make a glissando by sliding your finger down the keyboard of a piano. Have them identify which instrument plays the glissando (the trombone) and discuss why a trombone can make a glissando (sliding part to change the pitch).

Johann Strauss Sr. *RADETZKY MARCH*

Listening Preparation: The listening preparation should be done by the same teacher as the Raider's March to facilitate the compare and contrast exercise below.

Have the students listen to the music and raise their hand when they hear the music change (from one section to another).

Ask the questions below, showing the answers after they have responded. Then ask them to talk about other similarities and differences.

COMPARE AND CONTRAST THE RAIDER'S AND RADETZKY MARCHES

	Raider's March	Radetzky March
What instruments play?	Full Orchestra	Full Orchestra
How many beats to a measure? (Meter)	4 beats to a measure in 4 time	2 beats to a measure in 2 time
What is the Mood?	Heroic	Military/Festive
What is the Speed? (Tempo)	Fast	Moderate
What is the Form?	3 sections plus a transition/coda 0:00 - 2:05 Theme A 2:06 - 3:37 Theme B 3:38 - 4:20 Transition 4:21 - 4:54 Theme A 4:55 - end Coda	3 main sections with an introduction 0:00 - 0:14 Introduction 0:15 - 1:06 Theme A&B 1:07 - 2:01 Trio 2:02 - end Theme A&B
Why was it written?	For a movie	In honor of a military man
Could you march to it?	No. It is too fast.	Yes. It was meant marching.

Music or Literacy: Compare the two marches and relate to the structure of writing compositions. Have the students prepare their own rubric for evaluating the two works.



A r k a n s a s

Learning Through the Arts

A creative approach to arts-integrated learning

Classroom Teacher Lesson Planning Guide

Musical Compositions _____ Raiders of the Lost Ark _____ Composer Williams _____

Multiple Disciplinary _____ Now It Is Your Turn To Create Your Own Safari (Grade 3 – 6) _____

This guide focuses on students creating their own safari and links to specific curriculum. The major steps are the same for each grade, but the suggested emphasis differs depending on the objectives for each grade. The major steps for the students are:

- 1) Discuss the basic elements of the story *Raiders of the Lost Ark* and compare to other adventure stories. What is an adventure story and its basic elements?
 - Listen to the music and discuss what about the music makes one think of an adventure.
 - Read other adventure stories and compare and contrast the elements that confronted travelers.
- 2) Plan for the safari (directions in the Student Journal, page 11).
 - Define setting (Taking a Safari, Expedition or Journey exercise in the Teacher Guide, page 24).
 - Define specific geographic formations included, e.g. water routes, plains, mountains, etc.?
 - Decide on what kind of journey – who, what, where, when and how which can be dependent on the unit being taught and subject matter by grade (Kinds of Safaris, Expeditions and Journeys exercise in Student Journal page 5).
 - Complete the exercise on page 23 to establish the math skills necessary to draw a map.
- 3) Develop a narrative to describe the safari and to help someone or yourself follow your map.
- 4) Create a rough draft of the safari map (Math and Art teacher involvement).
- 5) Make map and revise story for changes along the way (Math and Art teacher involvement).
Make a topographical flour/salt dough map with the grid and major features of the safari map.
- 6) Have students create compelling questions about their map and prepare a brief presentation.
- 7) Make a brief presentation to the class, sharing the purpose of the safari and the map.

Below are suggestions for linking the safari theme to different units of curriculum. Have students select their traveler so that it connects with the unit of study.

Grade 3

Connections to Arkansas State Frameworks

- RL.3.2 Recount stories, including fables, folktales and myths from diverse cultures; determine the central message, lesson or moral and explain how it is conveyed through key details in the text.
- RL.3.3 Describe characters in a story (e.g., their traits, motivations or feelings) and explain how their actions contribute to the sequence of events.
- RI.3.7 Use information gained from illustrations (maps, photographs) and the words in a text to demonstrate understanding of the text, where, when why and how key events occur.
- W.3.3 Write narratives to develop real or imagined experiences or events
- SL.3.4. Tell a story with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

Suggested subjects	Unit 1: Stories Worth Telling Again and Again	Unit 2: Inspired by the Sea
Kinds of travelers	Tribal cultures, family members	Explorer, vacationers
Setting (ecosystem)	Plains, rivers, local geography	
Adventure stories	<i>Grandfather's Journey (Say), Dream Wolf (Goble), Paddle to the Sea (Holling)</i>	<i>The Lamp, the Ice, and the Boat called Fish (Martin and Krommes), Journey of a Humpback Whale</i>
Geography	U.S. geography	Exploration
History	Preserving stories of the past	<i>The Cod's Tale</i> (Kurlansky and Schindler)
Art		

Grade 4:

Connections to Arkansas State Frameworks

RL.4.3: Explain events, procedures, ideas, concepts in a historical, scientific or technical text, including what happened and why, based on specific information in the text.

