



Unit Essential Questions

How can various forms of the arts be used to explore forces and motion?
How can we identify force and motion throughout everyday living?

UNIT DESCRIPTION

In this unit, students will obtain, evaluate, and communicate information to explain the effect of a force in the movement of an object. Students will use visual arts, music, and theater to investigate force and motion. There will also be an opportunity for cross curricular connections in the Social Studies classroom. Students will explore how famous historical figures used their own force to set change into motion. Students explore the literal force of their voices and the figurative voice by studying their words. This unit also invites students to participate in writing activities to synthesize their learning

PROJECTS

- Project 1: Painting to the Beat
- Project 2: Peace in Motion
- Project 3: Rolling into Art

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Units provide differentiated ideas and activities aligned to a sampling of standards.

The units do not necessarily imply mastery of standards, but are intended to inspire and equip educators.

Produced through the U.S. Department of Education: Arts in Education—Model Development and Dissemination Grants Program
Cherokee County (GA) School District and ArtsNow, Inc.

-UNIT OVERVIEW

Unit Description	Table of Contents
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UNIT ESSENTIAL QUESTIONS

- How can various forms of the arts be used to explore forces and motion?
- How can we identify force and motion throughout everyday living?

CROSS-CUTTING INTERDISCIPLINARY CONCEPT

Cause/Effect, Pattern, Repetition

REAL WORLD CONTEXT

Students can identify force and motion throughout everyday living by building a foundation for their understanding of systems and simple machines, which will be taught in future grade level standards. This project also has a real world connection to famous historical figures who used their voices to be a “force” of change.

PROJECT ESSENTIAL QUESTIONS

PROJECT 1: How could the force of applying paint to paper change when painting to different musical dynamics and tempos?

PROJECT 2: How did famous Georgians: Martin Luther King, Jackie Robinson, and Rosa Parks use their voice to show feeling through force?

- How did each civil rights leader use force in their voice to make a difference?
- How can I use a strong voice to perform my speech?

PROJECT 3: How does the size of the marble effect the speed of the marble through the paint and the thickness of the paint line when creating a painting?

STANDARDS

Curriculum Standards	Arts Standards
<p>S2P2. Obtain, evaluate, and communicate information to explain the effect of a force (a push or a pull) in the movement of an object (changes in speed and direction).</p> <p>a. Plan and carry out an investigation to demonstrate how pushing and pulling on an object affects the motion of the object.</p> <p>b. Design a device to change the speed or direction of an object.</p> <p>c. Record and analyze data to decide if a design solution works as intended to change the speed or direction of an object with a force (a push or a pull).</p> <ul style="list-style-type: none"> • ELAGSE2RL3: Describe how characters in a story respond to major events and challenges • ELAGSE2W2: Write informative/explanatory in which they introduce a topic, use facts and definitions to develop points and provide a concluding statement or section. • ELAGSE2W8: Recall information from experiences or gather information from provided sources to answer a question. 	<p>VA2MC.2 Formulates personal responses.</p> <p>a. Produces multiple interpretations for an object or image.</p> <p>VA2CU.2 Views and discusses selected artworks.</p> <p>VA2PR.1 Creates artworks based on personal experience and selected themes.</p> <p>b. Creates artworks emphasizing one or more elements of art (e.g., space, line, shape, form, color, value, texture) and principles of design (e.g., balance, repetition).</p> <p>c. Combines materials in new and inventive ways to make a finished work of art.</p> <p>VA2PR.2 Understands and applies media, techniques, and processes of two-dimensional art processes (drawing, painting, printmaking, mixed-media) using tools and materials in a safe and appropriate manner to develop skills.</p> <p>c. Creates paintings with a variety of media (e.g., tempera, watercolor).</p> <p>VA2PR.4 Participates in appropriate exhibition(s) of artworks.</p> <p>a. Writes a title that describes his or her finished work of art.</p> <p>b. Writes an artist's statement by reflecting on finished artwork.</p> <p>VA2AR.1 Discusses his or her artwork and the artwork of others.</p> <p>MGGM.6 Listening to, analyzing, and describing music</p> <p>TAES2.3 Acting by developing, communicating and sustaining roles within a variety of situations and environments</p> <p>a. Communicates a characters actions, motives, emotions and traits, through voice, speech, and language</p> <p>b. Communicates a characters though,</p>

	emotions and actions through movements
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MATERIALS TO BE PURCHASED FOR UNIT

- Book: *Action Jackson* (1 per classroom)
- Tempera Paints (1 set per class)
- White Sheets (5 per classroom)
- Water Balloons (Red, Yellow, Blue, Green) 2 sets of 500 per school
- Bean bags (2 sets per class)
- Construction Paper (1 pack per class)
- White Fabric Sheets (5 per class)
- *Who is Jackie Robinson?* (1 book per class)
- *Who was Martin Luther King?* (1 book per class)
- *We March* (1 book per class)

ASSESSMENTS**Summative Assessments**

- Pre/ Post Test
- Project 1 Rubric (Painting to the Beat)
- Project 2 Rubric (Peace in Motion)
- Project 3 Rubric (Rolling into Art)

CHARACTER EDUCATION COMPONENTS**CHARACTER ATTRIBUTES ADDRESSED DURING UNIT**

Pair with a 4th grade Science class to assist in the real world application of forces and motion.

