

Florida Learns

STEM

SCHOLARS

PAEC • HEC • NEFEC



Welcome parents and students!

**We are extremely pleased that you are here to
learn more about this exciting project!**

Meeting Agenda

Welcome and Introductions

Parent and Student Surveys

Project Overview

Questions and Answers

Project Paperwork

Travel/Emergency Medical Release

Permission for Project Counselors to Access Student Academic Record

Media Release

Informed Consent Form

Closing Comments

FloridaLearns STEM Scholars

What is *FloridaLearns STEM Scholars*?

- Three-year grant funded through the Florida Department of Education *Race to the Top* Award.

Who will be served?

- Gifted and talented students in the PAEC, Heartland, and North East Florida Educational Consortia districts.
- 9th and 10th graders this year and in subsequent years, incoming 9th graders will be added.

Why the focus on gifted and talented?

- Although learning gains are being made by lowest performing students, data indicates our top-performing students have shown little or no gains.

FloridaLearns STEM Scholars

Where is the project headquartered?

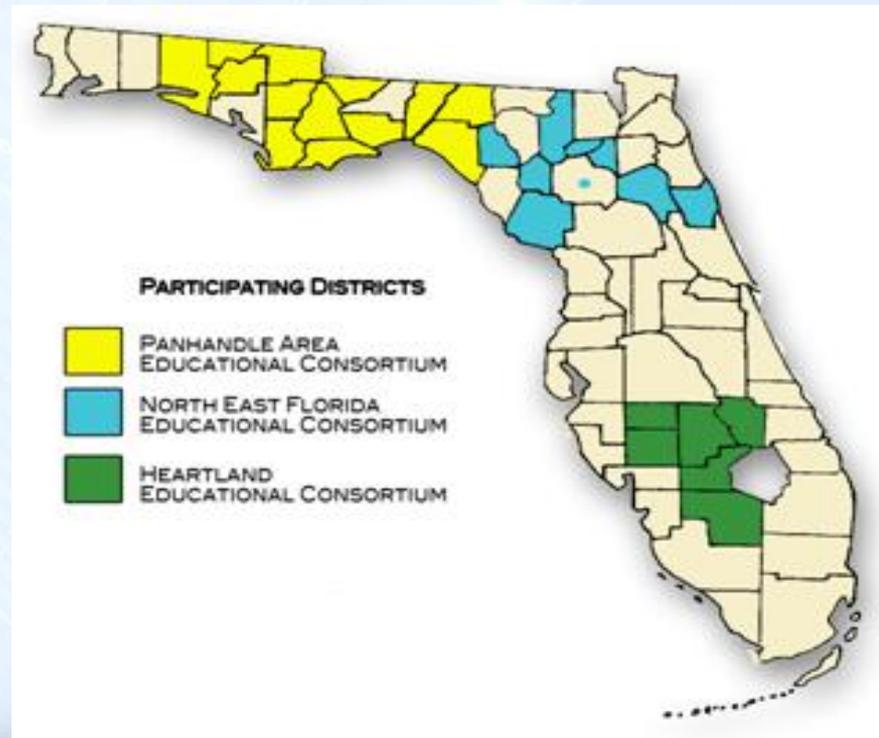
Panhandle Area Educational Consortium
753 West Boulevard
Chipley, FL 32428

What is the Panhandle Area Educational Consortium?

- The consortium provides a variety of educational services to 14 small and rural member districts in the Florida Panhandle.
- Activities of the consortia are governed by the school superintendents of the member districts and each consortium has a specific school district of record.
- Washington County is the district of record for PAEC.
- Florida has three educational consortia, established by legislation, to serve students in school districts having fewer than 20,000 students.

FloridaLearns *STEM* Scholars

Students from the Heartland Educational Consortium and the North East Florida Educational Consortium are also being served.



Project Advisory Groups

- Each consortium has a Regional Advisory Committee that is made up of representatives from:
 - Education
 - Workforce Development
 - Economic Development
 - STEM-related Business Professionals
 - College and University Personnel
- The Regional Advisory Committee members are from local communities and extend the reach of the project into each community.
- A Statewide Advisory Board is also in place to provide feedback and to interact with local and state government.

