AMERICAN SOCIETY OF
SAFETY PROFESSIONALS

UNM STEM Research Challenge Volunteer Safety Inspector Training

New Mexico Chapter of the American Society of Safety Professionals(ASSP)

Updated 3-12-25

Central New Mexico STEM Research Challenge

Overview

The Central NM STEM Research Challenge is hosted by the University of New Mexico STEM-H Center, and is held annually at EXPO New Mexico.

The Challenge is a science far, comprised of a three division (elementary, middle and high school students), multiple category regional student competition of science and engineering projects.

This year's event will be held on March 19-21 & 23, 2025.

Display & Safety inspectors are only needed on March 19, 2025 between 3:00-7:00 p.m.

The New Mexico Chapter of the ASSP has supported the Challenge for many years by providing volunteer safety inspectors during the first (student science project display setup) day'

Safety Inspector General Information

Central New Mexico STEM Research Challenge

ASSP volunteers use the Central New Mexico STEM Research Challenge Display & Safety Regulations and Project Set-Up Approval Form (Safety & Display Checklist) to guide and document safety inspections of the student displays [International Science and Engineering Fair (ISEF) guidelines].

The NM ASSP Community Outreach Coordinator acts as a liaison for the event and coordinates with ASSP volunteers and UNM STEM staff prior to the event and on the first day for safety inspections.

UNM staff provide all materials necessary to conduct inspections (i.e. clipboards, markers, measuring tapes, etc.).

ASSP volunteers report to a centrally located table (the HUB) within Hall B of the Manual Lujan Exhibit Complex inside EXPO New Mexico

Parking

2025 Central New Mexico STEM Research Challenge

2025 Central New Mexico STEM Research Challenge

Parking Information ~ March 19-21

★ Enter Fairgrounds through GATE 3 on San Pedro

★ Enter Lujan Building through Hall B on far west side

★ General Parking for Exhibitors/Families, Teachers, Volunteers, other attendees is located in the Creative Arts & Main Stage lots *(see map)*

♿ Handicap Parking is available along the WEST side of Main St directly across from Lujan and in the two lots just SW of Lujan

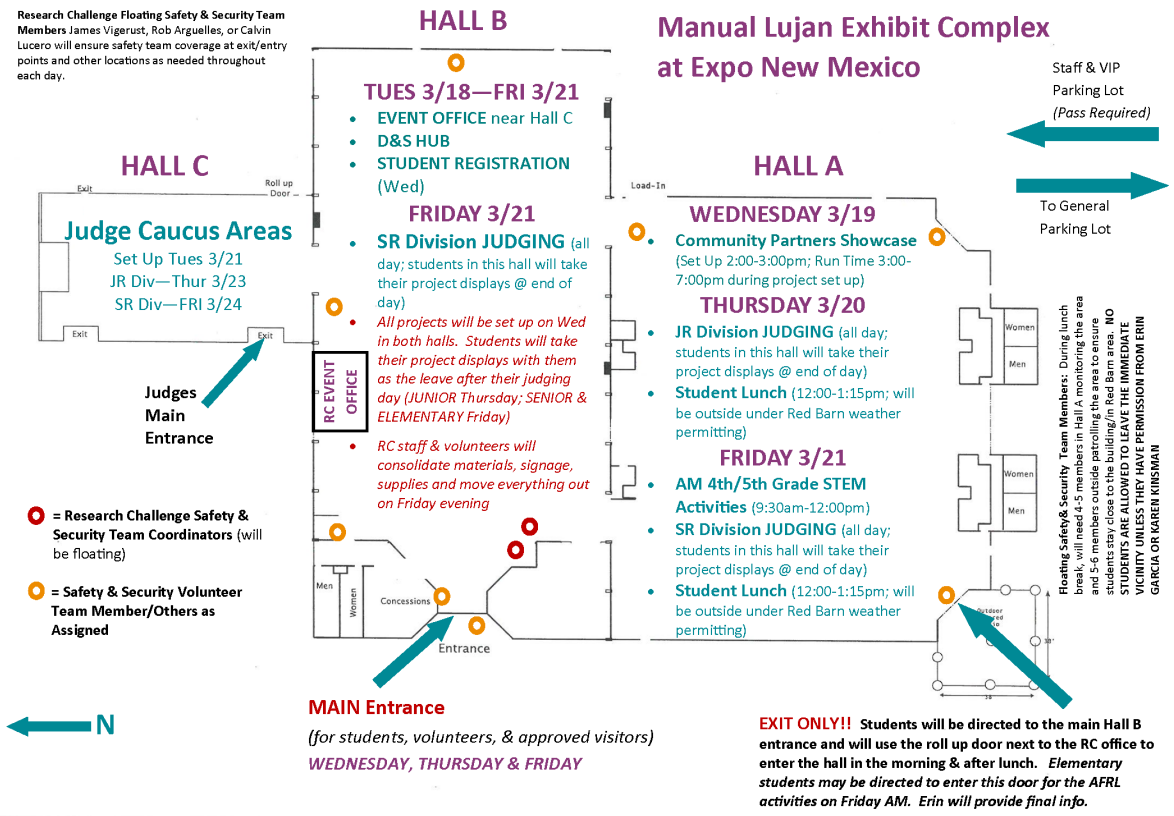
Parking is FREE for all attendees. Be sure to tell parking attendants at the Gate you are attending "Research Challenge" or "Science Fair"

