
THE EDUCATION FUND'S
2014-2015 ideas with
IMPACT
THE EDUCATION FUND
FOR EXCELLENCE IN MIAMI-DADE PUBLIC SCHOOLS
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SHARING
made easy
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The Education Fund: Innovation in Action for Education

The Education Fund enlists the support of the private sector to improve Miami-Dade public schools and bring excellence to public education. Our work reaches all 20,000+ teachers in 430+ schools and makes a difference in the lives of thousands of students.

- ★ $42 million raised for public schools
- ★ 9,000 students' eating habits improved through an edible garden laboratory initiative
- ★ 34% increase in college enrollment attained as part of a national demonstration project
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- ★ $1 million raised for schools' visual arts programs
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THE EDUCATION FUND

FOR EXCELLENCE IN MIAMI-DADE PUBLIC SCHOOLS

www.educationfund.org

Attention Teachers! Get free supplies!

The Education Fund's Ocean Bank Center for Educational Materials makes surplus inventory and supplies donated by businesses available free to teachers to use in their Miami-Dade County Public Schools' classrooms.

To receive a pass to shop for free, visit www.educationfund.org, and click on the "For Educators" button.

THE EDUCATION FUND
FOR EXCELLENCE IN MIAMI-DADE PUBLIC SCHOOLS

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In addition to our Section Sponsors, The Education Fund would also like to thank TD Bank and Ford Motor Company for their significant sponsorship of the IMPACT II Program.

The Education Fund's Ideas with IMPACT
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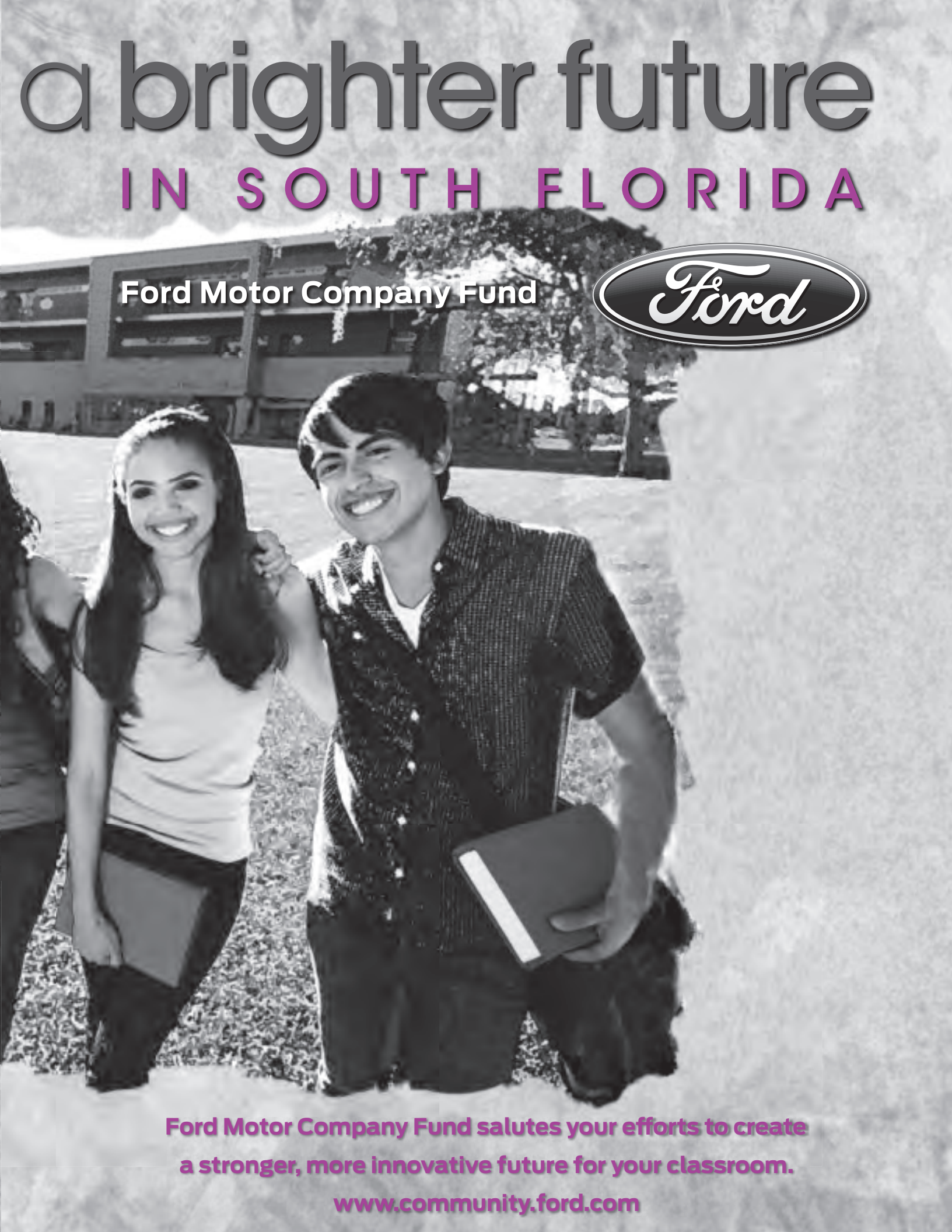
driving

The Education Fund's IMPACT II program offers teachers new ways to engage South Florida students.

a brighter future

IN SOUTH FLORIDA

Ford Motor Company Fund



Ford Motor Company Fund salutes your efforts to create a stronger, more innovative future for your classroom.

www.community.ford.com

A Message from the Superintendent of Miami-Dade County Public Schools

For more than 25 years, The Education Fund has been a partner of Miami-Dade County Public Schools, sponsoring initiatives that support teachers with networking and training opportunities and grant funding. By providing teachers the opportunity to be catalysts for innovation in the classroom through programs such as IMPACT II, The Education Fund gives teachers the resources to bring their ideas to life and the avenue to share them with others.

I have attended the IMPACT II Idea EXPO & Teacher Conference for many years to support our teachers who value the exchange of ideas and seek to learn from each other. Having been a teacher, I understand the need to stay ahead of the curve and I applaud The Education Fund for including in this year's catalog many projects that utilize technology in new ways to engage students in all subject areas.

IMPACT II is designed to pass on innovative, cost-effective teaching ideas in a user-friendly network that includes the Ideas with IMPACT catalog, curriculum "how-to" Idea Packets, the Idea EXPO & Teacher Conference, and Adapter grants. I commend the dedicated educators who contribute their time and talents to the IMPACT II network, and I look forward to reviewing all of this year's ideas.

Alberto M. Carvalho
Superintendent of Schools

THE EDUCATION FUND
FOR EXCELLENCE IN MIAMI-DADE PUBLIC SCHOOLS

The Education Fund's IMPACT II: A Network of Ideas

IMPACT II is a program of The Education Fund that focuses on strengthening curriculum, student achievement and teacher leadership by identifying and connecting teachers who exemplify professionalism and creativity in their classrooms. This comprehensive network has specially designed programs that encompass beginning teachers to experienced teachers.

Teachers who have developed successful classroom teaching ideas are given **Disseminator Grants** to package and market their proven projects through the ***Ideas with IMPACT* catalog**, the ***Idea EXPO – Teacher Conference*** and the **Idea Packets**, which contain curriculum materials such as lesson plans, worksheets and resource lists that help teachers adapt the ideas to their own classrooms. **Adapter Grants** provide supplies for the project ideas. Curriculum guides for each project and IMPACT II applications can be accessed at **www.educationfund.org.**

HOW IMPACT II CAN WORK FOR YOU

- ATTEND the *Idea EXPO – Teacher Conference*, Tuesday, November 11th (Veteran's Day) at the Miami Airport Convention Center, (MACC).
  - Select from 100 hands-on K-12 workshops
  - Visit the STEM and cutting-edge BYOD Exhibits
  - Attend the EXPO and become eligible for quick & easy Adapter Grants.
- APPLY for an Adapter Grant to purchase materials to adapt one of the ideas featured in this catalog or in past years' catalogs. Contact the teacher who developed the idea to discuss your adaptation.
- APPEAR in next year's *Ideas with IMPACT* catalog. Apply for a Disseminator Grant by April 1.
- ACCESS on-line applications, curriculum Idea Packets and *Idea EXPO* registration at www.educationfund.org.

Making money make sense

for grades K–12.

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WOW! TD ZONE®

Our free, one-of-a-kind education program helps students develop strong financial skills in school and online.

Our trained instructors will visit your classroom to discuss banking basics, the importance of saving/budgeting and understanding credit. Or, you can download our lesson plans at tdbank.com/wowzone, where:

- content is available in English and Spanish.
- kids, teens and parents can access other great sections including a virtual stock market and game room.

For more information or to schedule your classroom visit, connect to the TD Bank WOW!Zone at tdbank.com/wowzone or call 1-888-751-9000 for a TD Bank near you.

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TD Bank's WOW! Zone

"The TD Bank WOW! Zone is a financial education program created and implemented to help children develop strong financial skills, in school and online."

The TD Bank WOW! Zone is a financial education program created and implemented to help children develop strong financial skills, in school and online. Trained bank instructors present teacher-written lesson plans in a fun and interactive way and have already taught financial education classes to over 10,000 students across South Florida. WOW! Zone lessons are available for grades K–12 and topics range from an introduction to money and saving, planning a budget, to understanding what credit is and how important it is to maintain good credit. The curriculum for each lesson meets the National Standards for K-12 Personal Finance.

WOW! Zone programs are flexible and can adjust to fit your class schedule. WOW! Zones can take place for one hour in one class or they can be spread out to include multiple lessons over a course of multiple days. WOW! Zones can also be coordinated to have multiple grade levels participating within the same day in an assembly style event or smaller multiple classes.

TD Bank also offers a chance for students to go behind the scenes and see how a bank operates with the TD Bank Junior Banker Store Tour. Designed for first through fifth grade, students get to step inside the vault, meet the tellers and learn how the ATM and Penny Arcade coin counter work. This is a great way to expose students to what banking is and what takes place every day in the financial industry.

Students

The WOW! Zone program offers lessons for grades K-12.

Materials & Resources

TD Bank WOW! Zone Website
The TD Bank WOW! Zone website, www.tdbank.com/wowzone, is an interactive learning tool for children, teens, parents and educators in English and Spanish. Children 12 and under can follow the online cartoon adventures and visit the game room. For teens, the website provides helpful tips, budget worksheets and a virtual stock market game to help them get started on a lifetime of smart money habits. Parents and educators can find free lesson plans and tips for discussing money with children.

TD Bank Finance 101 Website
The TD Bank Finance 101 website provides 24/7 access to articles, tips and resources. Topics include budgeting basics, how to get out of debt and tips to building a great credit score. These resources can be found at www.tdbank.com/financialeducation.

TD Bank Instructors
TD Bank has trained bank instructors available to visit classrooms to teach their financial education lessons. Visit the TD Bank WOW! Zone website mentioned above to find out how to have a certified Financial Education Instructor visit your classroom.

Junior Banker Store Tour
Students go on an exciting adventure as they tour a local TD Bank store. Students get to step inside the vault, meet the tellers and learn how the ATM and Penny Arcade coin counter work.

Standards

The WOW! Zone program for K-12 meets the National Council of Teachers of Mathematics standards.