Project Personnel

- Project Manager - Brenda Crouch
 - crouchb@paec.org
- Project Consultant - Caren Prichard
 - caren_prichard@paec.org
- Project Math and Professional Learning Consultant – Mona Ramirez-Thomas
 - ramirezm@paec.org
- Project Secretary - Denise Brock
 - brockd@paec.org

To reach us by phone:

Call 850-638-6131 and ask for *FloridaLearns STEM Scholars* personnel.

Parent and Student Survey

Before you learn more...we need an idea of what you already know!

- Two surveys are in the left pocket of your folder.

Parent Survey

	PARENT KNOWLEDGE OF STEM CAREERS STEM SCHOLARS SURVEY
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The FloridaLearns STEM Scholars Project is seeking information about Parents' knowledge of STEM Careers. The following questions relate to your opinions and ideas about the importance of Science, Technology, Engineering, and Mathematics in education and furthermore, the impact these subjects may have on career choices of your child. This information will help project staff to plan for activities and experiences your child may participate in. Please respond to each question. The surveys will be anonymous. The school and district names are asked for use in keeping track of responses by school or district. The FloridaLearns STEM Scholars staff wishes to thank you for your responses to this survey.

School: _____ School District: _____

Q1 Thinking about the U.S. economy, what do you think is the most important thing the United States can do to make sure its economy is healthy? Please tell me the first thing that comes to mind.	
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Q2 Thinking now about job opportunities for people where you live, would you say there are plenty of good jobs available or are good jobs difficult to find?	
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Q3 And, are there more jobs available for people who have good math and science skills than there are other jobs, are there fewer jobs for people who have good math and science skills than other jobs, or are there about the same number of jobs available for people with strong math and science skills as there are other jobs? (Please choose only one - ☒)	
<input type="radio"/> More <input type="radio"/> Less <input type="radio"/> About the Same <input type="radio"/> Don't Know	

Student Survey



STEM Semantics Student Survey

This five-part questionnaire is designed to assess your perceptions of scientific disciplines. It should require about 5 minutes of your time. Usually it is best to respond with your first impression, without giving a question much thought. Your answers will remain confidential.

School: _____ District/County: _____ Gender: M / F

Instructions: Choose one circle between each adjective pair to indicate how you feel about the object.

To me, SCIENCE is:

1. fascinating	<input type="radio"/>	mundane						
2. appealing	<input type="radio"/>	unappealing						
3. exciting	<input type="radio"/>	unexciting						
4. means nothing	<input type="radio"/>	means a lot						
5. boring	<input type="radio"/>	interesting						

To me, MATH is:

1. boring	<input type="radio"/>	interesting						
2. appealing	<input type="radio"/>	unappealing						
3. fascinating	<input type="radio"/>	mundane						
4. exciting	<input type="radio"/>	unexciting						
5. means nothing	<input type="radio"/>	means a lot						

To me, ENGINEERING is:

1. appealing	<input type="radio"/>	unappealing						
2. fascinating	<input type="radio"/>	mundane						
3. means nothing	<input type="radio"/>	means a lot						

Parent and Student Survey

Now, begin the appropriate survey and when you are done, place it into the envelope.

Keep in mind:

- Do NOT put your name on the survey.
- There are **no** right answers.
- Provide the very first response that comes to mind.
- All survey results are completely confidential and no information that will identify a specific individual or school will be made public.

STEM

What is stem?

- A blending of **S**cience, **T**echnology, **E**ngineering and **M**athematics.

Why is it important?

- STEM professionals touch every facet of our lives:
 - Design our bridges.
 - Invent our medicines, communication devices, automobiles, and the list goes on.
 - Create architecture of our buildings.
 - Source of technology changes that impact a full range of occupations.
- STEM professionals are often innovators.
- Innovation depends on solid foundation of basic research in engineering and physical, biological, and mathematical sciences

“American STEM workers are becoming part of an increasingly global innovation system and workforce” (STEM, 2011, p. 34).

STEM Programs

What do we see in high-quality STEM programs?

