Tools of the Trade
4-H SET Overview

By
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Why do we need to focus on SET?

- Did You Know?
  - Youtube.com Video
  - Search “Did you know?”
So what does it all mean?
What is Science?

Science..."knowledge and understanding"

• Science is when people try to understand the world and nature by observing things and doing experiments.
Process of Science Inquiry

• Ask a question
• Plan and conduct an investigation
• Use simple equipment or tools to gather data.
• Use data to create an explanation.
• Communicate investigation and explanations.
What is Engineering?

Engineering..."conceptualization and design"

- Engineering is taking the science we know, the math we know, and experiences we have had and using these to create something that benefits society.
Engineering Process

- Identify the need.
- Research the need.
- Develop possible solutions.
- Select the best solution.
- Construct a prototype.
- Test and evaluate the solution.
- Communicate the solution.
- Redesign.
What is Technology?

Technology..."tools and applications"

- Technology is the process of turning something in nature into something we want or need. Technology is not just computers, TVs, and cell phones!
Technology Process

- Identify a problem.
- Propose a solution.
- Implement a solution.
- Evaluate the product or design.
- Communicate the solution.
How is 4-H implementing SET?
One Million New Scientists.
One Million New Ideas.™

• For over 100 years, 4-H has been at the forefront of teaching youth about science, engineering, and technology.

• 4-H National Youth Science Day is an important annual part.

• Goal of attracting one million new youth to science, engineering and technology programs by the year 2013.
4-H National Youth Science Day

www.4-h.org/NYSD
Additional 4-H Programs

• Robotics- Huntington County
• GPS/GIS- Hendricks County
• Remote Control Aviation- Boone County
• 1/16\(^{th}\) Model Tractor- Hamilton, Clinton County
• Junior Master Gardner Program
• Mission to Mars
• And More!
Now it’s Your Turn
The Power of the Wind

How Does a Pinwheel Use Wind Power? Activity pg 14-15

How do we observe and measure the wind? Activity pg 10-11
In 2008, 4-H National Science Day Experiment “Helpful Hydrogels” was adopted out of this curriculum

Recommend activities:
• No-Drip Diapers
• Packing Peanuts
• Pumpkin Pie in a Bag
• Grape Lighting
How do you think you will incorporate SET into your 4-H program?
Presentation Sources

• National 4-H  [www.4-h.org/NYSD](http://www.4-h.org/NYSD)
• eXtension
• Tools of the Trade II: Inspiring Young Minds to be SET Ready for Life! By University of California and University of Nevada Cooperative Extension
• The Power of the Wind, National 4-H Curriculum 08384
• Acres of Adventure, 4-HCCS BU-08330
Thank You for Participating!

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