

Overall STEAM Plus Pilot Program

STEAM Plus Education Director: Kylee Crook

STEAM Plus Program Coordinator: Koren E. Illa

Partners: The Bass, Jewish Museum of Florida - FIU, Miami City Ballet, New World Symphony, The Wolfsonian - FIU, and Young Musicians Unite.

Total Program Summary Statistics

Total Number of Visits: 232

Total Number of Interactions (per student): 192

Total Number of Students Reached: 2180

Total Number of Teachers Reached: 74

Total Number of Hours: 682.5

Biscayne Elementary School

Principal: Karen Belusic

STEAM Coordinator: Iris Garcia

Partners: The Bass and Miami City Ballet

Total Statistics for Biscayne Elementary School

Total Visits of Visits: 17

Total Number of Interactions (per student): 15

Total Number of Students Reached: 209

Total Number of Teachers Reached: 12

Total Number of Hours: 66

Miami City Ballet @ Biscayne Elementary School

Grade: 1

Dates: February 5-February 22 (**10 Visits**)

Total number of interactions per student: 10

Total number of students reached: 87

Total number of teachers: 5

Total number of classes: 5

Total number of hours in school: 36 hours

Total number of hours out of school: 0

Total number of teaching artists: 1

Field Trip: N/A

Culminating Event:

Date: February 22

Time: 9 am

Location: Biscayne Elementary, Tiger Cafe

Partnership Activity Summarization:

First-grade students worked with Miami City Ballet to develop movements that focused on the animals and their habitats. The Ballet taught the following concepts and their relationship to dance: push and pull (introduction to salsa dancing and partner dancing), motion and force (using their imagination to embody superheroes using kinetic energy) and addition/subtraction (using the limbs from their body practice addition and subtraction problems.) Concluding in a culminating event for families and friends to enjoy, students explained to guests how through their movement they were able to learn more about the topics being taught in science and math class.

Standards:

- DA.1.S.1.1
- DA.1.O.1.In.b
- DA.1.C3.In.a
- DA.1.F.1.1
- DA.1.O.2.Pa.a
- DA.1.S.2.1
- DA.1.S.3.In.a
- DA.1.F.3.In.a
- DA.1.C.3.Pa.a

Success Stories:

All students successfully achieved performance skills on and off stage. Some of the challenges that students successfully conquered were: memorizing choreography, performing in front of an audience, learning to count, working as a team, making different formations and integration of the arts with their academic subjects.

Over 10 students in this residency program were nominated by their teaching artist to audition for an opportunity to receive a spot in the Miami City Ballet School Ballet Bus Scholarship Program. Out of the selected group, 2 students, were nominated by Miami City Ballet's School Director to be on the waitlist for the next school year. Their placement is still in progress.

The mission of the Ballet Bus program is to provide world-class training to children from the Miami community with both merit and need, provides everything the child will need to succeed and excel in one of the nation's premier dance training academies, full tuition, dance uniforms, transportation from the child's school, snacks for the bus ride, an invaluable opportunity to engage with critically acclaimed teachers and artists.

The Bass @ Biscayne Elementary School

Grade: 3rd

Dates: April 5 - May 16 **(10 visits)**

Total number of interactions per student: 6

Total number of students reached: 122

Total number of teachers: 6

Total number of classes: 6

Total number of hours in school: 26 hours

Total number of hours out of school: 4

Total number of teaching artists: 2

Field Trip to The Bass:

Date: May 16, 2019

Time: 10am – 12pm / 12:00pm – 2:00pm

Bus Company: J & M Vera Bus

Free Family Day – STEAM Plus Celebration:

Date: April 28

Time: 2-4pm

Location: The Bass

Materials Distributed:

Books – *Tar Beach* by Faith Ringgold, *How Do You Hug A Porcupine?* and *Going to the Museum*

Free Family Passes to The Bass (140)

Flyers for April 28th Free Family – STEAM Plus Celebration at The Bass

Community Quilt

Exploring eco-friendly materials, students learned about the history of the jute plant which is used to create burlap and has had many uses throughout time. Students learned the importance of recycling and learning how to sew.

Using their research and knowledge from what was being taught in a science class, as well as an exhibition at The Bass, students designed their own patch for the community quilt. Students

created endangered animals and habitats and explored the plant life cycle to adorn our community quilt. Students used oil pastels to color and create their design as well as recycled paper to collage various materials to add details to their patch. Students learned how to tie a knot, thread and sew beads onto their burlap piece using a cross stitch. Once completed our teaching artists collected the pieces to create our giant community quilt and students used mathematical skills to hypothesize the size of the quilt at its completion.

Community Quilt Standards:

- Science: SC.3.L Life Science
- Visual Arts: VA.3.S Skills, Techniques, and Processes
- Math: MAFS: MD Measurement and Date
- Visual Arts: VA.3.S Skills, Techniques, and Processes
- Math: MAFS:3.G Geometry
- Visual Arts: VA.3.C: Critical Thinking and Reflection

The Bass STEAM Plus Lab (Field Trip Activity)

Students participated in a lab experiment that later helped them create a small “thank you” card for the Mayor and City Officials who helped bring the STEAM Plus Program into schools. Students learned how oil spills and water pollution impacts the world around us. The teaching artists created a replica ocean and demonstrated how oil and water do not mix. Students then experimented to see what are possible solutions for oil spills. These exercises engaged students with discussions on how to protect marine life and what the greenhouse effect is and how it affects the aquatic ecosystem. Using different materials like sponges, cotton, feathers, burlap and other materials students tried to collect the oil from the ocean replica. This lab explored the nature of science and different roles which theories, laws, hypotheses, and models play in science.

