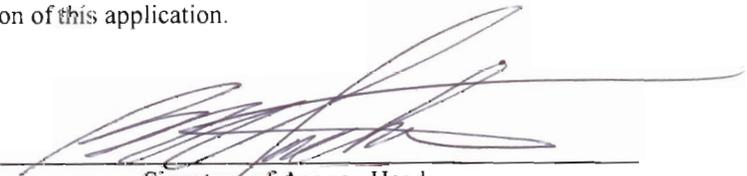


# FLORIDA DEPARTMENT OF EDUCATION PROJECT APPLICATION

<b>TAPS Number</b> 10AR57 10A057
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<b>Please return to:</b>  Florida Department of Education Office of Grants Management Room 332 Turlington Building 325 West Gaines Street Tallahassee, Florida 32399-0400 Telephone: (850) 245-0496 Suncom: 205-0496	<b>A) Program Name:</b>  <b>TITLE II, PART D                  ENHANCING EDUCATION THROUGH                  TECHNOLOGY (EETT)</b>  <b>STEM</b>  <b>PROJECT CSI</b>	<b>DOE USE ONLY</b>  Date Received
<b>B) Name and Address of Eligible Applicant:</b>  <b>School District of Clay County                  900 Walnut Street                  Green Cove Springs, Florida 32043</b>		<b>Project Number (DOE Assigned)</b>
<b>C) Total Funds Requested:</b>  <b>\$ 729,854.00</b>  <hr style="width: 100%; border: 1px solid black;"/> <p style="text-align: center;"><b>DOE USE ONLY</b></p> <b>Total Approved Project:</b>  \$	<b>D) Applicant Contact Information</b>	
	Contact Name: <b>Alisa Jones</b>	Mailing Address: <b>23 S. Green Street                  Green Cove Springs, FL 32043</b>
	Telephone Number: <b>904-529-2612</b>	SunCom Number:
	Fax Number: <b>904-284-6583</b>	E-mail Address: <b>ajones@mail.clay.k12.fl.us</b>
<b>CERTIFICATION</b>  I, <u>Ben H. Wortham</u> , (Please Type Name) do hereby certify that all facts, figures, and representations made in this application are true, correct, and consistent with the statement of general assurances and specific programmatic assurances for this project. Furthermore, all applicable statutes, regulations, and procedures; administrative and programmatic requirements; and procedures for fiscal control and maintenance of records will be implemented to ensure proper accountability for the expenditure of funds on this project. All records necessary to substantiate these requirements will be available for review by appropriate state and federal staff. I further certify that all expenditures will be obligated on or after the effective date and prior to the termination date of the project. Disbursements will be reported only as appropriate to this project, and will not be used for matching funds on this or any special project, where prohibited.  Further, I understand that it is the responsibility of the agency head to obtain from its governing body the authorization for the submission of this application.		
<b>E)</b>	 _____ Signature of Agency Head	

**General Education Provisions Act (GEPA)**

The School District of Clay County has on file with the Florida Department of Education, Office of the Comptroller, a signed statement certifying adherence to the General Assurances for Participation in State or Federal Programs.

**Program Specific Assurances**

The LEA hereby assures that a minimum of 25 percent of project funds will be allocated to provide ongoing, sustained, intensive, high-quality professional development (which is based on a review of relevant research and targets the integration of advanced and emerging technologies into curricula and instruction).

CIPA (Children’s Internet Protection Act). The LEA hereby assures that (applicant must select ONE of three CIPA related assurance options appropriate for the proposed project):

- Every “applicable school” has complied with the Children’s Internet Protection Act (CIPA) requirements in Subpart 4 of Title II –Part D of the ESEA. An “applicable school” is an elementary or secondary school that does not receive e-rate discounts and for which EETT funds will be used to purchase computers used to access the Internet, or to pay the direct costs associated with accessing the Internet.
- All schools within the district receive e-rate discounts so there are no “applicable schools” (as defined above).
- Not all “applicable schools” have yet complied with the requirements in Subpart 4 of Title II –Part D of the ESEA. However, the LEA has received a one-year waiver from the U.S. Secretary of Education under Section 2441(b)(2)(C) of the ESEA for those applicable schools not yet in compliance.

**Equitable Services for Private School Participation**

The LEA has on file a detailed plan for providing consultation to private school children and teachers within the LEA service area in accordance with P.L. 107-110, No Child Left Behind (NCLB) Title IX, Part E Uniform Provisions, Subpart 1, Section 9501.



## PROJECT ABSTRACT OR SUMMARY

It doesn't take long to discover what motivates young students. With a quick glance you will find they are fully wired. With ear buds hanging from their neck and miniature computers disguised as cell phones stuffed in their pockets, it's easy to see that educators' biggest competitor in the classroom is media.

According to the Kaiser Family Foundation, students between the ages of 8 and 18 are now part of the "M" (Media) generation. They report these digital natives spend approximately 6.5 hours a day engaged with media. This equates to a full time job. However, when you step inside 8<sup>th</sup> grade science classrooms in Clay County, Florida, and other school systems, you'll find static textbooks that for the most part are outdated and students know this.

The School District of Clay County is the 15<sup>th</sup> largest school system in the state with 26 elementary schools, 7 junior high schools, 6 high schools with another to open August 2010, 1 combination 7-12 junior/senior high school, 1 academy high school and 1 alternative school. Clay County borders the city of Jacksonville to its north and St. Augustine to its east. With no large industries, companies, or tourism in the area, approximately 49% of the county's residents commute to Jacksonville and other surrounding counties to work.

