

The 2009 - 2010 HATS STEDTRAIN Seed Grant Awards

A total of \$23,152 was awarded to a group of teachers in north Alabama on August 25, 2009 for innovative classroom K-12 science and technology projects. The twenty-five grants, grouped according to discipline and topic commonalities are listed below.

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Space & Aeronautics

Guntersville High (Marshall County)

Teacher Kate White

Aerodynamics Lab This grant will provide instrumentation for a wind tunnel provided to us by the University of Alabama in Huntsville for use in our engineering academy and physics classes.

Huntsville Center for Technology (HCT) (Huntsville)

Teacher Mike Evans

HCT Hover Craft The HCT Drafting class is designing and building, with the help of several other HCT classes, a gas-powered Hover Craft. The craft will be built mostly of student-fabricated parts. The project was started in the 2008-2009 school year, however, because of time and money restraints it is not finished.

Patriot Academy Alternative School (Madison City)

Teacher Stefanie S. Cook

To The Moon, Alice! Project-based learning is used to engage students who are labeled as at-risk and have a strong potential of dropping out. This project allows students to build rockets, participate in a literature circle (October Sky) and go on a field trip of the Space and Rocket Center. While doing this project, students will not only learn more about Earth and Space Science, but gain a deeper appreciation of the history of their Huntsville area.

Tanner High (Limestone County)

Teacher Lydia LaGrone

Tanner Team for the Am. Rocketry Challenge (TARC) The purpose of this project is to improve students' knowledge in Science, Technology, Engineering and Math. They will improve in their proficiency in these areas by designing and flying a rocket in the Team America Rocketry Challenge.

Westlawn Middle School (Huntsville)

Teacher Barbara Murphy

Rocket Team Participation in TARC 2010 A Westlawn Middle School student team will be guided to compete in the national 2010 Team America Rocketry Competition (TARC). In this competition student teams design, build, assemble for launch, launch and recover a model rocket with a raw egg payload and an altitude recording altimeter to a selected altitude, such as 750 feet, with a total time of flight from liftoff to touchdown of 45 seconds. The best 100 teams from the US are invited to the National Flyoff.

Research and Engineering

Chaffee Elementary (Huntsville)

Teacher Colleen Laymon

What a Find! What a Find! is an NAGC award winning problem-based curriculum that allows students to explore archaeology in a new way. This curriculum will also be paired with another NAGC award winning curriculum, Digging for Data: The Search within

Research, which engages students in investigations, projects and simulations using active problem solving.

Ed White Middle (Huntsville)

Teacher Roberta Freeman

Building Leads to Understanding Students will learn the basic fundamentals of construction through hands-on explorations. These will include building models of bridges, skyscrapers, geodesic domes, homes, polyhedrons, and so on and developing scale drawings. They will then create a PowerPoint presentation showing pictures of their models and explaining the concepts behind the structures.

Robotics

New Century Technology High (Huntsville)

Teacher Jane Jones

Sensor Robotics Students will program robots to perform. In addition, students in Engineering, Physics, and Physical Science classes will learn both basic and advanced robot design. Lastly, students will use special sensors and probes added to the robot to study advanced robot concepts, different challenges and activities in autonomous (without remote control) mode.

Providence Middle (Huntsville)

Teacher Wendy Graham

Robotics and Computer Programming Class Providence K-8 middle school students will develop math, science, and technology concepts through enrollment in a Robotics and Programming class mentored by software engineers from local businesses. Hands-on activities will include building and programming Lego NXT robots and learning cutting-edge software development languages such as Ruby and Java.

Chemistry and Physics

Bob Jones High (Madison City)

Teacher Daniel Elegante

Healthy Dirt? (soil analysis) The project will combine chemistry with environmental science. Soil testing kits and pH meters to do soil analysis will be purchased. The students will learn the components of soil, how to test for those components and how to amend soil to achieve a correct balance of components. The knowledge and equipment will be extended to our parts of the school and the community of Madison.

Mill Creek Elem (Madison City)

Teacher Jackie Smith

Measuring Matter Students will conduct a variety of hands-on activities to learn about mass, volume, weight, and density.

(Over)

Life Sciences and Biochemistry

Bob Jones High (Madison City)

Teacher Belinda Sewell

CSI: Autopsy Students will work in groups to conduct a "pig autopsy" patterned after a human autopsy. This activity will provide a "real world" application to the study of Forensic Pathology.

