



UNIT: EARTH'S CHANGING SURFACE
EXPLORING CONSTRUCTION AND DESTRUCTION THROUGH MUSIC
AND MOOD (Lesson 5 of 5)
Grade Band: 5, 6
Content Focus: Music & Science



LEARNING DESCRIPTION

Students will listen to a variety of musical compositions and identify the tone and mood. Students will analyze how musical sounds relate to constructive or destructive processes using a four or eight count beat. Then, students will create an original composition that demonstrates constructive and destructive forces.

LEARNING TARGETS

Essential Questions	"I Can" Statements
What are the constructive/destructive processes that shape the Earth's crust?	I can identify surface features caused by destructive and constructive processes.
How can I use music to model the impact of destructive processes on Earth's surface?	I can explain destructive and constructive processes shaping Earth's crust through music

GEORGIA STANDARDS

Curriculum Standards	Arts Standards
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Grade 5:

S5E1. Obtain, evaluate, and communicate information to identify surface features on the Earth caused by constructive and/or destructive processes.

- a. Construct an argument supported by scientific evidence to identify surface features (examples could include deltas, sand dunes, mountains, volcanoes) as being caused by constructive and/or destructive processes (examples could include deposition, weathering, erosion, and impact of organisms).
- b. Develop simple interactive models to collect data that illustrate how changes in surface features are/were caused by constructive and/or destructive processes.

Grade 5:

ESGM5.RE.1 Listen to, analyze, and describe music.

- a. Distinguish between repeating and contrasting sections, phrases, and formal structures (e.g. AB, ABA, verse/refrain, rondo, introduction, coda, theme/variations).
- b. Describe music using appropriate vocabulary (e.g. fortissimo/pianissimo, presto/largo/moderato/allegro/adagio, legato/staccato, major/minor), intervals (e.g. step, skip, repeat, leap), timbre adjectives (e.g. dark/bright), and texture (e.g. unison/harmony).

ESGM5.PR.2 Perform a varied repertoire of music on instruments, alone and with others. a. Perform rhythmic patterns with body percussion and a variety of instruments using appropriate technique.

SOUTH CAROLINA STANDARDS

Curriculum Standards

Grade 6:

6-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.

Arts Standards

Anchor Standard 6: I can analyze music.

Anchor Standard 4: I can play instruments alone and with others.

KEY VOCABULARY

Content Vocabulary

- Constructive force - A natural process that builds up the Earth's surface, creating new landforms and adding to existing ones
- Destructive force - A natural process that breaks down or wears away the Earth's surface, destroying or altering landforms
- Weathering - The breakdown of rocks into smaller fragments without changing their chemical composition; it can be caused by wind, rain, hail, snow, water
- Erosion - The natural process by which soil, rock, or other surface materials are worn away and

Arts Vocabulary

- Tempo - The speed of the beat
- Beat - The pulse underlying music
- Dynamics - Loud and soft sounds; volume
 - Crescendo - Get louder
 - Decrescendo - Get softer (synonymous with diminuendo)
- Form/Composition - The organization of a piece (how the music is put together)



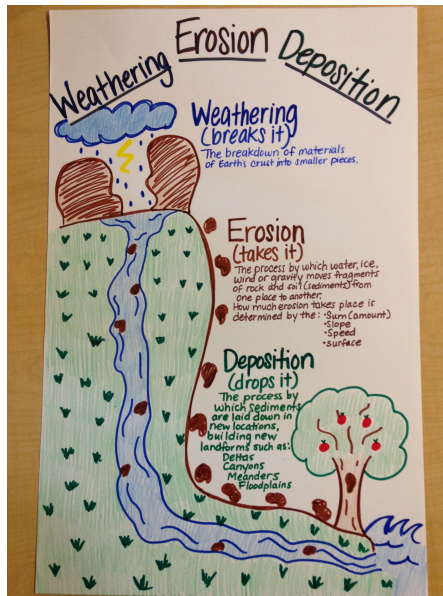
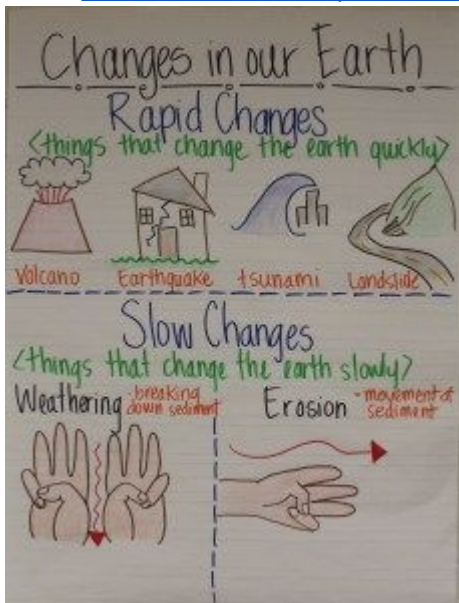
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transported from one location to another by agents such as water, wind, ice, or gravity