**CSI**, or **Clay STEM Initiative**, focuses on servicing the needs of 8<sup>th</sup> grade students at 7 junior high schools. Results of the 2008-2009 Science FCAT show that 52% of these students scored levels 1 or 2 and only 11% scored levels 4 or 5, even though 33% of the same students scored levels 4 or 5 on the Math FCAT and only 29% scored levels 1 or 2 on FCAT Math. However, Science FCAT scores are more in alignment with Reading FCAT scores indicating that traditional instruction that relies heavily on students reading from a textbook is not effective. **CSI** will transform the teaching/learning process for Science instruction and train teachers and students to collaborate and utilize web-based research, simulations, and applications to apply knowledge through challenging, engaging, and collaborative learning activities.

At the completion of the **Clay STEM Initiative** you will find students become producers in their own digital stories of learning, evaluators as they engage in interactive feedback with their teachers and peers through Web 2.0 applications, and all will become collaborators in the learning process as together they plug in, power up, and stay connected with web-based research, simulations, and applications to apply knowledge through project-based learning.

**CSI** will involve 5 eighth grade Science teachers including 1 ESE teacher, 1 administrator, 1 media specialist, and approximately 485 students from each of the 7 junior high schools. Laptops and training will be provided for staff participants and portable labs will be provided for each junior high to ensure access to implement project-based learning and prepare for computer-based assessment. All administrators will also receive training to facilitate the

successful implementation of the program at their sites. Training will include a partnership with the Florida Digital Educator Program and Discovery Education. The project will include research and evaluation to effectively measure project progress and success as focus shifts to providing students with the critical skills to meet the demands of the 21<sup>st</sup> century.

Specific program goals include:

Goal 1: To provide the resources necessary to ensure project success and prepare Clay County for computer-based assessments.

Goal 2: To develop a professional learning community to foster teacher innovation, leverage available resources, and create a rich learning environment that actively engages students.

Goal 3: To improve achievement of 8<sup>th</sup> grade students, especially low performing ESE and economically disadvantaged students, through rigorous and relevant science activities that allow students to actively utilize technology resources to collaborate, research, and create artifacts that mirror the 21<sup>st</sup> century workforce.

## PROJECT NEED

Clay County is designated as a High-Need LEA. If awarded, this will be the first competitive EETT grant for the district. The seven targeted schools include 3 Prevent I, 2 Correct I, and 2 Correct II schools. As previously stated, composite student performance documented by FCAT Science shows poor achievement with minimal alignment to other FCAT scores.

School Name	2009 DA Category	Gr 8 % Meeting High Standards in Science	Gr 8% Meeting High Standards in Mathematics	Gr 8 % Meeting High Standards in Reading
LAKE ASBURY JUNIOR HIGH SCHOOL	PREVENT I	49	72	59
LAKESIDE JUNIOR HIGH SCHOOL	PREVENT I	54	79	68
OAKLEAF JUNIOR HIGH SCHOOL	PREVENT I	43	76	63
GREEN COVE SPRINGS JUNIOR HIGH SCHOOL	CORRECT I	57	77	67
WILKINSON JUNIOR HIGH SCHOOL	CORRECT I	44	64	53
KEYSTONE HEIGHTS JUNIOR/SENIOR HIGH	CORRECT II	47	69	59
ORANGE PARK JUNIOR HIGH SCHOOL	CORRECT II	42	64	54

Composite student demographics for the seven schools include 51 percent male, 22% minority, 36% economically disadvantaged, and 25% ESE. FCAT Reading and Math data for 2008-2009 shows that 410 economically disadvantaged students scored level 2 or below and 241 ESE students scored level 2 or below.

The results of 2008-2009 evaluation of 8<sup>th</sup> grade students' technology literacy skills indicate that the majority of 8<sup>th</sup> grade students have not mastered skills identified by national standards. Limited access to resources and failure to integrate technology into the curriculum are cited as contributing factors that must be addressed. Clay County uses an alternate assessment for this evaluation because there is limited access to computers. The district is unable to use the Florida Student Technology Literacy Tool because the instrument requires more than 50 minutes, and even scheduling the current 50 minute assessment creates a hardship at the junior highs.

Inventory documents show that by the 2010-2011 school year, 68% of secondary school PCs will be older than 5 years. Results of the 2009-2010 Florida Innovates School Survey for the seven targeted schools show that only 25% of middle school teachers report that technology is effectively and fully integrated. Other significant findings include the following:

