



SCIENCE TECHNOLOGY ENGINEERING
ARTS MATHEMATICS

Miami-Dade County Public Schools - STEAM

Our Vision

Miami-Dade County Public Schools aspires to engage and prepare all our students in Science, Technology, Engineering, Art and Mathematics (STEAM) to ensure our community has the next generation of inventors, explorers, innovators, artists and leaders.



STEAM School Designation (Elementary School)



Criteria	1 Point	2 Points	3 Points
1. STEAM-School Curriculum Integration [Integration]	<ul style="list-style-type: none"> Evidence of STEAM curriculum integration in at least one grade-level. 	<ul style="list-style-type: none"> Evidence of STEAM curriculum integration in at least three grade-levels. 	<ul style="list-style-type: none"> Evidence of STEAM curriculum integration at school-wide level.
Proof or artifacts to quantify STEAM efforts: <i>Lesson plans, student artifacts, department goals, school showcase, school STEAM goals, pictures and videos</i>			
2. STEAM-Science Offerings [Operation]	<ul style="list-style-type: none"> A total of two Science showcases of student experimentation and engineering design utilizing Essential Labs, CPALM STEM MEA's and other inquiry-based activities. 	<ul style="list-style-type: none"> A total of three Science showcases of student experimentation and engineering designs utilizing Essential Labs, CPALM STEM MEA's and other inquiry-based activities 	<ul style="list-style-type: none"> A total of four Science showcases of student experimentation and engineering designs utilizing Essential Labs, CPALM STEM MEA's and other inquiry-based activities.
Proof or artifacts to quantify STEAM efforts: <i>Agendas and sign-in sheets, pictures, videos, media releases or articles, invitations to community stakeholders</i>			
3. STEAM-Mathematics Offerings [Operation]	<ul style="list-style-type: none"> A total of two Problem Solving Showcases inclusive of project-based learning, utilizing CPALMS' STEM MEA Lessons. 	<ul style="list-style-type: none"> A total of three Problem Solving Showcases inclusive of project-based learning, utilizing CPALMS' STEM MEA Lessons. 	<ul style="list-style-type: none"> A total of four Problem Solving Showcases inclusive of project-based learning, utilizing CPALMS' STEM MEA Lessons.
Proof or artifacts to quantify STEAM efforts: <i>Master Schedule, agendas and sign-in sheets, pictures, videos, media releases or articles, invitations to community stakeholders</i>			
4. Visual & Performing Arts Education Offerings [Operation]	<ul style="list-style-type: none"> Offer one hour of continuous instruction per week in art and music. Participation in at least one district performance or exhibition event (Art competitions, music performance assessments and superintendent's honors festivals). 	<ul style="list-style-type: none"> Offer one hour of continuous instruction per week in art and music. Participation in at least two district performance or exhibition event (Art competitions, music performance assessments and superintendent's honors festivals). 	<ul style="list-style-type: none"> Offer one hour of continuous instruction per week in art and music. Participation in at least three district performance or exhibition event (Art competitions, music performance assessments and superintendent's honors festivals).
Proof or artifacts to quantify STEAM efforts: <i>Master Schedule, agendas and sign-in sheets, pictures, videos, media releases or articles, invitations to community stakeholders</i>			

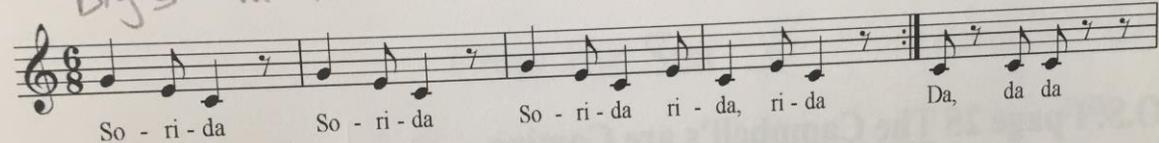
Keeping the pulse in 6

- Hand Drum/non-pitched percussion instrument in hand.
 - Count to 6 softly while keeping the beat in your feet.
 - Play on beat 1 continue walking on all beats (continue for 4 patterns)
 - Then add on...
 - Start again adding onto the beat each pattern, once you get to 6 descend taking away one number.
-
- S. Timbre
 - T. metronome
 - E. concentric circles
 - A. Steady beat, drumming, movement
 - M. counting, addition, subtraction

