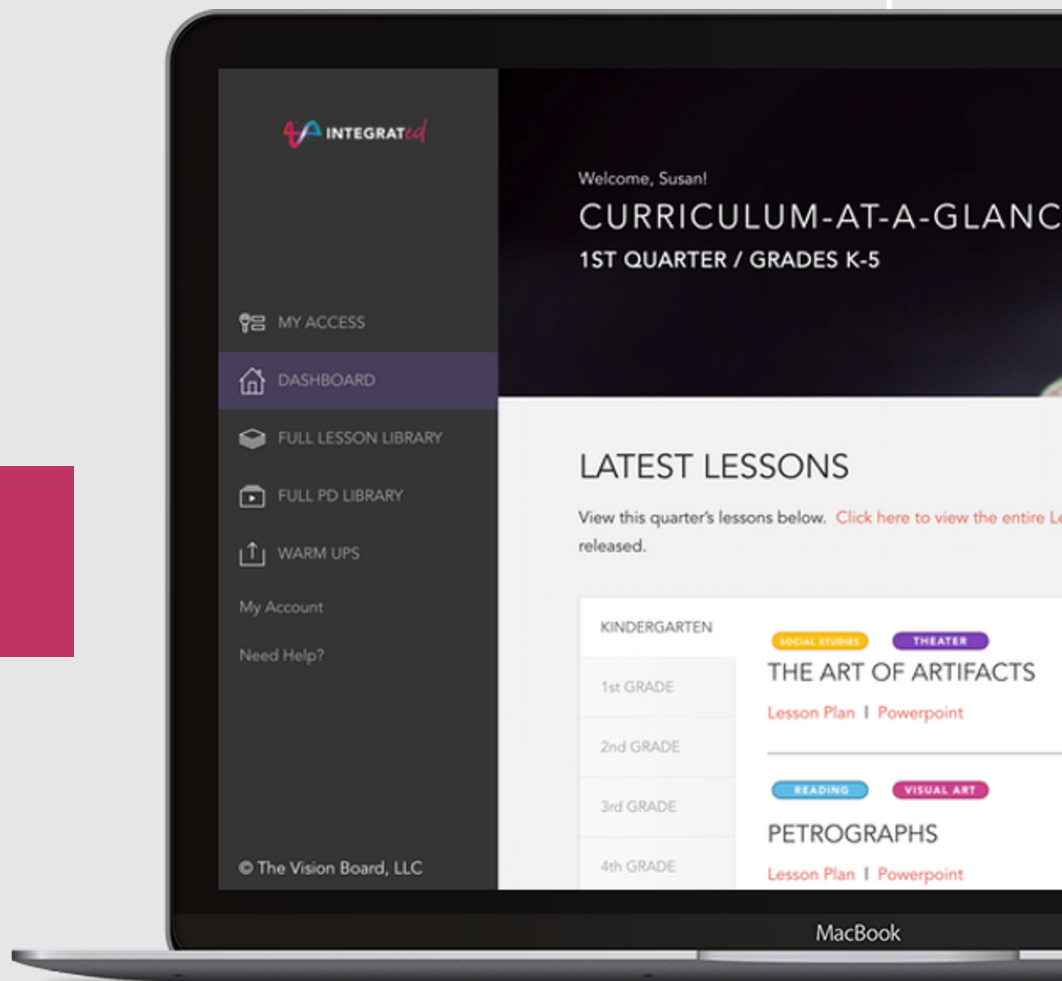




K-8 ARTS INTEGRATION & STEAM
CURRICULUM SUPPLEMENT

PRICING GUIDE
2019



What is IntegratED?

Most teachers would love to do more STEAM activities in their classrooms. But between the lesson planning, prep work, and assessment creation, they just don't have time in an already jam-packed day.

IntegratED is the only digital all-inclusive arts integration and STEAM curriculum supplement for K-8 classrooms.

Available for instant access, all the materials are ready for you to use right away.

Inside this digital curriculum are lessons, assessments and resources carefully aligned to E/LA, Math, Social Studies and Science Standards with multiple arts areas.

All the work has been done to save teachers time and let them do what they do best: TEACH.

What's Inside

In this catalog, you'll find information about what's included in each grade level, as well as scope and sequences and some sample lessons. You'll also find information on how to order your instant access to get you using the curriculum immediately.

Questions?



U.S. Mail

19 Liberty Street Suite 1
Westminster, MD 21157



Call/Text

443-821-1089
Hours: M-F 9AM-3PM ET



Email

service@educationcloset.com

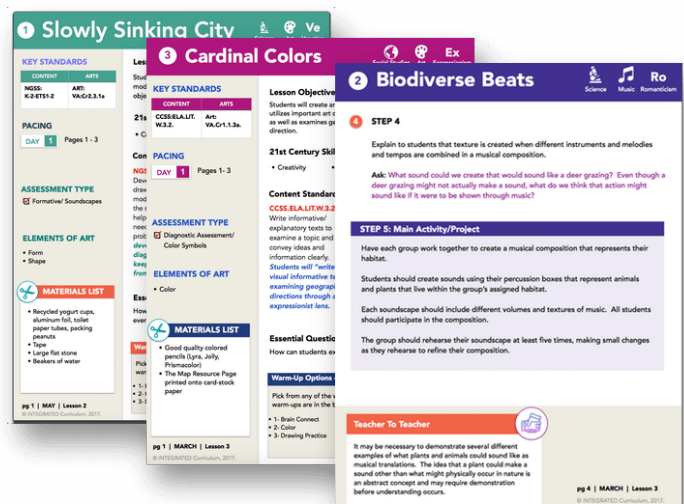
What's Included

Save time with these authentic, fully-planned arts integration and STEAM experiences. This curriculum supplement provides everything you need for engaging, hands-on, creative learning focused on 21st century skills.

LESSON PLANS

There are 15-18 lesson plans per grade that are included.

These lessons are comprehensive and **include step-by-step sequences to ensure you're successful in delivering these for your students.** Every lesson is aligned with two standards: one content standard and one arts standard. We use the Common Core, Next Generation Science and National Arts Standards for these lessons.



CORRESPONDING POWERPOINTS

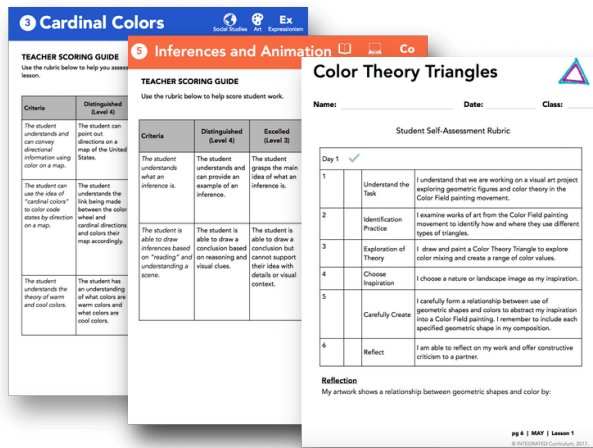
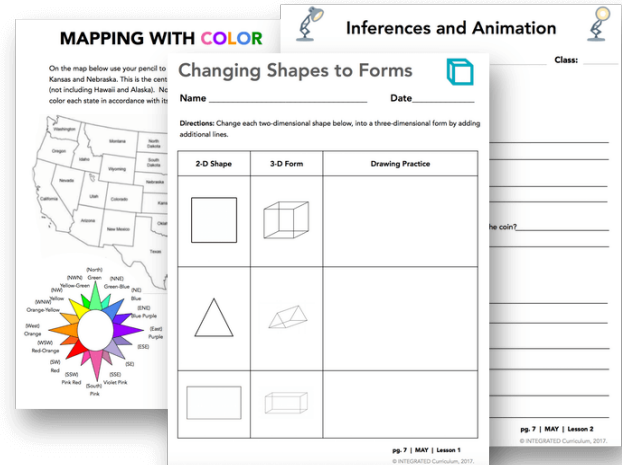
You'll get a powerpoint for every lesson.

These powerpoints make it simple for you to use each lesson. Your artwork examples, videos, sound clips and directions are all provided within your slidedecks. And, each slidedeck is editable. You if you want to add your own flair, you can!