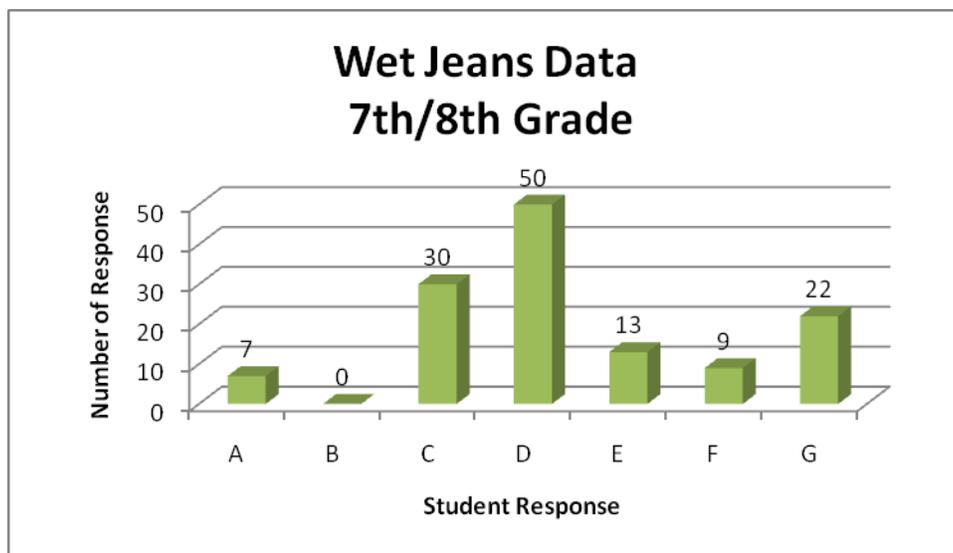
### 2009-2010 Florida Innovates Results

<b>SCHOOLS</b>	<b>Use of Mobile Computers</b>	<b>Research on Web 2.0</b>	<b>Communication on Web 2.0</b>	<b>Use of Web 2.0 Teacher %</b>	<b>Primary Barrier to Digital Instruction Delivery</b>	<b>Use of Technology Integration Matrix</b>
<b>GCJ</b>	None available for use	Several times weekly	None	0%	Material availability	Not in use
<b>KHJ</b>	Mobile computers on carts available for classroom use	Daily	None	0%	Funding	Not in use
<b>LAJ</b>	Restricted laptops for specific classes or grade levels	Once weekly	None	0%	Funding LSJ	Not in use
<b>LSJ</b>	Mobile computers available for classroom use	Daily	Daily	0%	Funding	Not in use
<b>OLJ</b>	Mobile computers on carts available for classroom use	Daily	None	40%	Professional development and instructional support	Best practice awareness. School improvement planning. Teacher professional development.
<b>OPJ</b>	Mobile computers available for classroom use	Once weekly	Weekly	25%	Funding LSJ	Assessments for students are technologically administered
<b>WJH</b>	None available for use	Once monthly	None	100%	Professional development and instructional support	Not in use

With one exception, unexcused absences are also notably high in the junior high schools.

Attendance Rates - 8th Graders - Jr High				
School	Name	Excused	Unexcused	Total
0021	GCJ	4.7%	5.1%	9.8%
0311	KHJ	3.0%	4.8%	7.7%
0351	LJH	5.6%	7.3%	12.9%
0361	OPJ	4.3%	8.3%	12.6%
0371	WJH	1.6%	5.6%	7.1%
0481	LAJ	3.5%	5.9%	9.4%
0611	OLJ	4.4%	2.8%	7.2%

There is also local data to support the need to address many of the misconceptions students have related to science. Recently 360 7<sup>th</sup> and 8<sup>th</sup> grade students were given a “wet jean” scenario and asked what happened to the water when the jeans were dry. Only 30% of the students were able to answer correctly.



When given a similar scenario, less than 10% of the students answered correctly indicating that science instruction must allow students to interact with project-based assignments that disprove misconceptions and improve student achievement.

## **PROJECT DESIGN AND IMPLEMENTATION**

Research indicates that implementation of project-based learning benefits students in many ways. Learners develop deep, integrated understanding of content and process. They learn to work together to solve problems, collaborating with other students of different backgrounds. At the same time, it promotes responsibility and independent learning. This method coupled with the use of technology actively engages students in different tasks, satisfying the learning needs of many different students (Frank and Barzilai, 2004). This approach also benefits teachers, as they transform from a lecturer and fact provider to a resource supplier, learning environment shaper, how-to-learn teacher, advisor and tutor. Classroom management is simplified because engaged students are likely to cause fewer disciplinary problems. These benefits can be enhanced and sustained through technology integration that research has shown improves each student's academic performance (Young, 2010).

To accomplish this mission, the following goals and objectives have been set:

### **Goal 1: To provide the resources necessary to ensure project success and prepare Clay County for computer-based assessments.**

- 1.1 By July 2010, participating classrooms will have the technological infrastructure, equipment, hardware and other resources needed to implement project activities and prepare for computer-based assessments.
- 1.2 During the 18 month project period, Instructional Support Services, Information Services, and Clay Technology Specialists will provide technical support for infrastructure, equipment, hardware, and other project resources.

### **Goal 2: To develop a professional learning community to foster teacher innovation, leverage available resources, and create a rich learning environment that actively engages students.**

- 2.1 During the project period, junior high cohorts will engage in professional development activities focusing on integrating and infusing technology through project based instruction.
- 2.2 By May 2011, participants will create media assets that will be electronically shared.
- 2.3 By May 2011, **CSI** teachers will demonstrate technological proficiency gains as measured by the Florida Inventory of Teacher Technology Skills.

**Goal 3: To improve achievement of 8<sup>th</sup> grade students, especially low performing ESE and economically disadvantaged students, through rigorous and relevant science activities that allow students to actively utilize technology resources to collaborate, research, and create artifacts that mirror the 21<sup>st</sup> century workforce.**

- 3.1 During the project period, reports will show student utilization of digital content correlated to Next Generation Standards and representative works will demonstrate effective completion of project based assignments.
- 3.2 By March 2011, students will demonstrate mastery of concepts related to previously held science misconceptions through the creation of digital media and learning objects.
- 3.3 By June 2011, data will be accumulated to show that misconceptions have been remediated through student involvement in the project.
- 3.4 By June 2011, students will demonstrate increased motivation and engagement as measured by student attendance and attitudes.
- 3.5 By June 2011, students will demonstrate improvement in achievement as measured by formal and informal assessments.
- 3.5 By June 2011, students will demonstrate technological proficiency gains as measured by the Florida Student Technology Literacy Tool.

These goals align with EETT Project Focus Identification areas 1, 2, 3, and 4:

**Digital Learning Environment** – Engage students in their education in ways never before possible.

**Instructional Leadership** – Invest in strong leadership essential to promoting the development of technology savvy personnel at all levels of the educational system.

**Florida Digital Educators** – Empower educators with the skills necessary to integrate technology to improve students' rates of learning.

