

**Lesson Plan Title**

Nitty-gritty Movements: Capturing the Essence of Plate Boundaries

**Grade Level**

8th

**Subject Area**

Science

**MSCCRS**

E.8.9A.5- Use models that demonstrate convergent and divergent plate movements that are responsible for most landforms and the distribution of most rocks and minerals within Earth's crust.

**Conceptual Understanding:**

Earth systems and cycles are characterized by cause and effect relationships. All Earth processes are the result of energy flowing and matter cycling within and among the planet's systems. Landforms and water distribution result from constructive and destructive processes. Physical and chemical interactions among rocks, sediments, water, air, and organisms produce soil. Water's movements—both on the land and underground—cause weathering and erosion. Plate tectonics is the unifying theory that explains the past and current crustal movements at the surface. This theory provides a framework for understanding geological history. Mapping land and water patterns based on investigations of rocks and fossils can help forecast the proximity and probability of future events.

**Art Form**

Dance

**MSCCR Creative Arts Standards**

**DA:Cr1.1.8a-** Implement movement from a variety of stimuli (for example, music, observed dance, literary forms, notation, natural phenomena, personal experience/recall, current news or social events) to develop dance content for an original dance study or dance.

**Enduring Understanding:**

*Choreographers use a variety of sources as an inspiration and transform concepts and ideas into movement for artistic expression.*

**Essential Elements:**

*Where do choreographers get ideas for dances?*

**DA: Pr.4.1.8c-** Direct energy and dynamics in such a way that movement is textured. Incorporate energy and dynamics to technique exercises and dance performance. Use energy and dynamics to enhance and project movements.

**Enduring Understanding:**

*Space, time, and energy are basic elements of dance.*

**Essential Elements:**

*How do dancers work with space, time, and energy to communicate artistic expression?*

**Duration**

1 hour

**Materials**

- Your body
- A computer
- A projector
- Speakers
- Cha Cha side warm-up dance video - <https://youtu.be/l1gMUbEAUFw>
- Or the Cha Cha slide beat - <https://www.youtube.com/watch?v=EAI9weX-4uY>
- Another music option: <https://youtu.be/zN0A4ogh2Zw>
- Another music option: <https://youtu.be/3ssL8vx7Xhg>
- YouTuber, Sherrie Silver and Nike dance tutorial - <https://youtu.be/evIGS7I9nIk>
- “Urban Unrest,” <https://youtu.be/twwH-1Ao0dQ>
- Global Plate Tectonic Maps from on the University of Austin’s website: <http://www-udc.ig.utexas.edu/external/becker/mdata.html>
- Moo Moo Math and Science: Plate Boundaries-Divergent-Convergent-Transform <https://youtu.be/3ZpDjdFzQUM>

**Objectives**

1. TLs review the different plate boundaries.
2. TLs will create a rhythmic dance that demonstrates the different plate boundaries.

## Vocabulary

1. Convergent boundary
2. Divergent boundary
3. Transform boundary
4. Choreography
5. Elements of Dance: Space, Time, energy

## Lesson Description and Steps

1. TTW say “Dance can be used to share ideas and information. This piece, “Urban Unrest,” is performed by Boston Conservatory at Berklee dance students. The premiere of this work was performed at the Dance Division's fall 2016 concert, From the Ground Up. Choreography by visiting artist Tommie-Waheed Evans. Watch it and we will discuss it afterward.”  
<https://youtu.be/twwH-1Ao0dQ> [6 minutes, 18 seconds; the teacher may need to show only one minute or so of the performance.]

TTW ask “what do you think this piece is about?”

TLW respond.

TTW ask “what did you like about the choreography?”

TLW respond.

TTW ask “what did you dislike about the choreography?”

TLW respond.

2. TTW say, “Earth systems and cycles are characterized by cause and effect relationships. All Earth processes are the result of energy flowing and matter cycling within and among the planet’s systems. Landforms and water distribution result from constructive and destructive processes. Physical and chemical interactions among rocks, sediments, water, air, and organisms produce soil. Water’s movements—both on the land and underground—cause weathering and erosion. Plate tectonics is the unifying theory that explains the past and current crustal movements at the surface. This theory provides a framework for understanding geological history. Mapping land and water patterns based on investigations of rocks and fossils can help forecast the proximity and probability of future events.”
3. TTW continue, “Today, you are going to create a simple rhythmic dance that demonstrates how Earth's rigid lithosphere is broken up into plates or chunks that move slowly around the Earth. These plates are continuously being created and destroyed in an on-going process. As you learn about the different types of plate boundaries, layers of the Earth, how the Earth came to be in its present state, you will create choreography that creatively demonstrates what you know.”

4. TTW review the different types of boundaries using an anchor chart and this video: <https://youtu.be/3ZpDjdFzQUM>

TLW review the different types of boundaries (convergent, divergent, and transform) and give explanations about the characteristics of boundaries.

5. Next, TTW review some of the Global Plate Tectonic Maps from the University of Austin's website: <http://www-udc.ig.utexas.edu/external/becker/mdata.html>.

TLW ask questions and make observations as he/she views the maps.

6. TTW ask the learners to explain in their own words what each boundary means.

TLW respond with their own definitions.

7. TTW give students the opportunity to spread out and warm up their bodies with Sherrie Silver, a Nike dancer from Rwanda: <https://youtu.be/evIGS7I9nlk>.

8. TTW explain that TL will be creating a dance that demonstrates the different boundaries and the dance will need to follow along with the beat to the Cha-Cha slide/or other rhythmic music that is provided. TTW explain that there is repetition in the song; therefore, their dance must also repeat certain moves. TTW explain that the dance must have movements that are representative of each boundary. For example, if you are trying to display convergent boundaries then you must create a move that shows "togetherness" because convergent means coming together.

TLW listen to instructions for creating a dance that is demonstrative of the different boundary types and to the rhythm of the Cha-Cha slide/other rhythmic music that is provided.

9. TTW divide the class into groups of 4-5 and give them 25 mins to create and practice their dance. TTW will play music in a constant loop for students to rehearse or allow students to have a device to play the chosen music from. Students are more likely to stay focused on choreography and understanding these concepts if the teacher chooses the music.

TLW divide into groups and have 25 minutes to choreograph a dance prior to performing it for the class.

10. TTW set the tone for the student's performances. This is a time of sharing ideas and concepts. TTW will give students the order in which they will present and encourage them to give the performers their full attention.

TLs perform their dances. While they are audience members, they will practice being good audience members.

TTW ask, “*Where do choreographers get ideas for dances? Where did your ideas come from?*”

TLW respond.

TTW ask, “*How do dancers work with space, time, and energy to communicate artistic expression?*”

### **Recommended Resources**

N/A

### **Extended Learning Activities**

*\*check out Assessment Strategies.*

### **Sources**

N/A

### **Tips**

This is a review lesson; therefore, all science components have been taught prior to this lesson.

### **Assessment Strategies**

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|---------------------------|--|
| <i>Journal -</i>          | Allow students to write a personal response following their experience creating their piece.   |
| <i>Self- Reflection -</i> | Allow students the opportunity to respond and reflect on dance concepts and ideas that have been introduced. “I became more aware of...”   |
| <i>3-2-1 Strategy -</i>   | Students identify 3 things they discovered, 2 interesting things they noticed, and 1 question they still have.   |
| <i>Written Work -</i>     | <i>The teacher may consider</i> having a student take pictures when students are presenting their pieces. Next, have those pictures printed. The following week, allow students to write captions on their photos. |

### **Author**

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