READY-MADE RESOURCES

Professionally designed resources and materials are included. No more stressing about creating student worksheets or support materials. Every reference, handout and card is included with each lesson.



DONE-FOR-YOU ASSESSMENTS

Teacher and student assessments are provided. Inside each lesson pack, you'll find a teacher scoring guide. There's also a corresponding student scoring guide, which helps to build reflection and evaluation capacity.

PROFESSIONAL DEVELOPMENT BAKED IN

You'll receive an entire professional development video library. Once you click in, you'll be able to view a variety of arts integration strategy videos, as well as lesson overviews. These videos offer you incredible background information and little-known facts. So you'll feel prepared and confident with each lesson.



What can IntegratED do for my school?

Research shows that when students use arts integration and STEAM, there are incredible benefits. Here's just a few:



Increased Achievement

Schools see an average increase of 10-15% student achievement across all populations. For underserved populations, there is an average increase of 20% or more.



21st Century Skill Development

Students who use our supplementary curriculum have shown an average increase of 30% or more in proficiency on targeted E/LA, Math and Science concepts.



Increased Engagement

Schools using arts integration and STEAM curriculum report high levels of student engagement and excitement for the learning process.



Increased Attendance

Because students are so engaged during the integrated lessons, they don't want to miss school!

TRUSTED BY



IntegratED Curriculum Price Reference Sheet

GRADE LEVEL	QTY	LIST PRICE (each license)	GRADE LEVEL	QTY	LIST PRICE (each license)
Kindergarten K	1-2	\$199 each	Sixth Grade 6	1-2	\$199 each
	3-5	\$169 each		3-5	\$169 each
	6-10	\$159 each		6-10	\$159 each
	11+	\$139 each		11+	\$139 each
First Grade 1	1-2	\$199 each	Seventh Grade 7	1-2	\$199 each
	3-5	\$169 each		3-5	\$169 each
	6-10	\$159 each		6-10	\$159 each
	11+	\$139 each		11+	\$139 each
Second Grade 2	1-2	\$199 each	Eighth Grade 8	1-2	\$199 each
	3-5	\$169 each		3-5	\$169 each
	6-10	\$159 each		6-10	\$159 each
	11+	\$139 each		11+	\$139 each
Third Grade 3	1-2	\$199 each	High School E/LA HS	1-2	\$199 each
	3-5	\$169 each		3-5	\$169 each
	6-10	\$159 each		6-10	\$159 each
	11+	\$139 each		11+	\$139 each
Fourth Grade 4	1-2	\$199 each	High School STEAM HS	1-2	\$199 each
	3-5	\$169 each		3-5	\$169 each
	6-10	\$159 each		6-10	\$159 each
	11+	\$139 each		11+	\$139 each
Fifth Grade 5	1-2	\$199 each	High School Social Studies HS	1-2	\$199 each
	3-5	\$169 each		3-5	\$169 each
	6-10	\$159 each		6-10	\$159 each
	11+	\$139 each		11+	\$139 each
K-5 Multi-Grade Teacher (Music, Art, etc)	Single License (1)	\$299 each	6-12 Multi-Grade Teacher (Music, Art, etc)	Single License (1)	\$299 each
	Team Pack for 2-10 Multi-Grade Teachers	\$199 each		Team Pack for 2-10 Multi-Grade Teachers	\$199 each

Curriculum Supplement FAQ

If I can get K-5 or 6-12 for \$299, can't I just use that for all my teachers?

No. Each license is provided per teacher. It is attached to an individual teacher's email address and tracks the login information for that teacher for administrative purposes. If the login is used for multiple individuals or IP addresses, the system will automatically shut down access.

The multi-grade licenses are meant for educators who teach multiple grade levels each day. These would include music, art, media, special education and counseling teachers.

Each teacher is also provided with personalized PD certificates once they have finished viewing the professional development videos. This is only possible through the teacher name and email linked to the account.

Can we mix and match licenses? For example, if I need (1) kindergarten license and (2) 1st grade licenses, can we put those together to get this discount?

Yes! Please use the School PO Form instead of individual checkout so we can help you obtain the best value for your teachers.

How long can we keep these licenses?

Licenses expire after one year. They will automatically renew, but you can cancel at any time.

Is new content added each year?

Yes. We add new lessons, materials or professional development each year your license is up-to-date.

Can I use this as a replacement for my art/music/math/etc curriculum?

Not really. This is a curriculum supplement. It's meant to be used for the most challenging concepts taught to your students as a way to reinforce or support their learning. It's not meant as a stand alone curriculum product. That's why there's only 15-18 lessons per year. You want to use these as a way for students to apply their learning.

ELEMENTARY CURRICULUM

K Mosaic Mathematics Math Art Gr

KEY STANDARDS

CONTENT	ARTS
CCSS.MATH.C.1.OA.A.1	Art: VA.G.2.1.Ka

PACING
DAY 1 Pages 1 - 3

ASSESSMENT TYPE
Formative/ Greek Superheroes

ELEMENTS OF ART
• Shape
• Color

MATERIALS LIST
• 1" multi-colored construction paper

Lesson Objective:
Students will practice addition and subtraction through the art of mosaic.

Vocabulary
Mosaic
Tesserae

21st Century Skills:
• Creativity
• Collaboration

Content Standards:
CCSS: Math.Content.K.OA.A.1
Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situation, verbal explanations, expressions, or equations. Student will represent addition and subtraction through adding and subtracting colored tiles to and from their mosaic artwork.

Arts Standards:
VA.G.2.1.Ka
Through experimentation, build skills in various media and approaches to art making. Students will build skills in mosaic art production through the adding and subtracting of paper tiles.

Essential Questions:
How can we represent addition and subtraction through the ancient art of mosaic?

Kindergarten \$199

18 lessons, powerpoints, assessments and handouts. 36 PD Videos.

1 Instruments of the Renaissance Science Music Renaissance

KEY STANDARDS

CONTENT	ARTS
CCSS.MATH.C.1.OA.C.5	DANCE: DA.Cx10.1.1.b

PACING
DAY 1 Pages 1 - 3

ASSESSMENT TYPE
Diagnostic/ Instruments of the Renaissance

ELEMENTS OF MUSIC
• Pitch
• Tone Color

MATERIALS LIST
• Open space for gathering
• Desks grouped as tables

Lesson Objective:
Students will learn about how sound is caused by vibration and how that relates to musical qualities.

Vocabulary
Violin
Lute
Guitar
Vibration

21st Century Skills:
• Creativity
• Collaboration

Content Standards:
NGSS.1.PS4.1
Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. Students will explore a variety of instruments to discover how vibrating materials create sound.

Arts Standards:
MU.P4.3.1
Demonstrate and describe music's expressive qualities (such as dynamics and tempo). Students will work with instruments to demonstrate ways of creating different levels of pitch and volume through the vibration of instruments.

Essential Questions:
How can students learn about sound vibrations through exploration of musical instruments?

First Grade \$199

18 lessons, powerpoints, assessments and handouts. 36 PD Videos.

2 Place Value Picnic Math Art Renaissance

KEY STANDARDS

CONTENT	ARTS
Math: CCSS.Math.G2.NB1A.1	Art: VA.G.1.1.2a

PACING
DAY 1 Pages 1 - 3

ASSESSMENT TYPE
Summative/ Place Value

ELEMENTS OF ART
• Space
• Shape

MATERIALS LIST
• Drawing Paper
• Drawing Pencils

Lesson Objective:
Students will better understand place value in three-digit numbers through the creation of art.

Vocabulary
Ones Place
Tens Place
Hundreds Place
Scale
Placement

21st Century Skills:
• Creativity
• Critical Thinking

Content Standards:
CCSS.Math.G2.NB1A.1
Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. By creating representational art, student will understand that the three digits of a three-digit number each represent a different place value.

Arts Standards:
VA.G.1.1.2a
Brainstorm collaboratively multiple approaches to an art or design problem. Students will each explore different ways to represent a three digit number using fruit.

Essential Questions:
How can students learn about three digit numbers and place value through the art of the Romantic artist Paul Gauguin?

Second Grade \$199

18 lessons, powerpoints, assessments and handouts. 36 PD Videos.

