

SYMPHONY SAFARI

TEACHER GUIDE

THIS BOOKLET BELONGS TO: _____

Dear Teachers:

The Arkansas Symphony Orchestra (ASO) is presenting *Symphony Safari* this year. The educational materials are presented so that the program can integrate the concert experience into the lesson plans across the curriculum. The result should be that students understand what is happening in the concert and can relate it to what they are learning in the classroom. Students learn that music is a reflection of a culture, a moment in history, or a need for entertainment or serious contemplation.

This Teacher's Guide contains a Listening Preparation in a purple box for each work. 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 and are related to the ARDOE standards by grade level. These are intended for use throughout the year whenever your lesson plans touch on the subject, e.g. waterways, earth formation.

Additionally, in both the Student Journal and Teacher's Guide there are YouTube references so that you can make preparation for the concert more interesting. You may download these materials from the Education pages of the HV/HSV Symphony Guild (symphonyguild.org) or ASO (arkansassymphony.org) websites onto the students' notepads (or similar).

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.) (**Music Standards: PR.4**)
- Discuss appropriate etiquette (Social Studies or Music teacher) - sometimes a grade is given or extra credit for good behavior. 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 (10:40) or *Going to Your First Classical Concert and Concert Etiquette*.
- Review with students *What is a Musical Safari?* on page 6 of the Student Journal. (**PR.6**)
- 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:

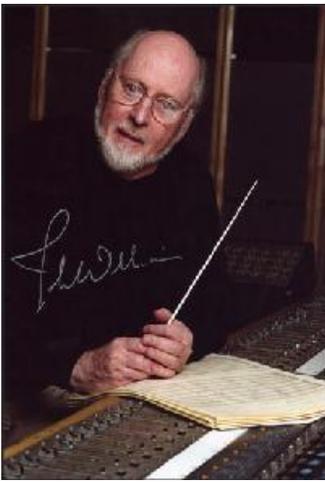
Launching the Safari: Raiders of the Lost Ark (all teachers) - multi-disciplinary
Rivers ---- Jungles ---- Mountains (primarily Science, Social Studies and Literacy)
Finale - Celebration (Social Studies)

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 Beth Robison, 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 compositions 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 the students 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.

Have students read and complete the exercises *What is a Safari?* and *Kinds of Safaris, Expeditions and Journeys* on pages 4 and 5 of the Student Journal and *Taking a Safari, Expedition or Journey* and *Indiana Jones Comes to Arkansas* (a math exercise) on pages 23 and 24 in the Teacher's Guide.

There is a multidisciplinary lesson planning on page 20 involving map reading, map making and creating a story. 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 music on YouTube - Search for **Smetana: Vltava (The Moldau)**

Geography: (G.3.5.5) Discuss the rivers and land forms of Arkansas and the different types of economic activities they support:

- ✓ Arkansas River Valley (e.g., agriculture, coal, natural gas, water)
- ✓ Crowley's Ridge (e.g., agriculture)
- ✓ Mississippi Alluvial Plain (Delta) (e.g., agriculture, waterfowl, fish)
- ✓ Ouachita Mountains (e.g., thermal springs, timber, quartz)
- ✓ Ozark Mountains (e.g., minerals, natural gas)
- ✓ West Gulf Coastal Plain (Timberlands) (e.g., bromine, diamonds, timber, bauxite, oil, wild game)