Buckhorn High (Madison County)

Teacher Matt Dean

Genetics and Biotechnology The opening of the Hudson Alpha Institute will bring many biotechnology jobs to the area. This project's major goal is to spark an interest in genetics and biotechnology in 10-12th grade AP Biology and Genetics students with the hope that the students will pursue a degree and ultimately a job in the field. During the project students will breed fruit flies, perform a bacterial transformation, and carry out a DNA fingerprint.

Huntsville Center for Technology (Huntsville)

Teacher Jane Bouldin

Super Size Nation Healthcare students will participate in learning activities on nutrition and the dangers of obesity. They will develop a presentation for elementary aged students. Mrs Bouldin will coordinate with local elementary schools to schedule the programs. The Healthcare students are allowed to provide their own transportation for these activities - this already is a requirement for the class.

New Century Technol. High (Huntsville)

Teacher Donna L. Donnelly

"Speculating" Concentration Science students in Biochemistry, Biotechnology, Forensics and Genetics will conduct experiments using a spectrophotometer and pH meters to better understand the importance of protein concentration in solution and the pH of a solution in biological systems.

Environment

Holy Family School (Private Non-Profit, Huntsville)

Teacher Betty Snow

Birds and Our Ecosystem Birds are natural indicators of the health of many ecosystems. When birds disappear from an area, this is an indicator that our ecosystem is in peril. We will be analyzing the birds present in our area and their contribution to our ecosystem.

Westlawn Middle School (Huntsville)

Teacher Barbara Murphy

Alabama's Living Streams The students will be working with Auburn University's program "Alabama's Living Streams" in English and Spanish. GPS's will give the students first hand experience with mapping and satellite technology by integrating science, math, LA and social studies into an environmental curriculum

Mathematics, Computer, and Language Skills

Greengate School (Private Non-profit, Huntsville)

Teacher Lisa Bruton

Math 4 Fun Fridays Project "Math 4 Fun Friday" will involve dyslexic students in a multi-sensory (visual, kinesthetic, and tactile) experience. Monthly math activities presenting a fun, outside the classroom, real life, experience will create a memory for the students. This concrete experience will help students have a reference to build on in the classroom.

Falkville Elementary (Morgan County)

Teacher Anna Henderson

Classroom Jeopardy! Classroom Jeopardy will provide teachers a tool to teach or test anything with America's favorite quiz show on their own classroom television. Students at Falkville Elementary School will be able to test their knowledge by playing games that

align to state and national standards in language, math and science.

Farley Elementary (Huntsville)

Teacher Dawn Davison Brown

Watch Us Grow with ELMO! ELMO, a new teaching tool, will enhance dynamic teaching methods by maximizing time and delivering information in an innovative, diverse and lively way. Children's curiosity and interest will increase as they interact with this information communication tool. By using a large variety of materials, standards will be met creatively.

Lacey's Spring Elementary (Morgan County)

Teacher Jean Ann Montgomery

Crazy bout Math Crazy About Math is a project that will provide kindergarten students with developmentally appropriate hands-on math experiences. The materials provided will be designed for use during small group instruction and math stations.

Lacey's Spring Elementary (Morgan County)

Teacher Cheryl Hall

Wild About Math Wild About Math is a project that will provide third-grade students with developmentally appropriate hands-on math experiences. The materials provided will be designed to use during small group instruction and math stations.

Ridgecrest Elem (Huntsville)

Teacher Debi Nunez

Creating Art Electronically Students in kindergarten through third grade will learn how to use basic drawing and paint tools to create slides. Students in second and third grade will also learn how to create slides with animation and slide shows. All projects will be completed to enhance requirements of the Alabama Course of Study across the curriculum.

Weathery Height Elem (Huntsville)

Teacher Sue Zupko

Collaborating with Computers Wireless devices and a laptop computer will make computers available at workstations around the room and thereby enhance collaboration. Students will participate in various activities to become knowledgeable about hardware, software, and programming, and become proficient in computer skills. Students will then demonstrate projects they've developed to others.

Career Preparation

Hazel Green High (Madison County)

Teacher Demaris Jenkins

A Career Gala: Getting Ready for the Future The Alabama's College and Career Planning System, powered by Kuder is a comprehensive, outline resource to help students plan for their future. Students will learn about their interests, skills, and work values and use those results to build a personal career plan, explore occupational information, and plan for career success.

The 2009 STEDTRAIN Seed Grant Recipients



The Science and Technology
EDucation and **TRAIN**ing Program
or the STEDTRAIN Program is a program of
The Huntsville Association of Technical Societies (HATS)

Further Information on both at:
www.hats.org and www.hats.org/STEDTRAIN/stedr.shtml