Common Core Standards:
Reduce, Reuse & Save Money
CCSS.Math.Content.6.EE.A.2c
CCSS.Math.Content.7.EE.B.3
CCSS.Math.Content.8.SP.A.3

Budgeting for a Business
CCSS.Math.Content.3.MD.B.
CCSS.Math.Content.4.OA.A

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To register for a WOW! Zone class or setup a Junior Banker Store Tour visit:
www.tdbank.com/wowzone
Students who complete the program receive a certificate for a new Young Saver Account.

Sensational Ceramics

"Using either a firing kiln or self-drying Model Magic, students create handmade mammals when studying science or replicate clay pottery of indigenous civilizations in social studies."

Imagine an Egyptian artifact, 3-D Haitian paintings, or a gorilla in clay crafted by students as a celebration of their curricular focus. "Sensational Ceramics" brings excitement, relevance, and concrete meaning to students who are studying a host of different subject matters. Using either a firing kiln or self-drying Model Magic, students create handmade mammals when they are studying science or replicate clay pottery of indigenous civilizations in social studies.

After discussing the skeletal structure of the chimpanzee, students create a foam skeleton, then form a clay chimpanzee around it. Once assembly is complete, the figure is fired and glazed and a lesson in Anatomy and Physiology is learned. In an Egyptian studies unit, students may research the important qualities of a God or Goddess, form a deity out of clay, and then explain its relevance to the Egyptian culture.

There is even a learning opportunity for primary students in this project. Model Magic is a tool to teach color theory since it is available in primary colors and white. Integrating a 3-D clay creation in any subject adds meaning and interest. "Sensational Ceramics" shows students how their work becomes a great instructional tool to review and discuss a variety of subjects.

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Rod and Lucy Petrey

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Students

This project can be adapted to any grade level for any number of students. Model Magic clay is the best kind to use for students in grades 2-3. Students in grades four and five use earth clay as it is developmentally more appropriate.

Staff

Michael Flaum has been an educator for 30 years, serving as an art teacher in elementary and middle schools and as an assistant principal. He returned to his passion of teaching art 11 years ago. His work as an assistant principal provided him with insights that enable him to have a greater impact on his students now. His school has received great recognition for their ceramics; they have a student-made life-sized jaguar head in the courtyard and a life-sized iguana.

Materials & Resources

For students in grades 4-12, access is needed to a firing kiln, earth clay and glazes. For students in grades K-3, self-drying "Model Magic" ($40 for a class of twenty eight students to create a 3 X 6 inch) is needed. All students should have access to the Internet to view examples of "Model Magic."

Standards

Visual Arts
Florida Standards

VA.2.H.1.1: Identify examples in which artists' works have been created on cultural and life experiences.

VA.2.H2.1: Identify differences or similarities in artworks across time and cultures.

VA.3H.1.3: Identify and be respectful of ideas important to individuals, groups, or cultures that are reflected in their artworks.

VA.3.0.2.1 Use creative and innovative ideas to complete personal artworks.

Read, Reuse, Recycle: Motivating Students to Read One Brush at a Time

Originally a teacher Mini-Grant sponsored by the P.L. Dodge Foundation

"This project teaches students, especially reluctant readers, that reading can be fun by recycling everyday trash into a 3-D Diorama based on a book."

Ask a student, "What was the last book you have read?" His response may be, "I have not read one in years!" This dismal truth plagues most of our youth, especially struggling or reluctant readers.

"Read, Reuse, Recycle" aims to teach students, especially reluctant readers, that reading can be fun by recycling everyday trash into a 3-D Diorama based on a book. Students must first select a book. Once the book is read, students hunt for materials to create their 3-D Book Dioramas. Students use a shoe box to create a book jacket on the outside of the box where they draft a statement convincing others to read their book. Students paint both the outside and inside of their box. On the inside of the shoe box, students fashion a 3-D diorama of the climax of the story with the recycled items collected. The project culminates when students present the 3-D Dioramas to their peers and critique the projects based on a teacher-created rubric.

After success with "Read, Reuse, Recycle," students read outside of class, exchange books, and share their newfound knowledge. When you ask what the last good book they read was, they can also give you a spirited response!

Students

A group of 200 students from grades nine through twelve, with varying achievement levels, participated in this project. The project can be adapted to suit many ages or achievement levels. Teachers need to consider student reading levels and goals. Students met twice a week for three hours during one month to complete this activity.

Staff

A five year veteran of Miami-Dade County Public Schools, Anais Young is her school's Department Chair of Fine Arts and a Literacy Team Chairperson. She has been awarded grants from DonorsChoose.org and The Education Fund.

Materials & Resources

To begin this project, students require access to books, a library, an eReader Tablet, or their own mobile devices to download eBooks. They need to find recycled materials and a shoe box. Students also use tempera paint, paint brushes, and cups to allow painting over their recycled materials; markers and color pencils could be used as a substitute.

Standards

Language Arts
Florida Standards

LA.1112.1.7.2: The student will analyze the author's purpose and/or perspective in a variety of texts and understand how they affect meaning;

LA.1112.1.7.3: The student will determine the main idea or essential message in grade-level or higher texts through inferring, paraphrasing, summarizing, and identifying relevant details and facts;

Visual Arts
Florida Standards

VA.912.S.2.1: Demonstrate organizational skills to influence the sequential process when creating artwork.

VA.912.S.2.5 – Demonstrate use of perceptual observational, and composition skills to produce representational, figurative, or abstract imagery.

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Florida Matching Grants Program

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Principal: Gregory Bethune

Saluting the entrepreneurial spirit of South Florida teachers

We're excited to help boost entrepreneurship in the classroom by sponsoring The Education Fund's Impact II program.

NEXT GEN

Empowering the Next Generation of Entrepreneurs

Open For Business: DIY

Originally a Teacher Mini-Grant sponsored by the P.L. Dodge Foundation

"In this DIY project, students form small businesses to produce a simple item for $1 or less and then sell it."

Bring "Shark Tank" to your classroom. Have students pitch the next "BIG" money-making product with an innovative advertising campaign consumers cannot resist. In this DIY project, students form small businesses and create a simple craft product to sell.

Students work in teacher-selected business teams. Each team visits a list of approved websites for inspiration of a simple craft to produce for $1 or less. Using a template, each team drafts a simple business plan about the product they intend to sell. They also write a company profile that includes autobiographies of each team member. Once they've researched the cost of materials, the team also manufactures a prototype. Of course, they also name their product, draft a catchy and memorable slogan to promote their product, and design an advertisement flyer. When they are ready to sell, they mass produce their product (usually making 10) and sell them at the school craft fair.

In the end, students learn the following skills as they become entrepreneurs: cooperative learning skills develop as they work in a team-centered business model; mathematical skills develop as they budget product costs to increase profits; persuasive writing and visual display skills develop as they create advertising techniques.

Students

This project can be adapted for students from third to eighth grades. All abilities can participate in the team project. Students should meet at least once a week for 30 minutes to discuss progress. The project is designed for nine weeks, but it can be adjusted for a longer time frame. Older students working in groups can use Google Drive for cloud-based documents. PowerPoint, Prezis, videos, iMovies can be used to create product commercials.

Staff

Maira Maguire has been teaching for 20 years in elementary, middle, and senior high schools; she is currently a Mathematics Coach. Ms. Maguire used versions of this project for many years, but with funding from The Education Fund's Teacher Mini-Grant program, she was able to fully develop the DIY project and make this experience available to many more students.

Materials & Resources

A classroom setting is appropriate, but a lab, if available, is better. Computer access, iPads, chrome books, and laptops are the best tools for students to conduct research and generate ideas. A school's media center, access to the internet, and guest speakers from local businesses are great resources for students.

Standards

Mathematics Florida Standards

MAFS.7.EE.2.3: Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically.

MAFS.6.NS.2.2: Fluently divide multi-digit numbers using the standard algorithm.

MAFS.5.NBT.2.5: Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

MAFS.5.NBT.1.4: Use place value understanding to round decimals to any place.

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NEXT GEN
Empowering the Next Generation of Entrepreneurs

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CREATE! Crafting Real Economic Advantages through Entrepreneurship

"After completing a skills/talent inventory, students participate in discussions and brainstorming sessions about how to transform their talent and skills into an actual business."

The "CREATE!" project energizes and inspires students to see their financial potential. Students learn how to use their natural talents and skills to launch their own business enterprise and brand. After completing a skills/talent inventory, students participate in discussions and brainstorming sessions about how to transform their talent and skills into an actual business. These sessions are based on the concepts presented in the book, *How to Start a Business on a Ramen Noodle Budget.* Once students decide on their business concept, they create a business plan, advertisements and promotional items using TechnoKids curriculum projects. A flea market and expo is held after students complete their business startup assignments and serves as a platform for students to launch their products and services.

The goal of the CREATE! Project is to provide an entrepreneurial experience that encourages students to explore their talents, skills, and passions as a means to earn income. The project design incorporates math, language arts, and technology, while promoting critical thinking skills and creativity. After participating in this project, students gain a stronger sense of self-awareness, achieve academic success in the classroom, and increase their earning potential.

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NEXT GEN
Empowering the Next Generation of Entrepreneurs

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Students

This project works best with 25 or less high school students meeting twice a week for at least 16 weeks. It can be adapted for grades six to eight, where participants work in groups of three or four. Varying achievement levels can participate, and it is helpful for lower performing students who are typically unmotivated using a traditional curriculum.

Staff

In the last year, Ms. Denize has received a variety of grants as a teacher. She has previously served as an IMPACT II Disseminator and is the lead teacher for Plant a Thousand Gardens Collaborative Nutrition Initiative program at her school.

Materials & Resources

Necessary materials include Techno Kids Curriculum Projects, *How to Start a Business on a Ramen Noodle Budget* by Felecia Hatcher, paper, ink/toner, pencils and pens, a calculator, and a computer with internet access. Also helpful are field trips to small businesses and/or business expos, guest speakers, volunteers and mentors.

Standards

Mathematics Florida Standards

MACC.912.N-Q.1.1: Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas.

MACC.9-12.F-IF.2.6: Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

Language Arts Florida Standards

LACC.910.L.3.6: Acquire and use general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level.

Humana supports The Education Fund and those who come together to make a positive difference in the lives of children in our community.

“ There is hope everywhere.”
— Anne Sexton

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Think Twice Eat Right

Part of The Education Fund's Plant A Thousand Gardens Collaborative Nutrition Initiative (CNI)

"This activity uses gardens as a resource to bring awareness of the benefits of eating vegetables and fruit."

Although a number of schools have edible gardens, many teachers are not aware of the creative lessons that await them in that living classroom. The most important lessons that students learn are not in a textbook; instead, they are in the garden, and they include learning how to share, building team spirit, and caring for creatures living in the garden.

Gardens can be a resource for teaching science, reading, social science, and health. In a science lesson, students see how nutrient rich soil is crucial in gardening. With an empty juice carton, they create a mini compost pile by adding soil and food scraps. After adding food scraps daily for weeks at home, the soil is ready for seeds to be planted in the cartons. When the seeds sprout into seedlings, students then transplant them into the school garden. This activity brings an awareness of the benefits of eating vegetables and fruit. The project "Think Twice, Eat Right" improves students' eating habits. They are more conscious of the food they consume. Their inhibition toward trying new foods decreases, particularly eating raw vegetables. Who would have thought a school garden could have such a positive impact on young students' lives?