Activities

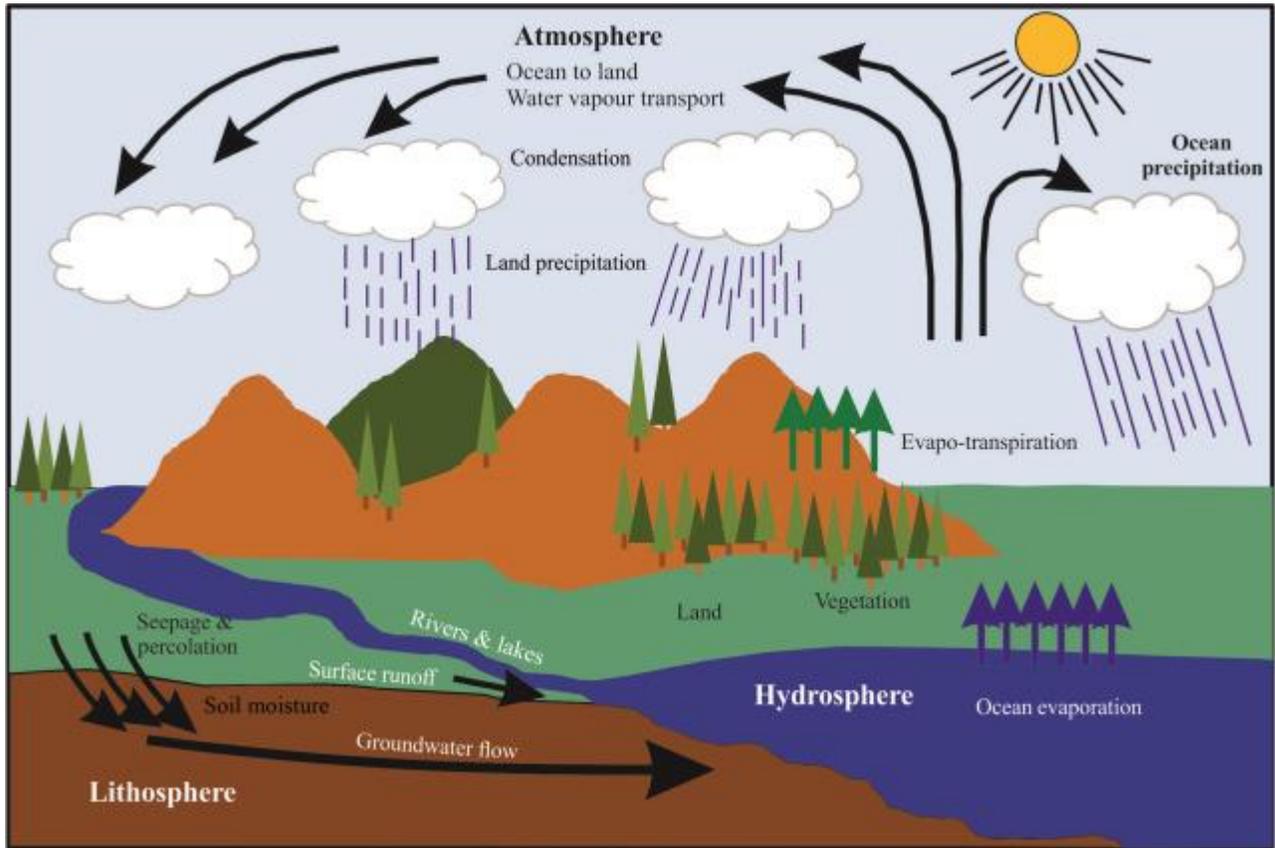
- Have the students name as many as possible, using the map on page 12 of the Student Journal. What are the different things they might see on the shore of a river?
- What cities are located on these rivers? Why did towns spring up on rivers?
- Have them identify which rivers are tributaries of other rivers.
- Complete both exercises "What Do You Know About Rivers?" on pages 12 of the Student Journal and "More Questions About Rivers" on page 7 in this Guide.
- Have the students complete the crossword puzzle on back page of the Student Journal. (Answers below.)

Science: (6-ESS2-4) Review the water cycle on the next page and complete the worksheet. Have students discuss how rivers form a part of the hydrologic cycle. Have students discuss why rivers are freshwater and oceans are salt water.

Music: (CN.11) 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 and Art: (3-LS4-3) 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 and describe what aspects of their habitat made them able 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 The crossword puzzle is on the back page of the Student Journal



THE WATER CYCLE

Describe each major area of the water cycle and what happens in that area:

Atmosphere _____

Lithosphere _____

Hydrosphere _____

What is water made of? _____

What percentage of the world's water is stored in the ocean? _____

What causes water to evaporate? _____

What causes: Rain _____

Sleet _____

Snow _____

Why is the water cycle important? _____

MORE QUESTIONS ABOUT RIVERS!

<p>What is the largest river in North America? (circle one)</p> <ol style="list-style-type: none"> 1. Amazon River _____ 2. Nile River _____ 3. Chang Jiang River _____ 4. Mississippi River _____ <p>Write the name of the continent next to each possible answer.</p>	<p>What animal is not found in a river ecosystem? (circle one)</p> <ol style="list-style-type: none"> 1. Whale 2. Otter 3. Frogs 4. Bullhead Catfish <p>Name two other animals in a river ecosystem? _____</p>
<p>Which river animal is an invertebrate? (circle one)</p> <ol style="list-style-type: none"> 1. Water Moccasin 2. Otter 3. Bass 4. Crayfish <p>What does that animal have as a protective cover? _____</p>	<p>Which of the following was formed because of erosion? (circle one)</p> <ol style="list-style-type: none"> 1. River basin 2. Volcano 3. Desert 4. Mountain <p>What animals might you find in the correct answer? _____</p> <p>_____</p>
<p>Which river animal is the highest in the food chain? (circle one)</p> <ol style="list-style-type: none"> 1. Minnow 2. Otter 3. Fish 4. Insect <p>What other river animals are high in the food chain? _____</p> <p>_____</p>	<p>Which river is a tributary of the Mississippi River? (circle one)</p> <ol style="list-style-type: none"> 1. Arkansas River 2. Colorado River 3. Chesapeake River 4. Nile River <p>Name two other tributaries of the Mississippi River. _____</p> <p>_____</p>