Sorida-A Shona Handgame Song

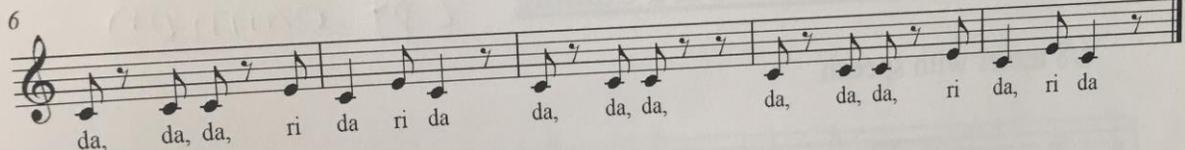
Zimbabwe

Big sun motion



So - ri - da So - ri - da So - ri - da ri - da, ri - da Da, da da

6



da, da, da, ri da ri da da, da, da, da, da, da, ri da, ri da

Translation: Sorida is a term of greeting in the Shona language in Zimbabwe.

Motions:

Phrase 1: "SO"- hands up in circular motion and bring down during "ri"
"da" clap (repeat 2x)
"ri" clap partner's hands
"da" clap own hands

Phrase II: "Da, da, da" - right, left, both (repeat 2x)
"ri, da" - both (partner), clap (2x)

SORINDA

FOLLOW THE DRINKING GOURD TEXT

Chorus:

Follow the drinking gourd, Follow the drinking gourd.

For the old man is awaiting for to carry you to freedom if you follow the drinking gourd.

1. When the sun comes back and the first quail calls...
2. The river bank makes a very good road...
3. The river ends between two hills...
4. There's another river on the other side..

Follow the Drinking Gourd

♩ = 120

Chorus

American Folk
Arr. Kriske

Musical score for the chorus of "Follow the Drinking Gourd". It features five staves: vocal line, AG/SG (any two notes), Conga Drum, BX, and CBB/BM. The lyrics are: "Fol-low the drink-ing gourd. Fo-low the drink-ing gourd. For the all night long hope the stars will shine. Fol-low me want u be my friend".

Musical score for the verse of "Follow the Drinking Gourd". It features five staves: vocal line, AG/SG, Conga Drum, BX, and CBB/BM. The lyrics are: "old man is a-wait-ing for to car-ry you to free-dom if you fol-low the drink-ing gourd. When the".

Musical score for the verse of "Follow the Drinking Gourd". It features five staves: vocal line, AG/SG, BM/AM/SM (any two notes), Conga Drum, and CBB/BM. The lyrics are: "sun comes back and the first quail calls. Fol-low the drinking gourd. For the".

- Verse 2: The river bank makes a very good road . . .
- Verse 3: The river ends between two hills . . .
- Verse 4: There's another river on the other side . . .

PROCESS:

- teach song as vocal repertoire
- snap twice after "Follow" and transfer to AG/SG
- pat rhythm to CBB/BM; transfer
- use hand staff to teach BX; transfer
- use the following text to teach the conga drum part:
"All night long, hope the stars will shine . . ."
- add metallophone clusters at the beginning of each verse
- perform

OBJECTIVES:

- moving bordun
- line/space recognition (hand staff)
- folk repertoire

LEVEL:

- upper grades

Check the school library for books on the Underground Railroad. Students enjoy the story behind the folk song.

FORM:

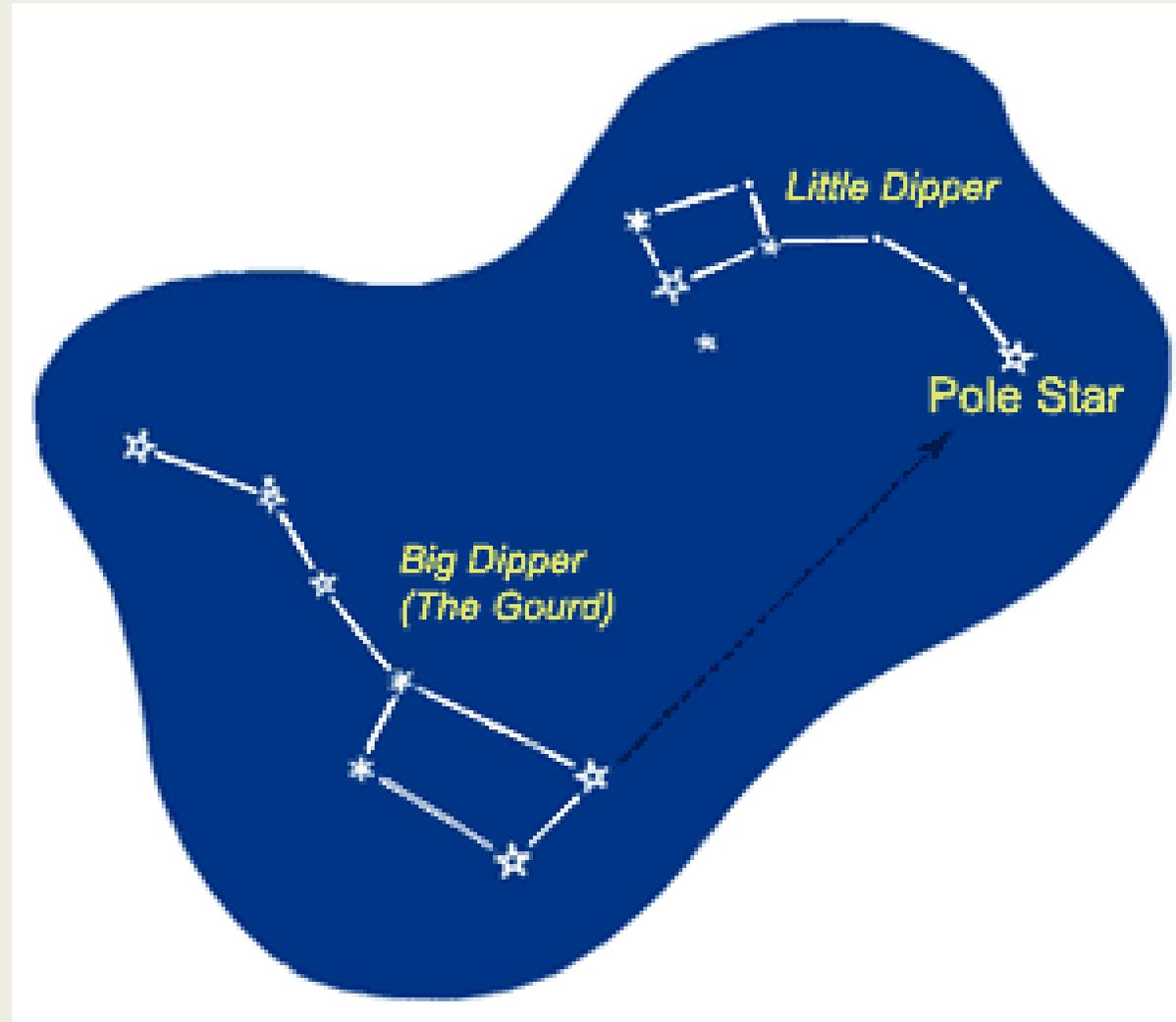
- Introduction - CBB/BM/BX/
Conga Drum, 4 ms.
- Chorus, Verse 1
- Interlude - Same as Introduction
- Chorus, Verse 2
- Interlude
- Chorus, Verse 3
- Interlude
- Chorus, Verse 4
- Coda - Same as Introduction

FOLLOW THE DRINKING GOURD

- **S.** Students will use science to identify constellations, specifically the Big Dipper star formation, and Polaris (North Star). Students will understand how the Drinking Gourd was code for the Big Dipper in the Folk Song 'Follow the Drinking Gourd'.



T. Students will use mobile technology to create tessellations & identify constellations in the sky
[Tesselations App by David Rasch](#) & [SkyView](#).