W.4.2 Write informative/explanatory text to examine a topic and convey ideas and information clearly.

W.4.3 Write narratives to develop real or imagined experiences or events using effective technique, descriptive details and clear event sequences.

W.4.7 Conduct short research projects that build knowledge through investigation on different aspects of a topic.

Suggested subjects	Unit 2: Literature Setting: Weather or Not	Unit 3: Animals are Characters, Too: Characters who Gallop, Bark and Squeak
Kinds of travelers	Various people effected by weather	Migratory animals and birds
Setting (ecosystem)	coastal areas, plains, mountains	Oceans, plains, forests, continents
Adventure stories	<i>Safari Journal</i> (Talbot),	<i>Lewis and Clark and Me</i> (Myers), <i>Lassie Come-Home</i> (Wells and Jeffers)
Geography	U.S. and local geography, map reading, <i>National Geographic World Atlas for Young Explorers</i>	<i>The Race Across America #37</i> (Stilton)
Science	<i>The Snowflake: A Water Cycle Story</i> (Waldman)	Migratory paths of animals and birds

Grade 5:

Connections to Arkansas State Frameworks

W.5.3 Write narratives to develop real or imagined experiences or events.

W.5.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose and audience.

W.5.5 With guidance and support and peers, develop and strengthen writing, as needed by planning, revising, editing, re-writing or trying a new approach.

W.5.7 Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic

W.5.8 Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work and provide a list of sources

SL.5.2 Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

H.12.5.1 Develop claims about pre-Columbian societies in North America by analyzing artifacts, artwork charts, graphs, digital, and print sources.

H.12.5.2 Compare characteristics of major pre-Columbian people groups within North America using a variety of sources.

H.12.5.3 Examine reasons for European exploration in the Americas from multiple perspectives.

G.10.5.2 Examine effects of environmental and cultural characteristics on the distribution and movement of people, goods and ideas using multiple sources of information

G.8.5.3 Synthesize information from a variety of sources to construct maps and other geographic representations

Suggested subjects	Unit 3: Clues to a Culture	Unit 5: Exploration, Real and Imagined
Kinds of travelers	Native American Indians, pioneers, European settlers	Explorers, astronauts, adventurers
Setting (ecosystem)	The American frontier	Space, desert, major rivers and oceans
Adventure stories	<i>If You Were a Pioneer on the Prairie</i> (Kamma and Watling), <i>A Boy Called Slow</i> (Bruchac and Bavier)	<i>The Little Prince</i> (Saint-Exupery), <i>Alice's Adventures in Wonderland</i> (Carroll), <i>Who Was Neil Armstrong?</i> (Edwards, Harrison, and Marchesi)
Geography	Major rivers and habitat	North and South America
History	<i>A History of the U.S.: The New Nation, 1789-1850</i> (Hakim),	<i>Who Was Ferdinand Magellan?</i> (Kramer, Harrison and Wolf)
Science	<i>You Wouldn't Want to be an American Pioneer!: Wilderness You'd Rather Not Tame</i> (Morley, Salariya and Antram)	<i>Camels</i> (Winner)

Grade 6:

Connections to Arkansas State Frameworks

W.6.3 Write narratives to develop real or imagined experiences or events.

W.6.4 Produce clear and coherent writing in which the development organization, and style are appropriate to task, purpose and audience.

W.6.5 With guidance and support and peers, develop and strengthen writing, as needed by planning, revising, editing, re-writing or trying a new approach.

W.6.6 Use technology, including the internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.

W.6.7 Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.

W.6.8 Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.

G.8.6.3 Synthesize information from a variety of sources to construct maps and other geographic representations to ask and answer compelling questions.

H.13.6.1 Compare hunter-gatherer and agrarian societies.