OVER THE MOUNTAINS AND INTO THE CAVES!

These activities are primarily related to the activity of earthquakes, volcanoes and weathering in the formation of mountains and caves found in Arkansas. 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 within caves. Have students identify where the earthquake fault lines are in Arkansas. (4-ESS3-2) Have students identify what organisms are inside these caves and why they might survive and whether people have occupied these caves. (LS2-C, G.1.6.1, H.2.6.1)

1. Blanchard Springs Caverns
2. Bull Shoals Caverns
3. Cosmic Cavern
4. Hurricane River Cave
5. Mystic Caverns
6. Old Spanish Treasure Cave
7. Onyx Cave

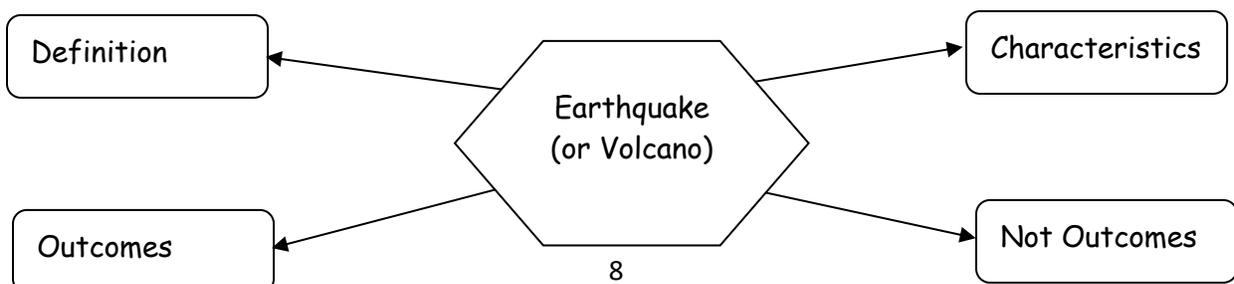


Chemical Weathering: (4-ESS2-1&2, 4-ESS3-2, 5-PS1-3) Discuss how acid rain ruins statues and other structures — so they become chemically weathered — and how sinkholes are created. Here are easy demonstrations of chemical weathering using vinegar which is safe and easy to use:

1. Provide each student with a plastic cup lined with sugar cubes along the bottom, a graham cracker on top (representing soil). Using vinegar in a dropper, have students drop it on the "soil" until slowly over time the sugar is destroyed underneath. Talk about how this is very similar to limestone being weathered and creating empty pockets.
2. Place one piece of steel wool in 3 plastic ziplok baggies. Bag one with steel wool only, bag two add 50 ml. water and bag three add 50 ml. of vinegar. Let the bags sit overnight and have students observe the effects of chemical weathering on the steel wool in each bag.
3. Place chalk in a cup of vinegar for 5 minutes; the chalk reacts to the calcite in the chalk. After 5 minutes, rinse the chalk with water and have the students observe the changes. Place chalk back in the water for 24 hours and observe again the changes over a longer period.

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: (3-5.RC.5.RF) Create idea maps (visual representation of your thinking process) for an earthquake and a volcanic mountain



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. Sandstone 2. Granite 3. Quartz 4. 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. Mountain 2. Island 3. Cave 4. 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? (whitenosebats.wordpress.com or fs.usda.gov)

Science: (ESS2.A, RI.5.1) Discuss and have students research and write about the various ways in which caves are formed, 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.

- ♦ Have students describe the interior of Arkansas caves and the ways they have been used.
- ♦ Discuss formation of stalagmites and stalactites (picture in Student Journal).

Other Connections to Arkansas State DOE Standards: CR.2, PR.4, PR.5

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.

