

TMS TMS / 4-H Partnership

In Science, Engineering, and Technology (SET)

- MOU Signed between 4-H and TMS on February 27, 2008
- TMS will:
 - ✓ Promote 4-H SET Program to its membership
 - ✓ Provide a list of contacts to 4-H to present local SET topics
 - ✓ Identify potential SET program topics
 - ✓ Engage other professional societies
- 4-H will:
 - ✓ Identify 4-H programs where SET programs are conducted
 - ✓ Provide people to organize SET programs
 - ✓ Perform administrative functions to organize and run SET programs

4-H SET and Materials Advantage Cooperation: Concept

- **Partner Material Advantage Chapters (both students and faculty advisors) initially at Land Grant Universities with the 4-H staff members that are resident on those university campuses.**
- **This group would work cooperatively to deliver programs like Adventure In Science to local youth**
- **The 4-H people would organize the events & the MA Chapters would teach the science**



Material Advantage Chapters at Land Grant Universities

1. Auburn University
2. University of Arizona
3. University of California – Berkeley
4. University of California – Irvine
5. University of Connecticut
6. University of Florida
7. University of Idaho
8. Purdue University
9. Iowa State University
10. University of Kentucky
11. University of Maryland – College Park
12. Michigan State University
13. University of Minnesota
14. University of Missouri, Rolla
15. University of Nevada, Reno
16. Rutgers
17. Cornell University
18. Ohio State University
19. Pennsylvania State University
20. University of Puerto Rico
21. Clemson University
22. University of Tennessee
23. Texas A&M University
24. Virginia Tech
25. Washington State University
26. University of Wisconsin - Madison



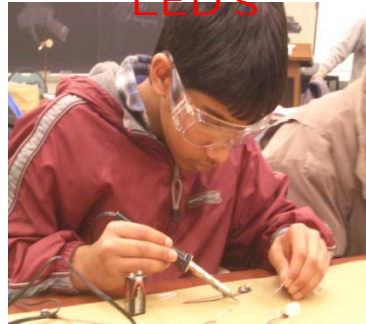
WHAT IS 4-H ADVENTURE IN SCIENCE???

- 4-H Adventure In Science (AIS) is a hands-on science education program for children ages 8-14 running on Saturday mornings from October to March.
- It was started 34 years ago by a retired scientist from NASA, Dr. Ralph R. Nash, in his basement for 8 neighborhood children.
- It is now enrolled at its maximum capacity of between 175-200 children each year.
- The union between Adventure In Science, Inc. and the University of Maryland Cooperative Extension 4-H program started in 1990.
- AIS is a true partnership between the government/industry/community, with several government agencies and private companies providing meeting space and support for the activity.
- Every Saturday morning students meet at several locations to explore various topics in math and science, wherein basic principles of those areas are taught by having the children doing things.
- **The teachers are professionals in those areas.**

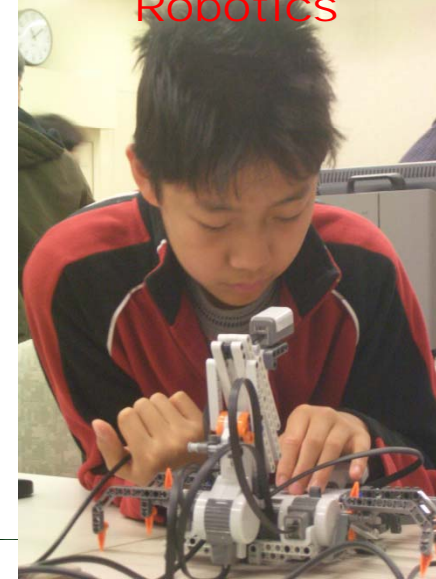
Bridge Design



LED's



Robotics



GOALS

- Stimulate the Natural Curiosity about Science & Math in Young Children
 - Teach Basic Principles in Multiple Areas of Science
 - Show Science is Fun and Exciting via Hands-On Activities
 - Immunize against "Science-Phobia" (Science is Not Hard)
 - Teach Science is All Around Us
- Teach Children the Scientific Method: Make a Guess, Test Guess with an Experiment, Make Conclusions
- Introduce Youths to Multiple Science & Math Careers
- Teach Students to Communicate Science to Others

Optics



PROGRAM MECHANICS

Chemistry



- Currently, 4-H Adventure In Science operates at four sites: (1) the National Institute of Standards and Technology (NIST) in Gaithersburg, MD, (2) the National Institutes of Health in Bethesda, MD, (3) a Lockheed-Martin facility in Rockville, MD, and (4) Urbana Middle School in Urbana, MD.
- Each of the eighteen weeks of the program, AIS students select one of 4-5 topics they can explore that morning at each meeting site and spend 2 hours learning the basic concepts in that field.
- Since what they select the following week will be different from this week's selection, they get the chance to be introduced to at least 18 different topics each year.
- Topics are taught by professional scientists in those areas.
- At the conclusion of the program ("Parent's Day"), students make oral presentations on short projects to ~400 assembled guests, parents, and siblings in the format of a normal scientific meeting.



- Solves the problem of finding someone to **Organize** the Program
- Solves the problem of finding someone competent to **Teach** the science Programs
- Solves the problem of finding **Resources** for the Program
- Involves people who **Want** to do Outreach
- It is a new **PARADIGM** for addressing the low scientific literacy of the US population
- **IT HAS THE POTENTIAL TO MAKE A BIG IMPACT!!!**
- **WILL YOU HELP????????**

Contact 4-H_SET@TMS.org