	Unit 2: Folklore: Blast from the Past	Unit 3: Embracing Heritage
Kinds of travelers	Ancient figures: Greek Gods, the First Americans, Roman soldiers, Vikings	Immigrants, explorers, Native Americans
Setting (ecosystem)	Dependent on the traveler	United States
Adventure stories	<i>Black Ships before Troy: the Story of the Iliad</i> (Sutcliff), <i>D'Aulaires' Book of Norse Myths</i> (D'Aulaire), <i>The Lightning Thief</i> (Riordan)	<i>Escape from Saigon: How a Viet Nam War Orphan Became an American Boy</i> (Warren), <i>When Jesse Came Across the Sea</i> (Hest and Lynch)
Geography	Dependent on the story/traveler	United States
History	<i>You Wouldn't Want to Live in Pompei! A Volcanic Eruption You'd Rather Avoid</i> (Malam, Salariya, and Antram)	<i>Coming to America: the Story of Immigration</i> (Maestro and Ryan), <i>Through the Eyes of your Ancestors: a Step-by-Step Guide to Uncovering Your Family's History</i> (Taylor)



INDIANA JONES COMES TO ARKANSAS!

Indiana Jones has been hired to find a rare, gold statue that has been hidden in Arkansas. He has to travel the rivers in Arkansas to discover its location. He has to travel the Buffalo River which is 150 miles long, the Ouachita River which is 605 miles long, the White River which is 722 miles long and the Arkansas River which is 1469 miles long. After resting a few days, he again begins the hunt. He travels down the Caddo River which is 40 miles long and the Little Missouri River, which is 147 miles long.

1. How many feet did Indiana Jones travel in the first part of his journey? Show or explain in detail all your thinking.
2. How many inches did Indiana Jones travel in the last part of his journey? Be sure to show all of your work.
3. As Indiana Jones completed his journey down the rivers, how far did he travel in yards? Be sure to show all of your work.

TAKING A SAFARI, EXPEDITION OR JOURNEY

There are a variety of ecosystems represented by the musical pieces you hear at the concert. Select four ecosystems as best as you can determine, place its name in the box and answer the questions.

Type of Ecosystem: _____

What kinds of plants are there? _____

What animals live there? _____

Where do they find shelter? _____

What is the weather like? _____

How much rainfall does it receive? _____

What kind of clothing might you take when you visit? _____

What could change this ecosystem? _____

Type of Ecosystem: _____

What kinds of plants are there? _____

What animals live there? _____

Where do they find shelter? _____

What is the weather like? _____

How much rainfall does it receive? _____

What kind of clothing might you take when you visit? _____

What could change this ecosystem? _____

Type of Ecosystem: _____

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How much rainfall does it receive? _____

What kind of clothing might you take when you visit? _____

What could change this ecosystem? _____

Type of Ecosystem: _____

What kinds of plants are there? _____

What animals live there? _____

Where do they find shelter? _____

What is the weather like? _____

How much rainfall does it receive? _____

What kind of clothing might you take when you visit? _____

What could change this ecosystem? _____



A r k a n s a s

Learning Through the Arts

A creative approach to arts-integrated learning

Classroom Teacher Lesson Planning Guide

Musical Composition All Compositions Composer Various
Grade Level/Discipline Grades 3-6 Interdisciplinary: Create a multimedia presentation of a story

ESSENTIAL QUESTION: HOW ARE STORIES TOLD IN THE 21ST CENTURY?

Story-telling is an art form that involves all areas of learning and disciplines. Twenty-first century students are exposed to multiple forms of text, not just literature. In the *Story-Time Student Journal*, there are many examples of text such as poetry, art, music as well as written fiction and non-fiction text. Students must glean information from a variety of media and become comfortable with creating works in these media in order to be successful in the workplace.

This concert experience is a golden opportunity for teachers and students to collaborate and create stories incorporating different media and disciplines. In classrooms where all the core disciplines are taught, one teacher can more easily design an interdisciplinary approach to story-telling. When the disciplines are split among two or more teachers, some planning may be required to link, for instance, what is being taught in science and social studies to the creation of a story.

ARKANSAS FRAMEWORKS

English/Language Arts: Speaking and Listening 5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

Grade 3: Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance facts or details.

Grade 4: Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.

Grade 5: Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

Grade 6: Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.

Music Content Standard 4 Connections. Students will relate artistic ideas and works with societal, cultural and historical context to deepen understanding.