STEAM Plus Lab - Science Standards (Interaction 4):

- SC.3.N.3: Nature of Science
 - SC.3.N.1 – The Practice of Science
 - SC.3.N.3 – The Role of Theories, Laws, Hypotheses, and Models

STEAM Plus Lab - Visual and Performing Arts Standards:

- VA.3.O: Organizational Structure
- VA.3.F: Innovation, Technology, and the Future

Success Stories:

During the Biscayne Elementary School field trip to The Bass, the students had the opportunity to witness their work on display at The Bass and participated in a STEAM Plus Lab. Throughout

the field trip students expressed their pride in having their art up at the museum. A teacher became emotional once she saw the community quilt because she was so proud of her students. She revealed that her students are on the autism spectrum and often have difficulty completing assignments. Initially when The Bass first approached her about the community quilt that she was afraid her students would not be able to participate and was pleased to see the completed quilt.

Fienberg Fisher K - 8 Center

Principal: Maria Costa

STEAM Coordinator/IB Coordinator: Eloisa Menes

Partners: The Bass, Miami City Ballet and Young Musicians Unite

Total Statistics for Fienberg Fisher K-8 Center

Total Visits of Visits: 48

Total Number of Interactions (per student): 59

Total Number of Students Reached: 210

Total Number of Teachers Reached: 10

Total Number of Hours: 200

Miami City Ballet @ Fienberg Fisher K-8 Center

Grade: Kindergarten

Dates: February 25 - March 19 (8 visits)

Total number of interactions per student: 8

Total number of students reached: 63

Total number of teachers: 3

Total number of classes: 3

Total number of hours in school: 24 hours

Total number of hours out of school: 0

Total number of teaching artists: 1

Culminating Event:

Date: March 19, 2019

Time: 1pm

Location: Fienberg Fisher PCC (Panda Conference Center)

Partnership Activity Summarization:

Kindergarten students focused specifically on mathematics and the animals in which they were learning about in their science class. In their arts integration for animals activity, students found creative ways to embody the motion, sounds and habitats of the animals using their whole body. Activities were designed to engage mathematics through rhythm, using their hands to clap, vocalizing the numbers and counting beats with a metronome.

Standards:

- DA.1.H.3 (DA.1.H.3.1)
- DA.1.H.3.1 (DA1.H.3.In.a)
- DA.1.S.1

- DA.1.C.2 (DA.1.C.2.In.a)
- DA.1.S.3 (DA.1.S.3.2/DA.1.S.3.3)
- DA.1H.3.Su.a
- DA.1.O.2
- DA.1.O.1

Success Stories:

All students successfully achieved performance skills on and off stage. Some of the challenges that they successfully conquered: memorizing choreography, performing in front of an audience, learning to count, working as a team, making different formations and integration of the arts with their academic subjects.

Over 10 students in this residency program were nominated by their teaching artist to audition for an opportunity to receive a spot in the Miami City Ballet School Ballet Bus Scholarship Program. Out of the selected group, 3 students, were nominated by Miami City Ballet’s School Director to be on the waitlist for the next school year. Their placement is still in progress.

The mission of the Ballet Bus program is to provide world-class training to children from the Miami community, who have both merit and need. The program provides everything the child will need to succeed and excel in one of the nation’s premier dance training academies including full tuition, dance uniforms, transportation from the child’s school, snacks for the bus ride and an invaluable opportunity to engage with critically acclaimed teachers and artists.

The Bass @ Fienberg Fisher K-8 Center

Grade: 2nd

Dates: March 15 - March 20 (4 visits)

Total number of interactions per student: 4

Total number of students reached: 107

Total number of teachers: 6

Total number of classes: 6

Total number of hours in school: 24 hours

Total number of hours out of school: 2

Total number of teaching artists: 2

Field Trip to The Bass:

Date: June 5, 2019

Time: 10am – 12pm

Bus Company: Oliveros Bus Company

Note: 10 additional SECME students joining the group for STEAM Plus Lab and final interaction

Free Family Day – STEAM Plus Celebration:

Date: April 28

Time: 2-4pm

Location: The Bass

Community Quilt

Exploring eco-friendly materials, students learned about the history of the jute plant which is used to create burlap and has had many uses throughout time. Students learned the importance of recycling and learning how to sew.

Using their research and knowledge from what was being taught in a science class, as well as an exhibition at The Bass, students designed their own patch for our community quilt. Students created endangered animals and habitats and explored the plant life cycle to adorn the community quilt. Students used oil pastels to color and create their design as well as recycled paper to collage various materials to add details to their patch. Students learned how to tie a knot, thread and sew beads onto their burlap piece using a cross stitch. Once completed the teaching artists collected all the pieces to create a giant community quilt and students used mathematical skills to hypothesize the size of the completed quilt.

Community Quilt Standards:

- Science: SC.2.E.6 Earth Space Science
- Visual Arts: VA.2.S Skills, Techniques, and Processes
- Science: SC.2.E.7 Earth Space Science
- Math: MAFS:2.MD Measurement and Data
- Visual Arts: VA.2.S Skills, Techniques, and Processes
- Science: SC.2.N.1 Nature of Science
- Visual Arts: VA.2.C: Critical Thinking and Reflection
- Math: MAFS:2.G.1.1 & MAFS.2.G.1.2 Geometry
- Visual Arts: VA.2.C: Critical Thinking and Reflection

Authentic Assessment: Haitian Heritage – Tap Tap Buses

Students honored Haitian Heritage month by creating watercolors inspired by the iconic Tap Tap busses that have become symbols of Haitian creativity. Through this exercise students explored the science behind mixing oil and water and dually learned about Haitian culture and environmentalism. Educators explained oil's resistance to water by using oil pastels on

watercolor paper to design and outline their work followed by watercolor, which resists the oil pastels leaving the outline of where the oil pastel has been used.

