TRI COUNTY
BELL, HARLAN & LETCHER
5TH & 6th GRADE
SCIENCE FAIR

APRIL 15, 2016

Southeast Kentucky
Community & Technical College

Hosted by

The SKCTC Natural Sciences & Mathematics Division

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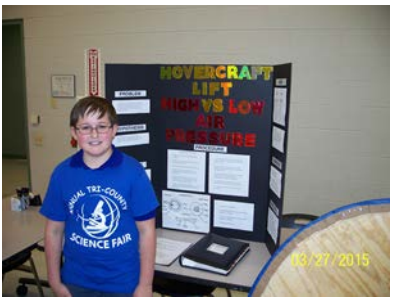


1st Place winner in Engineering Design
Kenneth “Bub” Treece, Bell County

Who & What

Who Can Register

All 5th and 6th grade students that are residents in Bell, Harlan or Letcher County, public, private parochial or homeschooled schools.

The following categories align with the middle school science core content. Categories by means of 1) Scientific Thought 2) Engineering Design

What: CATEGORIES

PHYSICAL SCIENCE: Motion & Forces

EARTH/SPACE SCIENCE: Water Cycle, Earth's Atmosphere, Solar System

BIOLOGICAL SCIENCE: Structure /Functions, Biological Variation

ENERGY TRANSFORMATIONS: Kinetic or potential energy, transfer energy occurring in simple systems, models of electrical circuits, light energy, energy conversions

INTERDEPENDENCE: Cause/effect relationship of altering a particular population of organisms within an ecosystem using data/evidence collected through research

A Science Fair IS

Thinking of a question or problem to investigate and solving it by means of:

SCIENTIFIC METHOD OR ENGINEERING DESIGN METHOD

Planning:

- An investigation to answer a science question using strategies
- By design to construct a prototype

Follow Through With:

- Conducting an experiment and gathering measurable data
- Constructing something that works

Analyzing data to gain knowledge

Using the knowledge learned to make a connection to higher-level ideas and to understand those new ideas how to apply them to the real world.

A Science Fair Is NOT: ☹

- Just an experiment or just building a product
- A report about science or engineering
- A survey of what people think or feel about something
- An experiment that shows common knowledge that everyone knows
- An experiment that is copied from a book or off the Internet
- Gathering statistics from a news source and reporting on the daily change

Science Fair 2016 Student Timeline

Week	What to do	Done
1.	Student becomes familiar with the scientific, engineering, or computer process. Student gets science fair journal ready and comes up with a topic and purpose for his/her science fair project and begins writing in the journal.	____
2.	Student researches the topic by finding at least Three sources and reading them. Writes detailed paragraphs in the journal of specific details of what was learned.	____
3.	Writes hypothesis in journal. Writes materials list and the step by step procedure of the project in the journal.	____
4.	Student identifies the controlled variables and the experimental variables and writes them in the journal. Begins acquiring materials.	____
5.	Student does the experiment, gathers data and writes the data in the journal. The student organizes the data into a table in the journal.	
6.	Experiment another week if needed.	____
7.	Analyzes the data and makes a line, circle, or bar graph in the journal. Student in interprets the graph and writes what the data means according to the graph. A conclusion is written in the journal with how it connects to the real world.	____
8.	Student makes creative display board using colors, decorative paper, different font sizes, pictures, and designs to illustrate all parts of the scientific method. Writes a brief explanation under each step on board and practices oral presentation	_____

SOUTHEAST KENTUCKY COMMUNITY & TECHNICAL COLLEGE
TRI COUNTY 5TH & 6th GRADE SCIENCE FAIR 2016
ENTRY FORM

_____ Individual Entry

Student Name
_____

Student Name
_____

Student Name
_____

Project Category _____

Short Project Description
_____
_____
_____
Is electrical outlet required? Yes _____ No _____

IF PUBLIC OR PRIVATE SCHOOL:
School Name
_____
Is teacher supervising the project? _____Yes _____No
Teacher's Name _____
Teacher's Phone _____e-mail_____

IF HOMESCHOOLED:
Is parent/guardian supervising this project? Yes _____ No_____

Parent/Guardian's Name_____Phone_____
____ email_____
Parent/Guardian's Address
_____

_____

(Entry forms must be e-mailed to
Harlan County: rhonda.creech@kctcs.edu
Letcher County: mdruen0004@kctcs.edu
Bell County: DCLARK0110@kctcs.edu
by the week before the event.)