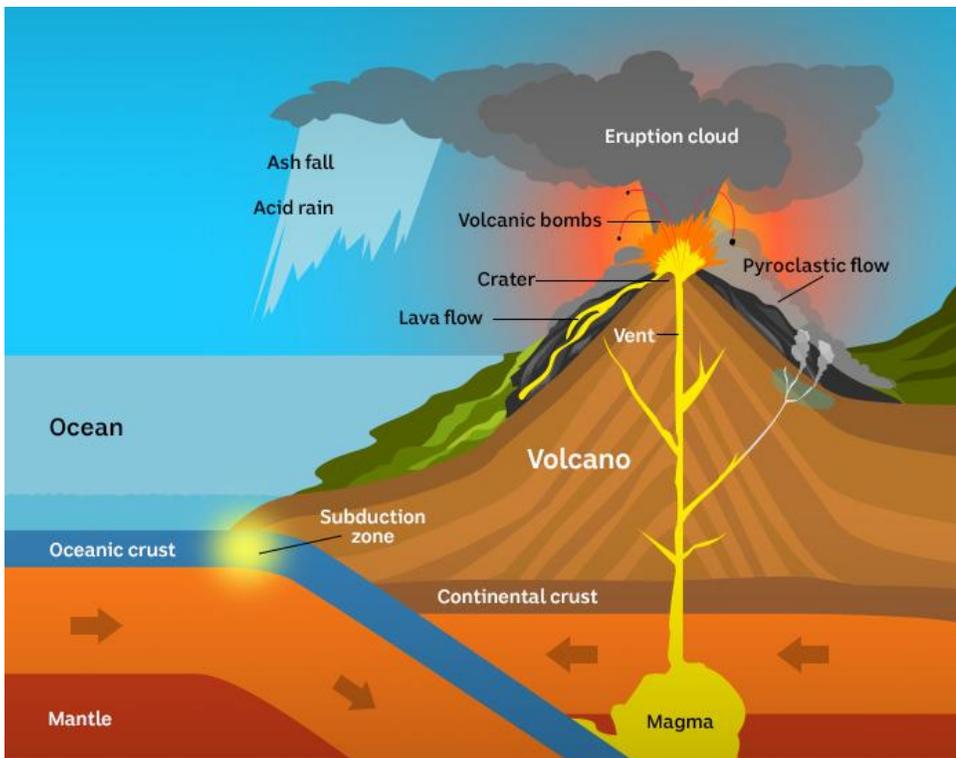
- 1) Have the students listen the first time without instruction, following the listening map on Page 12.
- 2) The second time it is played, have the students clap to the beat throughout the playing.
- 3) Before the third playing, have the students pat their knees to the rhythm of the melody which is 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 Goat's 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 Native American folklore and read 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: 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). Have the students create a mountain from play dough or colored clay showing the different levels of the terrain. See sciencespot.com



Literacy: Have students research the process a volcano goes through to erupt and where there is volcanic activity in Arkansas.

Have students write about the different parts of the process, describing how magma becomes lava.

Connections to Arkansas State DOE Standards: 4-ESS2-1, 4-ESS2-2, ESS2.B,RI.4.1, RI.4.9, W.4.8, CN.10, CR2, CN.11

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 \square is 2 eighth notes. Each $|$ is a quarter note.

is the marking for drums playing and means the cymbals and brass play.

Nicholaj 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 may be 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 and listen to each other. Then let them reflect and 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 a video (03:11) on the first fliers - insects and bumblebees in particular. After watching the video, 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 write a paragraph about ways we might preserve the bee population.

Connections to Arkansas State DOE Standards: 3-LS2-1, LS2.D, RI.3.1, RI.3.3, W.3.1, 4-LS1-1, 4LS1.A, 6-LS1-4, 6-LS1B, RST.6-8.1, RI.6.8

INTO THE JUNGLE!

These activities relate to "INTO THE JUNGLE" worksheet in the Student Guide and are primarily focused on having the students identify jungles, forests and trees, the food chain and the process of photosynthesis. Following this lesson, distribute "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 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** or **coniferous** forest.

Compare the ecosystem of a jungle to a deciduous forest, including:

types of animals - food chain of a forest - kinds of plants - weather

Have the students create a simple food chain for a jungle on the worksheet on page 21 of the Student Journal.

Distribute copies of or download "What Do You Know about Jungles?" on the next page for the students to complete.

Draw and illustrate photosynthesis or the nitrogen cycle on page 21 of the Student Journal. (Collaborate with the Art teacher.)

Demonstrate cellular activity of a plant by placing celery into water dyed with food coloring. Have the students discuss what is happening.

Have the students draw the structure of a leaf. With leaves they have collected, make leaf rubbings and compare them to their drawing. Have them draw the structure of leaf, noting what they learned from the leaf rubbing. See simple directions for leaf rubbing on www.wikihow.com/Make-a-leaf-rubbing.