- between music and the other fine arts (e.g., theatre, ballet)
- between music and disciplines outside the arts (e.g., social studies)

Visual Arts Content Standard 2 Creating. Students will organize and develop artistic ideas and work

Grade 3: CR.2.3.1 Create personally meaningful artwork through various media

Grade 4: CR.2.4.1 Explore a variety of art-making techniques and approaches through various media

Grade 5: CR.2.5.1 Develop skills in multiple art-making techniques and approaches through practice and experimentation

Grade 6: CR.2.6.1 Demonstrate openness to using new artistic processes (e.g., ideas, materials, methods, approaches)

Social Studies Standards 4.6-.1

Grade 3: E.4.3.2 Identify problems, alternatives, and trade-offs involved in making a decision

Grade 4: G.10.4.3 Compare push-pull factors that influence immigration

Grades 5-6: G.8.5-6.3 Synthesize information from a variety of sources to construct maps

TELL YOUR OWN STORY!

(Work in groups of 3 to 5 students to collaborate on creating a story and presenting it.)

Choose a story that a member of your group has written or a folk tale or myth that you have read in class. Make sure the story is written down. If it takes more than three minutes to read, shorten it by removing sections that are not critical to the plot of the story. Run your revised story by your teacher before going ahead.

Introduction: (Overture) Choose a piece of music that sets the tone for your story.

Setting: Create a work of art that shows when and where the story takes place. **Where** does it take place? _____ Be sure to portray such things as weather, geography, time of day, etc. Include the main characters of the story.

Characters: Draw each of the main characters on a piece of paper about the size of a baseball card (use poster paper if you have it). Describe the characters on the back of the card. (Grades 5 and 6 include information about the era in which they lived.) Come up with a musical theme or a sound to represent each character. **Who** are your characters and what do they look like?

Plot: Create a timeline of main events in the story. (Grades 5 and 6 include character motivations that influenced these events.)

When does it take place? _____ Over what time period? _____

What are the scenes? 1. _____ 2. _____
3. _____ 4. _____
5. _____ 6. _____

Conflict/Problem: Create a work of art that shows the main conflict of the story and choose sound effects to go with it.

What is the conflict? _____ Between whom? _____

Climax: Create a work of art that depicts a big moment in the story and choose music or sound effects to go with it.

How is the conflict displayed? _____

Resolution: Look at the artwork created to show the setting for the story. Decide what is the same and what is different at the end of the story and create a revised version of the setting.

How is the conflict resolved? _____

Making your Multi-media Presentation: Record your group reading the story aloud. Put artwork and music/sound effects into a PowerPoint presentation that goes along with your story.



Musical Composition **The Flight of the Bumblebee** Composer Rimsky-Korsakov

Grade Level/Discipline Grades 3-6 Mathematics

ESSENTIAL QUESTION: HOW IS MATH USED IN WRITING MUSIC?

Common Core Standards

Operations and Algebraic Thinking

- 3.OA** Represent and solve problems involving multiplication and division.
Multiply and divide within 100.
Solve problems involving the four operations, and identify and explain patterns in arithmetic.
- 4.OA** Use the four operations with whole numbers to solve problems.

Number and Operations in Base Ten

- 3.NBT** Use place value understanding and properties of operations to perform multi-digit arithmetic..

Number and Operations—Fractions

- 3.NF Develop understanding of fractions as numbers.**
1. Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.
 2. Understand a fraction as a number on the number line; represent fractions on a number line diagram.
 3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
- 4.NF Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.**
- 5.1NF Use equivalent fractions as a strategy to add and subtract fractions.**
Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)*
- Apply and extend previous understandings of multiplication and division to multiply and divide fractions.**
6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
 7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

Measurement and Data

- 3.1MD** Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram
- 4.MD** Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

Ratios and Proportional Relationships

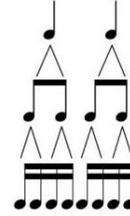
- 6.RP Understand ratio concepts and use ratio reasoning to solve problems.**
3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

Expressions and Equations

- 6.EE Represent and analyze quantitative relationships between dependent and independent variables.**
9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.*

Facts about Flight of the Bumblebee:

- It is 113 measures long – all but the last 3 measures have at least one instrument playing all sixteenth notes
- It lasts about 1½ minutes
- Each measure has 2 beats
- Most of the notes used in the piece are
 - Quarter notes – 1 per beat
 - Eighth notes – 2 per beat
 - Sixteenth notes – 4 per beat
- The main theme is four measures of sixteenth notes plus one sixteenth note
- A second theme is 1½ measures of eighth notes plus one eighth note