**Access to Technology** – Expand access to innovative digital technologies and learning opportunities.

The goals also align with Florida's new state Technology Plan goals 1, 2, 3, 4, 5, 7, 10, 11, and 12.

### **Learning Environment**

1. Strengthen student ICT skills
2. Enhance the integration of technology in curricula
3. Enable opportunities to personalize and extend student learning
4. Ensure utilization of technology based assessments

### **Access**

5. Increase access to digital tools
7. Improve opportunities to access digital content

### **Support**

10. Improve community involvement
11. Enable technology leadership
12. Support ICT training for educators to enhance instruction

Through the **Clay STEM Initiative**, teachers and students will be able to utilize laptops and other resources to become innovative partners who learn from each other and achieve higher levels of cognition relating to science. The use of technology is transparent to the present student generation (Babuszcak, 2010). Therefore, in an age of technology, classrooms can no longer be restricted to meet the needs of only a small percent of high achiever students. In order to entice learning, there has to be a system where all students develop a confidence in learning science, and highly develop problem solving abilities, not just those considered academically high achievers (Herzog, 2010). Students work should be individualized, and teachers should tailor activities to student abilities through the use of differentiated instruction. These resources will also assist Clay County in preparing for computer-based assessment and will allow junior high students to use the Florida Student Technology Literacy Tool.

**CSI** will focus to provide teachers with professional development and equipment which will help them embrace both traditional and advanced teaching methods through technology. Though a small percentage of Clay teachers are using multimedia presentation in their lessons, there is a great need for instructors to learn more about how they can use technology to help students build critical thinking skills. The **Clay STEM Initiative** will train teachers to integrate technology literacy skills in the science area and promote critical thinking skills for 21<sup>st</sup> century learners. During the 18 month period, resources and media assets will be developed such as unit based non-linear multimedia and standards based digital presentations, and a collection of standards based best practice work products or learning objects for direct and differentiated instruction. These products can be used by other

educators locally, statewide, and nationally, as a result of professional development and project management support that includes local, state and national resources to provide a job-embedded approach that focuses on fidelity and sustainability.

By the completion of this implementation, participants will have engaged in activities that model a typical STEM integrated lesson using resources from digital content, textbooks and other resources at the teachers' disposal; apply and integrate Inquiry and Project-Based Learning methodology and philosophy; know and understand the Scientific Method and how to instruct and guide students in this research-based practice; identify and utilize resources that support student mastery of Science Benchmarks through the making of Learning Objects in the form of Digital Presentations, Flip Charts and Discovery Education Science Quests; integrate Marzano's Instructional Strategies that Work such as cues, questions and advanced organizers; cooperative learning, note-taking; similarities and differences and hypothesis making as they move to a facilitated model of instruction; integrate a variety of technology such as electronic whiteboards and accessories, software, Web 2.0 applications, and shared computer access; organize and structure cross curricular content and media; and create and assign assessments and activities.

Students in the project will engage in a variety of experiential learning activities that employ their ability to read, write, speak, view, listen, and problem solve within the content subject of Science. As they engage in project-based learning with their **Clay STEM Initiative** teachers, students will be taught to think critically and utilize technology and media effectively as they move through the project-based learning process and create a series of cross curricular digital stories that inform and instruct as a demonstration of what they know, understand and can do.

By the completion of the 2010/2011 school year, students will have created and participated in at least three activities such as Digital Story Production, Enhanced Presentation Production with Glogster, Prezi, and other Relevant Web 2.0 Applications, Google Earth, Enhanced Note-Taking and Summarizing with Web 2.0 Applications, Peer Review and Feedback of Digital Stories and Presentations Using Rubrics with Web 2.0 Applications.

Beyond the classroom day, students will have access to laptops through the library media center. The media specialist, as a trained participant in the project, will assist students through web-based conferencing and other after hours activities as students work on digital stories and access digital content for research and production of media.

Aside from utilizing Web 2.0 applications throughout the project-based learning experience to communicate and collaborate on improving and enhancing projects, students will also utilize their skills to participate in a global society, applying those skills to the real world by presenting their finished digital products through a culminating Community Day of Discovery. During the

Community Day of Discovery, students will share their skills and final work products with their peers, parents, teachers and local community. Projects presented are a result of participating in project-based learning opportunities provided by their **Clay STEM Initiative** teachers.

Local support staff will include 2 technology integration specialists, 1 curriculum specialist, and 1 ESE technology specialist. All have participated in the Florida Digital Educator Institutes and one is a Master Digital Educator. Through a professional learning community, staff participants will expand technology integration skills with topics such as:

- Electronic Communication: Blogs, Wikis, Webcasting, Podcasting
- Basics of Blackboard
- iTunes U
- Thinkfinity
- Think Quest
- Web Wise
- ADA accommodations and considerations when integrating technology and creating media assets
- Clay County resources including Learning Village, iSafe, Discovery Education Streaming Plus and Discovery Education Science, Wimba, Assistive Technology, SAS curriculum, and publisher resources

The state will support the project through the Florida Digital Educator program. Staff participants from each school will attend a four day summer institute to learn, collaborate, and create, gaining exposure to:

- Information, Communication, and Technology (ICT) skills including those aligned with preparation for computer-based assessments
- Copyright
- ePortfolios
- Learning and Content Management Systems
- Graphic Organizers and Concept Mapping
- Content Related Multimedia Projects utilizing Digital Photography and Movie Making

After the summer institute, the **Clay STEM Initiative** will continue use of the Asset Management Tool and FCIT's Lesson Plan and Action Research Tools. Program research and evaluation will be coordinated with the Florida Digital Educator research and evaluation team and will include quarterly web-based progress reporting. Ongoing support will be provided by the in-county Master Digital Educator.