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Humana Foundation

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Laura C. Saunders Elementary
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Principal:
Barbara Leveille-Brown

Students

Involved in this project were four third grade classes totaling 76 students. The project will be successful for any age. Typically groups of 20 or less at any given time are easier to manage.

Staff

Marie-Rose Denize has taught gardening in each of the last four years of her eight year teaching career. In the last year, Ms. Denize has received a variety of grants as a teacher. She has previously served as an IMPACT II Disseminator and is the lead teacher for Plant a Thousand Gardens Collaborative Nutrition Initiative program at her school.

Materials & Resources

This project requires two tables, one projector, a laptop, one small bag of soil, an empty box of juice, food scraps, water, electric glass tea kettle, Ninja blender, cherry tomatoes, basil leaves, mint leaves, onions, cilantro, hot pepper, green pepper, balsamic vinegar, tortilla chips, espresso cups, portable electric stove, electric skillet, and a juicer. The internet is used so that students can research the benefits of herbs in their garden.

Standards

Next Generation Sunshine State Standards

Health Education

HE.3.B.3.1: Locate resources from home, school, and community that provide valid health information.

Next Generation Sunshine State Standards

Science

SC.3.L.17: Describe how animals and plants respond to changing seasons.

Language Arts Florida Standards

LAFS.3.RI.3.7: Use information gained from illustrations and the words in a text to demonstrate understanding of the text.

LAFS.3.SL.2.4: Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

Food Forest

Part of The Education Fund's Plant A Thousand Gardens Collaborative Nutrition Initiative (CNI)

"Students create a food forest - a multi-functional, organic garden that provides a habitat for insects/animals, a place for people, and healthy food for the school."

By linking math and science curriculum to nature, students alter an outdoor space to be healthier for themselves and the planet. Students use a combination of edible and non-edible trees, bushes, and herbs to create a food forest – a multi-functional, organic garden that provides a habitat for insects/animals, a place for people, and healthy food for the school.

Students first study light and thermal energy and learn that light causes plants to grow and thermal energy causes water to evaporate. Using information about the height and width of the plants, students draw a small scale model of a garden with bar graph to organize their plants to receive the maximum amount of sunlight. Once students craft their models, they measure the space between the plants and plant the garden. Rain gauges are placed throughout, and after filling the rain gauges and leaving for a day, students collect and chart the results. Students use their observations to make inferences about the development of plants and level of water evaporation. During the project, students conduct four parent workshops where they teach parents how to plant, conserve water, harvest, and improve their nutrition.

Students

A group of 92 third grade students from varying levels of achievement participated in this project, from full inclusion classes with exceptional students to gifted. The project can be adapted to any size group, depending on the available space. Students met at least once a week to monitor and maintain the food forest.

Staff

Eduardo Recinos has taught art since 2002; as a teacher, he received funding from The Education Fund's CNI program. Mr. Recinos was recognized as an Environmental Role Model by Fairchild Tropical Botanic Garden and received recognition from the Alliance for a Healthier Generation. He now runs CNI for The Education Fund.

Materials & Resources

This project requires a minimum of 25 square feet of outdoor space that receives sunlight for at least eight hours. The following materials are required: plants (vines, shrubs, trees, and groundcovers), garden edging, garden soil, shovels, pickaxe, cardboard, mulch, tape measure, rain gauges, pencils, and graph paper. Other resources include reclaimed construction materials, donations of soil, native plants, mulch and a copy of *Gaia's Garden* by Toby Hemenway. A variety of websites also are helpful.

Standards

Next Generation Sunshine State Standards

Science

SC.3.P.10.1 Identify some basic forms of energy such as light, heat, sound, electrical, and mechanical.

SC.3.N.3.1 Recognize that words in science can have different or more specific meanings than their use in everyday language; for example, energy, cell, heat/cold, and evidence.

Mathematics Florida Standards

MACC.3.MD.2: Represent and interpret data.

MACC.3.MD.2.3: Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs.

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Squashing Obesity & Growing Healthy Eating Habits

Inspired by The Education Fund's Plant A Thousand Gardens Collaborative Nutrition Initiative (CNI)

"This gardening project promotes healthier eating habits while also increasing reading and communication skills, particularly for ESE students."

According to research, students who have in-school gardens are more focused, confident, and active learners. Gardens also foster independent thinking and self-motivation. The intent of "Squashing Obesity & Growing Healthy Eating Habits" is for students in the Exceptional Student Education program to start their own school garden. This gardening project promotes healthier eating habits, increases reading abilities, and develops communication skills, particularly for students who are visually and hearing impaired, autistic, or emotionally behavioral disabled. The garden also provides an outlet for students who are overwhelmed to channel their energy into a positive activity and to have a space to self-reflect.

A key component of the school garden is for students to understand the importance of eating healthy. The garden sparks interest in fresh produce and encourages students to try new fruits and vegetables they typically shy away from. Students find it difficult to resist cabbage, cauliflower, or even eggplant, if it is grown by their own hands.

Other valuable lessons from this project include teambuilding, gaining a sense of accomplishment, building self-esteem, and generating an entrepreneurial spirit in students.

Sponsored by

Humana Foundation

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Principal: Gregory Bethune

Students

A total of 275 students in the Exceptional Student Education program (autistic, specific learning disabled, gifted, intellectually disabled, emotional behavioral disabled) in grades nine through 12 participated in this project. Students gardened daily, even on Saturdays. The project can be adapted for all ages in small or large groups.

Staff

Tanya Barber has worked with students with disabilities for 12 years. She was nominated 2005 Rookie Teacher of the Year. For more than two years, Ms. Barber has participated in this gardening project.

Materials & Resources

Materials needed for the garden include a bench, large flat shovel, edge shovel, pitch fork, stirrup hoe, rake, wheel barrow, water wand, gardening gloves, seed starting supplies, and fertilizer. Barbara McAdam from the University of Florida-Miami Dade County Extension has agreed to present a workshop at the school to demonstrate to students how to construct a rain barrel.

Standards

Language Arts
Florida Standards

LAFS.910.RL.1.1: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

LAFS.910.RI.1.2: Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped.

LAFS.910.RI.2.5 Analyze in detail how an author's ideas are developed and refined by particular sentences, paragraphs, or portions text.

LAFS.910.RI.2.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone.

See It In Print

"From brainstorming to investigating to writing to licensing to selling, students participate in every step of the publishing process."

From brainstorming to investigating to writing to licensing to selling, students participate in every step of the publishing process. In this project, students explore three literary genres: short fiction, literary nonfiction, and poetry. Using grade appropriate mentor texts, students read examples of the genres then collaborate to identify their characteristics. Investigating mainstream magazines and literary periodicals, students see a wide range of styles and formats and begin developing ideas about their own publication.

After learning how to write a "pitch," students propose pieces of writing that explore the concept of perspective. Then through a collaboration site, Trello, the writers submit two pitches, in two different genres, reviewed anonymously by student editors and the project advisor. Once writing assignments are issued, students participate in rounds of drafting, online peer editing, and revision. Students also complete a research activity on Using Media Responsibly, explore Wikimedia Commons, identify types of licenses available to the media and practice selecting and citing media appropriately. A student graphics team collaborates with the editorial staff to complete the magazine layout. The finished product is available for purchase.

Students

A total of 41 students in eighth grade participated in the project. Of these, 16 students were editors who also contributed content to the magazine. Students worked on the project in class and collaborated online via Trello for five weeks. Students without editorial positions contributed two pieces of writing in two different genres; editors contributed one piece of writing.

Staff

Since 2009, Ms. Kinney has taught Language Arts and Technology in Miami-Dade County Public Schools. She was named the 2011 Rookie Teacher of the Year and was awarded a grant by The Education Fund. Ms. Kinney is also certified as a workshop leader and consultant for the International Baccalaureate Educator Network.

Materials & Resources

Internet-enabled computers with MS Publisher are needed. Ideally, students have access to the internet and email accounts at home. Google Drive, Trello, Microsoft Publisher or Adobe InDesign and MagCloud Wikimedia Commons are useful. Teacher-created materials include: Editorial Staff Job Descriptions, Editorial Job Application, Rubric for Evaluating a Pitch, and Instructions for Submitting a Pitch Via Email.

Standards

Language Arts
Florida Standards

CLAFS.8.W.1.3 -Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

LAFS.8.W.2.4 -Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.8.W.2.5 -With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

LAFS.8.W.2.6 - Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.

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Florida Matching Grants Program

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Principal: Carmen M. Garcia

Digging Reading!

Originally a Teacher Mini-Grant sponsored by the Brickell Avenue Literary Society

"Fifth grade students apply critical reading strategies to comprehend selections and higher order thinking skills when they excavate for dinosaurs in their very own dig."

Students dig into reading by exploring dinosaurs, dinosaur fossils, and investigating the field of Paleontology. This interdisciplinary unit enables students to connect reading and science through poetry, fiction, and non-fiction books, all on the subject of dinosaurs. Through this project, fifth grade students apply critical reading strategies to comprehend selections and higher order thinking skills when they excavate for dinosaurs in their very own dig. They enjoy "digging" into this great reading exploration.

The students' experience with learning about dinosaurs and linking it to "digging" for reading has been met with outstanding learning gains. These paleontologists-in-the-making love foraging outside for fossils just like foraging for clues in their books. While they read *The Enormous Egg*, students research various dinosaur species to advance their understanding of this fascinating category of reptiles. A testament to the success of this activity is when students bring in ANOTHER dinosaur book every day because of their insatiable curiosity.

Since students have access to a 3-D printer in the classroom, they intend to create dinosaurs with it, in the future!

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Florida Matching Grants Program

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Kendale Elementary
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Principal: Reginald Fox

Students

Over the course of five weeks, 24 fifth grade gifted students participated in this project, but it could be adapted to any grade or educational level from Kindergarten through grade 5. This project can be adapted by requesting materials for the dig from parents, having students bring in dinosaur books, and purchasing the novel *The Enormous Egg*.

Staff

Mayra Brody has taught K-5 for 29 years and fifth grade gifted students for the last six. In February 2014, Ms. Brody received a Teacher Mini-Grant from The Education Fund, and in 2012, she was awarded an $8,000 grant for her school's science lab. The project works best if parents volunteer to participate in the dinosaur dig.

Materials & Resources

My Teacher Is a Dinosaur: And Other Prehistoric Poems, Jokes, Riddles, & Amazing Facts Hardcover, Spenser and the Rocks, How Big Were the Dinosaurs? Digging Up Dinosaurs (Let's-Read-and-Find-Out Science 2) and If the Dinosaurs Came Back.

Other materials include Rhode Island Novelty Assorted Dinosaur Fossil Skeleton, Textured Stencils by Melissa & Doug, and Vinyl Mini Dinosaurs. Also helpful are *National Geographic Little Kids First Big Book of Dinosaurs* (National Geographic Little Kids First Big Books) and *The Enormous Egg* by Oliver Butterworth.

Standards

Language Arts
Florida Standards

LAFS.5.W.3.9: Draw evidence from literary or informational texts to support analysis, reflection, and research.