The program encouraged students to engage with topics regarding: the pros and cons of using public transportation, the different kinds of footprints that various kinds of transportation leave and methods to limit greenhouse gas emissions and save energy.

Five student pieces were selected to showcase their artworks for the Authentic Assessment exhibition at the M-DCPS School Board Administration Building for Board Members, community dignitaries and thousands of visitors view this high-profile exhibition.

Authentic Assessment Description: This exhibition celebrates Haitian Heritage. Over fifty 2-D and low-relief artworks celebrating Haitian culture and tradition are selected for installation in the auditorium gallery of the School Board Administration Building. Board Members, community dignitaries and thousands of visitors view this high-profile exhibition.

Tap Tap Buses Standards:

- Science: SC.2.L.14 Life Science / Visual Arts: VA.2.S Skills, Techniques and Processes
- Science: SC.2.L.16 Life Science / Visual Arts: VA.2.S Skills, Techniques and Processes
- Science: SC.2.L.17 Life Science / Visual Arts: VA.2.C: Critical Thinking and Reflection
- Science: SC.2.E.7 Compare and Describe / Visual Arts: VA.2.C: Critical Thinking and Reflection

The Bass STEAM Plus Lab (Field Trip Activity)

Students participated in a lab experiment that later helped them create a small “thank you” card for the Mayor and City Officials who helped bring the STEAM Plus Program into schools. Students learned how oil spills and water pollution impacts the world around us. The teaching artists created a replica ocean and demonstrated how oil and water do not mix. Students then engineered and experimented to see what are possible solutions for oil spills. These exercises engaged students with discussions on how to protect marine life, what the greenhouse effect is and how it affects the aquatic ecosystem. Using different materials like sponges, cotton, feathers, burlap, and other materials students tried to collect the oil from the ocean replica. This lab explored the nature of science and different roles which theories, laws, hypotheses, and models play in science.

STEAM Plus Lab - Science Standards:

- SC.2.N.1: Nature of Science
 - SC.2.N.1.1 – The Practice of Science
 - SC.2.N.1 – The Role of Theories, Laws, Hypotheses, and Models

STEAM Plus Lab - Visual and Performing Arts Standards:

- VA.2.O: Organizational Structure
- VA.2.F: Innovation, Technology and the Future

Success Story:

Five student works were selected for display at the M-DCPS School Board Administration Building for the Authentic Assessment exhibition. Board Members, community dignitaries and thousands of visitors view this high-profile exhibition. The student's work has been up since April 19th and will remain up in the School Board Building until August 22, 2019.

Many of the participating students and teachers expressed how they have not been exposed to the materials that were used throughout our STEAM Plus interactions due to low-income households and low budget school supplies. Through these interactions, teachers expressed how relieved they were that students had a chance to learn through creating art versus using only textbooks and handouts.

Authentic Assessment Description: This exhibition celebrates Haitian Heritage. Over fifty 2-D and low-relief artworks celebrating Haitian culture and tradition are selected for installation in the auditorium gallery of the School Board Administration Building. Board Members, community dignitaries and thousands of visitors view this high-profile exhibition.

Young Musicians Unite @ Fienberg Fisher K-8 Center**Grade:** 6-8**Dates:** January 22 - May 28(48 visits)**Total number of interactions per student:** 46**Total number of students reached:** 40**Total number of teachers:** 1**Total number of classes:** 2**Total number of hours in school:** 69 hours**Total number of hours out of school:** 0**Total number of teaching artists:** 2 (+ 2 substitutes)**Culminating Event:** Fienberg Fisher Spring Concert and Graduation Performance

Date: May 29th

Time: 6 pm

Location: Fienberg Fisher K-8 Center

Partnership Activity Summarization:

Young Musicians Unite partnered with Mr. Paseiro at Fienberg Fisher K-8 Center to assist him in facilitating a guitar class for both sixth and eighth-grade students. Middle school students at Fienberg Fisher currently do not have the option to take a music class all year round but are limited to one-quarter of guitar class. Due to this challenging restriction, YMU provided additional teaching artists to assist Mr. Paseiro with students' rapid progress on the guitar. Mr. Paseiro and YMU artists collaborated on lesson materials and often divided students into groups by skill level. This allowed students to work with peers with a similar level of experience, challenging each other, while not feeling left behind in such a large class.

Standards:

- MU.68.C.1.1
- MU.68.S.3.2
- MU.68.S.3.4
- MU.68.S.3.3
- MU.68.C.2.1
- MU.68.C.2.3
- MU.68.S.1.4
- MU.68.S.1.1

Success Stories/Quotes:

"YMU [Young Musicians Unite] was a tremendous help in advancing the skills of both my guitar students and my Rock Ensemble. They were there ready to assist in whatever was necessary to help the students acquire the skills required to accomplish the goals of the lessons." – Arnold Paseiro, Band Director, Fienberg Fisher K-8

Miami Beach Senior High School

Principal: Dr. Maria T. Rodriguez

STEAM Coordinator: Wendy Guzman

Partners: The Bass, Jewish Museum of Florida-FIU, New World Symphony and Young Musicians Unite

Total Statistics for Miami Beach Senior High School

Total Visits of Visits: 68

Total Number of Interactions (per student): 55

Total Number of Students Reached: 652

Total Number of Teachers Reached: 7

Total Number of Hours: 187

The Bass @ Miami Beach Senior High School

Grade: 9-12

Dates: April 15 - April 28 (9 visits)

Total number of interactions per student: 2

Total number of students reached: 499

Total number of teachers: 3

Total number of classes: 17 (Periods)

Total number of hours in school: 52 hours

Total number of hours out of school: 0

Total number of teaching artists: 1

Culminating Event

Free Family Day – STEAM Plus Celebration:

Date: April 28

Time: 2-4pm

Location: The Bass

DNA Bracelets

Biology teachers and students partnered with The Bass to further understand how DNA strands are formed and created. Students studied the science behind DNA, RNA, and Chromosomes, then graphed and charted their own DNA. DNA contains a chemical code that is made up of four bases: adenine, cytosine, guanine, and thymine (A, C, G and T for short), these bases always pair together in the same way, A with T and C with G. With this knowledge, students translated the bases into various colors to represent each base.