National support will be in partnership with Discovery Education to specifically support teachers as they acquire STEM content and process skills. Sixteen days of professional development will impact:

- Educator direct and differentiated instruction
- Educator content knowledge across science and an integrated STEM curriculum
- Educator process skills and utilization of research based instructional strategies to support STEM instruction
- Educator process skills and utilization of research based instructional strategies to support literacy instruction
- Student engagement and academic achievement through inquiry and project-based learning
- Student engagement through the use of Web 2.0 applications to create, communicate and collaborate on projects
- Opportunity for student creation of authentic projects using multimedia and technology

The sixteen days will include a two day summer 21<sup>st</sup> Century STEM Boot Camp, six STEM Lesson and Direct Instruction Learning Object Development Days, four support webinar sessions, and eight project management days that include model lesson demonstrations and Student Days of Discovery. Model lesson demonstrations will be conducted in a regular class setting with students. They will be infused with Marzano's Instructional Strategies That Work, such as cues, questions and advanced organizers; cooperative learning, note-taking; similarities and differences and hypothesis making as they move to a facilitated model of instruction utilizing technology such as multimedia presentations and Web 2.0 applications. Teachers will learn to leverage the power of Discovery Education streaming and Science content, resources already available to Clay County staff, to enrich their direct and differentiated STEM related classroom instruction.

They will learn to put the power of inquiry into the hands of 8<sup>th</sup> grade Science students as they explore a variety of media including full length video and segmented clips, virtual labs, simulations, explorations, reading passages, an interactive glossary and more. Educators will learn Science, Math, Engineering, Technology and Literacy Support content and process skills to support Inquiry and Project Based Learning across the curriculum. By the completion of the 2010/2011 school year, participants will have created and participated in at least two of the following:

- Digital Story Production
- Enhanced Presentation Production with Glogster, Prezi, and other Relevant Web 2.0 Applications
- Google Earth

- Enhanced Note-Taking and Summarizing with Web 2.0 Applications
- Peer Review and Feedback of Digital Stories and Presentations Using Rubrics with Web 2.0 Applications

Research suggests that when teachers are coached and mentored in the classroom environment with students, actual transference of new skills and knowledge to instructional practice increases by upwards of 80% (SETDA, 2009). What teachers learn in theory and practice away from their students tends to only affect actual practice in the classroom by less than 10%. Research finds that when teachers are relieved from the stress of having to focus on how the lesson was conducted, they are effectively freed up to focus on how using a media rich learning object, for instance, facilitates learning. This is important because it challenges the myth that technology is too difficult to implement in the classroom. Perhaps more importantly, teachers observe Model Lessons that honor the student's capacity to learn how to use technology by doing, thereby embracing the knowledge and capacity of children to facilitate the use of technology in the classroom. An observation tool that meets the scoring criteria set by The Center for Authentic Intellectual Work will be used and teachers will have the opportunity to observe new skills and knowledge applied in the classroom environment, time to debrief and time to reflect with their peers concerning their observations.

Project management will be contracted through the Schultz Center for Teaching and Learning and Discovery Education. Through the Schultz Center, a consultant will manage the overall project and account for the following:

- Pre and Post Florida Inventory of Teacher Technology Skills
- Pre and Post Student Technology Literacy Tool
- 2009 and 2010 FCAT Science Scores
- 2009 and 2010 FCAT Math Scores
- 2009 and 2010 FCAT Reading Scores
- 2009 and 2010 Attendance Records
- Collection of media assets
- Regular updates to project website
- Records and Reports

Discovery Education will also work directly with grant participants and account for the following data:

- Discovery Education Survey One: Satisfaction with professional development experience
- Discovery Education Survey Two: Acquisition and use of new skills and knowledge in the classroom. Perception of organizational support

- Discovery Education Survey Three: Perception of increased student engagement and increased student achievement
- Discovery Education Use Reports: Administrators can view real time reports to assess individual school and teacher use of Discovery Education Science and streaming content
- Model Lesson Demonstrations
- Student Presentations
- STEM Lesson and Direct Instruction Learning Objects

The following timelines have been developed.

<b>Activity</b>	<b>Time Frame</b>	<b>Responsible Partners</b>
Selection of Teachers to participate in the grant	April 2010	Clay Principals and Clay Technology/Curriculum Specialists
Classrooms will be surveyed and equipment will be ordered	May 2010	Clay Purchasing Department and Clay Technology Team
Teachers receive laptops (2 hour orientation is required)	May 2010	Clay Technology Specialists
Professional Development and Project Management purchase orders processed	May 2010	Clay Purchasing and Instructional Support Departments
Project website development and maintenance	May 2010 – July 2011	Clay Technology Specialists and Schultz Project Manager
Teachers will complete the Florida Inventory of Teacher Technology Skills	May 2010	Clay Technology Specialists
Florida Digital Educator Institutes	June – August 2010	School Staff Grant Participants
Discovery 21 <sup>st</sup> Century STEM Connect Boot Camp	July 2010	Staff Grant Participants
Action Research Introduction	August 21, 2010	Florida Digital Educator Program and Clay Grant Participants
Mobile labs will be setup and installed	August 2010	Clay County Information Services Department
Clay Science Initiative “Kick Off” (first day of school)	August 2010	Discovery