3 Rebel Words Writing Theater Expression

KEY STANDARDS

CONTENT	ARTS
CCSS.ELA.L.3.2.F	Theater: TH.P.6.1.3

PACING
DAY 1 Pages 1 - 3

ASSESSMENT TYPE
Formative Assessment/ Rebel Words

ELEMENTS OF THEATER
• Action
• Language

MATERIALS LIST
• Open Space for movement
• Breaker and pencils

Lesson Objective:
Students will reinforce spelling patterns through creating dramas about words that break the rules.

Vocabulary
Either
Their
Science
Teach
Deer
Leaves
Have
Done
Lecture
Lose

21st Century Skills:
• Creativity
• Critical Thinking

Content Standards:
CCSS.ELA.L.3.2.F
Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words. By learning about words that break spelling rules students will reinforce knowledge of spelling patterns and word families.

Arts Standards:
TH.P.6.1.3
Practice drama work and share reflections individually and in small groups. Students will practice drama productions about words that break conventional spelling patterns.

Essential Questions:
How can students learn about words that don't follow language conventions through drama?

Third Grade \$199

18 lessons, powerpoints, assessments and handouts. 36 PD Videos.

4 Satie and Sound Science Music Surrealism

KEY STANDARDS

CONTENT	ARTS
NGSS: 4-PS3-2	Music: MU.G.1.1.4

PACING
DAY 1 Pages 1 - 2

ASSESSMENT TYPE
Formative/ Satie and Sound Rubric

ELEMENTS OF MUSIC
• Pitch
• Dynamics

MATERIALS LIST
• Percussion Box Instruments
• Graph Paper and pencil

Lesson Objective:
Students will explore the conversion of mechanical energy to sound through surrealism music.

Vocabulary
Juxtaposition
Wavelength
Dynamics
Pitch

21st Century Skills:
• Creativity
• Flexibility
• Critical Thinking

Content Standards:
NGSS: 4-PS3-2
Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves cause objects to move. Students will create and chart wave amplitude while writing music to develop a relationship between the sound and wavelength.

Arts Standards:
MU.G.1.1.4
Demonstrate selected and organized musical ideas for an improvisation, arrangement, or composition to express intent, and explain connection to purpose and context. By juxtaposing music of different pitch and dynamics, students organize an original composition in the context of Surrealist music.

Essential Questions:
How can we graph the dynamics of an original musical composition?

Fourth Grade \$199

18 lessons, powerpoints, assessments and handouts. 36 PD Videos.

5 Theme vs. Main Idea Reading Media Pop Art

KEY STANDARDS

CONTENT	ARTS
CCSS: ELA.L.4.RL.5.2	MEDIA: MA.G.1.1.5

PACING
DAY 1 Pages 1 - 2

ASSESSMENT TYPE
Summative Assessment/ Theme vs. Main Idea Rubric

ELEMENTS OF MEDIA
• Color
• Line
• Shape

MATERIALS LIST
• Five computers with Flash Player updated

Lesson Objective:
Students will solidify their understanding of theme and main idea through the creation of Pop Art style comic strips.

Vocabulary
Ben-Day Dots
Roy Lichtenstein
Theme
Main Idea

21st Century Skills:
• Communication
• Creativity

Content Standards:
CCSS.ELA.L.4.RL.5.2
Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic. Summarize the text. By exploring themes and main ideas of simplified children's stories, students will have the opportunity to analyze how characters in a story respond to challenges. Students will visually summarize a text.

Arts Standards:
MA.G.1.1.5
Envision original ideas and innovations for media artworks using personal experiences and/or the work of others. Students will use inspiration from familiar children's stories to create their own unique media artworks in the style of Pop Art.

Essential Questions:
How can students explore theme and main idea through visual media?

Fifth Grade \$199

18 lessons, powerpoints, assessments and handouts. 36 PD Videos.

Slowly Sinking City L. V. Ex

KEY STANDARDS

CONTENT	ARTS
CCSS.ELA.L.5.2.F	Visual Arts: VA.G.5.1.2a

PACING
DAY 1 Pages 1 - 3

ASSESSMENT TYPE
Formative Assessment/ Slowly Sinking City

ELEMENTS OF ART
• Color
• Line
• Shape

MATERIALS LIST
• Drawing Paper
• Drawing Pencils

Lesson Objective:
Students will solidify their understanding of theme and main idea through the creation of Pop Art style comic strips.

Vocabulary
Ben-Day Dots
Roy Lichtenstein
Theme
Main Idea

21st Century Skills:
• Communication
• Creativity

Content Standards:
CCSS.ELA.L.5.2.F
Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic. Summarize the text. By exploring themes and main ideas of simplified children's stories, students will have the opportunity to analyze how characters in a story respond to challenges. Students will visually summarize a text.

Arts Standards:
VA.G.5.1.2a
Envision original ideas and innovations for media artworks using personal experiences and/or the work of others. Students will use inspiration from familiar children's stories to create their own unique media artworks in the style of Pop Art.

Essential Questions:
How can students explore theme and main idea through visual media?

K-5 Multi-Grade Teacher \$299

108 lessons, powerpoints, assessments and handouts. 36 PD Videos.

**** For educators who teach multiple grades, such as music, art, special education and counseling teachers.**

Need to use a purchase order or have a team?

Use this link to fill out the purchase order request form:

<https://educationcloset.com/integrated-curriculum/purchase-orders/>



INTEGRATED

[illegible]

LESSONS-AT-A-GLANCE



1ST GRADE

CONNECTED STANDARDS		READING	MATH	WRITING	SOCIAL STUDIES	SCIENCE	ART	MUSIC	THEATER	DANCE	MEDIA ARTS
Quarter 1											
Music and Measurement	CCSS:Math.1.MD.A.1 / MU:Re7.2.1..		●					●			
Ukiyo-E and Superflats	CCSS:ELA.Lit.RI.1.10:/ VA:Cn11.1.1a.	●					●				
Why Words Matter	CCSS:ELA.Lit.SL.1.4/ Th:Pr4.1.1.	●							●		
Quarter 2											
Byzantine Art and Adjectives	CCSS:ELA-Lit.L.1.1.F:/ VA:Cr1.2.1a			●			●				
Byzantine Chanting and Dance	CCSS:ELA.Lit.SL.1.2. / MU:Re7.2.1.				●			●			
Carpet Weaving Design	CCSS:Math.1.G.A.1/ VA:Cr2.1.1a		●				●				
Composite Compositions	CCSS:MATH.C.1.G.A.2: / VA:Cr2.1.1.		●				●				
Over in the Meadow	CCSS:ELA.L.SL.1.1. / DA:Cr2.1.1.:	●								●	
Inventions of the Middle Ages	NGSS.K.2.ETS.1.2. / TH:Cr1.1.1.c.:					●			●		
Quarter 3											
Two Ways BLACK HISTORY LESSON!	CCSS.M.C.1.O.A.5.: / DA:Cn.1.0.1.1.b.		●							●	
Starting with Style BLACK HISTORY LESSON!	CCSS ELA.L.RI.1.10: / VA:Cr1.2.1a				●		●				
Drumming with Civil Rights Leaders BLACK HISTORY LESSON!	CCSS ELA.L.RF.1.2.B: / MU:Cr1.1.1.	●						●			
Instruments of the Renaissance	NGSS.1.PS4.1. / MU:Pr4.3.1.					●		●			
Modern Day Mona Lisa	CCSS.ELA.LIT.SL.1.4. / VA:Cr3.1.1a.:			●			●				
Printing Shapes	CCSS.Math.C.1.G.A.3. / VA:Cr2.1.1a		●				●				
Quarter 4											
Venetian Masks	CCSS.ELA.Lit.L.1.5: / TH:Cr1.1.1.b.	●							●		
Lines of Architecture	CCSS:Math:C.1.G.A.2 / VA:Re8.1.1a.					●	●				
Slowly Sinking City	NGSS:2-ETS1-2 / VA:Cr2.3.1a		●				●				



INTEGRATED

[illegible]

LESSONS-AT-A-GLANCE



CONNECTED STANDARDS	READING	MATH	WRITING	SOCIAL STUDIES	SCIENCE	ART	MUSIC	THEATER	DANCE	MEDIA ARTS
---------------------	---------	------	---------	----------------	---------	-----	-------	---------	-------	------------