2016 SCHEDULE

March ??, 2016 **School 5th & 6th Grade Science Fair (1st, 2nd & 3rd Place in EACH CATEGORY)**

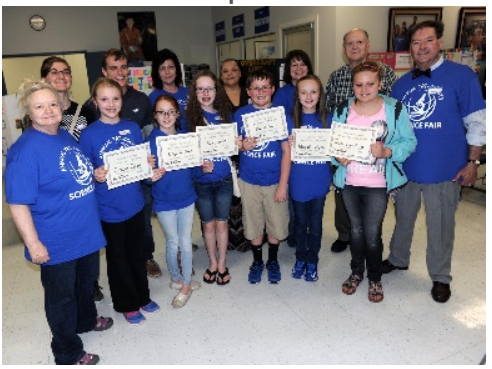
March 13, 2016 **County Entry forms e-mailed or postmarked to:**
Harlan County: rhonda.creech@kctcs.edu
Letcher County: mdruen0004@kctcs.edu
Bell County: DCLARK0110@kctcs.edu

March 18, 2016 **County 5th & 6th Grade Science Fair (1st, 2nd & 3rd place in EACH CATEGORY)**

ALL SCIENCE FAIRS BEGIN AT 9:00 A.M. AND END AT 1:30PM
Bell County at SKCTC, Middlesboro Campus
Harlan County at SKCTC, Harlan Campus
Letcher County at SKCTC, Letcher County Extension Building, Whitesburg

April 6, 2016 Tri County 5th & 6th Grade Science Fair Entry Forms due to:
rhonda.creech@kctcs.edu

APRIL 15, 2016 **TRI COUNTY SCIENCE FAIR**
Harlan Campus 9:00 - 1:30



2015 Tri County Science Fair Winners

Scientific Thought: 1st Place- Abigail Wynn, 2nd Place-Taylor Lunsford, 3rd Place-Gracie Gray

Engineering Design: 1st Place-Kenneth "Bub" Treece, 2nd Place-Emily Smith, 3rd Place- Elizabeth Black

RULES

1. Projects on any of the subject areas designated may be entered by any student enrolled in 5th or 6th grade in any public, private, parochial or homeschool.
2. In order for a project to be admitted for exhibition, it must have won a 1st, 2nd or 3rd place category from an affiliated Bell, Harlan or Letcher County 5th & 6th grade science fair.
3. A contestant may enter only ONE exhibit.
4. All work on exhibits must be done by the individual. Any exhibits, which indicate the direct assistance of the teacher, or any other outside help will be disqualified by the judges.
5. Exhibits must be confined to a table or floor space of 61 cm front to back by 122cm side to side, or smaller. Projects must be less than 274 cm high, floor to top.
6. Exhibitors must provide their own display surfaces, as only table space will be provided.
7. Record Books/Journals outlining the purpose of the project, procedure used, source of data and information, summary and conclusions, etc., must be kept and made available for observation and examination by the judges for all exhibits.
8. Construction of exhibits must be durable, and movable parts firmly attached for safety precaution. All switches and cords for 110-volt operation must be of an approved variety. Electrical cords should be at least 10 feet long. Electrical outlets are only provided upon request on the entry form.
9. **NO LIVE ANIMALS, PRESERVED ANIMALS OR PARTS, INCLUDING EMBRYOS MAY BE EXHIBITED.** Research involving the use of animals may display drawings. Charts, or graphs to illustrate the conditions, developments, and results of the investigations. **Photographs of surgical techniques depicting vertebrate animals in other than normal conditions may not be displayed but may be in the journal.**

10. Anything, which could be hazardous to public display, is prohibited. This includes **live pathogens, microbial cultures, fungi, any flame or flammable material, any chemicals *including* water.** Use drawings, charts, or graphs to illustrate conditions.
What you did and what you found out are much more important than the materials used.