- Students actively engaging in situations to find solutions through problem-solving, discovery, and exploratory learning.
 - Problem-based learning is key
- Nature of technology, engineering design, systems thinking, maintenance and troubleshooting are incorporated into the science and mathematics curricula.
- Innovative instruction that affords students opportunities to explore subjects at greater level of depth by applying skills they've learned.

STEM Programs

- Use of technology to provide creative and innovative ways to solve problems and apply learning.
- Students complete independent and collaborative research projects.
- Collaboration, communication, and critical thinking skills are threaded throughout the curricula.
- Businesses, industries, and research organization leaders mentor students.

Why STEM?

- Current education system doesn't produce enough STEM-capable students to keep up with demand in traditional STEM occupations and other economic sectors that demand similar competencies.
 - According to prominent economists, no other investment generates a greater long-term benefit to the economy than scientific research and development.
- Advances in science and engineering are critical to ensure America's:
 - Economic growth
 - Job creation
 - Quality of life
 - National Security

Why STEM?

Are we having another Sputnik moment?

- Following Russia's launch of Sputnik, the U.S. made a sustained effort to educate the "best and brightest" to form generation of innovators and leaders in science.
 - Scientific and technological progress was unprecedented.
 - New enterprises created.
 - New jobs resulted.
 - Standard of living was bettered – many of the things we enjoy today were developed based on discoveries associated with the space program.

Why STEM?

- “Too few Florida students are learning enough 21st century skills in STEM with sufficient rigor and hands-on experience to handle the key jobs businesses are clamoring to fill.”

(Trigaux, R. , *St. Petersburg Times*, October 7, 2011)

- When student participants graduate from college it is predicted that 9 out of 10 new jobs will be in STEM areas.

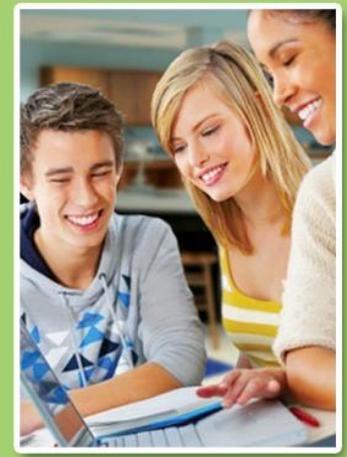
(2010 Florida Council of 100 Report, *Closing the Gap*)

411,000 – Number of STEM-related jobs Florida will need to fill by 2018

\$74,958 – Average annual compensation of STEM occupations in 2005-2008

(Florida's K-12 STEM Ed Report Card 2011)

FloridaLearns STEM Scholars Activities



Regional Forums

- STEM Scholar Regional forums – two per region in year one and four per region in subsequent years.
- Students will:
 - Interact with gifted and talented students from nearby districts.
 - Collaboratively problem solve and learn content developed by content experts.
 - Take part in leadership development activities.
 - Explore STEM careers through interaction with professionals in STEM-related areas.
 - Interact with regional college personnel and students.
 - Regional colleges have committed to collaborate with project personnel and host these activities.

Regional Forums

- Will take place on campus of regional colleges/community college.
- Students will be bused to the campus.
- *FloridaLearns STEM Teacher* Mentors from the students' local school district will accompany students on the bus.
- Students will pay for lunch or bring lunch from home.

NOTE: We are working on this and will discuss it in greater detail later in the presentation.

Summer Challenges

- STEM Scholars Summer Challenges
 - Students will apply to take part and each challenge event will accommodate 35 students.
 - Four-day experiences on topics such as nanoscience, crime scene investigation, environmental issues, underwater robotics, and others.
 - Problem-based and application of content to solve problems.
 - STEM skills of collaborating, researching, planning and conducting investigations, calculating and measuring, and technical computing skills will be used by students.
 - Student draw conclusions and present findings.
 - Students will utilize leadership skills.
 - Transportation will be provided.

Internships

- Local Workplace Internship Experiences
 - Begin in school year of 2012-2013.
 - Depends on availability in local communities.
 - Students will be connected to STEM –related businesses or industries willing to afford students an internship opportunity.
 - Rising juniors and seniors who have taken part in all other project activities eligible.
 - Local STEM teacher mentors and project guidance counselors will facilitate experience.