Tell the attendant at the EXPO Main Entrance parking booth you are there for Research Challenge and then proceed to the General Parking Area.

Site Information

Central New Mexico STEM Research Challenge

2025 Central NM Science & Engineering Research Challenge—SAFETY TEAM MAP



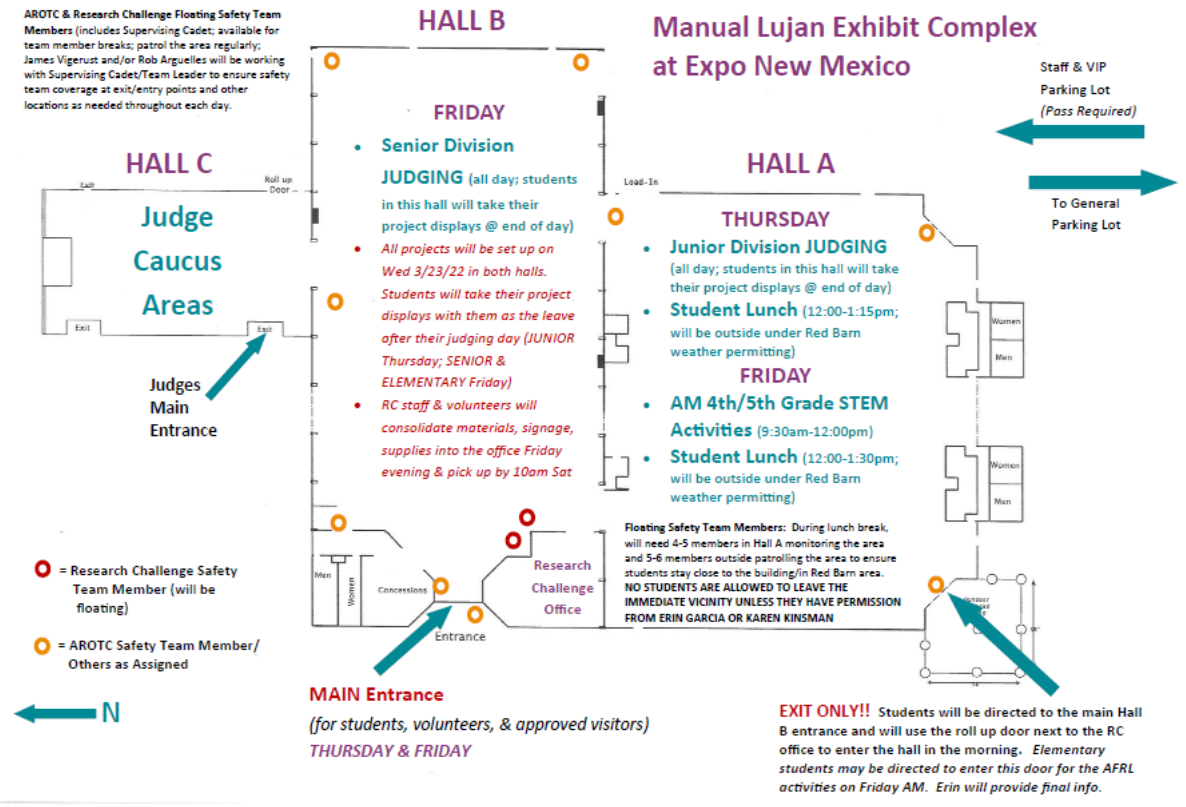
Display & Safety Inspectors (ASSP volunteers) will be provided with information prior to the event providing entry, parking, and exhibit hall instructions and maps