PARTNERING WITH FINE ARTS TEACHERS

Music Teacher:

- The music teacher can assist in teaching of music terminology for Project 1.

Visual Arts Teacher:

- The visual arts teacher can assist in teaching of art vocabulary for Project 1 and 3.

Physical Education Teacher:

- The physical education teacher can assist in the teaching of throwing objects with and without force in Project 1.

APPENDIX

- Pretest

ADDITIONAL RESOURCES**WEBSITES:**

<https://musiclab.chromeexperiments.com/Spectrogram>

<https://www.moma.org/multimedia/video/123/687>

https://www.ducksters.com/history/civil_rights/ruby_bridges.php

<https://www.pebblego.com/>

<https://jr.brainpop.com/>

VIRTUAL FIELDTRIPS: <http://www.thekingcenter.org/event/students-king-nonviolence365-youth-initiative>

Second Grade Pre and Post Test

Force and Motion

Name: _____ Date: _____

1. Circle the correct answer:

Which force is used in the picture below?



- a. Push
- b. Pull
- c. Both Push and Pull
- d. Gravity

2. Circle the correct answer:

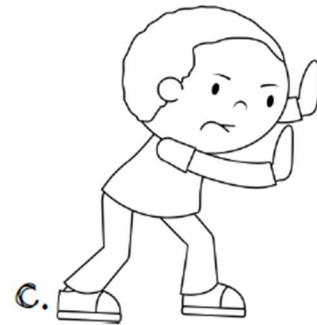
Which force is used to move the object below?



- a). Push
- b). Pull
- c). Both Push and Pull
- d). Friction

3. Circle the correct answer for the question below.

Which picture best shows a push?



energy

force

gravity

4. Fill in the blank: A push or a pull is a _____.

5. Fill in the blank: _____ is the ability of matter to move or change.

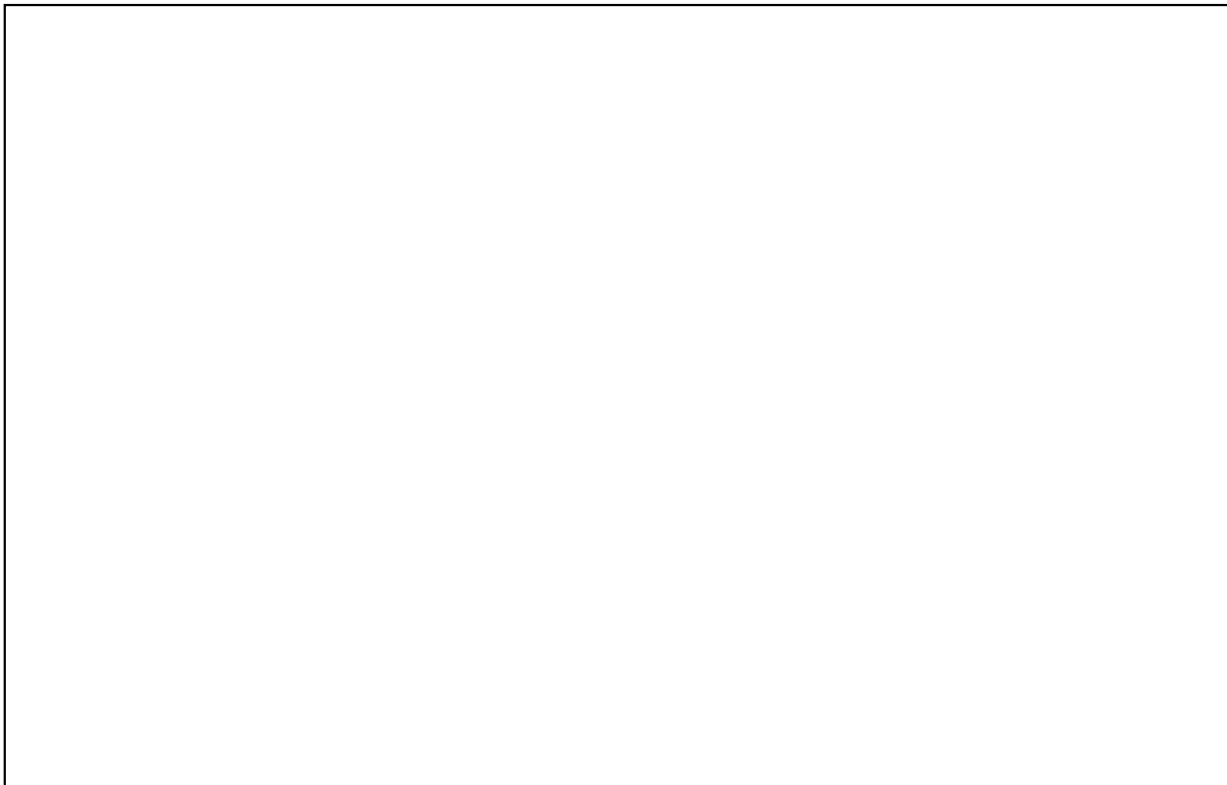
6. Fill in the blank: _____ is the force that holds things down.

7. Sam and Bob have a ball and a book that they plan to push across the table. Sam thinks they will move the same way. Bob thinks they will move differently. Who is right? Explain how you know.