Summer Field Research

- Summer Workplace/Field Research Experiences
 - Take place in summers of 2013 and 2014.
 - Depends on availability in local communities.
 - Rising juniors and seniors who have taken part in all other project activities eligible.
 - Students will spend eight days conducting field research or in a workplace with a teacher and two other students.
 - Each teacher will receive a stipend and students will receive a small transportation stipend.

Immersion into STEM

- University of Florida “Immersion into STEM” experience.
 - Week-long University of Florida residential experience.
 - During summers of **2013 and 2014**, 30 students from each consortium who are rising **juniors and seniors** will have an opportunity to take part.
 - Content will be customized to meet needs of *FloridaLearns STEM Scholars*.
 - **All expenses paid by project, including transportation.**
 - A teacher from each district will accompany students.
- Limited number of scholarships for other approved STEM-related student experiences such as Mote Marine Lab, FSU Young Scholars Program.

Parent/Student Nights

- Parents need to know about STEM careers and scholarship opportunities.
 - Two regional STEM Scholar Student/Parent nights per year.
 - STEM professionals will be available in person or via Skype to share details about career preparation, job responsibilities, and answer questions.
 - College recruiters will share information.
 - Scholarship information will be provided.

“Florida kids and parents need to know about the potential for rewarding and high paying careers in STEM.”

(Florida's K-12 STEM Ed Report Card 2011)

STEM Teacher Mentors

- Each school district will have at least one STEM teacher mentor.
- The number of teacher mentors depends on the number of student participants from the district.
- Teacher mentors will:
 - Share project-related information with district students.
 - Accompany students for project-related activities.
 - Have the first opportunity to work with university personnel and students for Summer Challenges – one per district.

Guidance Counseling

- Qualified counselors will work with students on an individual basis to provide:
 - Each student a schedule that is individualized and aligned with interests.
 - Career counseling and scholarship assistance.
 - Course scheduling advisement with focus on including rigorous STEM courses.
 - Opportunities for students to identify and reflect on personal, academic and career goals.
 - Surveys and help with interpretation of survey results.
 - Development of a portfolio where student project-related information is maintained.

Counselors will visit students in the guidance office or another on-campus location provided by the principal at the student's home school.

Partnerships Needed!

- Partnerships will:
 - Afford students authentic STEM-related experiences such as internships and summer field experiences.
 - Mentor students in terms of career-awareness.
 - Ensure students and parents have accurate information about career preparation and what the career entails.
 - Present at STEM Regional Forums and Parent/Student nights.
 - Fill gaps, when possible, to supply items not allowed by grant.
 - Food
 - Incentives

This federal grant does not permit use of funds to purchase food or items that may be incentives for students. We are actively seeking partnerships of businesses and individuals who will provide some of the grant “non-allowables.”

Key Dates

Regional Forums at Chipola College	Summer Challenge	Spring Parent Night
Friday, January 13, 2012 Friday, April 20, 2012	Crime Scene Investigation June 25-28, 2012	To Be Determined

Key Dates

Regional Forums at Gulf Coast State College	Summer Challenge	Spring Parent Night
Friday, January 20, 2012 Friday, April 13, 2012	Underwater Robotics FSU-PC July 23-26, 2012	To Be Determined

Key Dates

Regional Forums at Northwest Florida State College	Summer Challenge	Spring Parent Night
Tuesday February 7, 2012 Tuesday, April 10, 2012	Biophilia Center June 25-28, 2012	To Be Determined

Key Dates

Regional Forums at Tallahassee Community College	Summer Challenge	Spring Parent Night
Friday, January 27, 2012 Friday, April 27, 2012	Nanoscience National High Field Magnetic Laboratory June 11-14, 2012	To Be Determined

Key Dates

Regional Forums at North Florida Community College	Summer Challenge	Spring Parent Night
Dates TBD	<i>Investigating the Curious Case of Conics (Where Science, Algebra and Geometry Meet)</i> June 11-14, 2012	To Be Determined

Project Information

Where can I get specific information about the project?

Visit the project website at www.floridalearnsstem scholars.org.