Lesson Objectives – Grade 3 and up

1. Students will identify two properties of a musical note: **Pitch** (see sound lesson plan), and **duration** – the length of time any given pitch lasts until the performer stops playing it and goes on to another pitch
2. Students will analyze how Rimsky- Korsakov used musical notes to write *Flight of the Bumblebee*
 - a. What is the maximum number of quarter notes that can be fit into one measure? (2)
 - b. What is the maximum number of eighth notes that can be fit into one measure? (4)
 - c. What is the maximum number of sixteenth notes that can be fit into one measure? (8)
 - d. How many beats long is the bumblebee theme? (8 plus one sixteenth note)
 - e. How many beats the entire composition? (226)
 - f. How long do you think it took Rimsky-Korsakov to write this composition? Explain how you decided.

Grade 4 + - Students will analyze how Rimsky- Korsakov used musical notes to write *Flight of the Bumblebee*.

- a. How many measures is there at least one instrument playing all sixteenth notes? (110)
- b. If violins played all sixteenth notes in all of the measures with sixteenth notes, how many notes would there be for violins to play? (880)
- c. If three fourths of the measures for violins were all sixteenth notes, how many notes would there be? (660)
- d. About how many seconds does each measure last in this composition? (.8 seconds)
- e. Come up with at least four patterns of quarter notes, eighth notes and sixteenth notes that could be used to fill one measure of music. Using a pencil eraser, tap each measure, then tap all four measures.

Grade 5 + - Students will analyze how Rimsky- Korsakov used musical notes to write *Flight of the Bumblebee*.

- a. How many measures would it take to play 100 consecutive sixteenth notes? (12.5)
- b. About how many full measures are played each minute? (about 75)
- c. The violins in the orchestra play mostly sixteenth notes in this piece. If there are 16 violins in the orchestra, what is the total number of sixteenth notes that could be played by all 16 violins together? (14,080)
- d. How many notes would you estimate a violinist actually plays in this piece? Explain your answer.

Grade 6 – Students will analyze how Rimsky- Korsakov used musical notes to write *Flight of the Bumblebee*.

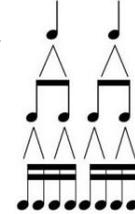
- a. About how many sixteenth notes are played each second? (10)
- b. How many full measures are played in 30 seconds? (about 37.5)
- c. If the conductor decided to play the piece slower and a sixteenth note lasted ¼ second throughout, how long would it take to play it? (3 minutes, 46 seconds) (113 measures x 2 seconds = 226 seconds)
- d. Write an equation that could be used to determine how long it would take to play the entire section if the length of each sixteenth note was any given fraction of a second. Do the same for eighth notes.
- e. Come up with at least four patterns of quarter notes, eighth notes and sixteenth notes that could be used to fill one measure of music. Using a pencil eraser, tap each measure, then tap all four measures in a row. Work with a partner and play your compositions together (repeat the patterns at least 4 times in succession to establish a rhythm. Make revisions that you decide would make your composition better.

GRADES 3-6 MATHEMATICS WORKSHEET How is Math Used in Writing Music?

The *Flight of the Bumblebee* by Rimsky-Korsakov is packed with lots of notes. In the green box, there is information the notation used in the composition. Answer the questions in the boxes below and show your work in the space beside each question.

Facts about Flight of the Bumblebee:

- It is 113 measures long – all but the last 3 measures have at least one instrument playing all sixteenth notes.
- It lasts about $1\frac{1}{2}$ minutes.
- Each measure has 2 beats.
- Most of the notes used in the piece are
 - Quarter notes – 1 per beat
 - Eighth notes – 2 per beat
 - Sixteenth notes – 4 per beat
- The main theme is four measures of sixteenth notes plus one sixteenth note.
- A second theme is $1\frac{1}{2}$ measures of eighth notes plus one eighth note.