8. Circle True or False: Friction is a force that makes an object speed up when it rubs against another object.

9. Circle True or False: A force is a push or a pull that changes the position of an object.

10. Imagine you are outside on the playground. Illustrate (draw) a picture demonstrating either a push or a pull. Explain why this is a push or a pull.



This is a _____ because _____



Unit Essential Question

How could the force of applying paint to paper change when painting to different musical dynamics and tempos?

PROJECT DESCRIPTION

Who doesn't love creating an abstract painting using water balloons and all while simultaneously learning about the science topic: forces and motion? In this project, students will immerse in a visual arts activity that explores force and motion. This will be done by using dynamics and tempo to create some messy wild art. This project may be messy, but it will create a clear connection between visual art, music and the science topic: forces and motion!

LEARNING TARGETS

"I Can..."

- Use the visual arts to express different forces and motion
- Use the visual arts to express dynamics and tempos of music
- Synthesize my understanding of forces and motion using a digital reflection

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Units provide differentiated ideas and activities aligned to a sampling of standards.

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Produced through the U.S. Department of Education: Arts in Education—Model Development and Dissemination Grants Program
Cherokee County (GA) School District and ArtsNow, Inc.

Approx. Duration of Project: 30 -45 minutes each day for 3 days

Project Description	Learning Targets
<p>Who doesn't love creating an abstract painting using water balloons and all while simultaneously learning about the science topic: forces and motion? In this project, students will immerse in a visual arts activity that explores force and motion. This will be done by using dynamics and tempo to create some messy wild art. This project may be messy but it will create a clear connection between visual art, music and the science topic: forces and motion!</p>	<p>"I Can...":</p> <ul style="list-style-type: none"> ● Use the visual arts to express different forces and motion ● Use the visual arts to express dynamics and tempos of music ● Synthesize my understanding of forces and motion using a digital reflection

ESSENTIAL QUESTION

<ul style="list-style-type: none"> • How could the force of applying paint to paper change when painting to different musical dynamics and tempos?

STANDARDS

Curriculum Standards	Arts Standards
<p>S2P2. Obtain, evaluate, and communicate information to explain the effect of a force (a push or a pull) in the movement of an object (changes in speed and direction).</p> <p>a. Plan and carry out an investigation to demonstrate how pushing and pulling on an object affects the motion of the object.</p> <p>b. Design a device to change the speed or direction of an object.</p> <p>c. Record and analyze data to decide if a design solution works as intended to change the speed or direction of an object with a force (a push or a pull).</p> <ul style="list-style-type: none"> • ELAGSE2W2: Write informative/explanatory in which they introduce a topic, use facts and definitions to develop points and provide a concluding statement or section. 	<p>VA2PR.2 Understands and applies media, techniques, and processes of two-dimensional art processes (drawing, painting, printmaking, mixed-media) using tools and materials in a safe and appropriate manner to develop skills.</p> <p>c. Creates paintings with a variety of media (e.g., tempera, watercolor).</p> <p>VA2PR.4 Participates in appropriate exhibition(s) of artworks.</p> <p>a. Writes a title that describes his or her finished work of art.</p> <p>b. Writes an artist's statement by reflecting on finished artwork.</p> <p>VA2AR.1 Discusses his or her artwork and the artwork of others.</p> <p>MGGM.6 Listening to, analyzing, and describing music</p>

KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
<ul style="list-style-type: none"> ● Force ● Motion ● Push ● Pull 	<ul style="list-style-type: none"> ● Beat: pulse underlying music ● Tempo: speed of the beat ● Dynamics: loud/soft volume ● Color: an element of art with three properties, hue, intensity, and value ● Visual Rhythm: indicates a type of movement by repeated shapes, lines, or colors ● Musical Rhythm: pattern of long and short sounds ● Media: tools and materials an artist uses

TECHNOLOGY INTEGRATION

- <https://www.youtube.com/watch?v=H62BRsqEruE>- Kandinsky Music Video
- <https://musiclab.chromeexperiments.com/Spectrogram>- Use this link to show how sound waves are represented visually
- https://www.youtube.com/watch?reload=9&v=Jl4FPk_-hk8
(Video Explanation of water balloon painting)

ASSESSMENTS

Formative	Summative
<ul style="list-style-type: none"> ● Teacher will observe the students as they use force and motion to create a visual art piece ● Teacher will observe the students during the reflection process ● Teacher will observe the students as they create their video reflection 	<ul style="list-style-type: none"> ● Project 1 Rubric (See Download)

MATERIALS

Book: Action Jackson (1 per classroom): https://www.amazon.com/Action-Jackson-Jan-Greenberg/dp/0312367511/ref=sr_1_1?ie=UTF8&qid=1496409725&sr=8-1&keywords=jackson+pollock+kids+book

Tempera Paints (1 set of 5 per class):
https://store.schoolspecialty.com/OA_HTML/ibeCCTpltmDspRte.jsp?minisite=10206&item=2993874

White Sheets (5 per classroom): https://www.amazon.com/Utopia-Bedding-Brushed-Microfiber-Sheet/dp/B00XK9CQ6E/ref=sr_1_9?s=home-garden&ie=UTF8&qid=1496412127&sr=1-9&keywords=white+sheets