11. No food is permitted at the display.

12. The exhibitor's school affiliation must NOT be visible until judging is complete.

13. **Entry forms for exhibit entries must be received by the fair director, Rhonda Creech, bearing a postmark no later than April 6, 2016. This will be strictly enforced.**

14. NO FAIR PARTICIPANT WILL BE PERMITTED TO CHANGE CATEGORIES, AGE GROUPS, OR PROJECT ONCE THE OFFICIAL ENTRY FORM HAS BEEN SUBMITTED.

15. **If an electrical outlet is not requested on the entry form, none will be provided the day of the event.**

16. All exhibits must be placed in and removed from the exhibit hall at the time specified by the SKCTC Tri County Fair Committee.

17. First, second and third awards will not necessarily be given in each category. Awards will be given according to minimum standards to be determined by the judges. THE DECISION OF THE JUDGES IS FINAL.

Southeast Kentucky Community & Technical 2015 Tri County
5th & 6th Grade Science Fair
Judging Sheet

Name _____
School _____

Project Title

_____

Category_____

Excel Good Fair

I. Journal/Log (Scientific Thought)

	Comments	**5**	**4-3**	**2-1**
Title Page/ Table of Contents: Title, name, school, date, and the table of contents				
Purpose: Problem clearly stated as a question				
Research: Three different sources cited with well-written notes				
Hypothesis: Well thought out, educated guess with explanation of why				
Experiment: • List of materials and step-by-step instructions clearly written				
• Controlled and Experimental Variables clearly identified				
• Sufficient data gathered and organized				
Analysis: Accurate graph showing the data and comparisons with a written explanation				
Conclusion: Reveals evidence of learning				

II. Display

• Neat, edited, and physically sound				
• Scientific method displayed, easy to follow and self-explanatory				
• Journal and display showed a close relationship				
• Creative board design				

III. Interview

• Student shows a basic knowledge of field studied and able to elaborate				
• Student is able to explain how the scientific method was used				
• Student shows interest, enthusiasm, and a passion toward the project and could tell how it was personalized				

IV. Project Design

• Creativity				
• Project shows in depth thought and work				
• Results show reasonable conclusion				
• Overall great follow through from the purpose to the conclusion				

Total Score out of 100

_____

Southeast Kentucky Community & Technical 2015 Tri County 5th & 6th Grade Science Fair
Judging Sheet

Name _____
School _____

Project Title

_____

Category _____

I. Journal/Log (Engineering Design)

	Comments	Excel 5	Good 4-3	Fair 2-1
Title Page/ Table of Contents: Title, name, school, date, and the table of contents				
Purpose: A need for the project is defined				
Research: Three different sources cited with well-written notes				
Design Requirements: Clear statement of the requirements for prototype development				
Preliminary Designs: • Beginning designs drawn and labeled showing changes to meet the design requirements				
• Materials' list and step by step instructions clearly written				
Building and Testing Prototype • Prototype built according to the design requirements				
Redesigning and Retesting: Redesigning and retesting done showing gathered data for each testing				
Conclusion: Reveals evidence of learning				

II. Display

• Neat, edited, and physically sound				
• Engineering method displayed, easy to follow &self-explanatory				
• Journal and display showed a close relationship				
• Creative board design				

III. Interview

• Student shows a basic knowledge of field studied and able to elaborate				
• Student is able to explain how the engineering method was used				
• Student shows interest, enthusiasm, and a passion toward the project and could tell how it was personalized				