1. What is the maximum number of quarter notes that can be fit into one measure?
2. What is the maximum number eighth notes that can be fit into one measure?
3. What is the maximum number of sixteenth notes that can be fit into one measure?
4. How many beats long is the bumblebee theme?
5. How many beats are in the entire composition?
6. How long do you think it took to write this piece of music? Explain answer on the back.
7. How many measures are there at least one instrument playing all sixteenth notes?
8. If violins played all sixteenth notes in all of the measures with sixteenth notes, how many notes would there be for violins to play?
9. If three fourths of the measures for violins were all sixteenth notes, how many notes would there be?
10. About how many seconds does each measure last in this composition?
11. On a separate sheet, write at least four patterns of quarter notes, eighth notes and sixteenth notes that could be used to fill one measure of music. Using a pencil eraser, tap each measure, then tap all four measures.
12. How many measures would it take to play 100 consecutive sixteenth notes?
13. About how many full measures are played each minute?
14. The violins in the orchestra play mostly sixteenth notes in this piece. If there are 16 violins in the orchestra, what is the total number of sixteenth notes that could be played by all 16 violins together?
15. How many notes would you estimate a violinist actually plays? Explain your answer on the back.
16. About how many sixteenth notes are played each second?
17. How many full measures are played in 30 seconds?
18. If the conductor decided to play the piece slower and a sixteenth note lasted $\frac{1}{4}$ second throughout, how long would it take to play it?
19. On separate sheet, write an equation that could be used to determine how long it would take to play the entire section if the length of each sixteenth note was any given fraction of a second. Do the same for eighth notes.
20. On a separate sheet, write at least four patterns of quarter notes, eighth notes and sixteenth notes that could be used to fill one measure of music. Using a pencil eraser, tap each measure, then tap all four measures in a row. Work with a partner and play your compositions together (repeat the patterns at least 4 times in succession to establish a rhythm. Make revisions that you decide would make your composition sound better.

SUGGESTED READING

EXPLORATION

Bruchac and Bavier – A Boy Called Slow
 Gondosch, Linda -- Where did Sacagawea join the Corps of Discovery? and other questions about the Lewis and Clark expedition
 Goble – Dream Wolf
 Graf, Mike -- Explorers of North America.
 Gunderson, Jessica Sarah, 1976- -- The Lewis and Clark Expedition
 Gunderson, Mary -- Cooking on the Lewis and Clark Expedition
 Holling, Paddle to the Sea
 Johmann, Carol A., 1949- -- The Lewis & Clark Expedition : join the Corps of Discovery to explore uncharted
 Kamma and Watling – If You Were a Pioneer on the Prairie
 Kroll, Steven -- Lewis and Clark : explorers of the American West
 Kurlansky and Schindler – The Cod’s Tale
 Maestro and Ryan – Coming to America: the story of immigration
 Marsh -- The rip-roaring mystery on the African safari : South Africa

Martin and Krommes – The Lamp, the Ice, and the Boat called Fish
 Myers – Lewis and Clark and Me
 Perritano, John -- The Lewis and Clark Expedition
 Pringle, Laurence P -- American slave, American hero : York of the Lewis and Clark Expedition
 Say -- Grandfather’s Journey
 Snowden, Maxine -- Polar explorers for kids : historic expeditions to the Arctic and Antarctic with 21 activities
 Stilton – The Race across America #37
 Swanson, Diane. -- Safari Beneath the Sea The Wonder World of the North Pacific Coast
 Talbott -- Safari journal : the adventures in Africa of Carey Monroe
 Taylor-Butler, Christine -- Explorers of North America
 Underwood, Deborah -- Safari adventure
 Wells and Jeffers – Lassie Come Home

RIVERS

Gurney, Beth -- Sand and soil : Earth's building blocks
 Hablitzel, Marie, - -- Draw, write, now. Book six, animals & habitats, on land, ponds & rivers, oceans : a drawing and handwriting course for kids!
 Hooper, Meredith -- The pebble in my pocket : a history of our Earth
 Ish-Kishor, Sulamith. -- A boy of Old Prague
 Jackson, Tom, 1953- -- The Arkansas River
 Locker, Thomas, 1937- -- Where the river begins

Loyie, Oskiniko Larry, 1933- -- As long as the rivers flow
 Machalek -- Eva's summer vacation : a story of the Czech Republic
 Morris, Neil, 1946- -- Rivers & lakes
 Podwal -- Built by angels : the story of the old-new synagogue
 Sis, Peter, 1949- -- The three golden keys
 Venezia, Mike -- Rachel Carson : clearing the way for environmental protection
 Waldman – The Snowflake: A Water Cycle Story
 Watts, Irene N -- Clay man : the Golem of Prague

MOUNTAINS

Bradley, Catherine -- Life in the mountains
 Brimmer, Larry Dane -- Mountains
 D'Aulaire, Ingri, 1904-1980 -- D'Aulaires' book of trolls
 Ellis, Edward Sylvester, 1840-1916. -- The camp in the mountains
 Gibbons, Gail -- Caves and caverns
 Hicks, Terry Allan -- How do mountains form?
 Marsh, Carole -- The mystery in the Smoky Mountains
 McCallum, Ann. -- The secret life of math: discover how (and why) numbers have survived from the cave dwellers to us!