Water Balloons (Red, Yellow, Blue, Green, Orange, Purple) 1 pack of 500 per grade level:
https://www.amazon.com/Water-Balloons-Assorted-Colors-include/dp/B01HBY7IZC/ref=sr_1_19?s=toys-and-games&ie=UTF8&qid=1496412524&sr=119&keywords=water+balloons

Bean Bags (2 sets per class):
https://store.schoolspecialty.com/OA_HTML/ibeCCTpltmDspRte.jsp?minisite=10206&item=87644

Plain White Construction Paper:
https://store.schoolspecialty.com/OA_HTML/ibeCCTpltmDspRte.jsp?minisite=10206&item=3467060

Activating Strategy (5- 10 min)

- The teacher will read *Action Jackson* by Jan Greenberg and Sandra Jordan to introduce Jackson Pollock and his art techniques.
- The teacher will show the Kandinsky music video (<https://www.youtube.com/watch?v=H62BRsqEruE>).
- Then as a class, experiment with the Spectrogram website: (<https://musiclab.chromeexperiments.com/Spectrogram>) to show how different dynamics and tempos can be represented visually.

Main Activity

PROCESS:

- After reading *Action Jackson*, announce to the students that they will create a visual art piece representing different dynamics and tempos in music using balloons filled with slightly watered down paint.
- **Communication Assessment:** Students will reflect/ explain how the force of their throw determined the speed and direction of the splattered paint. The teacher may choose the appropriate technology for the video reflection according to school availability (Chatter-pix, Office-Mix, Sway, etc).

PART 1

- In groups of 4-5, the students will assign a value to each color (red, yellow, green, blue, orange,

Project 1 of 3

Approx. Duration of Project: 30 -45 minutes each day for 3 days

and purple) based on the dynamics (soft, loud) and tempo (fast, medium, slow) of the music piece they are creating. Each group will include at least three of the choices (soft, loud, fast, medium, and/or slow).

- The students will make inferences about force and motion. They will do this by predicting how the transfer the music creation onto the construction paper would look using crayons corresponding to the colors of the beat they chose.
- Then using the colored beanbags and throwing them against a white sheet based on the dynamics and beats assigned, the students will rehearse. Their throwing of the beanbags should be rehearsed with the music piece selected. The force and motion of how they throw the beanbags should correspond with the musical dynamic or tempo assigned.

PART 2

- Then the students will create their own masterpiece on a white fabric sheet using the paint filled water balloons following the music piece on construction paper. Remind students to throw the water balloons as they rehearsed them with the bean bags the previous day. Refer to the video: https://www.youtube.com/watch?reload=9&v=JI4FPk_-hk8 . This video will help explain how this painting activity can be set up.

PART 3

- Students will reflect/ explain how the force of their throw determined the speed and direction of the splattered paint. The teacher may choose the appropriate technology according to school availability (Chatter-pix, Office-Mix, Sway, etc). Students will capture a digital reflection of students' explanation of how the music and paint water balloons correlate with the concept of force and motion.

Classroom Tips:

The teacher will put the students in heterogeneous groups of 4 to 5 before Part 1.

Students will perform paint balloon activity outdoors.

Instruct students to wear clothing they can get messy. (Have Smocks or old t-shirts available).

Students can take their shoes off if needed for this activity.

REFLECTION**Reflection Questions**

- *How did you choose colors to represent differing music dynamics (loud and soft)?*
- *How does the speed of your throw relate to music tempo (fast, slow, medium)?*
- *How does force of the throw change the look of the splattered paint?*

DIFFERENTIATION

BELOW GRADE LEVEL: The teacher will provide a graphic organizer for color coordination regarding beat and tempo. The teacher will provide a sentence frame for students that are below grade level or ELL students.

ABOVE GRADE LEVEL: Create a musical composition using Quaver or other musical website.

Project 1 of 3

Approx. Duration of Project: 30 -45 minutes each day for 3 days

Students may also research Jackson Pollock and Kandinsky using materials from the library and various websites.

EL STUDENTS: Provide a word bank for written reflection
Small Group for the written reflection

ADDITIONAL RESOURCES

- iPads
- Computers
- Quaver
- Chatterpix
- Office 365




APPENDIX

- Project 1 Rubric




CREDITS

U.S. Department of Education
Arts in Education--Model Development and Dissemination Grants Program
Cherokee County (GA) School District and ArtsNow, Inc.
Ideas contributed and edited by:
Lisa Keasler, Tammy Owen, Edited by Jessica Espinoza, Edited by Dr. Carla Cohen

**Painting to the Beat
Project 1**

Checklist			
Appropriate use of art materials	I used my art materials appropriately.	I sometimes used my art materials appropriately.	I did not use my art materials appropriately.
Science Connection: Force & Motion	Student can accurately verbalize (or write) why certain tempo-assigned colors created the most force.	Student can somewhat verbalize (or write) why certain tempo-assigned colors created the most force.	Students can not verbalize (or write) why certain tempo-assigned colors created the most force.
Student Critique of Artwork	Student participated in a fully developed oral/written critique of their artwork.	Student participated in a somewhat developed oral/written critique of their artwork.	Student did not participate in an oral/written critique of their artwork.
Students participated in a video reflection of their artwork explaining the meanings of the force of the splatters.	Student created a video reflection loudly and clearly explaining how the force and motion was impacted by the music. Student then expressed the cause and effect of the paint splatters.	Student created a video reflection using a somewhat loud voice and explaining some of how the force and motion was impacted by the music.	Student created a video reflection with minimal explanation of how the force and motion was impacted by the music. Student struggled to explain the cause and effect of the paint splatters.