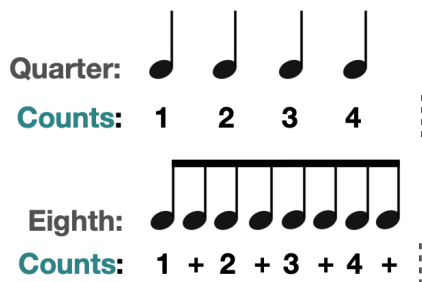
- Deposition - The geological process by which sediments, soil, and rocks that are transported by wind, water, ice, or gravity are dropped or settled in a new location

MATERIALS

- Gustav Holst's "Mars" from "The Planets"
- Earth science [video](#)
- Vocabulary posters: [Music](#)
- [Musical note cards \(one set, eight cards, per group\)](#)



- Musical note images:



<https://www.libertyparkmusic.com/how-to-count-8th-notes-and-16th-notes/>



- Cards for remediation:



- <https://www.incredibox.com/demo/> and <https://musiclab.chromeexperiments.com/Shared-Piano/#3u3j9FYWb> for acceleration

INSTRUCTIONAL DESIGN

Opening/Activating Strategy

In order to be successful in this unit students should be able to define constructive and destructive forces. Students should understand that landforms can change quickly or slowly over time. Students should be able to identify surface features caused by constructive and destructive forces.

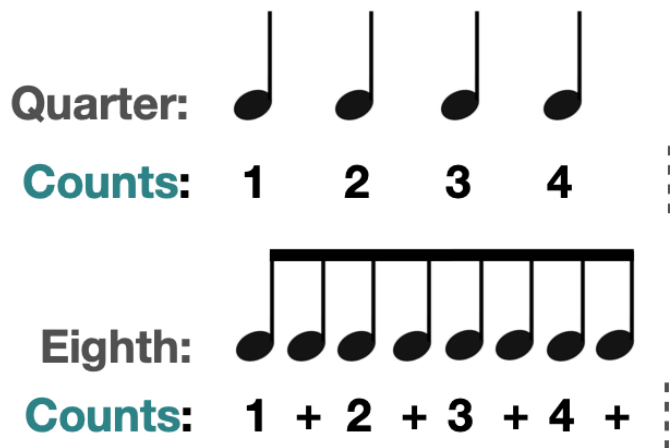
- The teacher will display the following picture with the class to open discussion. Students and teacher will use “Think-Pair-Share” strategy to discuss the following guided questions ([See/Think/Wonder Artful Thinking Routine](#)):
 - Have students silently observe the image.
 - Ask students:
 - What do you **see**?
 - What do you **think** caused this to happen?
 - What do you **wonder**? Do you think this happened quickly or slowly over time? Why?



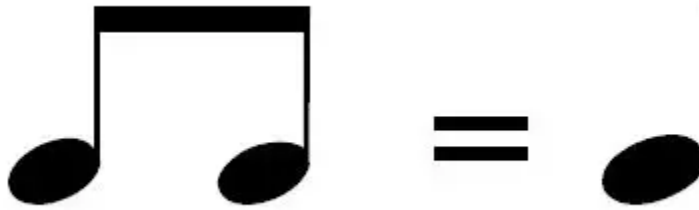
- The teacher will give a brief description (definition) of the difference between a constructive and destructive force.
- Students will listen to the teacher's definition and then identify from the picture, which geological process would this be identified as (constructive or deconstructive). Students will state the reason for their choice.
- Students will orally give their own definition of a constructive or destructive process to build their understanding.
- Students will then engage in a variation of the See/Think/Wonder strategy using Hear/Think/Wonder as they respond to a song.
 - Tell the students we will listen to a piece composed by Gustav Holst entitled, "[Mars](#)" from The Planet. Play the first 1:20 minutes.
 - First time: Hear—Ask students to just listen to the sample and reflect on how the example makes them feel. What emotions come up? What instruments/sounds did they hear? What was the tempo?
 - Second time: Think—Ask students to listen for structural clues. How do the sections/sounds relate to one another (or do they)? Are there musical/sound questions posed and answered? Are any sounds/music repeating? What would it look like if the sounds were captured on paper?
 - Third time: Wonder—Ask questions about context. The composer wrote this music to represent a specific environment. What do you think he was thinking of and why?