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

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 going to

<https://www.paperslurry.com/2014/05/19/how-to-make-handmade-paper-from-recycled-materials/>.

Information about paper waste volume can be found at <https://www.theworldcounts.com/stories/paper-waste-facts>.

Have the students make a line plot to record the data regarding how much paper is discarded every year for the last 10 years. Work with the **Art** teacher to have the students create something (printmaking) on the newly made paper, e.g. stationery or greeting card.

Connections to Arkansas State DOE Standards: 3-LS4-3, 3-LS4-4, 4-LS2.C, 4-LS4.C, R.3.1, W.3.1-2 SL.3.4. 3.MP.2&4, 4-LS1-1, 4-LS1.A, W.4.1, 5-LS2-1, 5-LS2.1, 5-LS2.B, RI.5.1, RI.5.9, SL5.5

What Do You Know About Jungles and Forests?

<p>Which animal is not typically found in a jungle? (circle one)</p> <ol style="list-style-type: none"> 1. Macaw 2. Elephant 3. Boa constrictor 4. 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 soil 2. Jack rabbits and tumbleweed 3. Leaves, branches and vines 4. Bricks and boards <p>What does the canopy protect? _____.</p>
<p>Nitrogen is absorbed by: (circle one)</p> <ol style="list-style-type: none"> 1. Minerals 2. Tree trunks 3. Deciduous leaves 4. Roots of plants and trees <p>The nitrogen was absorbed from the _____.</p>	<p>Photosynthesis is a process to make sugar for plants. These factors are necessary for the process: (circle one)</p> <ol style="list-style-type: none"> 1. Sunlight, carbon dioxide, water 2. Moonlight, carbon dioxide, water 3. Sunlight, oxygen, soil 4. Sunlight, nitrogen, water <p>_____ is a by-product of photosynthesis.</p>
<p>Plants contain DNA which: (circle one)</p> <ol style="list-style-type: none"> 1. Determines its growth pattern and rate 2. Releases nitrogen 3. Drives photosynthesis 4. 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 tissue 2. Subcutaneous tissue 3. Pore 4. 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.scienceview.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: 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. Discuss the formation of fossils using the chart on page 23 of the Student Journal.

Connections to Arkansas State DOE Standards: 3-LS4-1 Analyze fossils. 3-LS4-3 Survival in a particular habitat; adaptation. G.1.3-4.1 Spatial organization, maps G.2.5.2 Functions of various maps. G.4.5.1 Dependency of physical environment. 4-ESS1.C History of Planet Earth. 4-ESS2-B Plate Tectonics. 5-LS2.A Interdependent relationships in Ecosystems

CELEBRATE! CELEBRATE!

Discuss with the students about the traditions of celebration in many 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. 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) (under George III)	England America	constitutional monarchy 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

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 have been fighting for their freedom this year.

Connections to Arkansas State DOE Standards: C.1.3-4.4 National symbols, patriotic songs and symbols. E.1.3-4.1 Scarcity and opportunity influencing decision-making. G.1.3-4.9, G.3.5.2 Push-pull factors causing immigration. G.3.5.4 Cultural characteristics, e.g. Celebrations. H.1.3-4.6 Multiple perspectives in historical narratives.

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. **CN.11**



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 time (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).

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 (The sliding part changes the pitch). (PR.4)

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. (RE.7)

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?	<small>33</small> 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. (RE.7)



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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 the 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.

Connections to Arkansas State DOE Standards:

Grade 3

- G.1.3.3. Create maps to illustrate the physical and human characteristics of a place or region, including titles, symbols, legends, a compass rose, and scale.
- 3.RC.7.RL: Describe how characters respond to major events and challenges.
- 3.RC.8.RL: Describe the main story elements (plot), including characters, setting, events, problem, and solution.
- 3.RC.17.RI: Explain how information gained from illustrations (e.g., maps, photographs) and the words in a text, contribute to understanding a text.
- 3.V.1: Determine or clarify the meaning of words and phrases in a text read aloud or independently.
- 3.W.3.S: Write a narrative with a logical plot (sequence of events, characters, and setting).
- 3.W.4.P: Produce clear and coherent writing, using precise language, relevant details, elaboration, and grade-appropriate conventions.
- 3.W.5.P: Organize writing logically, constructing an introduction, body, and conclusion.
- 3.CC.4.P: Use visual displays and/or audio appropriately to emphasize or enhance certain facts or details when presenting.