LAFS.5.SL.2: Report on a topic or text or present an opinion, sequencing ideas logically, and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

Next Generation Sunshine State Standards

Science

SC.5.N.1.1 Define a problem, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types.

Based on the Book

Originally a Teacher Mini-Grant sponsored by the Brickell Avenue Literary Society

"This project helps imprint wonderful works of literature into the minds and hearts of students."

Students read works of literature throughout the school year; however, when the year ends, students forget these important classic pieces. This project helps imprint wonderful works of literature into the minds and hearts of students.

After reading a piece of literature, students assemble in small groups to write a script for one chapter of the book. If there are 10 chapters, 10 small groups draft scripts. Then the class divides into editors and designers. The editors read through the drafts and work on revisions, while the designers create the set, storyboard major locations, and design costumes. The class reconvenes to participate in a read-through of the script and assign parts. Students film the story after reviewing Windows Movie Maker. Groups of students edit the films and decide on music, sound effects, and other features to add to the final product.

Classes have a Viewing Day to watch all movies then decide on awards for categories: Best Actor, Best Actress, Best Creative Costume, Best Set Design, Best DVD Cover, and Most Fitting Music. By end of the project, students improve their level of success in academics, attitude, and habits of mind thanks to this engaging, interactive experience.

Students

More than 150 students, with varying abilities and FCAT levels, have been impacted by this project. Although 9th through 11th grade students participate, this can be adapted for any grade level in literature and history. While implementing this project, Ms. Singh has encouraged teachers, parents, and volunteers to be actors in the films.

Staff

Michelle Singh began teaching in 2005 and is a National Board Certified English/ Language Arts instructor. She was 2013 Rookie Teacher of the Year and nominated as Teacher of the Year. Ms. Singh has received numerous grants and scholarships.

Materials & Resources

Materials needed are computers with access to iMovie or Windows MovieMaker, projector, speakers, digital camera or camera phone, tripod, memory card or flash drive, costumes and props (hats, wigs, clothing, etc.), arts and craft (paint, paper, brushes, glue guns), food (popcorn, drinks, paper products), and awards (certificates, trophies). Additional resources include the school's Media Center and/or auditorium for the Viewing Day so students from all classes can participate. Malls, parks, community centers, and the school can serve as film set locations.

Standards

Language Arts
Florida Standards (LAFS)

READING

LAFS.K12.W.2.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.K12.W.2.6: Use technology to produce and publish writing and to interact and collaborate with others.

Speaking and Listening

LAFS.K12.SL.2.5: Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

LAFS.K12.SL.2.6: Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

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Florida Matching Grants Program

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Full STEAM Ahead: Mathematics & Photography

"Middle school students snap photographs of their school and community with either straight forward or 'hidden' mathematics in them."

Photography + Math = Mathematical Success! Middle school students snap photographs of their school and community with either straight forward or "hidden" mathematics in them. Once the images are captured, students write a mathematic question that relates to their photo. In class, students discuss possible themes for their photos and word problems, form questions and solutions, and review them. The entire group engages in a peer review where they present their final photographs, with questions, for constructive feedback. The project culminates when students print their 8x10 photo, mount the image, and submit their work to the Miami Dade County Youth Fair and Exposition. The equations with the solutions are also a part of the MATHCOUNTS Gold Level application.

"Full Steam Ahead" illustrates the interconnection between two seemingly unrelated subjects – mathematics and photography. Student participation in community events, like the Miami-Dade County Youth Fair and Exposition, increases as a result of this activity.

Sponsored by

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Principal: Carmen M. Garcia

Students

Seventh and eighth grade students in the Math Club participated in this project and met three times to finalize their presentation for MATHCOUNTS. Although the project can be adapted for lower grade levels, the level of Mathematics involved needs to be adjusted to the appropriate level of the students.

Staff

Sandra Daire has taught for 24 years; she was the 2013state finalist for the Presidential Award in Science & Mathematics Teaching Grades 7th-12th. Ms. Daire has been fortunate to receive grants from The Education Fund. Last year, this project earned the school a trophy in the Photography Division at the Miami Dade County Youth Fair.

Materials & Resources

Cameras, Mini iPad, color printer, photo paper, toner, and mounting supplies are utilized to complete this project. The resources include National Geographic magazines (donated by parents); student donated past projects, which are especially helpful for students to "see" an example of a "First Premium" photo by judges from the Miami Dade County Youth Fair.

Standards

Mathematics Florida Standards

MAFS.7.G.1.1: Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

MAFS.7.G.1.2: Draw geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.

MAFS.7.G.1.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.

Rhythms, Rhymes, and Multiplication Times

"By integrating poetry, music, movement, and technology into the instructional delivery of learning multiplication, students retain and master these fundamental math facts."

Twist, shout, and let it all out while learning times tables. Mastering multiplication facts is the foundation for any student's success in upper level mathematics and science classes such as Algebra, Geometry, and Chemistry. When students lack this fundamental fluency, their ability to solve higher level math problems is hindered. By integrating poetry, music, movement, and technology into the instructional delivery of learning multiplication, students retain and master these fundamental math facts.

To introduce students to the concept of multiplication, the instructor reads aloud *The Best of Times* by Greg Tang. Then the class learns multiplication facts through a series of lessons incorporating rhymes, songs, rhythmic movements, and games. Students might sing about the number zero while making the zero shape over their heads with their arms and continue with specific movements as they move through the facts. The group also learns poetry to reinforce the facts as well as uses technology to play multiplication games. Students learn their times tables through interactive activities that address a variety of learning styles.

Due to the level of engagement, student motivation increases when they discover they are retaining math facts and solving challenging problems while simultaneously having fun. This project is proof that quality instructional activities lead to increased student achievement.

Students

More than 150 students have benefited from this unit during the past 10 years. They ranged in age from 5 to 12 and grades first through third. This unit can be adapted to many grade levels and group size depending on the need.

Staff

Stephanie Rolle is a National Board Certified teacher, a nominee for the Disney's American Teacher Award, and has taught for more than 25 years. She has used many of these strategies throughout her career and began making this project a regular part of her math instruction approximately 10 years ago.

Materials & Resources

Items needed: *The Best of Times* by Greg Tang and any other books related to multiplication. Students also learn and sing songs related to the multiplication facts; they view multiplication facts videos. Resources include poetry and poetry books related to multiplication facts; incentives are used to reward student achievements and successes.

Standards

Mathematics Florida Standards

MAFS.3.OA.1.1: Interpret products of whole numbers, e.g. interpret 5 X7 as the total number of objects in 5 groups of 7 each.

MAFS.3.OA.3.7: Fluently multiply and divide within 100 using strategies such as the relationship between multiplication and division or properties of operations.

LAFS.3.W.3.8: Recall from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.

LAFS.3.SL.1.1: Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively and orally.

Sponsored by

Rod and Lucy Petrey

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The Digital Academy: A School Within a School

"Underperforming math students record themselves solving problems while using props and then incorporate their recordings into digital text."

We Wrote the Book on That!" Underperforming mathematics students form a team to create a digital "textbook" using iBook Author. Each student creates a chapter of the book on a topic they found difficult to understand. Students record themselves solving problems while using props and then incorporate this into the digital text. Using advanced technology to learn, present, and publish math concepts motivates the student authors. Ultimately, an iMath book is produced to assist students struggling with math concepts.

This iMath book sparks the formation of The Digital Academy. It is a school within a school, run for students and by students, to help increase mathematical understanding. During the course of a year, the Digital Academy provides thousands of mathematical lessons to students seeking help outside the traditional classroom.

The Digital Academy is a program that: 1. Trains a core group of mathematics mentors; 2. Creates a workable framework for instructional time; 3. Allows students to help other students in mathematics; 4. Designs a 'Business Model' for running the Academy; and 5. Provides community service to the school's core population.

Sponsored by

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Ammons Middle School
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Principal: Maria Costa

Students

The grade levels of attendees were 6th through 8th. The Digital Academy received more than 5,000 visits by the student population during the course of the school year. Before school, sessions ranged from 45 to 60 minutes, and during school, 30-minute sessions were available.

Staff

James E. Earle is a National Board Certified instructor certified to teach mathematics. Mr. Earle has been a Math department chair at two middle schools and has been the recipient of two grants from The Education Fund. He was a Morgridge Family Foundation/ Khan Academy Grant Awardee and is in a doctoral program.

Materials & Resources

Items needed are a computer (MacBook Air recommended); software: iBook Author, Algebra Nation, Khan Academy; manual *Digital Academy: A School Within a School* (iBooks); Lanyards; Plastic Insert Holders; and ID badges for Mentors/Administrators. Resources for this program include a mentor pool such as National Junior Honor Society members, Outstanding Mathematics students, Future Educators of America members. The mathematics faculty should be included in the design.

Standards

Mathematics
Florida Standards

MAFS.7.NS.1.3: Solve real-world and mathematical problems involving the four operations with rational numbers.

MP1: Make sense of the problem and persevere in solving them.

Language Arts
Florida Standards

LAFS.7.RI.3.8: Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.

MP3: Construct viable arguments and critique the reasoning of others.

LAFS.7.W.1.1: Write arguments to support claims with clear reasons and relevant evidence.

MP5: Use appropriate tools strategically.

Extreme Makeover with Geometric Shapes and Technology

"The purpose of the project is to teach students the U.S. Customary System of measurement by building angle homes."

"Can they build it? Yes, they can!" The purpose of this Discovery Measurement Project is to teach students the U.S. Customary System of measurement by building angle homes. Before participating in this hands-on activity, students view an animated music video about measurement. They then write an original measurement song to demonstrate their understanding of concepts presented earlier. After watching an overview of the history of measurement, sketches are designed and the creation of individual angle homes begins. The culminating activity for this project is a response to the following expository essay prompt: "Did you enjoy this project? Explain how to choose a reasonable unit of length, weight, or capacity when given an object to measure."

The best feature of this project is that students comprehend the importance of measurements by applying what they have learned to construct model homes. This project can be used to teach area, perimeter, angles, Pythagorean Theorem, and geometric shapes. The project is also effective in illustrating how measurements are used in their daily lives.

Students

Twelve 6th-grade students completed this project in four weeks. Students worked at home but asked questions before or after class for teacher help. The project can be adapted to any grade level and used with small and large groups. The angle house can be completed in the classroom as long as students create a room with the appropriate angle and know that all rooms have to fit together when assembling the home.

Staff

Anna Fullana received the Dade County Council of Teachers of Mathematics Middle School 2004 Mathematics Teacher of the Year award. After attending a Discovery Digital Leadership workshop, she was inspired to use technology to introduce lessons to students. This is her first year with the project, and she plans to implement it for years to come.

Materials & Resources

To successfully execute this project, the following materials are needed: cardstock paper, glue, accessories, colors, glitter, protractor, Measurement Handout, Designing an Angle House Worksheet, access to the Discovery program, accessories to build the home, and lots of creativity.

Additional resources are an instructional video from Discovery Digital: *Common Board Builder Measurement Project*, internet access, a Math Reference Sheet, an engineer guest speaker, and a school computer lab or public library, if necessary.

Standards

Florida State Standards for Mathematics

MA.6.G.4.2: Find the perimeters and areas of composite two-dimensional figures, including non-rectangular figures (such as semicircles) using various strategies. MA.6.A.2.1: Use reasoning about multiplication and division to solve ratio and rate problems.