3RD GRADE

Quarter 1

Arrays and Pointillism	CCSS.MATH.3.OA.A.3. / VA:Cr1.1.3a.		●				●			
Musical Emotions	CCSS.ELA.LIT.RL.3.3 / MU:Pr6.1.3				●		●			
Rodin Design Challenge	NGSS.3.5.ETS1.1 / VA:Cr1.2.3a					●	●			

Quarter 2

Three Dances of Government	CCSS:ELA-Lit.RI.3.3. / DA:Cn10.1.3				●				●	
Adverbs and Actions	CCSS:ELA-Lit.L.3.1.A. / TH:Pr6.1.3	●						●		
Dancing Shapes	CCSS:MATH.3.G.A.1. / DA:Pr5.1.3.		●						●	
Biome Survivor	NGSS.3-LS4-3. / TH:Pr.6.1.3.					●		●		
Collaboration Drawing	CCSS MATH 3.MD.C.5B / VA:Cr.3,1.3a		●			●				
The Basics of Swing	CCSS ELA L.W.3.2 / DA:Cr3.1.3			●					●	

Quarter 3

African American Architects BLACK HISTORY LESSON!	CCSS.MATH.3MD.C.7.D / VA:Cr1.2.3a		●				●			
Separate but Equal BLACK HISTORY LESSON!	CCSS.ELA-LIT.SL.3.4. / TH:Re8.1.3	●						●		
Songs of Protest BLACK HISTORY LESSON!	CCSS.ELA.Lit.RI.3.2 / MU:Cr1.1.3.a				●		●			
Cardinal Colors	CCSS.ELA.LIT.W.3.2. / VA:Cr1.1.3a					●	●			
Movement Shapes	CCSS.MATH.C3.G.A.1. / DA:Re.7.1.3.		●						●	
Rebel Words	CCSS.ELA.Lit.L.3.2.F / TH.Pr6.1.3			●				●		

Quarter 4

Cubism and Geometry	CCSS.MATH.C.3.G.A.1. / VA:Cr1.1.3a		●				●			
Ragtime Forces	NGSS:3.PS2.1. / DA:Cr2.1.4.a					●			●	
Two-Faced	CCSS.ELA.LIT.W.3.3. / MU:Pr4.3.3.			●			●			

LESSONS-AT-A-GLANCE



4TH GRADE

CONNECTED STANDARDS		READING	MATH	WRITING	SOCIAL STUDIES	SCIENCE	ART	MUSIC	THEATER	DANCE	MEDIA ARTS
Quarter 1											
Circuit Study	SCI- 4-PS3-2. / DA:Cn10.1.4.b.					●				●	
Define through Line	ELA-LITERACY.L.4.5.C / VA:Cr.2.1.4.A	●					●				
Metropolis Soundscapes	ELA- LIT.W.4.1.A / MU:Cr.2.1.4.A				●			●			
Quarter 2											
Constructing a Cleaner Future	NGSS:4.ESS3-1 / VA:Cr2.1.4.a.:					●	●				
Language of Color	ELA-LITERACY.L.4.5. / DA.Pr6.1.4.	●								●	
Musical Decomposition	CCSS.Math:4.NF.B.3.b. / MU:Cr2.1.4.b		●					●			
Graphing Art	CCSS.Math.4.G.A.1 / VA:Cr2.1.4.a		●				●				
Regional Sculptures	CCSS.ELA.W.4.2.A. / VA:Cr.2.3.4.A.				●		●			●	
Mondrian Monologues	ELA-LITERACY.W.4.10 / TH:Cn.11.1.4			●					●		
Quarter 3											
Bessie Blount Griffen BLACK HISTORY LESSON!	NGSS 3-5-ETS1-3. / MA:Cr2.1.4					●					●
Lowriders BLACK HISTORY LESSON!	ELA-LITERACY.SL.4.3 / TH:Cn.11.1.4				●			●			
Patterns and Portraits BLACK HISTORY LESSON!	ELA- LITERACY.4.7: / VA:Cr.2.1.4.A	●					●				
Dali's Optical Illusions	CCSS.MATH.4.MD.A.1. / VA:Cr2.1.4.a.		●				●				
Satie and Sound	NGSS 4-PS3-2 / MU:Cr.1.1.4.					●		●			
Surrealist Games	CCSS.ELA.L.W.4.3 / VA:Cr2.1.4.a			●			●				
Quarter 4											
Color Field Comparisons	CCSS.Math.C.4.NF.A.2: / VA:Re9.1.4a.		●				●				
Population Saturation	CCSS.ELA.LIT.W.4.2. / VA:R.7.2.4a				●		●				
Norman Lewis and Narrative	CCSS.ELA-L.W.4.3 / TH:Cr.2.4.			●					●		

4 Satie and Sound



Science



Music

Sr

Surrealism

KEY STANDARDS

CONTENT	ARTS
NGSS: 4-PS3-2.	Music: MU:Cr1.1.4

PACING

DAY 1

Pages 1 - 2

ASSESSMENT TYPE

- ☒ Formative/ Satie and Sound Rubric

ELEMENTS OF MUSIC

- Pitch
- Dynamics



MATERIALS LIST

- Percussion Box Instruments
- Graph Paper and pencil

Lesson Objective:

Students will explore the conversion of mechanical energy to sound through surrealist music.

21st Century Skills:

- Creativity
- Flexibility
- Critical Thinking

Content Standards:

NGSS 4-PS3-2:

Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves cause objects to move.

Students will create and chart wave amplitude while writing music to develop a relationship between the sound and wavelength.

Vocabulary

Juxtaposition
Wavelength
Dynamics
Pitch

Arts Standards:

MU:Cr.1.1.4.:

Demonstrate selected and organized musical ideas for an improvisation, arrangement, or composition to express intent, and explain connection to purpose and context. *By juxtaposing music of different pitch and dynamics, students organize an original composition in the context of Surrealist music.*

Essential Questions:

How can we graph the dynamics of an original musical composition?

Warm-Up Options - 10 Min

Pick from any of the warm-ups below. Directions for the warm-ups are in the back of this lesson packet.

- 24- 1,2,3 Echo Me
- 25- Animal Sounds
- 26- Chewing Words
- 27-Dynamics
- 28- Finger Stretching
- 29- Listening to Rhythm
- 30- Solfege
- 31- Voice Shapes
- 32- Watch the Ball

4 Satie and Sound



Science



Music

Sr

Surrealism

Lesson Sequence:

Surrealist music combines existing works, styles, and types of music, interlacing them together to form unexpected juxtapositions. In this lesson students will learn about how amplitude can be recorded through graphing.

1 STEP 1

Define the term *juxtapose* and inform students that surrealist music involved placing two dissimilar sounds (in rhythm, pitch, or dynamics) next to each other in a song.

Use the Artful Thinking Routine listed below to introduce the work of Erik Satie, a composer who inspired the Surrealist movement.

Discuss ways in which we can record sound waves (electronically, through musical notation, and written form).

Ask: What type of dynamics would you expect to hear at a rock concert? What about at a classical concert?

Artful Thinking Routine

I Hear, I Think, I Wonder Routine. Listen to the first minute of Erik Satie's Gymnopedie and answer the following questions.

- What do you hear?
- What does it make you wonder?
- What does it make you think?

4 Satie and Sound



Science



Music

Sr

Surrealism

2 STEP 2

Use the Amplitude Resource page to provide direct instruction regarding the relationship pitch, dynamics, and wave amplitude.

Play some examples of sounds and have students create approximate graphs of the sounds they hear. Explain that the louder the music the farther from the x axis the wave will rise. The higher the pitch, the closer together the wave lengths will be.

Review the results of the students graphs as a class.

STEP 3: Main Activity/Project

Divide students into small groups and instruct each group to create a 3-part song that juxtaposes sounds of different pitch and dynamics.

Each song will be 24 beats total, or 6 measures long.

Have students use graph paper and pencils to chart their song by recording the approximate wavelength and height of the different parts of their song on the Satie and Sound worksheet page.

Estimated Time: 25 minutes

4 Satie and Sound



Science



Music

Sr

Surrealism

4 STEP 4

Have students create an artist's reflection by responding to the following idea: Satie referred to himself as a phonometrician, or "someone who measures sounds."