Students learned that collectively this code guides the growth, development and the health of all organisms. Students used this to create the proper pairing to create their own DNA sequence by using the letters in their names and pairing each letter with an element in the periodic table, or by using DNA structures of different animals, plants, and bacteria. Inspired by the technique used in *The Haas Brothers: Ferngully* exhibition, students used wire and glass beads to transform their one-dimensional DNA graphs into 3-D bracelets. Through this process, students better understand how and why everyone's DNA is unique.

Students artwork was on display at The Bass on April 28^{for} the Free Family Day– STEAM Plus Celebration. Students also created bracelets for the Mayor of Miami Beach – Dan Gelber and the City of Miami Beach Commissioners who supported STEAM Plus.

Standards:

- Visual and Performing Arts [VA.68.S.1.4](#): Use accurate art vocabulary to explain the creative and art-making processes.
- Visual and Performing Arts [VA.68.S.2.1](#) Organize the structural elements of art to achieve artistic goals when producing personal works of art.
- Visual and Performing Arts [VA.68.S.2.2](#) Create artwork requiring sequentially ordered procedures and specified media to achieve intended results.
- Visual and Performing Arts [VA.68.S.3.1](#) Use two-dimensional or three-dimensional art materials and tools to understand the potential and limitations of each.
- Visual and Performing Arts [VA.68.S.3.2](#) Develop spontaneity and visual unity in artwork through repeated practice and refined craftsmanship.

Success Stories

A student responded to our survey by stating I loved this experience because we got to learn through fun and different activities. I hope they come back.” Another student thought this was a “thoughtful program for bringing creativity and science together”

Jewish Museum of Florida-FIU @ Miami Beach Senior High School

Grade: 9-12

Dates: May 20 - May 29 (4 visits)

Total number of interactions per student: 2

Total number of students reached: 82

Total number of teachers: 2

Total number of classes: 4 (Periods)

Total number of hours in school: 15 hours

Total number of hours out of school: 0

Total number of teaching artists: 2

Partnership Activity Summarization:

During this partnership students were introduced to the Jewish Museum of Florida-FIU and received a guided tour of the Jewish Museum of Florida-FIU. The lesson included architecture, history, design, art curation focusing on the museum's 80 stained glass window history and information on how glass is made and infused with color. Historic elements of art-deco stained glass were explored including: inherent and integrated social values, review of key science concepts (light, transparency, translucency, opacity and heat as a catalyst to color.) Students were shown a video presentation about stained glass using photographic examples of the colorful art form that can be seen in various historical locations including Notre Dame Cathedral in Paris and the Chagall Windows in Jerusalem. The lesson included information on how glass is made and how it is infused with color. In the second interaction, students made their own "stained glass windows" using several different grade level appropriate techniques.

Standards:

- Visual and Performing Arts VA.912.H.2
- Visual and Performing Arts VA.912.S.3
- Visual and Performing Arts VA.912.H.2
- Visual and Performing Arts VA.912.S.3

New World Symphony @ Miami Beach Senior High School**Grade:** 9-12**Dates:** February 4 - May 10 (6 visits)**Total number of interactions per student:** 10**Total number of students reached:** 35**Total number of teachers:** 1**Total number of classes:** 1 (Period)**Total number of hours in school:** 6 hours**Total number of hours out of school:** 6 Hours**Total number of teaching artists:** 18**Field Trip:**

Title: MusicLab Finale Concert Dress Rehearsal

Date: Thursday, May 9, 2019

Time: 4:00 PM-6:30 PM

Bus Company: Air B Transportation

Standard: To be adequately prepared for the season finale performance.

Culminating Event (field trip): MusicLab Finale Concert

Date: Friday, May 10, 2019
Time: 7:00 PM- 10:00 PM
Location: New World Center

Partnership Activity Summarization:

NWS's MusicLab aims to change the way students in the Miami-Dade County experience music education. Guided by NWS Fellows, local students develop new skills and a deeper understanding of their own potential in the realm of classical music and beyond. The hope of this program is to encourage respect and inclusivity while fostering artistic and personal growth for participating students and NWS Fellows.

Studying music in the NWS MusicLab program allows students to develop self-confidence, self-discipline and problem-solving strategies that help them achieve in their overall academic studies. During MusicLab visits, NWS Fellows encourage students to examine compositions in terms of pattern recognition, rhythmic relationships, musical form and structure. Fellows draw direct correlations between music and math by analyzing the breakdown of musical form to help students understand how each note relates to the overall musical structure from the micro to the macro level. Through their study with NWS Fellows, MusicLab students are able to use musical skills to demonstrate mathematical concepts related to fractions, ratios and pattern combination analysis.

Standards:

- MU.68.C.2.1
- MU.68.C.2.3
- MU.68.S.1.4
- MU.68.S.1.1

Success Stories:

The successes we see are in the overall improvement of the students throughout the season. We noticed improved confidence and enhanced musical understanding, perhaps most evident during the MusicLab Finale Concert at the end of the season.