MACC.K12.MP.1: Make sense of problems and persevere in solving them.

MAFS.K12.MP.5.1: Use appropriate tools strategically.

MACC.K12.MP.4.1: Model with mathematics.

Sponsored by

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Geometry Applications on Gingerbread Houses Study Guide

Originally a Teacher Mini-Grant sponsored by the P.L. Dodge Foundation

"By creating gingerbread houses, students understand how the entire world is surrounded by geometric figures."

Take a bite out of Geometry with Gingerbread Houses. By creating gingerbread houses, students understand how the entire world is surrounded by geometric figures. Students apply formulas, take measurement of different shapes, and use protractors to find angles as they build their edible coursework. With rulers and frosting to create slopes, students clarify the concept of geometry and its applications.

When students construct the houses, they measure each part of the model. Students use formulas to find the surface area of the rectangular prisms, which is the bottom and sides of the house. The roof, assembled out of two sheets of gingerbread cookies, is a combination of trapezoids and triangles, and they measure the slopes created when the two shapes are joined together. For further embellishment, students form powdered snowmen with spheres dusted with confectioner's sugar. Then students find the area of these sugary spherical bodies as well as their volume.

Sponsored by

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Principal: Heriberto Sanchez

Students

A group of 123 students created Gingerbread Houses and six students created the study guide to assist students who needed additional support in understanding geometry. Students also participated in activities in which the teacher blended creative writing with geometry.

Staff

Luisa Chica teaches Advance Placement Statistics and Geometry at a high school. She has great experience in creating manipulatives and fun lesson plans in which students enjoy learning geometry; students are able to learn math while playing games. When Ms. Chica worked for the City of Hialeah, she wrote lesson plans as part of her duties.

Materials & Resources

The materials needed are gingerbread house-making kits for each student, paper, computers in the classroom/lab/or media center, pencils, color pencils, markers, and the GeoGebra software. The library is another resource for conducting any additional research.

Standards

Mathematics Florida Standards

MA.912.G.7.5: Explain and use formulas for lateral area, surface area, and volume of solids.

MAFS.912.G-MG.1.3: Apply geometric methods to solve design problems

MAFS.912.A-SSE.2.4: Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems.

MAFS.912.N-Q.1.1: Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

Stop, Animate, and Learn

Originally a Teacher Mini-Grant sponsored by the P.L. Dodge Foundation

"Students create stop-motion animation videos to teach a concept previously learned in the school year."

This project endeavors to sustain student engagement until the very last day of school. In "Stop, Animate, and Learn," students create stop-motion animation videos to teach a concept previously learned in the school year. Stop-motion animation is a technique to make an inanimate object appear to move on its own by being physically manipulated. With small, incremental movements, the object is moved between individually photographed frames. An illusion of movement is produced when a series of frames is played as a continuous sequence.

To complete the project, students begin by researching their topic using the Internet. Next, they develop a storyboard and script. Then students acquire the necessary supplies and props based on their story idea. Finally, with a webcam from a laptop or iPad, students go through a step-by-step process to create their animation video: 1: Shoot the animation; 2: Download the photos; 3: Compile the photos from a file; 4: Animate the photos; and 5: Add music and narration. Topics can either teach the viewer about a time period in history or animate a science concept. Before long, students can create stop-motion animation production rivaling "Gumby."

Students

This project is designed for all age groups. It is best to have students work in partners or small groups. Students work on the project daily for four to six weeks for an advanced concept and two to three weeks for a basic concept. All levels of students benefit from the project. A rubric can be adjusted for students' individual needs and abilities.

Staff

Wendy Gerry has been a teacher for nine years, the last four years teaching fourth grade – and loving every minute of it. Ms. Gerry has received the following recognitions: New American Hero Award by the Clarion Council, Homestead City's "Teacher of the Quarter" and Teacher of the Month. She also has received grants from The Education Fund.

Materials & Resources

Research materials are extremely important. Students need an organizer (i.e. timeline, outline) in a format that is simple enough to convert to a storyboard and a script. A laptop with a webcam, Sam Animation from ICreatetoeducate.com or an iPad with the app ICreatetoeducate.com are needed. It is best for each group to have their own laptop or iPad. However, the project can be done with one station used like a center.

Standards

Language Arts
Florida Standards

LAFS.4.RI.1.2: Determine the main idea of a text and explain how it is supported by key details, summarize the text.

LAFS.4.RI.1.3: Explain events, procedures, or concepts in a historical, scientific, or technical text, including what happened and why, based on information in the text.

LAFS.4.RI.3.7: Interpret information presented visually, orally, or quantitatively and explain how the information contributes to an understanding of the text in which it appears.

LAFS.4.RI.3.9: Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.

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A "Toolbox" for Teaching & Learning

"The project shares 10 key tools to enrich the teaching and learning environment."

A "Toolbox" for Teaching and Learning provides educators with a veritable toolkit of HELPFUL tools (tips, strategies, and hands-on activities) to reshape the way they think about and approach this profession. Because teaching is a significant responsibility, instructors need to be equipped with a plethora of impactful ideas. This project shares ten key tools to enrich the teaching and learning environment. Some tools assist organizational skills, while others provide engaging activities to foster independent learning as well as working collaboratively.

Ten strategies that can be adapted to any K-12 classroom include; Spelling Test Simplified (hammer); Book Journals (saw); Mystery Grab Bag Activity (utility knife); Take Home Interactive Word Walls (Phillips screwdriver); Pictorial Input Charts (tape measure); Mini Me Displays (level); Learning Pyramid Centers (drill); Collaborative Strategies Booklet (flathead screwdriver); Character Trait Characters (foldable); Close Reading Magnified Interactive Journal Activity (magnifier). The "toolbox" assists teachers in improving their instructional practices and encourages students to explore, question, investigate, and discover.

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Florida Matching Grants Program

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Students

Kindergarten through grade 12 students can benefit from the "toolbox." Most of the activities are interdisciplinary and can be adapted to meet the needs of teachers who instruct in a variety of subject areas. Activities can be adapted to both small and large groups as well as for individual students.

Staff

Eugenio Gant has been an educator in Miami-Dade and Leon County public school systems for 10 years. He was selected as Teacher of the Year for his elementary school and currently serves as an iHEAT Curriculum Support Specialist for Miami-Dade County Public Schools' Office of Professional Development and Evaluation.

Materials & Resources

Most of the required supplies for the activities in the "toolbox" are everyday materials found in most classrooms today. Items needed include copy paper, construction paper, glue, chart paper, card stock paper, folders, markers, crayons, and legal size file folders.

Standards

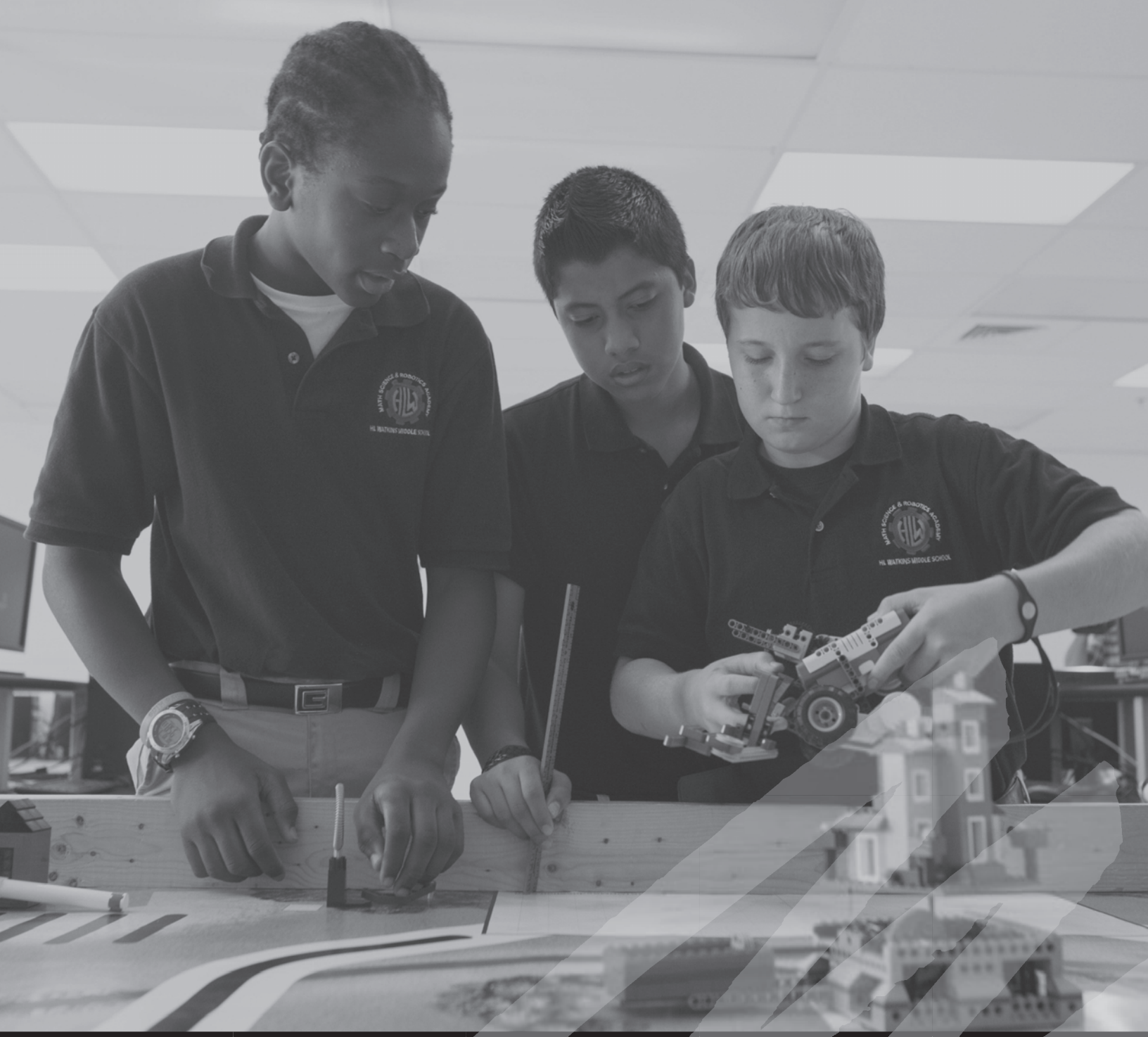
Language Arts
Florida Standards (LAFS)

LAFS.3.RL.1.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

LAFS.3.RL.1.3 Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.

LAFS.3.RL.3.9 Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series).

LAFS.3.RL.4.10 By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 2–3 text complexity band independently and proficiently



Florida Power & Light Company is proud to support IMPACT II and the Education Fund's efforts to drive robotics education in Miami-Dade County public schools.

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CHANGING THE CURRENT.

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From Squishy Circuits to Robotics

Originally a Teacher Mini-Grant sponsored by FPL

"Students work with a non-traditional circuit technology, learn to solder, and finally build a robot with their new soldering skills."