**Painting to the Beat
Project 1**

Checklist			
Appropriate use of art materials	I used my art materials appropriately.	I sometimes used my art materials appropriately.	I did not use my art materials appropriately.
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Unit Essential Questions

How did famous Georgians: Martin Luther King, Jackie Robinson, and Rosa Parks use their voice to show feeling through force?

How did each civil rights leader use force in their voice to make a difference?

How can I use a strong voice to perform my speech?

PROJECT DESCRIPTION

Students explore the impact of leaders in history by examining their voices and the force behind them. In this project, students will research important Georgia Leaders to discover how they used force in their actions and voices to make a difference in the world. This project uniquely fuses together concepts in social studies as well as science and this project also integrates high yield ELA writing strategies. Students will have the opportunity to explore their own vocal force by practicing public speaking and presenting their speeches to an audience.

LEARNING TARGETS

“I Can...”

- Explain how important leaders in Georgia history used force to make changes that affected the world
- Use digital resources to research important Civil Rights Leaders

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Units provide differentiated ideas and activities aligned to a sampling of standards.

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ESSENTIAL QUESTIONS

<ul style="list-style-type: none"> • How did famous Georgians: Martin Luther King, Jackie Robinson, and Rosa Parks use their voice to show feeling through force? • How did each civil rights leader use force in their voice to make a difference? • How can I use a strong voice to perform my speech?

STANDARDS

Curriculum Standards	Arts Standards
<p>SS2H1 The student will read about and describe the lives of historical figures in Georgia history.</p> <p>a. Identify the contributions made by these historic figures: Jackie Robinson (sports) and Martin Luther King, Jr. (civil rights).</p> <ul style="list-style-type: none"> • ELAGSE2RL3: Describe how characters in a story respond to major events and challenges • ELAGSE2W2: Write informative/explanatory in which they introduce a topic, use facts and definitions to develop points and provide a concluding statement or section. • ELAGSE2W7: Participate in shared research and writing projects. • ELAGSE2W8: Recall information from experiences or gather information from provided sources to answer a question 	<p>TAES2.3 Acting by developing, communicating and sustaining roles within a variety of situations and environments</p> <ul style="list-style-type: none"> • Communicates a characters actions, motives, emotions and traits, through voice, speech, and language • Communicates a characters though, emotions and actions through movements

KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
<ul style="list-style-type: none"> • Force • Motion • Civil Rights • Freedom 	<ul style="list-style-type: none"> • Character: an actor or actress in a specified role • Diction: using a clear and crisp actor voice that can be understood • Gesture: an expressive movement of the body or limbs • Facial Expression: using your face to show emotion • Projection: using a “big” actor voice so that you can be heard in the very back row a space

TECHNOLOGY INTEGRATION

<ul style="list-style-type: none"> • When students conduct their research, www.pebblego.com is a great resource for the biographies of MLK Jr., Jackie Robinson, and Ruby Bridges <p>Educational Videos on MLK:</p> <ul style="list-style-type: none"> • https://www.youtube.com/watch?v=ALQeX7IFBcg • https://jr.brainpop.com/socialstudies/biographies/martinlutherkingjr/ • https://www.history.com/topics/black-history/martin-luther-king-jr/videos/king-leads-the-march-on-washington?m=528e394da93ae&s=undefined&f=1&free=false <p>Educational Videos on Jackie Robinson:</p> <ul style="list-style-type: none"> • https://www.youtube.com/watch?v=ZMG6cOKSORU • https://www.c-span.org/video/?c4584841/jackie-robinson-civil-rights-movement • https://video.search.yahoo.com/yhs/search?fr=yhs-iry-fullyhosted_003&hsimp=yhs-fullyhosted_003&hspart=iry&p=jackie+Robinson+civil+rights+video#id=5&vid=f463f303d626be3df4a151c71fa9b890&action=view <p>Educational Resources on Ruby Bridges:</p> <ul style="list-style-type: none"> • https://www.kidzworld.com/article/23033-ruby-bridges-bio • https://www.ducksters.com/history/civil_rights/ruby_bridges.php

ASSESSMENTS

Formative	Summative
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Project 2 of 3

Approx. Duration of Project: 30 -45 minutes

<ul style="list-style-type: none"> • Teacher will observe students working and check in routinely with the small groups • Teacher will monitor and provide feedback to students on their writings 	<ul style="list-style-type: none"> • Student writing • Project 2 Rubric (See Downloads)
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MATERIALS

<ul style="list-style-type: none"> • We March by Shane Evans https://www.amazon.com/We-March-Shane-W-Evans/dp/1250073251/ref=sr_1_1?ie=UTF8&qid=1496496577&sr=8-1&keywords=we+march • Freedom on the Menu by Carole Boston Weatherford https://www.amazon.com/Freedom-Menu-Carole-Boston-Weatherford/dp/0142408948/ref=sr_1_1?ie=UTF8&qid=1496496710&sr=8-1&keywords=Freedom+on+the+menu • I am Martin Luther King Jr. by Brad Meltzer https://www.amazon.com/Martin-Luther-Ordinary-People-Change/dp/0525428526/ref=sr_1_1?ie=UTF8&qid=1496496820&sr=8-1&keywords=I+am+Martin+Luther+King+jr. • I am Jackie Robinson by Brad Meltzer https://www.amazon.com/Jackie-Robinson-Ordinary-People-Change/dp/0803740867/ref=sr_1_1?ie=UTF8&qid=1496496879&sr=8-1&keywords=I+am+Jackie+Robinson
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Activating Strategy (5- 10 min)