Young Musicians Unite @ Miami Beach Senior High School

Grade: 9-12

Dates: January 17 - May 30 (49 visits)

Total number of interactions per student: 41

Total number of students reached: 36

Total number of teachers: 1

Total number of classes: 2 (Periods)

Total number of hours in school: 108 hours

Total number of hours out of school: 56 Hours

Total number of teaching artists: 7

Culminating Event: Young Musicians Unite Spring Concert @ Rácket

Date: May 25th

Time: 6:30 pm

Location: 150 NW 24th St, Miami, FL 33127

Special Guest Performers: STEAM Plus Celebration @ The Bass

Date: April 28th

Time: 2:00 - 4:00 pm

Location: The Bass- 2100 Collins Ave, Miami Beach, 13393

Partnership Activity Summarization:

Miami Beach Senior High was on the brink of having to close its Rock Ensemble program due to lack of funding. This legendary program was established in 1972 by the late Doug Burris and was the first in-school rock ensemble in American history. Through the STEAM Plus program, Young Musicians Unite partnered with Miami Beach Senior High to reinvigorate the Rock Ensemble by extending this program to include a comprehensive curriculum for music technology and stage production.

Students received year-long pre-professional and career training in a hands-on setting. YMU teaching artists traveled to MBSH to facilitate rehearsals, classes, interactive workshops and lectures. Teaching artists included celebrity industry professionals who shared stories and practical examples from their music career with inquisitive students. Throughout the year, the students of MBSH made impressive progress in their fields and were able to share this gift with the public through many public performances. Thanks to STEAM Plus, the Rock Ensemble is back and stronger than ever.

Standards:

- MU.912.F.1.1
- MU.912.H.2.2
- MU.912.S.3.1
- MU.912.S.1.3
- MU.912.H.2.4
- MU.912.H.2.2
- MU.912.S.2.1

- MU.912.S.1.1

Nautilus Middle School

Principal: Mr. Rene Bellmas

STEAM Coordinator: Lisette Burns

Partners: The Bass, Miami City Ballet, The Wolfsonian-FIU and Young Musicians Unite

Total Statistics for Nautilus Middle School

Total Visits of Visits: 57

Total Number of Interactions (per student): 34

Total Number of Students Reached: 267

Total Number of Teachers Reached: 5

Total Number of Hours: 118.5

The Bass @ Nautilus Middle School

Grade: 6-8

Dates: February 19 - March 21 (**12 visits**)

Total number of interactions per student: 7

Total number of students reached: 135 (Biology 77, Theater 58)

Total number of teachers: 2

Total number of classes: 5 (Periods)

Total number of hours in school: 48 hours

Total number of hours out of school: 4

Total number of teaching artists: 1

Field Trip (Biology): STEAM Plus Lab

Date: March 21

Time: 10am – 12pm

Bus Company: J & M Vera Bus

Culminating Event (Theater): Philip Glass and the Loaf of Bread

Date: Thursday, March 21, 2019

Time: 2:00pm

Location: School Auditorium

Culminating Event (Both): Free Family Day – STEAM Plus Celebration:

Date: April 28

Time: 2-4pm

Location: The Bass - 2100 Collins Ave, Miami Beach, FL 33139

Mrs. Vazquez – Costumes, Props, and Set Design

The Bass partnered with students in Mrs. Vazquez’s Theater 1-3 class and the Miami City Ballet to create an abstract theatre piece performed on March 21, 2019. Students learned how STEAM Plus is incorporated in the world of theater by applying math skills to measure and calculate the appropriate size and scale of costume, set and prop pieces. Students created loaves of bread out of paper-mâché and then worked as a team using recycled materials to construct a giant loaf in the style of the artist Claes Oldenburg. As part of the curriculum, students experimented and observed the difference between oil and water-based paints and how it affects the various materials. While mixing materials and learning new skills students often had to manage their time, communicate efficiently with one another and problem solve.

Dr. Lemas – DNA Bracelets

Dr. Lemas and students partnered with The Bass to further understand how DNA strands are formed and created. Students studied the science behind DNA, RNA and Chromosomes, then graphed and charted their own DNA. DNA contains a chemical code that is made up of four bases: adenine, cytosine, guanine and thymine (A, C, G and T for short), these bases always pair together in the same way, A with T and C with G, with this knowledge, students translated the bases into various colors to represent each base.

Students learned that collectively this code guides the growth, development and the health of all organisms. Students used this guide to create the proper pairing to create their own DNA sequence by using the letters in their names and pairing each letter with an element in the periodic table, or by using DNA structures of different animals, plants and bacteria. Inspired by the technique used in *The Haas Brothers: Ferngully* exhibition, students used wire and glass beads to transform their one-dimensional DNA graphs into 3-D bracelets. Through this process, students better understand how and why everyone’s DNA is unique.

Students artwork was on display at The Bass on April 28 for the Free Family Day– STEAM Plus Celebration. Students also created bracelets for the Mayor of Miami Beach – Dan Gelber and the City of Miami Beach Commissioners who supported STEAM Plus.