How is that an appropriate title for a composer?

Teacher To Teacher



Students need to be able to create pitch so be sure to include instruments in their percussion boxes that will allow this to occur.

- Chimes
- Hand bells
- Xylophones



TEACHER SCORING GUIDE

Use this scoring guide to provide consistency in assessing student compositions.

Criteria	Distinguished (Level 4)	Excelled (Level 3)	Adequate (Level 2)	Basic (Level 1)
<i>The student composition juxtaposes music of different pitch and dynamics.</i>	The students demonstrate thoughtful juxtaposition of 3 pieces of music with different pitch and dynamics to create a unified composition.	The students mainly demonstrate thoughtful juxtaposition of 3 pieces of music with different pitch and dynamics to create a composition.	The students demonstrate some thoughtful juxtaposition of 3 pieces of music with some different pitch and dynamics to create a composition.	The students demonstrate little to no thoughtful juxtaposition of pitch and dynamics to create a composition.
<i>The students are able to accurately measure pitch through graphing approximate wavelength.</i>	The students demonstrate approximate representation of pitch by drawing wavelengths that correlate with their composition.	The students mainly demonstrate approximate representation of pitch by drawing wavelengths that correlate with their composition.	The students demonstrate pitch somewhat correctly by drawing wavelengths that correlate with the composition.	The students do not accurately approximate the pitch of their composition.
<i>The students are able to accurately measure dynamics through graphing approximate wave height.</i>	Students approximate the dynamics of our music correctly by drawing shallow and deep waves on each graph that correlate with their composition.	Students mainly approximate the dynamics of our music correctly by drawing shallow and deep waves on each graph that correlate with their composition.	Students approximate some of the dynamics of our music correctly by drawing shallow and deep waves on each graph that correlate with their composition.	Students do not accurately approximate the dynamics of their composition.
<i>The students worked together to create and graph their composition.</i>	The student team shared active roles in the creation and graphing of their piece.	The student team mainly shared active roles in the creation and graphing of their piece.	The student team shared some of the tasks in the creation and graphing of their piece.	The student team neglected to share active roles in the creation and graphing of their piece.

Scoring Guide



Name: _____ Date: _____ Class: _____

STUDENT SCORING GUIDE

Use this rubric to help guide your work and to reflect on your completed compositions and graphs.

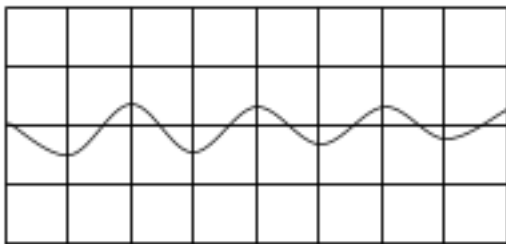
Criteria	Distinguished (Level 4)	Excelled (Level 3)	Adequate (Level 2)	Basic (Level 1)
<i>My composition juxtaposes music of different pitch and dynamics.</i>	We demonstrate thoughtful juxtaposition of 3 pieces of music with different pitch and dynamics to create a unified composition.	We mainly demonstrate thoughtful juxtaposition of 3 pieces of music with different pitch and dynamics to create a composition.	We demonstrate some thoughtful juxtaposition of 3 pieces of music with some different pitch and dynamics to create a composition.	We demonstrate little to no thoughtful juxtaposition of pitch and dynamics to create a composition.
<i>We am able to accurately measure pitch through graphing approximate wavelength.</i>	We demonstrate approximate representation of pitch by drawing wavelengths that correlate with our composition.	We mainly demonstrate accurate representation of pitch by drawing wavelengths that correlate with our composition.	We demonstrate some of the pitch by correctly drawing wavelengths that correlate with our composition.	We do not accurately approximate the pitch of our composition.
<i>We are able to accurately measure dynamics through graphing approximate wave height.</i>	We approximate the dynamics of our music correctly by drawing shallow and deep waves on each graph that correlate with our composition.	We mainly approximate the dynamics of our music correctly by drawing shallow and deep waves on each graph that correlate with our composition.	We approximate some of the dynamics of our music correctly by drawing shallow and deep waves on each graph that correlate with our composition.	We do not accurately approximate the dynamics of our composition.
<i>We worked together to create and graph our composition.</i>	My team and I shared active roles in the creation and graphing of our piece.	My team and I mainly shared active roles in the creation and graphing of our piece.	My team and I shared some of the tasks in the creation and graphing of our piece.	My team and I neglected to share active roles in the creation and graphing of our piece.

Amplitude Resource Page



Name: _____ Date: _____ Class: _____

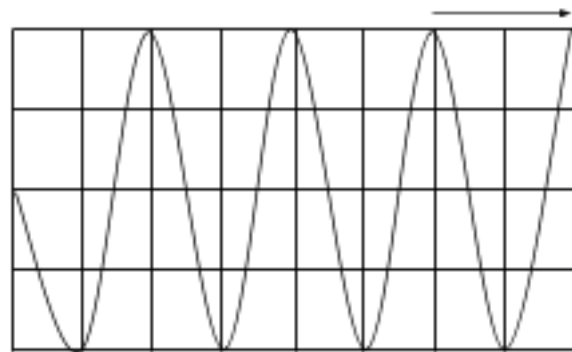
Dynamics



Amplitude

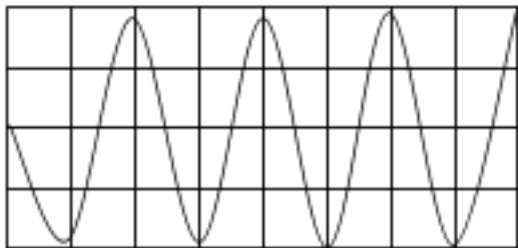
Quiet

Pitch



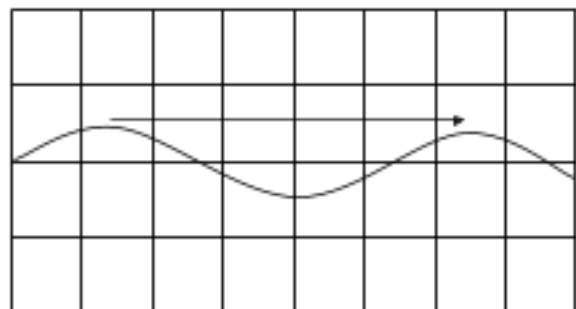
Short
Wavelength

High Pitch



Amplitude

Loud



Long
Wavelength

Low Pitch

Sound Worksheet

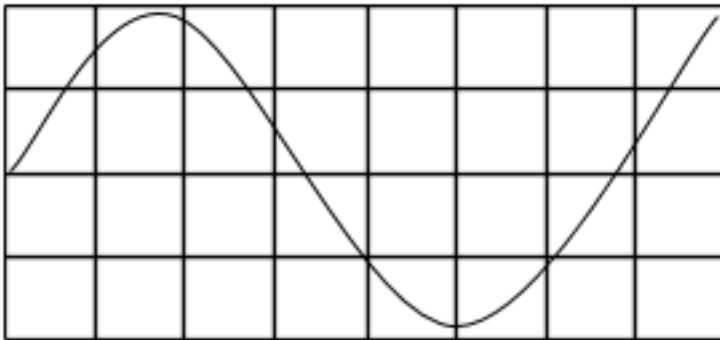


Name: _____

Date: _____

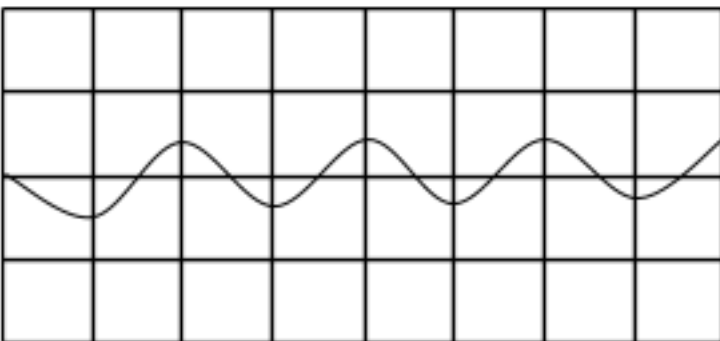
Class: _____

Identify the graphs below as having quiet, medium, or loud dynamics. Then decide if each graph is high, medium or low pitch.