- Teacher will show video of Martin Luther King Jr. "I Have a Dream Speech."
(<https://www.youtube.com/watch?v=smEqnklfYs>)

After showing the video of Martin Luther King Jr. "I Have a Dream Speech", the students will answer questions based on prior knowledge:

- *What did you notice about Martin Luther King's gestures in his speech?*
- *How did Martin Luther King use force (expression/volume) in his voice?*
- *Describe the changes in Martin Luther King's facial expressions throughout the speech?*

Main Activity

PROCESS:**PART 1:**

- Teacher will review key excerpts from research, select books and resources to discuss our background knowledge of these key Civil Rights Leaders: Martin Luther King Jr, Jackie Robinson, and Ruby Bridges.
- On chart paper, students will make a list of how each Civil Rights leader used forces in their actions and voices to make a difference in the world.

PART 2:

- The students will then write a persuasive speech to show a real world problem faced in school today and present the solution to the problem by stating at least three strong supporting reasons.

Examples (not limited to these):

- No homework/too much homework
 - Need more recess time
 - More fruits and vegetables in children's diets
- After students write their speech, they will use a strong voice to perform the speech they wrote.

Part 3:

- The teacher will discuss important theatre components that will help make the speech theatrical: gestures, expression, character, and projection. Students will then practice their speech applying these components.
- Pair students up to practice for their partner and provide peer feedback to one another
- Once the speeches have been well-rehearsed, schedule a time for students to present them for an audience. This can be another classroom or an event where parents are invited to attend.

Classroom Tips:

The teacher will create a schedule of student performances prior to Part 3 in project. Consider putting a time limit on the speeches so they can all be performed in a timely manner.

REFLECTION**Reflection Questions**

- *How did Martin Luther King Jr. use his voice to show feeling through force?*
- *How did Jackie Robinson use his voice to show feeling through force?*
- *How did Ruby Bridges use her voice to show feeling through force?*
- *How did each civil rights leader use force in their voice to make a difference?*
- *How can I use a strong voice to perform my speech?*
- *How did my knowledge of force and motion help me to perform my speech?*

Project 2 of 3

Approx. Duration of Project: 30 -45 minutes

DIFFERENTIATION

BELOW GRADE LEVEL: Pair below grade level students with a higher level student to assist with research. Provide leveled informational biography books for each student to conduct their research which include pictures, graphics, and other visual support. Students may need more assistance with the completion of their persuasive speech. Students can also use a word bank to assist with the completion of the persuasive speech.

ABOVE GRADE LEVEL: Encourage these students to make a Sway or PowerPoint presentation on what they learned.

EL STUDENTS: Provide a word bank to help with the completion of the persuasive speech.

ADDITIONAL RESOURCES

- Virtual field trip to the King Center <http://www.thekingcenter.org/event/students-king-nonviolence365-youth-initiative>




APPENDIX

- Project 2 Rubric




CREDITS

U.S. Department of Education
Arts in Education--Model Development and Dissemination Grants Program
Cherokee County (GA) School District and ArtsNow, Inc.
Ideas contributed and edited by:
Lisa Keasler, Tammy Owen, Edited by Jessica Espinoza, Edited by Dr. Carla Cohen

**Peace in Motion
Project 2**

Checklist			
Teacher observed appropriate voice levels.	I used my voice appropriately. I spoke in a loud and clear manner.	I sometimes used my voice appropriately. I was sometimes loud and clear.	I did not use my voice appropriately. My words were not understood
Student used effective theatre components when performing the speech.	I always used effective theatre components when performing the speech: gesture, expression and projection.	I sometimes used effective theatre components when performing the speech: gesture, expression and projection.	I never used effective theatre components when performing the speech: gesture, expression and projection.
Students can state three sound reasons to support their opinion in their writing.	In my writing I stated three reasons and fully supported my opinion in my speech.	In my writing I stated at least two reasons that supported my opinion in my speech.	In my writing I stated one or less reason that supported my opinion in my speech.
Student can communicate his/ her thoughts, emotions, and actions through persuasive writing.	I am able to clearly express my thoughts, emotions, and actions through my writing.	I can sometimes explain a character's thought, emotions, and actions through writing.	I am unable to explain a character's thought, emotions, and actions through writing.

**Peace in Motion
Project 2**

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Unit Essential Question

How does the size of the marble effect the speed of the marble through the paint and the thickness of the paint line when creating a painting?

PROJECT DESCRIPTION

In this project, students will use force and motion to create a visual art piece using marbles and paint. The students will investigate how the size of marbles will affect the speed of the marbles when rolled through paint. The students will then compare and contrast their artwork to the work of Jackson Pollock.

LEARNING TARGETS

“I Can...”