Grade 4:

- G.1.4.3. Create maps to compare the physical and human characteristics of different places or regions, including titles, symbols, legends, a compass rose, and scale.
- 4.RC.4.RF: Build general and academic vocabulary and background knowledge of age and grade-appropriate topics through discussion, reading, and writing.
- 4.RC.5.RF: Use background knowledge and details, including illustrations, charts, and graphs, to make inferences about what happens in a text.
- 4.RC.7.RL: Describe how a character changes throughout a story.
- 4.RC.8.RL: Explain how the setting contributes to the plot of a story.
- 4.RC.9.RL: Determine the theme of a story.
- 4.RC.7.RL: Describe how a character changes throughout a story.
- 4.RC.8.RL: Explain how the setting contributes to the plot of a story.
- 4.RC.9.RL: Determine the theme of a story.
- 4.RC.7.RL: Describe how a character changes throughout a story.
- 4.RC.8.RL: Explain how the setting contributes to the plot of a story.
- 4.V.1: Determine or clarify the meaning of words and phrases in texts read aloud or independently.
- 4.W.3.S: Write a narrative, using a logical plot (sequence of events, characters, and setting) and strong voice.
- 4.W.4.P: Produce clear and coherent writing, using precise language, relevant details, elaboration, and grade-appropriate conventions.
- 4.W.5.P: Organize writing logically, constructing an introduction, body, and conclusion.
- 4.CC.4.P: Use visual displays and/or audio appropriately to emphasize or enhance certain facts or details when presenting.

Grade 5:

- 5.RC.4.RF: Build general and academic vocabulary and background knowledge of age and grade-appropriate topics through discussion, reading, and writing.
- 5.RC.5.RF: Use background knowledge and details, including illustrations, charts, and graphs, to make inferences about what happens in a text.
- 5.RC.6.RF: Demonstrate reading comprehension of age and grade-appropriate texts by speaking or writing.
- 5.RC.11.RL: Explain how multimedia elements (e.g., text, audio, images, animation, video) help determine Meaning and tone.
- 5.V.1: Determine or clarify the meaning of words and phrases in a text read aloud or independently.
- 5.W.3.S: Write a narrative, incorporating literary elements (characters, plot, setting, conflict, and dialogue) and strong voice.
- 5.W.4.P: Produce clear and coherent writing, using precise language, relevant details, elaboration, and grade-appropriate conventions.
- 5.W.5.P: Organize writing logically, constructing an introduction, body, and conclusion.
- 5.CC.4.P: Use visual displays and/or audio appropriately to emphasize or enhance certain facts or details when presenting.

Grade 6:

- G.2 Students will understand the purpose of geographic tools (e.g., maps, globes, charts, graphs) to Interpret spatial information. This includes spatial organization of people, cultures, places, and environments within various regions and geographic skills to interpret the past, present, and plan for the future.
- 6.RC.1.RF: Provide an objective summary of a text.

- 6.RC.4.RF: Demonstrate reading comprehension of age and grade-appropriate texts by speaking or writing.
- 6.RC.6.RL: Determine how elements in the structure of a story, drama, or poem support the development of setting, plot, or theme.
- 6.RC.5.RL: Describe how a plot develops over the course of a text, including how the characters respond and/or change as the plot moves toward a resolution.
- 6.RC.6.RL: Determine how elements in the structure of a story, drama, or poem support the development of setting, plot, or theme.
- 6.RC.7.RL: Explain how an author develops the point of view and/or perspective of the narrator or speaker in a text.
- 6.RC.8.RL: Compare and contrast the experience of reading a text to listening to or watching an audio, video, or live version of the text. Compare and contrast what is imagined when reading a text and what is observed when listening and/or watching.
- 6.RC.11.RI: Describe how a central individual, event, or idea is introduced and developed in a text.
- 6.RC.14.RI: Examine a topic or issue in two or more multimedia formats (e.g., presentations, charts, images, audio).
- 6.RC.16.RI: Compare and contrast two authors' presentations of an event.
- 6.W.3.S: Write to express real or imagined experiences and/or events.
- Use relevant descriptive details.
 - Organize well-structured event sequences.
 - Use narrative techniques (e.g., dialogue, sequencing, description, characterization).
- 6.W.4.P: Choose precise words, phrases, and relevant details to accurately convey experiences, events, and/or information.
- 6.W.6.P: Use a variety of sentence types (i.e., simple, compound, complex, compound-complex).
- 6.W.8.P: Construct clear and coherent writing in which the development, organization, and style are appropriate to the task, purpose, and audience.
- 6.V.1: Use general academic and content-specific words and phrases accurately.
- 6.V.5: Determine how word choice contributes to the meaning, style, and/or tone of a text.
- 6.CC.4.SLC: Build upon ideas in collaborative discussions, asking questions relevant to the topic, text, or issue.
- 6.CC.10.P: Sequence ideas logically.
- 6.CC.11.P: Use accurate descriptions, facts, and/or details to support central ideas and/or themes.
- 6.CC.12.P: Include multimedia and visuals to clarify information.
- 6.CC.13.P: Use eye contact, adequate volume, and clear pronunciation in consideration of the audience.
- 6.CC.14.P: Demonstrate command of standard English when indicated or appropriate.
- 6.L.10.C: Use knowledge of reading foundational skills, spelling patterns, and generalizations such as syllable patterns, ending rules, and meaningful word parts (i.e., morphology) to spell correctly.