Dynamics:

Pitch:



Dynamics:

Pitch:

GRAPHING COMPOSITIONS

Name: _____ Date: _____ Class: _____

Part 1: Pitch/Dynamics

Instrument:

8 count measure							

Part 2: Pitch/Dynamics

Instrument:

GRAPHING COMPOSITIONS

Name: _____ Date: _____ Class: _____

Part 3: Pitch/Dynamics

Instrument:

SECONDARY CURRICULUM

GRADE: 6

Interdependent Relationships in Ecosystems & Theater

THEME Who Are We? **CONTENT** CCSS.ELA-LITERACY.6-5.1 **ART** MA.6-1.1.8

KEY VOCABULARY

- Ecosystem
- Predator
- Producer
- Consumer
- Decomposer
- Symbiosis
- Mutualism
- Commensalism

LESSON OBJECTIVE

Students will be able to explain and predict interaction patterns in ecosystems through drama performance.

ESSENTIAL QUESTION

How can we use drama to explain and predict patterns in the interactions of organisms in a variety of ecosystems?

PACING: 2-3 DAYS

ASSESSMENT (Summative): Interdependent Relationships Performance

ELEMENTS OF THEATER: Space, Action

MATERIALS LIST

- Video: Understanding Ecosystems
- John D. Demase's Theater Steps
- Construction paper & markers
- Items from within your classroom that can be used as props or scenery (e.g., a...

21st CENTURY SKILLS:

- ✓ Critical Thinking
- ✓ Creative Thinking
- ✓ Collaborating
- ✓ Initiative
- ✓ Communicating
- Media Literacy
- Informational Literacy
- ✓ Social Skills
- ✓ Leadership
- Productivity

CONTENT STANDARDS: Science: MS-LS2-2

ARTS STANDARDS: Theater: TH-Cr.1.1-8a

Explore a scripted or improvised character by imagining the given circumstances in a drama/theatre work.

Sixth Grade \$199

15 lessons, powerpoints, assessments and handouts. 36 PD Videos.

GRADE: 7

Bias and Perspective

THEME Who Are We? **CONTENT** CCSS.ELA-LITERACY.7-2.1 **ART** MA.7-2.1.8

KEY VOCABULARY

- Lipid
- Point
- Primary source
- Secondary Source
- Propaganda
- Bias

LESSON OBJECTIVE

Students will analyze a variety of primary and secondary art texts depicting the Boston Massacre to determine central ideas and information.

ESSENTIAL QUESTION

How are primary and secondary art texts influenced by bias and perspective?

PACING: 2-3 DAYS

ASSESSMENT (Summative): Bias and Perspective

ELEMENTS OF ART: Point of view, Form, Space

MATERIALS LIST

- Document analysis pages to match with chosen source

21st CENTURY SKILLS:

- ✓ Critical Thinking
- ✓ Creative Thinking
- ✓ Collaborating
- ✓ Initiative
- ✓ Communicating
- Media Literacy
- Informational Literacy
- ✓ Social Skills
- ✓ Leadership
- Productivity

CONTENT STANDARDS: CCSS.ELA-LITERACY.RH.6-8.2

ARTS STANDARDS: VA-Ru.7.2.1a

Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

Seventh Grade \$199

15 lessons, powerpoints, assessments and handouts. 36 PD Videos.

GRADE: 8

Line Equations and City Maps

THEME Who Are We? **CONTENT** CCSS.MATH.CONTENT.8.EE.C.7.A **ART** MA.8-1.8

KEY VOCABULARY

- Linear equation
- Variable
- Intercept
- Intercept
- Slope

LESSON OBJECTIVE

Students will analyze and solve linear equations to create city maps.

ESSENTIAL QUESTION

Can math play a role in the art of map making?

PACING: 1-2 DAYS

ASSESSMENT (Summative): Line Equations and City Maps

ELEMENTS OF MEDIA ART: Time, Narrative, Editing

MATERIALS LIST

- Video: Math Art
- Geogebra, City Map image source
- Complexes
- Geogebra, online graphing
- Paper
- Pencils

21st CENTURY SKILLS:

- ✓ Critical Thinking
- ✓ Creative Thinking
- ✓ Collaborating
- ✓ Initiative
- ✓ Communicating
- Media Literacy
- Informational Literacy
- ✓ Social Skills
- ✓ Leadership
- Productivity

CONTENT STANDARDS: CCSS.Math.Content.8.EE.C.7.A

ARTS STANDARDS: MA.8-1.8.a

Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successfully transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $x = b$, or $x = c$ results (where a , b , and c are different numbers).

Eighth Grade \$199

15 lessons, powerpoints, assessments and handouts. 36 PD Videos.

The Necessity of Conflict

THEME Where are we? **CONTENT** CCSS.ELA-LITERACY.RH.10.1 **ART** MA.10-1.8

KEY VOCABULARY

- Conflict
- Key Idea
- Craft
- Structure
- Connection
- Archetype
- Character Archetype
- Situational Archetype

LESSON OBJECTIVE

Students will be able to explain how conflicts contribute to the development of characters and meaning in both narrative and text through various dance styles.

ESSENTIAL QUESTION

How does conflict affect characters in both dance and text?

PACING: 1 DAY

ASSESSMENT (Formative): Card Sort

ELEMENTS OF DANCE: Action

MATERIALS LIST

- Computer and speakers

21st CENTURY SKILLS:

- ✓ Critical Thinking
- ✓ Creative Thinking
- ✓ Collaborating
- ✓ Initiative
- ✓ Communicating
- Media Literacy
- Informational Literacy
- ✓ Social Skills
- ✓ Leadership
- Productivity

CONTENT STANDARDS: CCSS.ELA-LITERACY.RH.9-10.1

ARTS STANDARDS: DA-Ru.7.1.8

Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

HS E/LA \$199

15 lessons, powerpoints, assessments and handouts. 36 PD Videos.

Statistics of Billboard Top Hits

THEME What are we made of? **CONTENT** CCSS.MATH.CONTENTHS.5.5.3.6 **ART** MU.G2.1.C.8.a

KEY VOCABULARY

- Chord progression
- Key
- Beats Per Minute
- Line of Best Fit

LESSON OBJECTIVE

Students will represent data on popular music and describe how chord structure of songs is tied to ratings.

ESSENTIAL QUESTION

How do artists organize music in specific ways to achieve certain goals?

PACING: 1 DAY

ASSESSMENT (Formative): Billboard Hits Analysis

ELEMENTS OF MUSIC: Form

MATERIALS LIST

- Computers with speakers
- Graph paper

21st CENTURY SKILLS:

- ✓ Critical Thinking
- ✓ Creative Thinking
- ✓ Collaborating
- ✓ Initiative
- ✓ Communicating
- Media Literacy
- Informational Literacy
- ✓ Social Skills
- ✓ Leadership
- Productivity

CONTENT STANDARDS: CCSS.MATH.CONTENTHS.5.5.3.6

ARTS STANDARDS: MU.G2.1.C.8.a

Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.

HS STEAM \$199

15 lessons, powerpoints, assessments and handouts. 36 PD Videos.

Climate Change Policy

THEME Where are we? **CONTENT** CCSS.ELA-LITERACY.RH.11-12.7 **ART** MA.11-12.8

KEY VOCABULARY

- Clean Air Act
- Clean Water Act
- NEPA
- CERCLA
- EPA
- Bubble Standard
- Offsets
- Best Allowances
- Scrubbers

LESSON OBJECTIVE

Students will investigate policy networks in domestic and foreign policy areas and design.

ESSENTIAL QUESTION

Why does the US government create environmental regulations?

PACING: 1-2 DAYS

ASSESSMENT (Diagnostic): Verbal Discussion

ELEMENTS OF MEDIA ARTS: Framing, Narrative

MATERIALS LIST

- Computer and speakers

21st CENTURY SKILLS:

- ✓ Critical Thinking
- ✓ Creative Thinking
- ✓ Collaborating
- ✓ Initiative
- ✓ Communicating
- Media Literacy
- Informational Literacy
- ✓ Social Skills
- ✓ Leadership
- Productivity

CONTENT STANDARDS: CCSS.ELA-LITERACY.RH.11-12.7

ARTS STANDARDS: MA.11-12.8

Integrate and evaluate multiple sources of information presented in diverse formats and media.