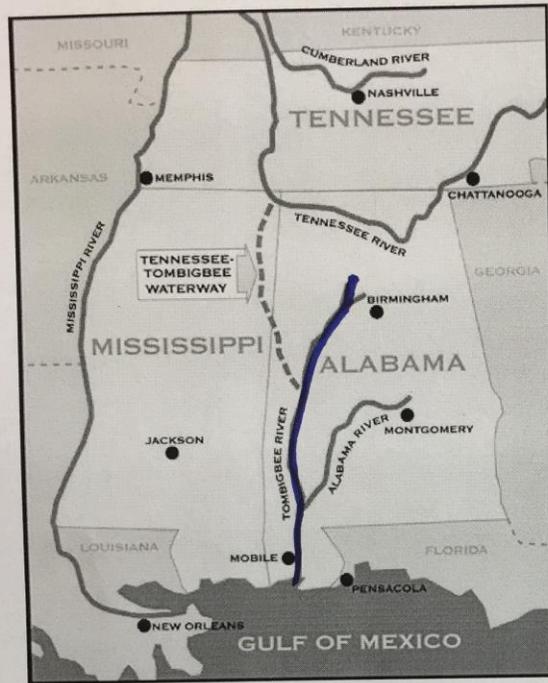
E. Students will engineer a tessellation pattern using geometric shapes found in quilts placed on clotheslines to indicate 'Safe Houses'. Geometric pattern and color signified different meanings.



Monkey Wrench Get ready! Gather the tools you'll need to build shelters, navigate the journey, or defend yourself along the way.	Crossroads Keep going and travel to the crossroads in Cleveland, Ohio. Nicknamed "Hope", this vibrant Underground Railroad station was the last stop where slaves would board a boat to Canada.	Log Cabin You've reached a safe house. Congratulations you have found new friends who are friends of slaves.	Bow Ties You're looking pretty tattered. To disguise yourself as a freed slave, you'll need a change of clothes. The Bow Ties quilt block is a code to tell you someone will bring you nicer clothing.
Flying Geese Follow the migrating geese north to Canada (and freedom).	Drunkard's Path Go back one space! This quilt block is a sign that slave hunters are near. Double back to elude them immediately!	North Star Look to the skies to help you navigate the way. Follow the North Star to Canada.	Tumbling Blocks The time has come to box up your belongings. Your escape will be happening soon!

■ **A.** Students will review and continue to understand the process by which music & song (spirituals) were used as a tool of communication between slaves and abolitionist to find freedom.

■ [Follow the Drinking Gourd Video](#)



The Tombigbee River is 352,000 yds long - how many miles is the Tombigbee River

200

1760 yds - 1 mile



Pinecrest Elementary

STEAM LESSON



Teacher: Ms. Kohanek

Date: February 6, 2017

Grade: 4

Lesson/Activity Name: Follow the Drinking Gourd

S Students will use science to identify constellations, specifically the Big Dipper star formation, and Polaris (North Star). Students will understand how the Drinking Gourd was code for the Big Dipper in the Folk Song 'Follow the Drinking Gourd'.

T Students will use mobile technology to create tessellations & identify constellations in the sky [Tessellations App by David Rasch](#) & [SkyView](#).

E Students will engineer a tessellating pattern using geometric shapes found in quilts placed on clotheslines to indicate 'Safe Houses'. Geometric pattern and color signified different meanings.

A Students will review and continue to understand the process by which music & song (spirituals) were used as a tool of communication between slaves and abolitionist to find freedom.

M Students will calculate the difference in length between the following rivers: the Tombigbee River, the Tennessee River, and the Ohio River, students will be asked to convert yards to miles. These rivers are referenced in the song 'Follow the Drinking Gourd'.

Essential Question:

What does it mean to communicate?

Benchmarks:

SC.35.CS-CC.1.1	SC.35.CS-CS.2.6
SC.35.CS-CP.1.4	SC.35.CS-CS.1.4
MU.4.O.3.1	SC.35.CS-PS.3.2 tessellations
MU.4.H.3.1	MU.4.S.3.1
MAFS.4.OA.3.5	
MAFS.5.MD.1.1	

Materials:

- As American As Apple Pie - Kriske, DeLelles
- Get American Singing Again songbooks v. 2
- Piano, barred instruments, non-pitched percussion
- ipads, ipones - downloaded apps
- construction paper
- geometric shapes
- glue sticks
- map worksheets

Assessment:

- Students will be assessed on their participation which included: singing Follow the Drinkin' Gourd with tonal and lyric accuracy, and playing percussion instrumentation.
- Tessellation patterned quilts will be assessed on assigned guidelines.
- Yards to Miles conversions will be assessed for mathematical accuracy.