Merrill, Yvonne Young -- Hands-on Rocky Mountains : art Activities about Anasazi, American Indians, settlers, trappers, and cowboys
 Morris, Neil, 1946- -- Earth's changing mountains
 Ross, Cynthia -- A guide to using D'Aulaires' book of Greek myths in the classroom
 Simon, Seymour -- Mountains
 Snyder, Laurel -- Up and down the Scratchy Mountains, or, The search for a suitable princess
 Staub, Frank J -- America's mountains

JUNGLES

Ingoglia, Gina. -- The tree book for kids and their grown-ups
 Benoit, Peter, 1955- -- Temperate forests
 Cefrey, Holly. -- Deciduous forests
 Gaff, Jackie -- I wonder why pine trees have needles and other questions about forests
 Gibbons, Gail -- Nature's green umbrella : tropical rain forests
 Greeley, August. -- Fading forests : the destruction of our rainforests
 Green, Emily K., 1966- -- Forests
 Howard, Fran, 1953- -- Forests
 Kipling, Rudyard, 1865-1936 -- The jungle book

Kipling, Rudyard, 1865-1936 -- The second jungle book
 Morgan, Sally -- Rain forests in danger
 Parker, Steve, 1952- -- Rain forests
 Paterson, Stuart -- The jungle book
 Paul, Tessa -- In woods & forests
 Royston, Angela -- Disappearing forests
 Salas, Laura Purdie -- Temperate deciduous forests : lands of falling leaves
 Stille, Darlene R -- Tropical rain forests
 Wallace -- America's forests : guide to plants and animals
 Wilkins, Sally -- Temperate forests

CELEBRATION

Gilchrist -- A calendar of festivals : celebrations from around the world
 Greenwood, Barbara, 1940- -- A pioneer Thanksgiving : a story of harvest celebrations in 1841
 Kindersley, Anabel -- Celebrations!

Luenn -- Celebrations of light : a year of holidays around the world
 O'Brien, Anne Sibley -- At play on the plains and prairie : barn raisings, birthdays, and other celebrations
 Taylor – Through the Eyes of Your Ancestors: a Step-by-Step Guide to Uncovering Your Family’s History
 Yolen, Jane -- Water music : poems for children

MUSIC

Barber, Nicola -- Should I play the flute?
 Hayes, Ann -- Meet the orchestra
 Helsby, Genevieve -- Those amazing musical instruments! : your guide to the orchestra through sounds and stories

Levine, Robert T -- The story of the orchestra : listen while you learn about the instruments, the music and the composers!
 Meadows, Daisy -- Fiona the flute fairy
 Venezia, Mike -- George Handel
 Whiting, Jim -- The life and times of George Frideric Handel
 Zannos, Susan -- The life and times of Felix Mendelssohn

TEACHER AND STUDENT RESOURCES

Websites:

Buzzaboutbees.net for information about first fliers, including insects and bees.
childrensmusic.org, The Children's Music website, for students, teachers and parents, focus on "overcoming boredom", Kids Public radio
classicsforkids.com, information on composers and their works, interactive.
classicalmagic.net for ordering classical works presented for young people.
dsokids.org – Dallas Symphony Orchestra, introduction to symphony and composers, for students and teachers
eduplace.com for maps, a product of Houghton Mifflin Harcourt
epa.gov/superfund/students/classact/winter/paper.htm for information about making paper.
mswinston.com/fold.pdf for instructions for making foldable art.
nationalgeographic.com - has free maps, video, articles and a good search engine by topic.
nyphilkids.org – New York Philharmonic Orchestra website for young people
pbs.org – has lesson plans and information on wide range of topics
scienceview.com for information on dinosaurs, formation of fossils, geological formations and a glossary of paleontology terms.
songsforteaching.com, a site designed for using music for teaching with downloads
fskids.org – San Francisco Symphony Orchestra
whitnosebats.wordpress.com or fs.usda.gov for information about bats' white-nose disease.
Wikihow.com/Make-a-leaf-rubbing