Teachers attend a one day follow-up workshop	September 2010	
Action Research Mentors Identified	September 5, 2010	Clay Technology/Curriculum Specialists and Schultz Project Manager
Model Lesson Demonstrations Days 1 & 2	September 2010	Discovery Professional Developer
Students will complete the Student Technology Literacy Tool	September 2010	Clay Technology Specialists, Classroom Teachers, and Schultz PM
District Action Research ready for Implementation	September 19, 2010	Clay Technology/Curriculum Specialists and Schultz PM
STEM Lesson and Direct Instruction Learning Object Development Days 1 & 2	October 2010	Discovery Education Coach
Model Lesson Demonstrations Days 3 & 4	November 2010	Discovery Professional Developer
Action Research Steps 1 – 3 completed 1 <sup>st</sup> group of AR teachers	November 18, 2010	Florida Digital Educator Program and 1 <sup>st</sup> group of AR teachers, Schultz Project Manager
Student Days of Discovery	December 2010	Discovery Professional Developer
Action Research Steps 4 – 5 completed 1 <sup>st</sup> group of AR teachers	December 19, 2010	Florida Digital Educator Program and 1 <sup>st</sup> group of AR teachers, Schultz Project Manager
STEM Lesson and Direct Instruction Learning Object Development Days 3 & 4	January 2011	Discovery Education Coach
Model Lesson Demonstrations Days 5 & 6	February 2011	Discovery Professional Developer
Student Days of Discovery	March 2011	Discovery Professional Developer
Action Research Steps 1 – 3 completed 2 <sup>nd</sup> group of AR teachers	March 27, 2011	Florida Digital Educator Program and 2 <sup>nd</sup> group of AR teachers, Schultz Project Manager

Teachers will complete the Florida Inventory of Teacher Technology Skills for Post Evaluation	April 2011	Clay Technology Specialists
Students will complete the Student Technology Literacy Tool	April 2011	Clay Technology Specialists, Classroom Teachers, and Schultz Project Manager
STEM Lesson and Direct Instruction Learning Object Development Days 5 & 6	May 2011	Discovery Education Coach
Action Research Steps 4 – 5 completed 2 <sup>nd</sup> group of AR teachers	June 15, 2011	Florida Digital Educator Program and 2 <sup>nd</sup> group of AR teachers , Schultz Project Manager
Project Deliverables Completed and Posted	June 30, 2011	Schultz Project Manager

## EVALUATION

The **Clay STEM Initiative** will be evaluated utilizing local, state, and national resources. Consistent evaluation will occur throughout the entire implementation. Utilizing Guskey's (2000) model of professional development evaluation throughout the entire implementation, stakeholders will answer a series of short surveys to gather formative data. All survey data will be collected through an online survey system and will be shared with appropriate stakeholders. Surveys will be anonymous and will be used to bend and mold the training to the needs of the participants and to inform trainers and District stakeholders of the need for additional support and or training.

Artifacts produced by both teachers and students will be reviewed throughout the project period. Classroom walkthrough data will also be collected and reviewed by district stakeholders and the project manager to measure acquisitions of new skills, content knowledge and progress toward project based learning.

GOALS	EVALUATION
Goal 1: To provide the resources necessary to ensure project success and prepare Clay County for computer-based assessments.	Results of prior and present year Florida Innovates Survey and local evaluation instrument

<p>Goal 2: To develop a professional learning community to foster teacher innovation, leverage available resources, and create a rich learning environment that actively engages students.</p>	<p>Evaluation from Florida Digital Educator Program  Results of Florida Inventory of Teacher Technology Skills  Formative data from professional development surveys one, two, and three  Classroom walkthrough data  Model lesson evaluations</p>
<p>Goal 3: To improve achievement of 8<sup>th</sup> grade students, especially low performing ESE and economically disadvantaged students, through rigorous and relevant science activities that allow students to actively utilize technology resources to collaborate, research, and create artifacts that mirror the 21<sup>st</sup> century workforce.</p>	<p>Results of prior and present year FCAT data  Student misconception data  Student project assessments, participation reports, and attendance data</p>

The project will also follow guidance provided by the state evaluation team and the required 5% is included in the budget.

**SUPPORT FOR STRATEGIC IMPERATIVES**

The **Clay Stem Initiative** will support Florida’s Next Generation PreK-20 Education Strategic Plan and Florida’s reading and math/science initiatives.

**Next Generation PK20 Strategic Area of Focus 2 - Improve quality of teaching in the education system:** The Clay Stem Initiative will improve the quality of professional development through alignment of the evaluation of student outcomes resulting from the initiative, teacher improvement in knowledge and use of technology to implement project based instruction, and Florida’s Next Generation Sunshine State Standards.

**Next Generation PK20 Strategic Area of Focus 3 - Improve college and career readiness:** Another goal of the initiative is to increase the number and percentage of students scoring college ready in math and reading through an increase in student motivation and engagement that results from the shift that occurs when students use technology to research, collaborate, and create through project-based, authentic tasks.

Directly correlated to the **Just Read Florida Initiative** is the Action Research that is included as part of **CSI**. Grant participants will gather data as they infuse project-based instruction

through technology in the 8<sup>th</sup> grade science classrooms. As data is analyzed, it is expected to show student improvement in vocabulary, fluency, and comprehension.

The **Clay STEM Initiative** will also support the **Math and Science Initiative**, Mission 3, by providing professional development on effective instructional strategies. One strategy, differentiated instruction, is in part the reasoning to involvement of one ESE teacher at each school. Teachers will learn to differentiate process, the way the student accesses material, and to differentiate product, the way the student demonstrates what s/he has learned. As data is analyzed, it is expected to show both regular and ESE students improve performance based on FCAT science and math assessments.

## **DISSEMINATION PLAN**

The following methods and strategies will be used to disseminate and market information about the project to parents, school board members, community leaders and other educators in Clay County as well as other school districts statewide.

Articles will be written to highlight implementation progress and project successes for dissemination to the local newspaper, school newsletters, and other state or national electronic publications. Students will be asked to submit articles to relate the impact technology has had on their educational experience for possible inclusion in future publications.