Electrical Circuits are the foundation of our modern, technology-driven lives. From simple light bulbs to complex devices like iPhones, technology relies on electrical circuits in order to function. The main point of this unit of study is to give students in STEM Electives a hands-on experience with circuits and a behind-the-scenes look at how we can make electricity do useful things. Students work with a non-traditional circuit technology, learn to solder, and finally build a robot with their new soldering skills. This experience includes an introduction to circuits using conductive play dough and insulating play dough. It also involves user-friendly learn-to-solder kits and a ladybug soldering robot kit.

After completing the project, students should understand the following concepts:

conductors vs. insulators; resistance; open circuits vs. closed circuits; short circuits; and series circuits vs. parallel circuits. In addition, students will have acquired a new soldering skill that they will be able to apply in future STEM classes and in real life.

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Principal: Bernard Osborn

Students

This project is geared toward middle school honors students in a critical thinking elective, but could be adapted to upper elementary students or high school students in a technology or science class at all academic levels from regular to honors.

Staff

Kristy Reinhartz holds a degree in Chemical Engineering and a Masters in Business Administration. She started teaching five years ago and earned Rookie Teacher of the Year during her second year. Mrs. Reinhartz is the sponsor of the school's Gold Level Mathcounts Club and is the SECME Coordinator. She has received multiple grants from The Education Fund, the PTSA mini-grant program, and the North Miami Police Athletic League.

Materials & Resources

The ingredients to make the conductive and insulating dough are: flour, salt, cream of tartar, vegetable oil, food coloring, sugar, distilled water, and granulated alum. To test the dough, 9V batteries, 9V snap connectors, and a 10mm LED assortment are needed. Students learn to solder using Elenco Learn to Solder Kits, Soldering Iron Holders, and Safety Glasses. Advanced students with experience in soldering are encouraged to build Velleman MK152 Spinning LED Wheels and Ladybug Robot Kits.

Standards

Common Core Standards
New Florida Standards

CCSS.RST.6-8.2: Determine the central ideas or conclusions of a text; provide an summary of the text distinct from prior knowledge or opinions.

CCSS.RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

Next Generation Sunshine State Standards

Science

SC6.P.11: Explore the Law of Conservation of Energy by differentiating between potential and kinetic energy. Identify situations where kinetic energy is transformed into potential energy and vice versa.

SC6.P.12: Measure and graph distance versus time for an object moving at a constant speed. Interpret this relationship.

iBot, uBot, We All Build Robots

"Students create by building a robot using the LEGO elements, motors, and intelligent sensors included in the MINDSTORMS set."

Ready to engage, excite, and educate a classroom of middle school students? Look no further. The STEM-based project, "iBot, uBot, We All Build Robots," meets the challenge of attracting and sustaining the interest of an entire class. LEGO MINDSTORMS EV3 offers 18 possible models students can build using their product. The software guides included enable learners to bring their robot to life with motors and sensors that add motion and behavior.

Students create by building the robot using the LEGO elements, motors, and intelligent sensors included in the set. They follow step-by-step building instructions to create robots that walk, talk, think and do whatever can be imagined. Students command by programing the robot in the intuitive icon-based programming interface. They drag and drop the actions into the programming window and adjust them to suit the robot's behavior.

Students use the Green City robotics challenge to build an energy efficient city and program robots to complete tasks such as powering a wind turbine. They make use of training mats, a challenge mat and bricks to build a variety of green city models. Go and begin your iBot creation! Once built and programmed, it's time to play!

Students

This project was designed for 50-75 eighth grade science students. The project is applicable for grades six through twelve. For large groups, introduce the LEGO activities and concepts, then break the class into small groups and act as facilitator while students plan and construct individual robots.

Staff

For 11 years, Bridgit Coley has taught middle school science in Miami-Dade County Public Schools. Ms. Coley was named the 2004 Rookie Teacher of the Year for the school district. She was also nominated for the American Hero Award and has been the recipient of many grants from The Education Fund.

Materials & Resources

Materials needed for this project are the LEGO The Mindstorms NV3 kit ($399) available from LEGO Mindstorms on the LEGO website, LEGO The Green City ($200), computers in the classroom/computer lab/media center, and access to the Internet.

Standards

Next Generation Sunshine State Standards

Science

SC.8.N.1.1 Define a problem, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.

SC.8.N.1.5 Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.

SC.8.N.1.2 Differentiate replication (by others) from repetition (multiple trials).

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FPL

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Principal: Ana Cordal

LEGO: Plane and Simple

Originally a Teacher Mini-Grant sponsored by the P.L. Dodge Foundation

"Through building gears, pulleys, levers, wheels and axles, elementary students are able to comprehend dense concepts surrounding physical science."

The purpose of "LEGO: Plane and Simple" is to teach young students about basic physical science concepts by playing with this classic children's toy. Through building gears, pulleys, levers, wheels and axles, elementary aged students are able to comprehend dense concepts surrounding physical science. At the center of this project is the Lego Education Simple Machine set and its Activity Pack with 16 principal exercises.

One lesson focuses on how gears are used in a merry-go-round. The teacher begins by introducing gears, explaining the concept of decreasing speed of rotation, increasing speed of rotation, and gearing at an angle. Students then divide into pairs with their own Lego simple machine set. The task is to replicate two types of merry-go-rounds with their Legos: one with an 8 teeth spur gear, and the other with a 24 teeth crown gear. Students test to see which type of merry-go-round goes faster with the same amount of turns. The class explores the gearings illustrated on their student worksheet and records their observations.

As a result of utilizing the LEGO Education Simple Machines and Activity Pack, young students can understand, explain, and demonstrate the physical science concepts of axles and wheels, gears, pulleys, and levers.

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Florida Matching Grants Program

Zeny Ulloa
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Kendale Lakes Elementary
Mail Code: 2651
305-385-2575
Principal: Martha Jaureguizar

Students

This project was designed for a first grade class of 18 students composed of varying ESOL levels (1 to 3). The project was implemented during their science block. Students participate in both large and small group sessions; students are also broken down into groups of two when working with their LEGO simple machines. The project can be adapted for different grade and achievement levels.

Staff

Zeny Ulloa has been an educator in Miami-Dade County Public Schools for nine years. Over the course of her career, Ms. Ulloa has been awarded several grants from The Education Fund, including Disseminator, Adapter, and Teacher Mini-Grants. She has worked as her school's Dade Partner Liaison and is a grade level chair and teaching Specialist. Currently, Ms. Ulloa is pursuing her doctorate in Organizational Leadership.

Materials & Resources

All the materials needed are provided through the LEGO Simple Machines and Activity Pack, including 204 elements and building instructions along with classroom management tips. The Activity Pack includes teacher notes, student worksheets, images for classroom use, classroom management tips, and a glossary. The information for pre and post Simple Machines can be found online.

Standards

Next Generation Sunshine State Standards

Science

SC.1.P.12.1: Demonstrate and describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow.

SC.1.P.13.1: Demonstrate that the way to change the motion of an object is by applying a push or a pull.

Creepy, Crawly Things and Bugs that Fly

Originally a Teacher Mini-Grant sponsored by the P.L. Dodge Foundation

"This project introduces science to first graders by examining insects up close and personal through a variety of interactive, hands-on activities."

The "Creepy, Crawly Things and Bugs that Fly" project introduces science to first graders by examining insects up close and personal through a variety of interactive, hands-on activities. The "Creepy, Crawly Things and Bugs that Fly" project begins with a class nature walk on the school's campus. Armed with clipboards, first graders quietly venture out in teams of three to classify insects by name, color, size, and number. Once back inside the classroom, the students discuss their field notes and observations and conclude the session with drawing one of the insects detected on their walk. As the project progresses, a number of class sessions involve reading various selections about insects, recording new vocabulary terms in journals, reading in pairs, writing reports, and undertaking creative activities.

One such activity takes place after reading a key text, *Grasshoppers*. Students conduct a science experiment by recreating a grasshopper's five eyes. With 12 straws and a three inch strip of extra wide masking tape, students bundle the straws with the tape. Then by looking through the end of the bundle, the students experience the sight of a grasshopper's compound eye with its many lenses.

Students

Eighteen first grade students of mixed abilities and achievement levels participated in this project three days a week. This project is adaptable to higher or lower grades, small and large groups, and English Language Learning students. The art projects, key text, and reading selections can be modified according to the levels of participants.

Staff

Since 2006, Janis Jordan worked as a media specialist in Miami-Dade County Public Schools; she began teaching in the classroom in 2013. She has been the recipient of many grants: Teacher Mini, Adapter and Disseminator Grants from The Education Fund and UTD President's Grant 2013-2014 from the United Teachers of Dade.

Materials & Resources

The Creepy Critters series, supplementary texts, and *Creepy Critters: Grasshoppers*
Supplies: Pipe cleaners, glue, plastic eyes, cardstock, solar grasshoppers, masking tape, pompoms, and crayons. No other space is needed beyond a regular classroom. The nature walk for Creepy, Crawly Things and Bugs that Fly took place on school grounds. However, the nature walk can be at a park or nature preserve.

Standards

Language Arts
Florida Standards

LACC.1.RI.1.2: Determine the main ideas of a text and explain how it is supported by key details; summarize the text. Identify main topic and re-tell key details of the text.

LACC.1.RI.1.3. Explain events, procedures, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

Next Generation Sunshine State Standards

Science

SC.1.L.1.4.1: Make observations of living things and their environment using the five senses.

SC.1.N.1.3: Keep records as appropriate, such as pictorial and written records of investigations conducted.

Sponsored by

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Principal: Jennifer Escandell

Hurricane Awareness Preparation Guides

"This project connects students with weather, science, technology, and their community through studying real world events."

For residents of South Florida, hurricane preparedness is a part of our daily life six months of the year, but most students lack understanding of what this type of planning means. This project connects students with weather, science, technology, and their community through studying real world events.

"Hurricane Awareness Preparation Guides" begins with students researching past hurricanes and cities impacted in the United States. Each participant selects one hurricane that struck a city as the focus of his project. Over the course of nine weeks, the budding scientists collect historical information, track their hurricane using hurricane tracking programs, and study up-to-date Florida hurricane maps. They create a hurricane preparedness campaign for the city they have selected. Some students create public service announcements, design brochures with real information pertinent to residents of the previously affected areas, or conduct interviews with actual hurricane victims to produce a video to present to their peers.

Now equipped with a wealth of knowledge, students act as resident meteorologists forecasting the day's weather on their school news program. The class also maintains a weather blog and shares important weather preparation tips with their local community.

Sponsored by

Rod and Lucy Petrey

Anna Martin
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Citrus Grove Middle
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305-642-5055
Principal: Cory Rodriguez

Students

A total of 300 sixth grade boys and girls ages 11 – 13 participated in the project. This is a nine-week project based on the 6th grade quarter and pacing of weather. It can also be adjusted to any student taking earth/space science.

Staff

Since 2006, Anna Martin has taught science to middle school students, but her instructional capacity extends to the high school level as well. Ms. Martin is in her fourth year as a science coach. She conceptualized this project in 2010 and has implemented and shared it with other science teachers since.

Materials & Resources

Items needed: a project guide, samples of student work, rubrics, maps, and website links. Resources can include: blogging with meteorologists from local news channels, WeatherBug, weather on wheels program from MAST Academy, field trips to the science museum for hurricane force/tornado machine interaction, guest speakers such as Max Mayfield to share his experience during Hurricane Andrew, and employees from NOAA to share hurricane preparedness information.