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.

<p>Type of Ecosystem: _____</p> <p>What kinds of plants are there? _____</p> <p>_____</p> <p>What animals live there? _____</p> <p>_____</p> <p>Where do they find shelter? _____</p> <p>_____</p> <p>What is the weather like? _____</p> <p>_____</p> <p>How much rainfall does it receive? _____</p> <p>_____</p> <p>What kind of clothing might you take when you visit? _____</p> <p>_____</p> <p>What could change this ecosystem? _____</p> <p>_____</p>	<p>Type of Ecosystem: _____</p> <p>What kinds of plants are there? _____</p> <p>_____</p> <p>What animals live there? _____</p> <p>_____</p> <p>Where do they find shelter? _____</p> <p>_____</p> <p>What is the weather like? _____</p> <p>_____</p> <p>How much rainfall does it receive? _____</p> <p>_____</p> <p>What kind of clothing might you take when you visit? _____</p> <p>_____</p> <p>What could change this ecosystem? _____</p> <p>_____</p>
<p>Type of Ecosystem: _____</p> <p>What kinds of plants are there? _____</p> <p>_____</p> <p>What animals live there? _____</p> <p>_____</p> <p>Where do they find shelter? _____</p> <p>_____</p> <p>What is the weather like? _____</p> <p>_____</p> <p>How much rainfall does it receive? _____</p> <p>_____</p> <p>What kind of clothing might you take when you visit? _____</p> <p>_____</p> <p>What could change this ecosystem? _____</p> <p>_____</p>	<p>Type of Ecosystem: _____</p> <p>What kinds of plants are there? _____</p> <p>_____</p> <p>What animals live there? _____</p> <p>_____</p> <p>Where do they find shelter? _____</p> <p>_____</p> <p>What is the weather like? _____</p> <p>_____</p> <p>How much rainfall does it receive? _____</p> <p>_____</p> <p>What kind of clothing might you take when you visit? _____</p> <p>_____</p> <p>What could change this ecosystem? _____</p> <p>_____</p>



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. The Student Journal contains 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.

Connections to Arkansas State DOE Standards:

Storytelling and incorporating different media and disciplines.

- 3.CC.3.P:** Use relevant, descriptive details to orally report on a topic or text, tell a story, or recount an experience, speaking clearly at an understandable pace.
- 3.CC.4.P:** Use visual displays and/or audio appropriately to emphasize or enhance certain facts or details when presenting.
- 3.CC.5.P:** Speak audibly in collaborative communication and presentations.
- 4.CC.3.P:** Use relevant, descriptive details to orally report on a topic or text, tell a story, or recount an experience, speaking clearly at an understandable pace.
- 4.CC.4.P:** Use visual displays and/or audio appropriately to emphasize or enhance certain facts or details when presenting.
- 4.CC.5.P:** Speak audibly, using standard English as appropriate to the task and/or situation.
- 5.CC.3.P:** Use relevant, descriptive details to orally report on a topic or text, tell a story, or recount an experience, speaking clearly at an understandable pace.
- 5.CC.4.P:** Use visual displays and/or audio appropriately to emphasize or enhance certain facts or details when presenting.
- 5.CC.5.P:** Speak audibly, using standard English as appropriate to the task and/or situation
- 6.CC.10.P:** Sequence ideas logically.
- 6.CC.11.P:** Use accurate descriptions, facts, and/or details to support central ideas and/or themes.
- 6.CC.12.P:** Include multimedia and visuals to clarify information.

- 6.CC.13.P:** Use eye contact, adequate volume, and clear pronunciation in consideration of the audience.
- 6.CC.14.P:** Demonstrate command of standard English when indicated or appropriate.