Standards:

- VA.68.S.1
- VA.68.C.1.2
- MAFS.7.G.1.1
- VA.68.S.1.5
- MAFS.7.G.S (Cluster 2)
- VA.68.S.2.1

- VA.68.S.2.2
- VA.68.S.3.1
- VA.68.O.1.3
- VA.68.S.3.5

Success Stories

Dr. Lemas expressed great gratitude for this partnership. During a classroom visit, she stated “These interactions allowed my students to better understand the process of creating DNA and RNA sequences. It’s one thing to see it on a projector or in a textbook and another to create one with your hands! By having students solve the sequences then use their cognitive skills to create the replica piece I noticed an increase in understanding. Students were given tools they’ve never used before. Tools as simple as players and scissors! These children have not been exposed to. It was a wonderful learning experience. I hope to see Alex [The Bass Teaching Artist] and The Bass again next year! “

-Dr. Lemas Biology Teacher at Nautilus Middle School

Miami City Ballet @ Nautilus Middle School

Grade: 6-8

Dates: February 13 - March 21 (17 visits)

Total number of interactions per students: 9

Total number of students reached: 58

Total number of teachers: 1

Total number of classes: 2 (Periods)

Total number of hours in school: 22.5 hours

Total number of hours out of school: 0

Total number of teaching artists: 1

Culminating Event(Theater): Philip Glass and the Loaf of Bread

Date: Thursday, March 21, 2019

Time: 2:00pm

Location: School Auditorium

Partnership Activity Summarization:

Nautilus 6th-8th grade students focused on examples of design and architecture to orient their bodies in space. Students studied:

- blueprints used in architecture and how it helps the dancer/ choreographer create shapes

- movement phrases that traveled across the floor helped dancer/ choreographer understand how space traveled helps determine calculations
- the distance between lines and mass (filling the space with bodies)
- push and pull concepts linked to Newton's Law of motion (Physics) were used in the class to help students understand how their bodies push and pull during exercise in the center.

Students learned the Grand Plie movement, an exercise integral to Ballet practice. As student descended to the Plie, the top portion of the body pulls up, or, push and pull as a result of interacting with something or someone else. Discussion of how the student's bodies are similar to pillars or columns and how they must stand vertical and strong on their standing legs, stacked like building blocks on a solid foundation.

Standards:

- DA.68.C.1.3
- DA.68.C.1.Pa.c
- DA.68.0.2.In.c.
- DA.68.0.2.Pa.b.
- TH.68.S.1

Success Stories:

All students successfully achieved performance skills on and off stage. Some of the challenges that they successfully conquered: memorizing choreography, performing in front of an audience, learning to count, working as a team, making different formations, work with costume props

The Wolfsonian-FIU @ Nautilus Middle School

Grade: 6-8

Dates: February 15 - March 22 (6 visits)

Total number of interactions per student: 6

Total number of students reached: 35

Total number of teachers: 1

Total number of classes: 1 (Period)

Total number of hours in school: 7.5 hours

Total number of hours out of school: 4 hours

Total number of teaching artists: 1

Field Trip:

Date: 2/28

Culminating Event: Miami Zine Fair

Date: April 6 and 7

Time: 12pm – 5pm

Location: Little Haiti Cultural Complex

The Wolfsonian – FIU presented an exhibition of the STEAM Zines as one of 180 exhibitors to an audience of approximately 4,000 over the course of the weekend-long event.

STEAM Zines:

STEAM Zines is a hybrid program, combining The Wolfsonian-FIU's STEAM X Design and Zines for Progress programs. Using zines as the platform for exploration and expression, students select a topic within the field of environmental responsibility that they research and then address in their zine. The program combines language arts, visual arts and sciences, to research and address current environmental issues that concern students. Students were asked to explore the context of these issues and to present resources and solutions. STEAM Zines allowed students to work with a mixed grade classroom of 6-8. Additionally, students took a field trip to The Wolfsonian-FIU and had the opportunity to showcase their work at the Miami Zine Fair in April.

Success Stories:

Ms. Burns, the classroom teacher and STEAM Plus Liaison for Nautilus Middle School, was particularly enthusiastic about the STEAM Zines program. During the museum field trip, she was astounded to see the quieter students participating in the exhibition tour with questions and comments, telling the education coordinator that this one student, in particular, is learning-challenged and this is was the first time that the field was leveled in terms of equal participation and confidence in participation.

In the classroom, again Ms Burns remarked on how the learning-challenged students were taking initiative to research and teach themselves about their selected topics – something she didn't see them doing otherwise.

Ms.Burns compiled highlights of student remarks:

- “ I didn't even realize that science was part of it!”
- “Even if I don't learn something (but I did) someone else will when they're reading my zine.”
- “It's a good way to learn and remember.”
- “ It's a creative way to say something important that's serious too.”

Young Musicians Unite @ Nautilus Middle School

Grade: 6-8

Dates: February 5 - March 22 (22 visits)

Total number of interactions per student: 12

Total number of students reached: 40

Total number of teachers: 1

Total number of classes: 2 (Periods)

Total number of hours in school: 36 hours

Total number of hours out of school: 0 hours

Total number of teaching artists: 4

Culminating Event: Nautilus Spring Concert and Graduation Performance

Date: Wednesday, June 5th, 2019

Time: 9 am

Location: Nautilus Middle School

Partnership Activity Summarization:

Young Musicians Unite partnered with Mr. Modia at Nautilus Middle School to provide specialized instruction across four instruments. YMU provided the school with teaching artists, lesson plans, supplemental instruments and worked with instrumental sections from Mr. Modia's bands. Dividing students into skill-based groups allowed students to receive much-needed personalized instruction and to problem solve with their peers. Students were given real-world scenarios and examples and were led through a wide variety of musical genres. Students participated in active listening and critique of themselves and their peers in a positive environment. Students also witnessed how attention to detail, critical thinking and dedicated practice can lead to positive results for all parties involved.