Within Clay County, Instructional Television airs through Comcast channels 29 and 260. Students and teachers will film segments showcasing the use of technology at Clay County Schools as a result of this project. This broadcast will be available to most residents within Clay County with Cable Television access.

Additionally, students and teachers will make a presentation to the Clay County School Board to share information about the project. Presentations to community organizations, parent groups and other educators within Clay and surrounding counties will be conducted to share the outcomes of the project.

A project brochure that includes National Educational Technology Standards (NET) for teachers will be disseminated to inform teachers of the desired skills that should be developed by the end of the project. A project brochure that includes NET for students will be disseminated to students and parents to illustrate the desired skills of students. Training opportunities for teachers, parents and students will be advertised in a variety of ways including via the school website, newsletters, flyers and email notifications.

A project website will be developed and will include a copy of the proposal, management plan with implementation progress, and evaluation plan as well as a catalog of resources, curriculum, documents, videos and any other assets developed as a result of this project. The project website will be updated at least once a month during the project period and the date of the latest update will be displayed on the site.

The website will be developed by the district's Instructional Technology staff and designed so that project participants from each school can update regularly. Links to technology integration web resources, technology infused lesson plans and units with technology projects and student samples will be posted. Wikis, podcasts and blogs as well as other resources such as tutorials and digital content developed as a result of this project will be made available and some will be considered as submissions for Florida's iTunes U.

## BUDGET

### *Florida Digital Educator Institute Training*

Quantity	Description	Price	Total
49	Registration	\$500.00	\$24,500
49	4 Day Training Stipend @ \$72 + \$13.32 (.185 ss, wc, ret.)	\$341.00	\$16,723
24	Travel (350 miles * .50)	\$ 175.00	\$ 4,200
25	2 Nights Lodging @ \$105	\$210.00	\$ 5,250
49	Meals (\$36 per day * 4 - breakfast D1 & dinner D4)	\$144.00	\$ 7,056
	<b>TOTAL</b>		<b>\$57,729</b>

### *Additional Professional Development*

Quantity	Description	Price	Total
	<p>Discovery 21<sup>st</sup> Century STEM Connect</p> <p>On-sight professional development - 64 Days (16 each quarter)</p> <ul style="list-style-type: none"> <li>• 2 day 21st Century STEM Connect Boot Camp</li> <li>• 6 STEM Lesson and Direct Instruction Learning Object Development Days - 2 held each quarter two, three, and four</li> <li>• 8 Support Days - 2 held each quarter one, two, three, and four at each of the seven (7) sites</li> </ul> <p style="padding-left: 40px;">Model Lesson Demonstrations (Direct and Differentiated Instruction to promote Project Based Learning)</p> <p style="padding-left: 40px;">Student Days of Discovery (Web 2.0 and Multimedia Presentations for Project Based Learning)</p> <ul style="list-style-type: none"> <li>• 4 Support Webinar Sessions (3 one-hour sessions held each quarter one, two, three and four)</li> </ul>		\$160,000
49	2 Day Training Stipend @ \$72 + \$13.32 (.185 ss, wc, ret.)	\$171.00	\$ 8,361
42	8 Days Substitutes for Classroom Teachers @ \$110 + \$2.70 (.0245 mc, wc) per day	\$902.00	\$ 37,884
	<b>TOTAL</b>		<b>206,245</b>

**TOTAL COST FOR PROFESSIONAL DEVELOPMENT**

Florida Digital Educator Summer Institutes	\$ 57,729
Discovery 21 <sup>st</sup> Century STEM Connect	\$168,361
Professional Development Days	\$ 37,884
<b>TOTAL</b>	<b>\$263,974</b>

**HARDWARE**

Quantity	Description	Price	Total
7	Portable laptop labs w/ 28 units	\$35,000	\$245,000
2	Wireless LAN controller required at 2 older JH (LJH/OPJ)	\$12,822	\$ 25,644
35	Multimedia Carts	\$ 2,118	\$ 74,130
49	Laptop computers	\$ 1,100	\$ 53,900
7	Digital cameras	\$ 148	\$ 1,036
			<b>\$399,710</b>

**EVALUATION**

Quantity	Description	Price	Total
1	Support for Florida Digital Educator Research	\$30,000	\$ 37,500
1	Project Manager	\$18,000	\$ 18,000
1	Discovery Ed Project Evaluation (included)		
	<b>TOTAL</b>		<b>\$ 55,500</b>

**TOTAL BUDGET**

Description	Extended Price
Professional Development	\$263,974
Hardware	\$399,710
Evaluation	\$ 55,500
Indirect Cost (3.34 of non 600 object)	\$ 10,670
<b>TOTAL</b>	<b>\$729,854</b>

**DELIVERABLES FORM** (Examples: Manuals, reports, videos, CD ROMs, training materials, brochures, and any other tangible product to be developed by the project.)

(1) Name of Deliverable and Brief Description	(2) Standard(s) for Acceptance	(3) Due Date(s)
Selection document	User friendly	April 2010
Classroom readiness survey	Peer review	May 2010
Orientation and statement of involvement	Appropriately organized; content complete	May 2010
Documents and presentations created during Florida Digital Educator (FDE) training	Review by other entity	June – July 2010
Project website	ADA compliant, appropriately organized, design and content appropriate for intended audience	July 2010 Monthly Update
Press release, newsletters, public access television bulletins and video, project brochures	Appropriate for intended audience	August 2010 – June 2011
Model lesson plans	Review by district staff and other entity	September 2010 – February 2011
Rubric and evaluation tool	Meets specifications and appropriately organized	September 2010
STEM lessons and Direct Instruction Learning Object	Review by district staff and other entity	October 2010 – May 2011
Project reports	Content complete and timely	Ongoing

**TRAINING, TECHNICAL ASSISTANCE, AND DISSEMINATION FORM** (All training and technical assistance (TA) activities whether provided onsite, through distance learning media, conferences, workshops, or other delivery strategies.)