Standards

Next Generation Sunshine State Standards

Science

SC.6.E.7.1: Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through Earth's system.

SC.6.E.7.2: Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.

SC.6.E.7.3: Describe how global patterns such as the jet stream and ocean currents influence local weather in measurable terms such as temperature, air pressure, wind direction, speed, humidity, and precipitation.

SC.6.E.7.4: Differentiate and show interactions among the geosphere, hydrosphere, atmosphere, and biosphere.

Kaboom....Up, Up, and Away

"Through the world of rocketry, middle school students are blown away by applying basic math and physics to create rockets of their own."

Transform an eighth grade physical science class into a voyage to the BEYOND. Through the world of rocketry, middle school students are blown away by applying basic math and physics to create rockets of their own. The genius in this project is that it transforms challenging subject matter like principles of aerodynamics and thermodynamics into an engaging learning exercise about physical science through hands-on activities.

At its core, this project explores diverse models of rocket science. Two examples captivate even the most aloof teenage audiences. Stomp Rockets affords students a safe and inexpensive way to learn the fundamentals of forces in flight, and Bottle Rockets transforms any classroom into Cape Canaveral using a two liter soda bottle (the rocket) and water (the "propellant" for the launch) to demonstrate how a compressed air rocket works.

By the project's end, students practice cooperative learning as they engage in rocket design and construction, and they connect traditionally abstract mathematical concepts to real world experiences.

Students

A group of 60 eighth grade students working in teams of two for each type of rocket participated in this project This activity can serve as a major project or can be tailored down to mini projects focusing on individual rockets with either a small launch thrust or large. It can also be adapted to lower or higher grade levels.

Staff

For 11 years, Bridgit Coley has taught middle school science in Miami-Dade County Public Schools. Ms. Coley was named the 2004 Rookie Teacher of the Year for the school district. She was also nominated for the American Hero Award, and has been the recipient of many grants from The Education Fund.

Materials & Resources

Materials needed: Stomp launcher, Stomp rocket material, Super Bottle rocket launcher and Double Bottle rocket launcher. Students also need tools to cut and create rockets such as PVC pipe cutter, markers, measuring tape, tape, and plastics. Students will also need access to the Internet and an open area for launching. Ms. Coley can also provide information on various building kits and launching rocket kits.

Standards

Next Generation Sunshine State Standards

Science

SC.912.P.12.1A: Motion can be measured and described qualitatively and quantitatively. Net forces create a change in motion. When objects travel at speeds comparable to the speed of light.

SC.912.P.12.2: Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.

SC.912.P.12.3: Interpret and apply Newton's three laws of motion

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Florida Matching Grants Program

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Principal: Ana Cordal

To Harness the Wind

"STEM learning practices are used as students work collaboratively to design an energy efficient structure."

"To Harness the Wind" uses STEM learning practices by having students work collaboratively to design an energy efficient structure. The project begins by defining heat transfer and how the potential energy of fossil fuels can be transferred into heat energy and electrical energy. Next students design and build a model home using balsa wood, cardstock paper, hot glue gun, and glue. Upon finishing the construction of the home, students place their models on top of a table with small shop lights to measure the temperature and any heat loss. Afterwards, students use an iPad thermal imaging camera to detect any significant amount of heat. Students take pictures and measure the temperatures inside the structure, outside the windows and doors, and along the walls for any openings; they record their findings.

Next, students ask, "How do we make the home more energy efficient?" They insulate their structures with various materials. The students repeat the process of placing their structures on top of a light source, recording temperatures, taking thermal imaging pictures, and then comparing their new data with data from their former models. By the end of the project, students have an excellent grasp on energy and energy transference.

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Florida Matching Grants Program

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Zelda Glazer Middle School
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305-485-2323
Principal: Dr. Miguel A. Balsera

Students

A group of 150 seventh-grade students participated in the activity, but it can be geared towards students in 5th to 8th grade.

Staff

Rosa Perez has taught science for the past 15 years. She enjoys working with students and providing them with hands-on experiences and engineering opportunities. Notable achievements Ms. Perez has garnered are Math and Science Teacher of the Year, SPOT Award, Science Teacher of the Year, Teacher of the Year, and the recipient of The Education Funds Adapter and Teacher Mini Grants.

Materials & Resources

Materials to construct these structures are a packet of balsa wood, glue and glue gun, cardstock paper, cotton, wood for light, lights, digital thermometer, tablets, and the book *The Boy Who Harnessed the Wind.*

Additional resources include a field trip to a museum to learn more about renewable energy and access to the Internet to research windmills and carbon footprints.

Standards

Next Generation Sunshine State Standards

Science

S.C.7.P.11.1: Recognize that adding heat to or removing heat from a system may result in a temperature change and possible a change of state.

S.C.7.P.11.2: Investigate and describe the transformation of energy from one form to another.

S.C.P.11.3: Cite evidence to explain that energy cannot be created or destroyed, only changed from one form to another.

S.C.P.11.4: Observe and describe that heat flows in predictable ways, moving from warmer objects to cooler ones until they reach the same temperature

Identifying Blood DNA

"Students form crime scene investigation units to uncover the truth behind a dead body in fictional crime scenarios!"

In groups of four, students form crime scene investigation units to uncover the truth behind fictional crime scenarios involving a dead body. A volunteer acts as the slain victim by lying on the floor while another draws an outline of the body. The instructor assigns the victim's accident, injuries, and each group's individual scenario. The investigators then sketch the face, skeletal body, and muscles of the victim's exact measurements using geometry. An estimate of the height and gender is made by checking the body's pelvic bones and femur. After this forensic medical examination, the class moves to an ID investigative science laboratory where they use their drawings and notes to generate a list of possible murder suspects. At this point, the teams, in order to determine who committed the crime, need to apply the scientific method, using DNA evidence and relevant crime scene pictures, and explain their conclusions.

At the end of the project, the murderer's identity is either discovered by using DNA evidence or their criminal is freed in lieu of poor data and evidence collection.

Students

Groups of four Human Anatomy and Physiology 9-12 students participate in the crime scene scenario and groups of two pose for the life size drawing. During project sessions, students record information, identify organs, create a forensic drawing, and participate in a medical examination of the victim. The teacher assigns diseases and accident injuries to the victim.

Staff

Birgith Phillips has taught for 13 years and currently teaches Biology and Human Anatomy at Hialeah Senior High. Ms. Philips has used this project for 13 years and has learned to change it to accommodate various high school populations. She uses real-life scenarios to allow students to investigate the different scientific fields.

Materials & Resources

For this project, you need one big roll of bulletin board paper for students to lie down for someone to trace them and create life size cutouts. Students also use colored pencils, lead pencils, erasers, rulers, measuring tape, plus classroom and library anatomy and physiology books. Internet access is required and an overhead projector, printer and white printing paper. Each student also needs access to a USB port on computer while completing "Identifying Blood DNA."

Standards

Next Generation Sunshine State Standards

Science

SC912.N.3: Identify examples of scientific laws and their relationship in the natural world, such as Newton's Laws.

SC912N1: Identify problem based on a specific body of knowledge, including life science, earth and space science, physical science, then: examine a reliable source; develop a possible explanation; plan and carry out an experiment; gather data on measurement and observation, evaluate data

Language Arts
Florida Standards

LA910.1.6: Use new vocabulary that is introduced and taught directly. The student uses multiple strategies to develop appropriate grade vocabulary.

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Florida Matching Grants Program

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Hialeah Senior High
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305-822-1500
Principal: Heriberto Sanchez

Adopt a Mangrove

"Students benefit academically because they connect concepts learned in the classroom – urbanization and habitat loss – with how these concepts are applicable to the world around them."

Restore a vital natural resource one person at a time. With urbanization of coastal areas in South Florida on the rise, mangrove habitats have decreased at an alarming rate. Mangroves prevent coastal erosion and provide a habitat for young marine organisms. In order to mitigate the consequences of local urbanization, a student-created ecology club, Marine and Environmental Science Academy (MESA), developed the "Adopt a Mangrove" program. In this program, mangrove propagules are collected from beach clean ups and allowed to germinate in the school's greenhouse. The public is encouraged to take plants home for a year of continued growth. At year's end, the plants are returned to MESA, whose students then re-plant the mangroves in their natural environment.

Students benefit academically because they connect concepts learned in the classroom – urbanization and habitat loss – with how these concepts are applicable to the world around them. The best feature is students having a vested interest in the entire restoration process – from collecting, caring, and assembling mangrove vases to planting the mangroves back in their natural habitat.

Martin Roch
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MAST @ FIU Biscayne Bay Campus
Mail Code: 7031
305-919-4450
Principal:
Dr. Matthew J. Welker

Students

A group of 45 students from grades nine through twelve met twice a week while participating in this project. At the beginning of the project, students collect the mangrove propagules and place them in jars. Students give seedlings out to others to keep for one year. They then collect them and replant in restoration site.

Staff

Martin Roch teaches Marine Science I, Marine Science II and AP Environmental Science. An environmental activist, Mr. Roch promotes environmental awareness in school and in the community. He started a recycling program and continues to work in the school's greenhouse while participating in regional environmental projects such as testing populations of sea grass, releasing hatchling sea turtles back into the ocean, and coastal clean-ups at Biscayne Bay National Park and other projects.

Materials & Resources

To complete this project, students will need buckets, gloves, gravel, cups, mason jars, a greenhouse, color print cartridges, and a color printer. Field trips to a shoreline are also required to collect mangrove propagules and to replant them.

Standards

Next Generation Sunshine State Standards

Life Science

SC.912.L.17.8: Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is sufficient; identify false statements and fallacious reasoning.

SC.912.L.17.10: Diagram and explain the biochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.

SC.912.L.14.In.5: Describe the general processes of food production, support, water transport, and reproduction in the major parts of plants.

SC.912.L.17.16: Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, and groundwater pollution.

Ancient Egypt in Modern Miami

"Students recreate an ancient Egyptian market place to enhance their understanding of how that innovative society's architecture, economics, agriculture, politics, commerce, and culture parallel contemporary times."

Ancient Egyptian civilization is still alive here in Modern Miami. From a school's hydroponic garden to natural homeopathic remedies, hints of this great civilization can be seen in our daily lives. With this project, students recreate an ancient Egyptian market place to enhance their understanding of how that innovative society's architecture, economics, agriculture, politics, commerce, and culture parallel contemporary times.

Using goods fashioned by students, such as beaded jewelry and clay pots, they learn principles of bartering and trade. Then they explore a variety of market place occupations and imagine how the locals bartered and traded. Students are surprised to learn that basket weavers, sandal makers, and jewelry makers were revered occupations. Students can also use fresh herbs from the classroom's hydroponic ponds as wares for sale. Using hands-on objects, reference materials, and creative activities, students are motivated to learn. Essentially, this project affords teachers and students to have a "magic sarcophagus" of amazing treasures.

Students

Forty-two second and third grade students participated in this project, but the unit can be modified for upper grade levels. At the teacher's discretion, the project can span one week to one month.