Standards:

- MU.68.C.1.1
- MU.68.S.3.2
- MU.68.S.3.4
- MU.68.S.3.3
- MU.68.C.2.1
- MU.68.C.2.3
- MU.68.S.1.4
- MU.68.S.1.1

North Beach Elementary School

Principal: Melanie Fisherman

STEAM Coordinator: Savitria “Beechie” Green

Partners: The Bass and Jewish Museum of Florida-FIU

Total Statistics for North Beach Elementary School

Total Visits of Visits: 12

Total Number of Interactions (per student): 10

Total Number of Students Reached: 502

Total Number of Teachers Reached: 23

Total Number of Hours: 39

The Bass @ North Beach Elementary School

Grade: K - 1st

Dates: February 26 - April 26 (6 visits)

Total number of interactions per student: 5

Total number of students reached: 315 (1st Grade 149, Kinder 166)

Total number of teachers: 16

Total number of classes: 16 (8 1st Grade, 8 Kinder)

Total number of hours in school: 20 hours

Total number of hours out of school: 4

Total number of teaching artists: 3

Field Trip to the The Bass:

Dates: February 27 and 28

Time: 10am – 12pm

Bus Company: J & M Vera Bus

Free Family Day – STEAM Plus Celebration:

Date: April 28

Time: 2-4pm

Location: The Bass

Materials Distributed:

Books – *Tar Beach* by Faith Ringgold, *How Do You Hug A Porcupine?* and *Going to the Museum*

Free Family Passes to The Bass (140)

Animals and Habitats: 3-D Sculptures (North Beach Elementary 1st Graders)

Using air-dry clay, students created animals inspired by the creatures in *The Haas Brothers:*

Ferngully exhibition and from different habitats from around the world. Students learned how

climate and weather affect the organisms around us discussed how artists address these themes in their art practice.

Students used various colors to express themselves and their animals while learning to mix primary colors to create secondary colors. Students graphed what their animal would look like prior to transferring their work to clay. Large pony beads were used to add details and texture to the sculptures.

Standards:

- VA.1.C.1.2 (Gather clues to help interpret and reflect on works of art)
- VA.1.C.1.1 (Create and discuss works of art that convey personal interests)
- VA.1.S.3.1 (Demonstrate safety procedures for using art tools and materials)
- VA.1.S.3.3 (Practice skills and techniques to create with two- and/or three-dimensional media.)
- VA.1.S.3.4 (**Field Trip STEAM Plus Lab**) (Identify and be respectful of artwork that belongs to others and represents their ideas)

The Magic of Earth Day: Oil and Water Resistance

On April 22, Earth Day, kindergarten students at North Beach Elementary School learned about the importance of reducing, reusing and recycling. Students discussed and explored the many ways we can leave a positive impact on our Earth by exploring the science behind oil's resistance to water.

Using oil pastels students traced their hands and designed the world around them, followed by watercolor paint to brush over their work. In an exercise meant to engage and educate, students were able to see how the oil from the oil pastels did not allow the watery paint to stay on the page.

Earth Day Kindergarten Activity Standard: VA.K.H.1

[Jewish Museum of Florida-FIU @ North Beach Elementary School](#)

Grade: 3rd

Dates: February 5 - May 29 (5 visits)

Total number of interactions per student: 4

Total number of students reached: 187

Total number of teachers: 7

Total number of classes: 7

Total number of hours in school: 4 hours

Total number of hours out of school: 6 hours

Total number of teaching artists: 3

Partnership Activity Summarization: Kitchen Lithography

Lithography Printmaking is a dynamic art form that combines components of the earth (especially limestone, gum arabic.) Kitchen Litho was conceived by French Artist Emilie Aizier. It is a simplification of her earlier lithography experiments using sheet aluminum plates and phosphoric acid. Throughout this partnership, students reviewed the history of printmaking beginning with “wood block” printing through the innovation of lithography. This includes “electronic lithography” application in today’s digital platform designs. Students engaged with a museum exhibition at the Jewish Museum of Florida-FIU which included a range of high level and diverse examples in order to best appreciate how this and highly collaborative method produces unique images. Students participated in “kitchen litho” activity that introduces and explains non-toxic alternatives mimicking chemical interactions and allowing students to create their own unique prints.

Standards:

- Science: SC.3.N.1.1: Raise questions about the natural world, investigate them individually and in teams through free exploration and systematic investigations and generate appropriate explanations based on those explorations.
- Science SC.3.N.1.2: Compare the observations made by different groups using the same tools and seek reasons to explain the differences across groups. (Content Complexity: Level 3: Strategic Thinking & Complex Reasoning)
- Visual and Performing Arts VA.3.S.1.1: Manipulate tools and media to enhance communication in personal artworks.
- Visual and Performing Arts VA.3.O.2.1: Use creative and innovative ideas to complete personal artworks.

South Pointe Elementary School

Principal: Jorge Mazon

STEAM Coordinator: Carolyn Greene and Celine Clark

Partners: The Bass, Jewish Museum of South Florida-FIU and Miami City Ballet

Total Statistics for South Pointe Elementary School

Total Visits of Visits: 18

Total Number of Interactions (per student): 19

Total Number of Students Reached: 340

Total Number of Teachers Reached: 17

Total Number of Hours: 72

The Bass @ South Pointe Elementary School

Grade: 2nd - 3rd

Dates: March 5 - March 21 (6 visits)

Total number of interactions per student: 6

Total number of students reached: 188

Total number of teachers: 9

Total number of classes: 9

Total number of hours in school: 24 hours

Total number of hours out of school: 4

Total number of teaching artists: 3

Field Trip to The Bass:

Date: March 6 and March 7

Time: 10am – 12pm

Bus Company: Oliveros Bus Company

Free Family Day – STEAM Plus Celebration:

Date: April 28

Time: 2-4pm

Location: The Bass

Summarization of Activity: Community Quilt

Exploring eco-friendly materials, students learned about the history of the jute plant which is used to create burlap and has had many uses throughout time. Students learned the importance of recycling and learning how to sew.