HS Social Studies \$199

15 lessons, powerpoints, assessments and handouts. 36 PD Videos.

6-12 Multi-Grade Teacher \$299

90 lessons, powerpoints, assessments and handouts. 36 PD Videos.

**** For educators who teach multiple grades, such as music, art, special education and counseling teachers.**

The image shows a collage of curriculum pages for various subjects including Statistics of Billboard Top Hits, Climate Change Policy, Interdependent Relationships in Ecosystems & Theater, and The Necessity of Conflict.

Need to use a purchase order or have a team?

Use this link to fill out the purchase order request form:

<https://educationcloset.com/integrated-curriculum/purchase-orders/>

LESSONS-AT-A-GLANCE



	CONNECTED STANDARDS	READING	MATH	WRITING	SOCIAL STUDIES	SCIENCE	ART	MUSIC	THEATER	DANCE	MEDIA ARTS
6TH GRADE											
Quarter 1											
Character Trait Portraits	CCSS.ELA-LITERACY.RL.6.1 / VA:Cr1.1.6a	•					•				
Personal Cartouche Exhibit	CCSS: ELA.Lit.RH.6-8.7 / VA:Cn10.1.6a				•		•				
Interdependent Relationships in Ecosystems	NGSS.MS-LS2-2 / TH:Cr1.1.6					•			•		
Quarter 2											
Transitions	CCSS.ELA-LITERACY.W.6.2 / DA:Cr1.1.6			•						•	
Children of War	CCSS: ELA.Lit.RH.6-8.7 / MA:Cr3.1.6				•						•
Musical Waves	NGSS: MSPS4-1 / MU:Pr4.1.6a					•		•			
Quarter 3											
Comparative Music	CCSS.ELA-LITERACY.RL.6.17 / MU:Re8.1.6	•						•			
Islamic Architecture and Tessellations	CCSS: ELA.Lit.RH.6-8.7 / VA:Re.7.2.6a				•		•				
Moon Phase Dance	NGSS: MS-ESS1-1 / DA:Cr1.1.6					•				•	
Thematic Theater	CCSS: ELA.Lit.S.L.6.4 / TH:Pr5.1.6	•							•		
Point of View Music	CCSS: ELA.Lit.RH.6-8.6 / MU:Re.8.1.6				•			•			
Climate Change and Media Arts	NGSS: MS-ESS2-6 / MA:Cr.3.1.6					•					•
Quarter 4											
Contextual Comics	CCSS: ELA.Lit.L.6.4 / MA:Cr2.1.6	•									•
How Text Presents Information	CCSS: ELA.Lit.RH.6-8.5 / MA:Re.8.1.6				•						•
Composite Figure Compositions	CCSS: Math.Content.6.G.A.1 / VA:Cr1.1.6a		•				•				

LESSONS-AT-A-GLANCE



CONNECTED STANDARDS		READING	MATH	WRITING	SOCIAL STUDIES	SCIENCE	ART	MUSIC	THEATER	DANCE	MEDIA ARTS
7TH GRADE											
Quarter 1											
Portrait Prompts	CCSS.ELA-LITERACY.RL.7.3 / VA:Cn11.1.7a	•					•				
Bias and Perspective	CCSS: ELA.Lit.RH.6-8.2 / VA:Re.7.2.7a				•		•				
Matter, Energy and Molas	NGSS.MS-LS1-7 / VA:Cr2.3.7a					•	•				
Quarter 2											
Poetic Form	CCSS.ELA-LITERACY.RL.7.5 / MA:Cr.3.1.7	•									•
How a Bill Becomes a Law Video Game	CCSS: ELA.Lit.RH.6-8.3 / MA:Cr2.1.7				•						•
Probability Game Design	CCSS: Math.Content.7.SPC.7 / MA:Cr3.a.6		•								•
Quarter 3											
Descriptive Choreography	CCSS.ELA-LITERACY.W.7.3.C / DA:Cr.2.1.7			•						•	
Dance of Colliding Cultures	CCSS: ELA.Lit.RH.6-8.6 / MA:Cr2.1.7				•						•
Elements Dance	NGSS: MS-ESS2-6 / DA:Cr1.1.7					•				•	
Riding in the Car	CCSS: ELA.Lit.S.L.7.1.D / TH:Cr3.1.7	•							•		
Historical Figure Debate	CCSS: ELA.Lit.RH.6-8.1 / TH:Cr.1.1.7				•				•		
Space Systems and Music Compositions	NGSS: MS-ESS1-1 / MU:Cr1.1.7					•		•			
Quarter 4											
Composition Organization	CCSS: ELA.Lit.RI.7.5 / MU:Cn11.0.7	•						•			
Mapping Cyberspace	CCSS: ELA.Lit.RH.6-8.7 / MA:Cr1.1.7				•						•
Math Mandalas	CCSS: Math.Content.7.G.B.4 / VA:Cr2.3.7a		•				•				

LESSONS-AT-A-GLANCE



CONNECTED STANDARDS		READING	MATH	WRITING	SOCIAL STUDIES	SCIENCE	ART	MUSIC	THEATER	DANCE	MEDIA ARTS
8TH GRADE											
Quarter 1											
Sherald and Symbolism	CCSS.ELA-LITERACY.W.8.2 / VA:Cr2.1.8a			•			•				
Fact vs. Opinion News Reports	CCSS: ELA.Lit.RH.6-8.6 / TH:Cr1.1.8				•				•		
Line Equations and City Maps	CCSS: Math.Content.8.EE.C.7.A / MA:Cn10.1.8		•								•
Quarter 2											
Variations of a Theme	CCSS.ELA-LITERACY.RL.8.9 / TH:Cn11.2.8	•							•		
Preamble Visual Essay	CCSS: ELA.Lit.RH.6-8.7 / VA:Cr2.3.8a				•		•				
Mondrian-Inspired Linear Equations	CCSS: Math.Content.8.EE.C.8 / VA:Re8.1.8a		•				•				
Quarter 3											
Narrative Remixes	CCSS.ELA-LITERACY.W.8.3.B / MU:Cr2.1.8			•				•			
Soundtracking the Constitution	CCSS: ELA.Lit.RH.6-8.4 / MU:Re.7.1.8				•			•			
Music and Functions	CCSS: Math.Content.8.F.A.3 / MU:Pr4.2.8		•					•			
Informational Rhetoric	CCSS: ELA.Lit.W.8.1 / MA:Cr3.1.8			•							•
Interactive Multimedia Theatre	CCSS: ELA.Lit.RH.6-8.4 / MA:Pr4.1.8				•						•
Kandinsky, Abstract Art & Linear Functions	CCSS: Math.Content.8.FA.3 / VA:Cr1.2.8a		•			•					
Quarter 4											
Character Sculpting	CCSS: ELA.Lit.RL.8.3 / DA:Pr4.1.8	•								•	
Loaded Language	CCSS: ELA.Lit.RH.6-8.4 / DA:Pr4.1.8				•					•	
Information Processing Dance	NGSS:MSLS1-8 / DA:Cr2.1.8					•				•	

Line Equations and City Maps

THEME	CONTENT	ART
Who Are We?	CCSS.Math.Content.8.EE.C.7.A	MA:Cn10.1.8.

KEY VOCABULARY

- Linear equation
- Variable
- X Intercept
- Y Intercept
- Slope

PACING: 1-2 DAYS

ASSESSMENT (Summative):

ELEMENTS OF MEDIA ART:

Time
Narrative
Editing

MATERIALS LIST

- Video, [Math Antics](#)
- [Geneva, IL City Map](#) image source
- Computers
- [Desmos](#), online graphing
- Paper
- Pencils

LESSON OBJECTIVE

Students will analyze and solve linear equations to create city maps.

ESSENTIAL QUESTION

Can math play a role in the art of map making ?