- Create an art piece using different media and force
- Can reflect on my art piece and how it relates to force and motion
- Compare and contrast my artwork to the work of

www.artsnowlearning.org

Units provide differentiated ideas and activities aligned to a sampling of standards.

The units do not necessarily imply mastery of standards, but are intended to inspire and equip educators.

Produced through the U.S. Department of Education: Arts in Education—Model Development and Dissemination Grants Program
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Project Description	Learning Targets
<p>In this project, students will use force and motion to create a visual art piece using marbles and paint. The students will investigate how the size of marbles will affect the speed of the marbles when rolled through paint. The students will then compare and contrast their artwork to the work of Jackson Pollock.</p>	<p>“I Can”:</p> <ul style="list-style-type: none"> ● Create an art piece using different media and force ● Can reflect on my art piece and how it relates to force and motion ● Compare and contrast my artwork to the work of Jackson Pollock

ESSENTIAL QUESTIONS

<ul style="list-style-type: none"> • How does the size of the marble effect the speed of the marble through the paint and the thickness of the paint line when creating a painting?
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STANDARDS

Curriculum Standards	Arts Standards
<p>S2P2. Obtain, evaluate, and communicate information to explain the effect of a force (a push or a pull) in the movement of an object (changes in speed and direction).</p> <p>a. Plan and carry out an investigation to demonstrate how pushing and pulling on an object affects the motion of the object.</p> <p>b. Design a device to change the speed or direction of an object.</p> <p>c. Record and analyze data to decide if a design solution works as intended to change the speed or direction of an object with a force (a push or a pull).</p> <ul style="list-style-type: none"> • ELAGSE2W2: Write informative/explanatory in which they introduce a topic, use facts and definitions to develop points and provide a concluding statement or section. 	<p>VA2MC.2 Formulates personal responses.</p> <p>a. Produces multiple interpretations for an object or image.</p> <p>VA2PR.1 Creates artworks based on personal experience and selected themes.</p> <p>b. Creates artworks emphasizing one or more elements of art (e.g., space, line, shape, form, color, value, texture) and principles of design (e.g., balance, repetition).</p> <p>c. Combines materials in new and inventive ways to make a finished work of art.</p> <p>VA2PR.2 Understands and applies media, techniques, and processes of two-dimensional art processes (drawing, painting, printmaking, mixed-media) using tools and materials in a safe and appropriate manner to develop skills.</p> <p>c. Creates paintings with a variety of media (e.g., tempera, watercolor).</p> <p>VA2PR.4 Participates in appropriate exhibition(s) of artworks.</p> <p>a. Writes a title that describes his or her finished work of art.</p> <p>b. Writes an artist’s statement by reflecting on finished artwork.</p>

	VA2AR.1 Discusses his or her artwork and the artwork of others.
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KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
<ul style="list-style-type: none"> • Force • Speed • Motion • Push • Pull • Investigation 	<ul style="list-style-type: none"> • Jackson Pollock: an American painter and a major figure in the abstract expressionist movement • Color: an element of art with three properties, hue, intensity, and value • Primary Colors: any of a group of colors from which all other colors can be obtained by mixing, including red, yellow and blue • Secondary Colors: a color resulting from mixing two primary colors together • Media: tools and materials an artist uses • Proportion: gives a sense of size seen as a relationship of objects, such as smallness or largeness • Line: an element of art which refers to the continuous mark made on some surface by a moving point • Shape: an enclosed space defined by other elements of art

TECHNOLOGY INTEGRATION

<ul style="list-style-type: none"> • Museum of Modern Art: Jackson Pollock https://www.moma.org/multimedia/video/123/687 • Ramps 1: Let it Roll! AAAS- Science Netlinks http://sciencenetlinks.com/lessons/ramps-1-let-it-roll/

ASSESSMENTS

Formative	Summative
<ul style="list-style-type: none"> • Teacher will observe the students for the understanding of forces and motion. • Teacher will observe the students 	<ul style="list-style-type: none"> • Teacher will use the rubric provided to assess student on science content, art process, and final product.

Project 3 of 3

Approx. Duration of Project: 30 -45 minutes

<p>as they use forces and motion to create a visual art piece in the style of Jackson Pollock.</p> <ul style="list-style-type: none"> • Teacher will observe the students during the reflection process. • Teacher will observe the students as they create their written reflection. 	
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MATERIALS

<ul style="list-style-type: none"> • Book: "Action Jackson" by Jan Greenberg and Sandra Jordan (1 per classroom) https://www.amazon.com/Action-Jackson-Jan-Greenberg/dp/0312367511/ref=sr_1_1?ie=UTF8&qid=1496409725&sr=8-1&keywords=jackson+pollock+kids+book • Tempera Paints (1 set of 5 per class) https://store.schoolspecialty.com/OA_HTML/ibeCCTpltmDspRte.jsp?minisite=10206&item=2993874 • Copy Paper Box Lids • Plain White Construction/ Art Paper (Size 9 X 12) • Different Size Marbles https://www.amazon.com/Marbles-Players-Shooters-Assorted-Colors/dp/B0186TVG4U/ref=sr_1_10?s=toys-and-games&ie=UTF8&qid=1496412706&sr=1-10&keywords=marbles
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Activating Strategy (5- 10 min)

<ul style="list-style-type: none"> • Show the Museum of Modern Art's video about Jackson Pollock: https://www.moma.org/multimedia/video/123/687 • Brainstorm on chart paper with a shoulder partner around the following questions: <ul style="list-style-type: none"> • <i>What sort of lines and shapes did you see in the video demonstration?</i> • <i>What do you notice about his technique and how it affects the paint?</i> • <i>What was the cause and effect of the amount of force he exerted and the amount of paint that splattered on the canvas?</i>

Main Activity**PROCESS:**

- Refer back to the book "Action Jackson" as needed from the Unit Overview (Project 1).
- Announce to students that they will use their knowledge of force and motion to create a visual art piece using marbles, paper, and various colors of paint.