Work Session

- Review science and music vocabulary including tempo, beat, and dynamics.
- Demonstrate the difference between quarter notes and eighth notes using body percussion and/or instruments. An eighth note would be played faster and four count would be played slower changing the tempo of the piece.
 - Show students the following image for clarity.



- Lead students in an echoing exercise using body percussion.
 - Perform an eight count of claps (one eighth note per clap). Students echo.
 - Perform an eight count of snaps (one eighth note per snap). Students echo.
 - Perform an eight count of alternating claps and snaps (one eighth note per each). Students echo.
 - Now, slow the tempo down so that each clap is a quarter note (four claps total). Students echo.
 - Using quarter notes, alternate claps and stomps (clap-stomp-clap-stomp). Students echo.
- Next, add dynamics (how loud or soft a sound is).
 - Perform an eight count of claps (one eighth note per clap) starting loud and getting soft. This is called a decrescendo. Students echo.
 - Perform an eight count of alternating claps and stomps (one eighth note per each) starting soft and getting loud. This is called a crescendo. Students echo.
- Show a couple images of constructive and destructive forces.
 - Ask students whether they think this shows a process that happens quickly or slowly. Then ask students whether they would compose a body percussion piece with eighth notes or quarter notes. Would they use a combination (starting fast and gradually slowing down)?
 - Ask students what the volume would be. Would they use a crescendo or a decrescendo?
- Divide students into small groups. Tell students that they will compose a body percussion piece to demonstrate a constructive or destructive force.
- Assign groups a constructive or destructive force to show.
 - Students should consider what the force would sound like and choose body percussion based on that information.
 - Pass out [musical note cards](#) to students (one set per group—eight cards total). Students must use four cards total in their composition.
 - Ask students to think about how fast or slow the constructive or destructive force occurs. Does it slow down over time like a volcano? Or speed up?
 - Remind students that two eighth notes equals one quarter note.



- Students must decide the dynamics of their piece (how loud or soft) and if it should have a crescendo or decrescendo. Does the constructive or destructive force get louder or softer as it occurs?
- Both the dynamics and the choice of composition (eighth notes and quarter notes) should directly connect to the constructive or destructive force they are showing.
- Students will share their performance and receive peer feedback to improve their performance.
- Students will go back to make necessary changes to improve their performance.
- Allow time for students to rehearse.

Closing/Reflection

- Students will record finished performances using Flipgrid to later share with their peers. After performing, students should explain how they showed the constructive or destructive force through dynamics and tempo.
- Alternatively, students can present in person. The audience can then identify how the group showed their force through dynamics and tempo.

ASSESSMENTS

Formative

- Teacher will observe students' responses during See, Think, Wonder and Hear, Think, Wonder.
- Teacher will observe students' ability to distinguish between an eighth note and a quarter note.
- Teacher will check-in with students as they compose their pieces to determine if they understand the connection between musical concepts, such as dynamics and tempo, and their assigned constructive or destructive force.

Summative

- Students can create an original composition that demonstrates that they understand their assigned constructive or destructive force through their use of tempo and dynamics.
- Students can verbally explain their constructive or destructive force and how they used tempo and dynamics to communicate the force's process.

DIFFERENTIATION

Accelerated:

- Students will create their compositions using Music Lab: <https://musiclab.chromeexperiments.com/Shared-Piano/#3u3j9FYWb>
- Students can use Incredibox to compose their own representation of constructive/destructive forces <https://www.incredibox.com/demo/>



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Remedial:

- Students will use picture cards (see materials) to create their compositions. Students can sort the cards to represent the movement that would represent a constructive/destructive force of their choice.

ADDITIONAL RESOURCES**CREDITS**

U.S. Department of Education- STEM + the Art of Integrated Learning
Ideas contributed by: SAIL grant teacher leaders

**This integrated lesson provides differentiated ideas and activities for educators that are aligned to a sampling of standards. Standards referenced at the time of publishing may differ based on each state's adoption of new standards.*

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