<b>(1) Name of Activity and Brief Description</b>	<b>(2) Quantity and Quality Standards for Acceptance</b>	<b>(3) Method of Documentation</b>	<b>(4) Critical Timelines</b>
Orientation and Laptop Receipt	Orientation packet, district computer checkout form, statement of involvement, operational and security protocols, FDE registration, travel forms	Sign in sheets, signed agreements, FDE confirmations, travel forms and purchase orders	May 2010
Online Dissemination of Information	Accurate and appropriate content – Ongoing	html documents: website, wiki, blog, Blackboard	June 2010 Updated Monthly
Florida Digital Educator (FDE) Institute	Delivery appropriate to audience; Content aligned to technology standards; Project based learning implementation	Sign in sheets, evaluations, feedback and products	June - August 2010
Discovery 21 <sup>st</sup> Century STEM Connect Boot Camp	Delivery appropriate to audience; Content aligned to technology and Next Generation standards	Sign in sheets, evaluations, work products ready for direct and differentiated classroom instruction	July 2010
Action Research Introduction	Statement of involvement and understanding	Archive  Sign in sheets, evaluations	August 21, 2010
Follow-up and Orientation to Laptop Carts	Usefulness to teacher, Operational and security protocols; Ongoing support	Observation tool for scoring instruction	September 2010
Model Lesson Demonstrations	Effective lesson preview, delivery, and debrief	Sign in sheets, evaluation and lesson plans	September 2010 November 2010 February 2011
STEM Lesson and Direct Instruction Learning Object Development	Cross curricular lessons		October 2010 February 2011 May 2011

Student Days of Discovery	Delivery appropriate to learners; Content aligned to technology standards; Project based learning experience	Product	December 2010 March 2011
Follow-up Activities	Delivery appropriate to audience; Usefulness	Sign in sheets, evaluations	December 2010 – June 2011

**STUDENT PERFORMANCE FORM** (Any measure that is specific to student performance; e.g., test scores, attendance, behavior, award of diplomas, certificates, etc. Students may include pre-k, K-12, and adult learners.)

<b>(1) Name of Performance and Brief Description</b>	<b>(2) Method of Evaluating Performance</b>	<b>(3) Method of DOE Verification</b>	<b>(4) Timelines for Data Collection</b>
Academic Achievement Science	FCAT data	Test scores	June 2010 and 2011
Academic Achievement Math	FCAT data	Test scores	June 2010 and 2011
Academic Achievement Reading	FCAT data	Test scores	June 2010 and 2011
Attendance	Review of attendance records	Attendance records	June 2011
Student Technology Literacy Tool	STLT	Assessment scores	April 2011
Completion of projects	Rubric and Observation tool	Projects available in database	May 2011
Participation	Participation records	Peer and self evaluation	April 2011
Completion of project evaluation	Rubrics	Completed rubrics	May 2011
Course grade	Teacher data	Performance data	June 2011

**SERVICE DELIVERY FORM (Delivery of intended services to target population; e.g., adult literacy services, child find services, student evaluation services, etc.)**

<b>(1) Name of Service and Brief Description</b>	<b>(2) Standard(s) for Acceptance</b>	<b>(3) Method of DOE Verification</b>	<b>(4) Timeline for Service Delivery</b>
Meeting with Administrators	Clear guidelines for teacher selection	Sign in sheet, agenda	April 2010
Teacher orientation	Project design and requirements clearly communicated. Laptop operation and security training. Teachers complete Inventory of Skills.	Sign in sheet, handouts, website, FL Inventory results	May 2010
Florida Digital Educator Institute	Participation in Institute and completion of assignments.	Sign in sheets, agenda, sample of media assets	Summer 2010
Discovery 21 <sup>st</sup> Century STEM Connect Boot Camp	Participation in Boot Camp and completion of assignments	Sign in sheets, agenda, sample of media assets	July 2010
Mobile labs set up and installed	Hardware delivered and connected to network	Purchasing and property records	July 2010
Action Research	Research is conducted on time and results reported on time	AR reports	August 2010 – June 2011
Model Lesson Demonstrations	Teachers effectively model lessons with students	Sample lesson plan and rubric	September 2010 – February 2011
Students complete Technology Literacy Tool	Students complete Technology Literacy Tool	STLT results	September 2010 – April 2011
Student Day of Discovery	Participation in Day of Discovery	Sign-in sheets, agenda	March 2011
Teachers complete follow-up Inventory of Skills	Completion of Inventory	Results	April 2011
Ongoing support and project management	Regular on-site visits, timely response and delivery, and reporting	Records and reports	Ongoing – June 2011

**FORMAL THIRD-PARTY EVALUATION FORM (A formal evaluation conducted by a party not employed by the fiscal agent either under contract with the project recipient or under the auspices of the DOE.)**

<b>(1) Scope of Evaluation and Brief Description</b>	<b>(2) Type of Entity Conducting Evaluation</b>	<b>(3) Date(s) Evaluation to Be Conducted</b>
Teacher Observation during instruction and AR as dictated by DOE Guidelines	Florida Digital Educator Program, University of South Florida	September 2010 – June 15, 2011
Teacher Observation of model lesson with focus on using technology in direct instruction using a Learning Object utilizing a rubric for scoring	Discovery Education	September 2010 – June 2011
21 <sup>st</sup> Century STEM Connect fidelity of implementation and evaluation	Discovery Education	July 2009 – June 2010
Collection and Cataloging of projects, summaries, online evaluations, records and reporting	Schultz Center for Teaching & Leadership	Ongoing – June 2011