21st CENTURY SKILLS:

- ✓ Critical Thinking
- ✓ Creative Thinking
- ✓ Collaborating
- ☐ Initiative
- ✓ Communicating
- ☐ Media Literacy
- ☐ Informational Literacy
- ✓ Tech Literacy
- ☐ Flexibility
- ✓ Social Skills
- ☐ Leadership
- ☐ Productivity

CONTENT STANDARDS:

ARTS STANDARDS:

CCSS.Math.Content.8.EE.C.7.A

Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).

MA:Cn10.1.8.a.

Access, evaluate, and use internal and external resources to inform the creation of media artworks, such as cultural and societal knowledge, research, and exemplary works.

WARM-UP OPTIONS (10 MIN)

- 19- Engineering Design
- 20- GIF
- 21- Keyboard Shortcuts

- 22- Memes
- 23- Mood Post

LESSON OVERVIEW

A linear equation is an equation between two variables that provides a straight line when plotted on a graph. In this lesson, students will work with partners or individually to create a city map (of an imagined place). Students should demonstrate understanding of both solving and graphing linear equations. Students should be able to locate the y-intercept on the graph and plot the point and use the slope to find a second point and plot that. Students will need to connect the two points by using a ruler to draw a line.

ENGAGEMENT

City Planning

Build background knowledge of city maps by projecting [googlemaps.com](https://www.google.com/maps). First look at the cities of Windermere, Florida and Sapporo, Japan. Note how both of these cities have what is called a “grid plan” of streets. Explain that a grid plan is a city street plan where the majority of the streets run at right angles to each other (forming a grid). Then explain that city planning is actually an ancient art and that grid plans for city streets date all the way back to Roman times!

Take a moment to compare to some cities that struggle with traffic problems, such as Dubai, UAE and [Atlanta, Georgia](#). Ask students why planning a city is so important to the flow of traffic and record some responses on the board. Why might it be important to limit the amount of traffic?

STEP 1

Linear Equations

Review and instruct if needed the vocabulary and processes for solving linear equations. Show students [this video](#) to help review concepts. Be sure that students have a firm understanding of how to translate a linear equation to a graph by plotting a point and finding the slope.

ARTFUL THINKING ROUTINE

Colors, Shapes, and Lines Routine. Have students analyze this [City Map of Geneva, Illinois](#).

- What colors do you see?
- What shapes do you see?
- What lines do you see?

Artful Thinking by Project Zero is licensed under a Creative Commons AttributionNonCommercial 4.0 International License. Routine found here: <http://pzartfulthinking.org/>

STEP 2

Interpreting and Analyzing Artwork

Now that students have an understanding of analyzing and solving linear equations, it is time to get them ready to interpret and analyze some art.

Teacher-to-Teacher

If computers are not available have graph paper for students to use to graph their equations.

If students need to be given more direction you can assign the building locations and have them determine the coordinates instead of allowing them to determine the building locations on their own.

To expand this lesson have students work "backward"- drawing city maps on graph paper and then determining the linear equation for each street.

MAIN ACTIVITY/PROJECT

Allow students the opportunity to work independently or with a partner. Explain that they will need to complete the Input-Output tables included on their City Planning resource pages. They will need to use the values from their input-output tables to graph each of the linear equations. They will use the online linear equation graph maker [Desmos](#) to create and print out their graph. Then students should utilize colored pencils to add detail to their city map.

The graphed lines should represent roads. Vertical lines (lines with a slope of 0) will be "streets." Horizontal lines (lines with an undefined slope) will be "avenues." These roads should be labeled according to their x or y intercepts. **Example:** 8th Avenue, 2nd Street, etc. Roads with a diagonal slope, can be named whatever students choose. Students should then add and label points that represent building locations and record their coordinates. Students will write and present as a partner pair their city along with the linear equations, graph and an analysis of their equations.

ESTIMATED TIME: 1 hour

CLOSURE

Reflection

Students should trade maps with another group and answer the following questions:

What are the coordinates of the library on this map?

Are all roads labeled?

What could be done to improve this map?

Would this be a good road plan for a city?

TEACHER ASSESSMENT

THEME	CONTENT	ART
Who Are We?	CCSS.Math.Co nt.8.EE.C.7.A	MA:Cn10.1.8.

	3	2	1	0
Ability to analyze and solve linear equations as evidenced in the input and output resource page.	More than six linear equations were correctly created and solved to graph. Graph includes all necessary labels.	Four to six linear equations were correctly created and solved to graph. Graph includes most of the necessary labels.	Two or three equations were created and solved. There are no labels on the graph.	No equations were solved or graphed.
City plan designed using linear equations.	City Plan includes more than six linear equations that distinctly represent city streets and are labeled accordingly. All required city buildings are added and their coordinates are labeled.	City Plan includes between four and six linear equations that clearly represent and City Streets.	City Plan includes less than four linear equations. Some roads do not accurately represent the linear equations.	City Plan was not completed.
Written Analysis of a partner group's city plan.	Analysis accurately solves the linear equations used to create their city map with no mistakes. And provides thoughtful commentary on city design.	Analysis accurately solves most of the linear equations used to create their city map.	Analysis accurately solves a few of the linear equations used to create their city map.	No analysis was completed.

City Planning

Name: _____

Date: _____

Period: _____

	3	2	1	0
Ability to analyze and solve linear equations as evidenced in the input and output resource page.	More than six linear equations were correctly created and solved to graph. Graph includes all necessary labels.	Four to six linear equations were correctly created and solved to graph. Graph includes most of the necessary labels.	Two or three equations were created and solved. There are no labels on the graph.	No equations were solved or graphed.
City plan designed using linear equations.	City Plan includes more than six linear equations that distinctly represent city streets and are labeled accordingly. All required city buildings are added and their coordinates are labeled.	City Plan includes between four and six linear equations that clearly represent and City Streets.	City Plan includes less than four linear equations. Some roads do not accurately represent the linear equations.	City Plan was not completed.
Written Analysis of a partner group's city plan.	Analysis accurately solves the linear equations used to create their city map with no mistakes. And provides thoughtful commentary on city design.	Analysis accurately solves most of the linear equations used to create their city map.	Analysis accurately solves a few of the linear equations used to create their city map.	No analysis was completed.

Vocabulary

Linear Equations and City Planning

Name: _____

Date: _____

Period: _____

Linear Equations - the equation for a straight line

Example: $y=2x+1$

Slope - the measure of the steepness of a line. Reading at a slope from left to right, slopes that "go up" are positive and slopes that "go down" are negative.

Y Intercept - in a linear equation this is the location where the line crosses the vertical axis.

Slope-Intercept Form - the most common form of a linear equation.

Example: $y=mx+b$

↑ ↓
Slope Y Intercept

City Planning Warm-Up

Linear Equations and City Planning

Name: _____

Date: _____

Period: _____

Linear Equations Worksheet

Linear Equations and City Planning

Name: _____

Date: _____

Period: _____

Use the input and output tables below to solve the seven equations below.

1. $y=2x+1$

x	Work	y	(x,y)
		6	
10			

2. $y=2x+4$

x	Work	y	(x,y)
		18	

3. $y = \frac{1}{2}x - 3$

x	Work	y	(x,y)
-14			
		6	

4. $y = x - 18$

x	Work	y	(x,y)
		-3	
-12			

5. $y = -4x + 19$

x	Work	y	(x,y)
4			
		9	

6. $y = 15$

x	Work	y	(x,y)
-9			

7. $x = -11$

x	Work	y	(x,y)
		-12	
		12	

Using [Desmos](#), graph each linear equation listed above. The graphed lines should represent roads. Vertical lines (lines with a slope of 0) will be “streets.” Horizontal lines (lines with an undefined slope) will be “avenues.” These roads should be labeled according to their x or y intercepts. (Example: 8th Avenue, 2nd Street, etc.) Roads with a diagonal slope, can be named whatever you choose. Add and label points that represent building locations and record their coordinates.

Your City Map should include the following buildings:

- Library
- Town Hall
- Post Office
- Grocery Store
- School
- Community Center

Reflection

Linear Equations and City Planning

Name: _____

Date: _____

Period: _____

Trade city planning maps with another partner group. Fill out this reflection page based on their city map.

What are the coordinates of the library on this map?

Are all roads labeled?

What could be done to improve this map?

Would this be a good road plan for a city?

.....