Using their research and knowledge from what was being taught in a science class, as well as an exhibition at The Bass, students designed their own patch for the community quilt. Students created patches with images of endangered animals, habitats and the plant life cycle. Students used oil pastels to color and create their design as well as recycled paper to collage various materials to add details to their patch. Students learned how to tie a knot, thread and sew beads onto their burlap piece using a cross stitch. Once completed our teaching artists collected all the pieces to create our giant community quilt and students used mathematical skills to hypothesize the size of the quilt at its completion.

Standards:

- Science: SC.3.1.14 – Life Science (3rd Grade)
- Science: SC.2.L.17.2 – Life Science (2nd Grade)
- Science: SC.3.E.5 – Earth Space Science (3rd)
- Science: SC.2.E.7 - Earth Space Science (2nd)
- Visual and Performing Arts VA.3.C.2 Critical Thinking & Reflection (3rd)
- Science: SC.2.N.1 – Nature of Science (2nd)
- Mathematics MAFS:2.G.1.2 (2nd Grade)
- Visual and Performing Arts VA.3.S.2 Skills, Techniques and Process / Mathematics MAFS: 3.G.1 Geometry (3rd Grade)

Success Story:

A 3rd-grade student shared her story about how she ripped her favorite pair of pants prior to The Bass coming in for interactions and how she was able to repair them by using the sewing technique taught throughout The Bass' interactions. She said it encouraged her to repurpose them rather than throwing them away. During interactions, students were encouraged to reduce, reuse and recycle to help lower the impact we have on earth growing pollution. She called it "upcycling" her pants and even added beads to make it "trendy."

Many of the participating students and teachers expressed how they have not been exposed to the materials that were used throughout our STEAM Plus interactions due to low-income households and low-budget school supplies. Through these interactions, teachers expressed how relieved they were that students had a chance to learn through art versus using only textbooks and handouts.

[Jewish Museum of South Florida @ South Pointe Elementary School](#)

Grade: 4th

Dates: April 16 - 24 (4 visits)

Total number of interactions per student: 4

Total number of students reached: 76
Total number of teachers: 4
Total number of classes: 4
Total number of hours in school: 10 hours
Total number of hours out of school: 2
Total number of teaching artists: 1

Field Trip:

Date: April 17

Time: 9-12pm (two separate groups)

Partnership Activity Summarization: Kitchen Lithography

During the first two interactions, the students were given a guided tour of Jewish Museum of Florida-FIU. The lesson included architecture, history, design, art curation focusing on the museum's 80 stained glass window history and information on how glass is made and infused with color. Historic elements of art-deco stained glass were explored including: inherent and integrated social values, review of key science concepts (light, transparency, translucency, opacity and heat as a catalyst to color.) Students were shown a video presentation about stained glass using photographic examples of the colorful art form that can be seen in various historical locations including Notre Dame Cathedral in Paris and the Chagall Windows in Jerusalem. The lesson included information on how glass is made and how it is infused with color. In the second interaction, students made their own "stained glass windows" using several different grade level appropriate techniques.

Standards:

- SC.4.N.1.3
- SC.4.N.1.3
- VA.4.H.1.1
- VA.4.H.1.2

Success Story:

South Pointe Elementary School's fourth-grade students enjoyed the partnership with the Jewish Museum of Florida-FIU. Not only did the students have the opportunity to examine and create works of art, but they also went on a field trip to the museum to experience art first hand. Jewish Museum of Florida-FIU is located just blocks from the school, yet many of the students did not know anything about it before their field trip. With the infusion of Science, Technology, Engineering, Art and Mathematics, the fourth-grade students at South Pointe Elementary have developed a deep appreciation for the art displayed at the Jewish Museum Of

Florida-FIU, the process and engineering in the creation of art and their own personal stained glass each student created during the interactions.

Miami City Ballet @ South Pointe Elementary School

Grade: 1

Dates: February 8-March 8 (9 Visits)

Total number of interactions per student: 9

Total number of students reached: 76

Total number of teachers: 4

Total number of classes: 4

Total number of hours in school: 36 hours

Total number of hours out of school: 0

Total number of teaching artists: 1

Field Trip: N/A

Culminating Event:

Date: March 8

Time: 9 am

Location: South Point Elementary

Partnership Activity Summarization:

First-grade students worked with Miami City Ballet to develop movements that focused on the animals and their habitats. The Ballet taught the following concepts and their relationship to dance: push and pull (introduction to salsa dancing and partner dancing), motion and force (using their imagination to embody superheroes using kinetic energy) and addition/subtraction (using the limbs from their body practice addition and subtraction problems.) Concluding in a culminating event for families and friends to enjoy, students explained to guests how through their movement they were able to learn more about the topics being taught in science and math class.

Standards:

- DA.1.C.2
- DA.1.C.2.IN.A
- DA.1.C.2.SU.A
- DA1.C.2.PA.A
- DA.1.S.3
- DA.1.S.3.2
- DA.1.S.3.3

- DA.1.O.2
- DA.1.F.1
- DA.1.F.1.1
- DA.1.O.1

Success Stories:

All students successfully achieved performance skills on and off stage. Some of the challenges that students successfully conquered were: memorizing choreography, performing in front of an audience, learning to count, working as a team, making different formations and integration of the arts with their academic subjects.

Over 10 students in this residency program were nominated by their teaching artist to audition for an opportunity to receive a spot in the Miami City Ballet School Ballet Bus Scholarship Program. Out of the selected group, 5 students, were nominated by Miami City Ballet's School Director to be on the waitlist for the next school year. Their placement is still in progress.

The mission of the Ballet Bus program is to provide world-class training to children from the Miami community with both merit and need, provides everything the child will need to succeed and excel in one of the nation's premier dance training academies, full tuition, dance uniforms, transportation from the child's school, snacks for the bus ride, an invaluable opportunity to engage with critically acclaimed teachers and artists.