YouTube:	Audience Etiquette	Audience Concert Etiquette by Dawn Hopper United Streaming Video/Concert Etiquette
	Stories	Three Billy Goats Gruff by Mantra Lingua
	Music	Raiders of the Lost Ark: Main Theme, Royal Liverpool Philharmonic Orchestra The Moldau, Smetana, Vienna Philharmonic The Hebrides, London Symphony Orchestra Grieg, In the Hall of the Mountain King – good graphics by DarwinsLilGirl Flight of the Bumblebee, London Philharmonic Orchestra Rugged Old Flag, Johnny Cash Where Were You When the World Stopped Turning? Alan Jackson I'm Proud to be an American, Lee Greenwood Star-Spangled Banner, Francis Scott Key Handel, Alla Hornpipe Khachaturian, Sabre Dance, Berliner Philharmoniker Radetsky March, Vienna Philharmonic

Other Books for Students:

Arley, Neil, *EyeWitness Music*, DK Publishing, Inc. 1989
Koscielniak, *The Story of the Incredible Orchestra*, Houston Mifflin Company, Boston 2000.
Krull, Kathleen, *Lives of the Musicians: Good Times, Bad Times*, Harcourt Brace Jovanovich, 1993
Levine, Robert, *The Story of the Orchestra*, Black Dog and Leventhal, Publishers, 2001, with CD on the periods and instrument sections
Ventura, Piero, *Great Composers*, G.P. Putnam's Sons, New York, 1988
Ziegler, Robert, *Eyewitness Great Musicians*, DK Publishing, 2008.

BIBLIOGRAPHY

All of Music by multiple contributors, *The Life and Times of the Great Composers: 1,000 Years of Classical*, Foreword by Vladimir Ashkenazy, Millenium House, Sidney, Australia, 2009
Bacharach, A.L. and J.R. Pearce, editors, *The Musical Companion*, Harcourt Brace Jovanovich, New York, 1977.
Dallas Symphony Orchestra, Reference to the DSO study guides and its web-site *dsokids.com*
Enchanted Learning.com
Goepf, Philip H., *Great Works of Music*, Garden City Publishing Co., Inc. Garden City, NY, 1913
Goulding, Phil G., *Classical Music: the 50 Greatest Composers and their 1,000 Greatest Works*, Fawcett Columbine, New York, 1992
The Kennedy Center, ARTSEEDGE, Lesson Connection: Reading Illustrations.
Leonard, Richard Anthony, *The Stream of Music*, Peter Smith, Gloucester, Mass., reprinted 1968
San Diego Symphony Orchestra, Reference to the SDO study guide *Symphony Safari*, 2008
Spaeth, A Guide to Great Orchestral Music, Sigmund Spaeth, The Modern Library, New York, 1943
www.classicsforkids.com
www.puzzlemaker.com
Wikipedia, The Free Encyclopedia, for information on each of the composers and the works
Williams, John, *Biography of John Williams*, www.johnwilliams.org

THE FINE ARTS ARE FUNDAMENTAL TO A WELL-ROUNDED EDUCATION FOR ALL STUDENTS

Ten Lessons the Arts Teach By Elliot Eisner

The arts teach children to make good judgments about qualitative relationships. Unlike much of the curriculum in which correct answers and rules prevail, in the arts, it is judgment rather than rules that prevails.

The arts teach children that problems can have more than one solution and that questions can have more than one answer.

The arts celebrate multiple perspectives. One of their large lessons is that there are many ways to see and interpret the world.

The arts teach children that in complex forms of problem solving purposes are seldom fixed, but change with circumstance and opportunity. Learning in the arts requires the ability and a willingness to surrender to the unanticipated possibilities of the work as it unfolds.

The arts make vivid the fact that neither words in the literal form nor numbers exhaust what we can know. The limits of our language do not define the limits of our cognition.

The arts teach students to think through and within a material. All art forms employ some means through which images become real.

The arts help children learn to say what cannot be said. When children are invited to disclose what a work of art helps them feel, they must reach into their poetic capacities to find the words that will do the job.

The arts enable us to have experience we can have from no other source and through such experience to discover the range and variety of what we are capable of feeling.

The arts' position in the school curriculum symbolizes to the young what adults believe is important.

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