Music Content: Connecting

- C.N.11:** Students will relate artistic ideas and works with societal, cultural, and historical context to deepen understanding. How do the other arts disciplines, contexts, and daily life inform creating, performing, and responding to music?

Visual Arts Content Standard 3-6 Grade

- CR.1.** Students will generate and conceptualize artistic ideas and work.
- CR.2.** Students will organize and develop artistic ideas and work.
- CR.3.** Students will refine and complete artistic work.
- PR.4.** Students will select, analyze, and interpret artistic work for presentation.
- PR.5.** Students will develop and refine artistic techniques and work for presentation.
- PR.6.** Students will convey meaning through the presentation of artistic work.
- CN.10.** Students will synthesize and relate knowledge and personal experiences to make art.
- CN.11.** Students will relate artistic ideas and works with societal, cultural, and historical context to deepen understanding.

Geography 3rd- 6th Grade

- G.1** Students will understand the purpose of geographic tools (e.g., maps, globes, charts, graphs) to understand, analyze, and explain human interaction with each other and with the environment. This includes the spatial characteristics and patterns of human settlement and connections between global regions.

TELL YOUR OWN STORY!

(Work in groups of 3 to 5 students to collaborate on writing your story.)

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. 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). Describe the characters on the back of the card and what time period they live(d). Come up with a musical theme or a sound to represent each character.

Plot: Create a timeline of main events in the story. Describe what motivates the character which influences these events.

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

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

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.

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.



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 The Flight of the Bumblebee Composer Rimsky-Korsakov
Grade Level/Discipline Grades 3-6 Mathematics

ESSENTIAL QUESTION: HOW IS MATH USED IN WRITING MUSIC?

Have students complete the Math Worksheet on page 30 which focuses on measurement, fractions and the four mathematical operations. The questions begin at a 3rd grade level and then become progressively more difficult. The exercise demonstrates the extensive use of math in musical composition.

Connections to Arkansas State DOE Standards:

Computation and Algebraic Reasoning

- 3.CAR.6 Solve real-world problems using multiplication and division within 100 involving equal groups, arrays, partitive and measurement division.
- 4.CAR.4 Use strategies based on place value, the properties of operations, and the relationship between multiplication and division to divide whole numbers with four-digits by one-digit divisors.
- 5.CAR.11 Solve real-world problems involving the division of unit fractions by whole numbers and whole numbers by unit fractions, using visual fraction models and equations.

Number and Place Value

- 3.NPV.3 Read and write whole numbers up to 10,000, using base ten numerals, word form, and a variety of expanded forms.
- 3.NPV.6 Identify fractions as parts of a whole and parts of a collection or set
- 3.NPV.11 Use number lines and visual models to recognize and generate equivalent fractions, explaining how they are equivalent in real-world and mathematical situations.
- 4.NPV.7F Decompose fractions, including fractions greater than one and mixed numbers, into unit fractions, using concrete models, drawings, and/or the number line.

Geometry and Measurement

- 3.GM.10 Tell and write time to the nearest minute, using analog clocks.
- 4.GM.8 Convert measurements of length, weight/mass, and liquid volume within the same system of measurement, metric and customary, expressing measurements from a larger unit in terms of a smaller unit.

Proportional Relationships

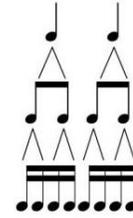
- 6.RP.3 Use precise ratio language and notation to describe a ratio as a relationship between two quantities.

Expressions

- 6.ALG.3 Write and evaluate expressions for given values of variables, using order of operations, including expressions with whole number exponents.

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*.

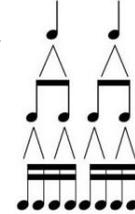
- a. About how many sixteenth notes are played each second? (10)
- b. How many full measures are played in 30 seconds? (about 37.5)
- c. If the conductor decided to play the piece slower and a sixteenth note lasted ¼ second throughout, how long would it take to play it? (3 minutes, 46 seconds) (113 measures 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

<p>EXPLORATION</p> <p>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</p>	<p>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</p>
<p>RIVERS</p> <p>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</p>	<p>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</p>
<p>MOUNTAINS</p> <p>Bradley, Catherine -- Life in the mountains Brimner, 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!</p>	<p>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</p>
<p>JUNGLES</p> <p>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</p>	<p>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</p>
<p>CELEBRATION</p> <p>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!</p>	<p>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</p>
<p>MUSIC</p> <p>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</p>	<p>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</p>

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.