Staff

Katie Prelaz began her teaching career where she was a student – Miami-Dade County Public Schools. She has received numerous grants from The Education Fund. This former state finalist for the Beginning Social Studies Teacher was honored by the Miami-Dade Council as the 2013 District Social Studies Elementary Teacher of the Year. Ms. Prelaz is now pursuing her doctorate in Curriculum and Instruction at Nova Southeastern University.

Materials & Resources

Materials needed to execute this project include fabrics, art supplies, beads, clay, maps, hieroglyphic charts, plastic storage crate, and a binder. Resources that will enhance this activity are Ms. Frizzle's Adventures: Ancient Egypt by Joanna Cole, for detailed illustrations of past Egyptian life, and research of the history of Miami for architecture pictures of Miami buildings, past and present.

Standards

Next Generation Sunshine State Standards

Social Studies

SS.2.C.1: Identify what it means to be a United States citizen either by birth or by naturalization.

SS.2.C.2: Define and apply the characteristics of responsible citizenship.

SS.2.C.3: Identify the Constitution as the document which establishes the structure, function, powers, and limits of American government.

SS.3.G.1.1: Use thematic maps, tables, charts, graphs, and photos to analyze geographic information

Mathematics

MA.2.G.3 Recognize length of real objects, such as big, little, long, or short.

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PEREZ TRADING COMPANY

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The Root Beer Game

"The Root Beer Game is an experiential learning business simulation that demonstrates a number of key principles of supply chain management."

Chaos reigns in the classroom as 40 students shout, gesture, and laugh while counting poker chips and turning over cards. A thick roll of extra-credit bills awaits the winners. Is this a field trip to the Seminole Hard Rock Casino?

No, it's the "Root Beer Game," a role-playing simulation designed to teach principles of supply and demand management science. The game is played by teams of at least four players, often in heated competition, and takes from 1 to 1½ hours to complete. A debriefing session of roughly the equivalent length typically follows to review the results of each team and discuss the lessons involved. More specifically, the game is played on a board that shows the supply chain of root beer with four separate firms: Retailer, Wholesaler, Distributor, and Factory. One penny represents one case of root beer. One poker chip represents 10 cases. Each round represents one week.

The root beer distribution game is an experiential learning business simulation game created by a group of professors at MIT Sloan School of Management in the early 1960s to demonstrate a number of key principles of supply chain management. This project is a creative lesson on economics, and it is the culminating event in 'supply and demand' and the business cycle.

Sponsored by

Raj Rawal and Anne Marie Miller

Carl Hoover, NBCT
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Alonzo and Tracy Mourning Senior High
Mail Code: 7048
305-919-2000
Principal: Lisa Garcia

Students

Up to 40 students play at a time. A total of 200 high school students with varying achievement levels – advanced placement, gifted, honors, and standard – participated in the entire project. The game can take about a week to complete from start to finish.

Staff

Carl Hoover, a National Board Certified Teacher, has 15 years of high school teaching experience. His accomplishments include being the social studies department chair at his school, a College Board Advance Placement Macroeconomics reader, an adjunct college professor of Economics, and a MINT Mentor.

Materials & Resources

Materials needed to play the game include a game guide, 200 plastic tokens, source cards, overview cards, demand cards, action cards, a game board (printed in either several pieces using a personal printer or at a professional printing store to print on plastic), 9-sided dice if available (or 6-sided dice), and envelopes.

Standards

Next Generation Sunshine State Standards

Social Studies

SS.912.E.1.4: Define supply, demand, quantity supplied, and quantity demanded; graphically illustrate situations that would cause changes in each, and demonstrate how the equilibrium price of a product is determined by the interaction of supply and demand in the market place.

Mathematics Florida Standards

MA.912.A.2.1: Create a graph to represent a real-world situation

MA.912.A.2.2: Interpret a graph representing a real-world situation

Language Arts Florida Standards

LA.1112.2.2.3: The student will organize information to show understanding or relationships among facts, ideas, and events.

What Came First: Nationalism or Propaganda?

"Students create propaganda posters for countries involved in World War I to gain an understanding of the power of propaganda to incite loyalty during strife."

The purpose of this project is for students to gain an understanding of the power of propaganda to incite loyalty during strife. Students construct a graphic organizer during a short video and lecture covering main ideas and details of changes during the 19th century through the end of World War I. Students work in groups to create a timeline during this period that highlights 20 significant events during a 20-year period. They analyze a compiled timeline for thematic patterns (i.e. Nationalism, Imperialism) and a snapshot of how the world was changing over time. Students use mapping skills as they individually construct an Imperialist map of the world. Inclusive of the project are student-led discussions about why countries were allowed to colonize, which country held the most control and the causal relationship of World War I. As a culminating event, students design propaganda posters from various countries involved in World War I.

Students

This project could be adapted by any Social Studies teacher using a specific focus and defined period of time. I used this project with 99 9th-grade students. Classes include regular and honors students as well as ESOL and ESE students. The project allows modifications for students to work together and utilize additional resources as necessary. Social Studies and Language Arts teachers could adapt this project with students who are studying a specific literary or historical time period.

Staff

Mairi Callam, an instructor with M-DCPS for 24 years, has taught World History and AP courses in Economics, Government, Psychology, and European History. She sponsored the Model United Nations program and received a grant from The Education Fund. She has been recognized by the Miami Police Department for her work on the Intergenerational program and has received a commendation from the White House.

Materials & Resources

Materials needed to complete this project are colored construction paper, markers, colored pencils, crayons, scissors, pencils, and tracing paper. The public library or the internet can be used to research information about the 19th century and World War I.

Standards

Language Arts
Florida Standards

LAFS.910.L.3.6: Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level.

LAFS.910.RH.1.2: Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.

LAFS.910.W.2.5: Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant.

LAFS.910.RI.3.9: Analyze seminal U.S. documents of historical and literary significance.

Sponsored by

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"What Do You Stand For?" – A Lesson on Character Education Inspired by the Holocaust

Originally a Citi Success Fund Grant

"After reading books related to the terrible tragedies that occurred during the Holocaust, high school students write children's books that become lessons on character education for elementary students."

After reading books related to the terrible tragedies that occurred during the Holocaust such as *Night* by Elie Wiesel and watching films related to the Holocaust such as "Uprising," high school students write their own children's books. The main characters are to exhibit valuable, positive qualities needed in society such as honesty, kindness, and empathy. These stories become a lesson on character education for elementary students, the target audience of the high school student writers. The stories also encourage students, both high school and elementary, to explore what they stand for – at school, at home, and in their communities.

The novice writers first browse through a few children's books for ideas for their own stories. Using the template "From Picture to Story: Getting Ready to Write," students begin planning story elements. They complete a plot diagram and create a storyboard for a 12- to 15-page book. Using art supplies or any bookmaking resources, the writers design an attractive book jacket. Once the book is finished and illustrated and the teacher approves it, the new children's book authors read their stories to their elementary-age audience.

Sponsored by

Robert Russell Memorial Foundation

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Educational Center
Mail Code: 7371
305-253-9920, ext. 2561
Principal: Kimberly Davis

Students

This project has impacted more than 200 students in elementary and high school. This project can be adapted for any grade level. The project works well with small groups so that students can share responsibilities.

Staff

Michelle Singh is a National Board Certified English/Language Arts teacher. During her first year of teaching, she was honored as the county's Rookie Teacher of the Year. In 2013, Ms. Singh was nominated as Teacher of the Year for her school. She has received numerous grants from The Education Fund, Donorschoose.org, and Florida Learn and Serve.

Materials & Resources

Students need access to computers. Other supplies include: markers, colored pencils, paint, construction paper, printer paper, brushes, glue guns, tape, other crafting materials and hardcover blank books. Students can participate in field trips to elementary schools or preschools to read their books or visit an afterschool program. Students can host a reading day at the high school where elementary students are invited to attend and take part in the reading of these stories.

Standards

Language Arts Florida Standards

LAFS.K12.R.1.2: Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

LAFS.K12.W.2.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.K12.W.2.6: Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

LAFS.K12.SL.2.5: Make strategic use of digital media and visual displays of data to express information.

LAFS.K12.SL.2.6: Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English.

Teaching Trunks on the Holocaust

The Florida Holocaust Museum provides literature-based teaching trunks to use to meet the Florida Mandate for Holocaust Education. Their dynamic trunk curriculum teaches the lessons of the Holocaust, genocide and character education with trunks designed to accommodate the needs of one class or a team of teachers.

The trunk materials align with state standards and are appropriate for students at each level. The focus of each trunk is carefully developed to create a spiraling educational approach that builds upon the previous grade level trunk. The first and second grade trunk is a video-based series on respect and tolerance education. All other trunks contain picture books, class sets of literature, curriculum guides CDs, videos/DVDs, poster sets and resource materials.

The curricula focus on integration of subject areas, cooperative learning, multiple intelligences and an emphasis on reading and writing skills. Themes include:

- *Different and the Same* for first and second grade;
- *Creating Community* for third and fourth grade;
- *Beginning Holocaust Studies* for fifth grade;
- *Investigating Human Behavior* for middle school;
- *Historical Perspectives of the Holocaust* for high school.

Further study is available through specialized trunks:

- *Arts Trunk* for elementary students;
- *Human Rights and Genocide Trunk* for middle and senior high students.

How to Reserve a Trunk Free-of-Charge

Contact the Florida Holocaust Museum in St. Petersburg directly to reserve a trunk to use in your school or classroom. They ship free-of-charge. For more information, go to www.flholocaustmuseum.org/tours/trunk-info.aspx.

Teaching Trunk Advisors

Contact the local teachers listed below for curriculum-related ideas, advice and support in using the trunks.

Tom W. Glaser
tomwglaser@dadeschools.net

Mr. Glaser teaches at Mater Academy Charter High School. He attended the first U.S. Holocaust Memorial Museum Belfer Conference and was one of the first 25 Mandel Fellows. He is a member of the Florida Education Commissioner's Task Force on Holocaust Education and the Miami Beach Holocaust Memorial Education Board.

Esther Sterental
esterental@dadeschools.net

Ms. Sterental teaches at Miami Killian Senior High. She is a graduate of the Yad Vashem Holocaust Education Teacher Training Program in Jerusalem. In 2012, she was named the "Florida State Holocaust Education Teacher of the Year" and was one of a selected group of Florida professionals invited to attend the United States Holocaust Memorial Museum's Regional Education Summit.

M-DCPS Resource on Holocaust Education

Dr. Miriam Klein Kassenoff
Holocaust Education Specialist, M-DCPS
Director, University of Miami Holocaust Summer Teacher Institute
mkassenoff@dadeschools.net, 305-995-1201

View the trunks and attend a workshop on the Holocaust Teaching Trunks at the Idea EXPO Teacher Conference on Tuesday, November 11th. Register online at www.educationfund.org.

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Every K-12 teacher working in the public schools in Miami Dade is entitled to a shopping visit every six months.
Visits are on selected Wednesdays 2:00 p.m. – 6:00 p.m., Thursdays 3:00 p.m. – 7:00 p.m. and Saturdays 9:30 a.m. – 1:00 p.m.

See you at the Ocean Bank Center!

Sign-Up for a visit. It's easy and simple!

- Visit www.educationfund.org.
- Click on the "Programs" button and select "Ocean Bank Center for Educational Materials" from the list.
- Complete the "Online Pass Request" form and submit.

Via email you'll receive a "pass to visit" for the next available day.

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