IV. Project Design

• Creativity				
• Project shows in depth thought and work				
• Results show reasonable conclusion				
• Overall great follow through from the purpose to the conclusion				

Sub Scores ____ ____ ____

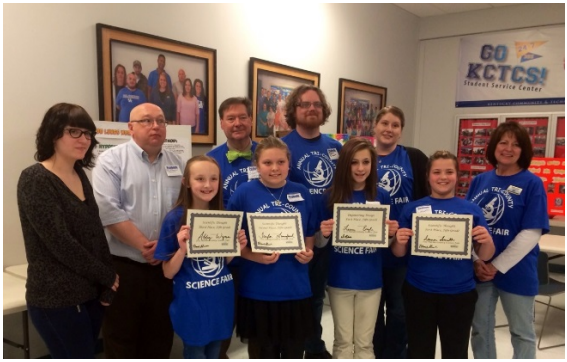
Total Score out of 100 _____

JUDGING

Students are judged on how well they use the scientific methods and conduct their project. Both inventions and investigations involve planning, careful investigation, collection of data, and making sense of the data at the end. Other factors include ability to clearly convey scientific findings, demonstrated knowledge of the chosen topic, and degree of effort and difficulty involved.

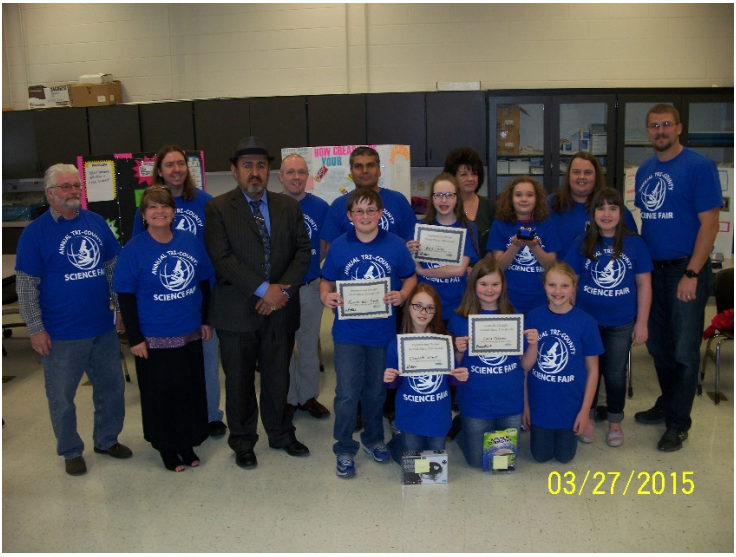
Judges may also give points for originality, accuracy thoroughness, neatness, and presentation skills both orally and visually.

2015 Harlan County Science Fair Winners



Scientific Thought L to R: 3rd Place: Abby Wynn; 2nd Place: Taylor Lunsford; 1st Place: Leann Engle & Lauren Smith

Bell County Science Fair



Scientific Thought 1st Brittany Mace; 2nd Laura Osborne; 3rd Gracie Gray Engineering Design: 1st Bub Treece; 2nd Elizabeth Black; 3rd Emily Smith; Honorable Mention: Keely Moore

Mission

Southeast Kentucky Community & Technical College Natural Science and Mathematics Division's mission for Spring 2016 is to expand educational opportunities related to **S**cience **T**echnology **E**ngineering and **M**athematics for all 5th & 6th grade students in our tri county service area of Bell, Harlan and Letcher Counties. We plan to achieve this by providing annual competitions that support, encourage and recognize student excellence in science and engineering research. Our future mission is to build on this year's learning experience and expand our annual competition to include all middle school grades (5th through 8th grade).

Contact Us

Harlan County and Tri County Science Fair Team Leader, Rhonda Creech

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Community & Technical College