PART I

Project 3 of 3

Approx. Duration of Project: 30 -45 minutes

- Place students in small groups of 3-4 students.
- Give each student a piece of white art paper for the artmaking activity.
- Set up the needed materials for the activity (1 copy paper box lid per 2 students, different size marbles, and one piece white construction paper).
- Direct students to write their name on the back of their paper.
- Model for the students the correct way to roll the marbles back and forth and side to side.
- Direct the students to put the paper in the copy paper box lid.
- The teacher will squirt 3 to 4 colors, chosen by the student, onto the paper.
- The student will drop the marbles of different sizes into the paint and will begin to carefully roll the marbles back and forth and side to side.
- Repeat these steps with the other partner.
- This activity can also be facilitated by students rotating around the room in stations. Each station can explore a different size marble and have a different color assigned to it.
- Ask students to use the **Lab Recording Sheet (SEE DOWNLOADS)** as they rotate to stations making their art.

PART II

- After the artwork has dried, the students will give their artwork a title. Next, the students will notice lines and shapes in their painting. On chart paper, students can reflect what they saw in relation to the different size marbles and the different amount of force used.
- Students will complete a Venn Diagram comparing/contrasting their work with the work of Jackson Pollock.
- Reflect with students around the following questions:
 - My painting is similar to Jackson Pollock because they both have _____.”
 - My painting is different than Jackson Pollock because _____.

Classroom Tips: Each student will create their own painting using different size marbles and tempera paint. Depending on the length of time they each have to roll the marbles around, you might think about how many colors will be used and what those colors are. Consider using 2 **primary colors**, which will make a **secondary color** as lines cross back and forth (red, yellow=orange). OR choosing only **warm colors** (red, yellow, orange) or only **cool colors** (blue, green, purple). This teaches/reinforces color theory and may save some students from getting a muddy mix (3 primary colors mixed together make brown).

REFLECTION**Reflection Questions**

- *How does the size of the object effect the change in the speed and direction of the marble?*
- *How do the markings differ from the small marble to the large marble?*
- *How is your painting similar to those by Jackson Pollock?*

DIFFERENTIATION

Approx. Duration of Project: 30 -45 minutes

BELOW GRADE LEVEL: The teacher will provide a writing template and word bank or flashcards for students that are below grade level or EL students. Project requirements such as number of marbles/colors used will be modified according to student abilities.

EL STUDENTS: Provide a word bank and support a small group with this activity.

ABOVE GRADE LEVEL: Write a story about what they see in their artwork.

ADDITIONAL RESOURCES

- Ramps 1: Let it Roll! AAAS- Science Netlinks <http://sciencenetlinks.com/lessons/ramps-1-let-it-roll/>

APPENDIX

- Rubric for this project
- Lab Recording Sheet

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**Rolling into Art
Lab Recording Sheet**

STATION 1:

Color of paint: _____

Type of ball: _____

Make a prediction about what will happen in the 2 minutes of rolling the ball in the box:

Was my prediction correct?

STATION 2:

Color of paint: _____

Type of ball: _____

Make a prediction about what will happen in the 2 minutes of rolling the ball in the box:

Was my prediction correct? _____

STATION 3:

Color of paint: _____

Type of ball: _____

Make a prediction about what will happen in the 2 minutes of rolling the ball in the box:

Was my prediction correct?

STATION 4:




Color of paint: _____

Type of ball: _____




Make a prediction about what will happen in the 2 minutes of rolling the ball in the box:

Was my prediction correct? _____

**Rolling into Art Rubric
Project 3**

Checklist			
Appropriate use of art materials.	I used my art materials appropriately.	I sometimes used my art materials appropriately.	I rarely used my art materials appropriately.
Students can discuss which motion created the most force.	I always accurately described the motion that would create the most force.	I mostly accurately described the motion that created the most force.	I rarely accurately described the motion that created the most force.
Students created a title for their artwork.	My artwork has a title.	NA	I did not title my artwork.
Students participated in a written critique of their artwork in comparison to Jackson Pollock.	I thoroughly compared my artwork to Jackson Pollock using a Venn Diagram.	I compared my artwork to Jackson Pollock using a Venn Diagram but my comparison lacked detail.	My comparison of my artwork to Jackson Pollock was incomplete.

**Rolling into Art Rubric
Project 3**

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STATION 3:

Color of paint: _____

Type of ball: _____

Make a prediction about what will happen in the 2 minutes of rolling the ball in the box:

Was my prediction correct?

STATION 4:

Color of paint: _____

Type of ball: _____

Make a prediction about what will happen in the 2 minutes of rolling the ball in the box:

Was my prediction correct? _____