Parking - tell the attendant at the EXPO Main Entrance parking booth you are there for Research Challenge and then proceed to the General Parking Area.

Preliminaries

Central New Mexico STEM Research Challenge

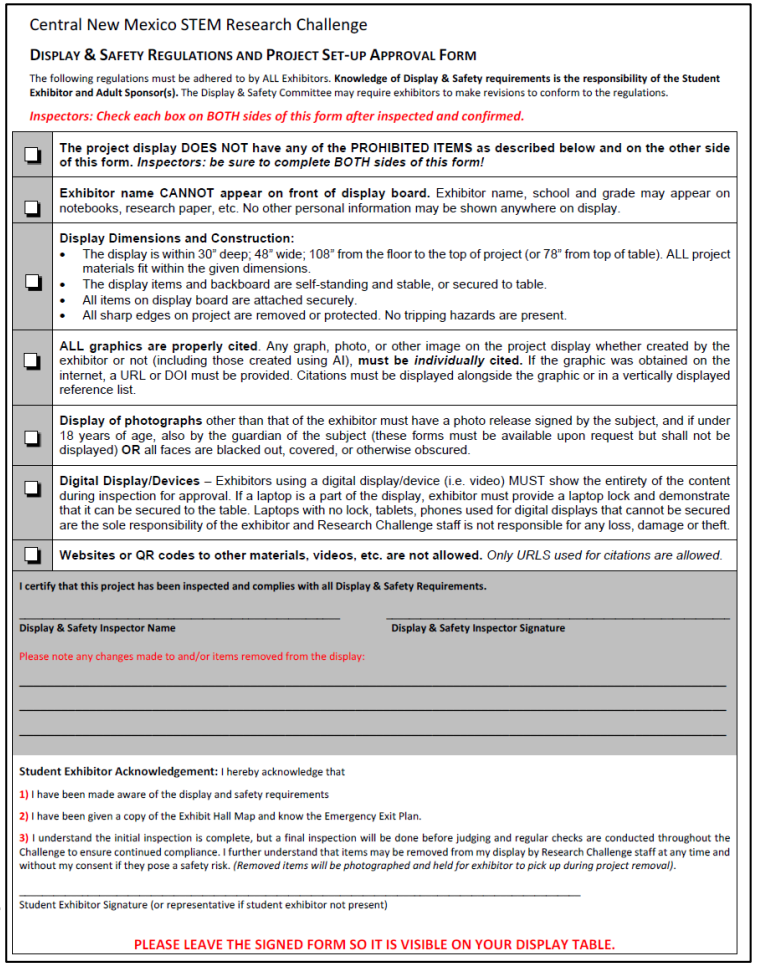
1. Check in at the HUB and sign-in.
2. Receive a quick briefing from James Vigerust and Tim Riley.
3. Make certain you have a clipboard, an inspection packet, round colored decals, and a pen.
4. Pick up a Safety Checklist Form from the HUB, check layout map for location of project, and proceed to project.



Note: *Inspect the project promptly after receiving the form. If you cannot, return the form to the HUB for re-distribution.*

Beginning the Inspection

Central New Mexico STEM Research Challenge



Central New Mexico STEM Research Challenge

DISPLAY & SAFETY REGULATIONS AND PROJECT SET-UP APPROVAL FORM

The following regulations must be adhered to by ALL Exhibitors. **Knowledge of Display & Safety requirements is the responsibility of the Student Exhibitor and Adult Sponsor(s).** The Display & Safety Committee may require exhibitors to make revisions to conform to the regulations.

Inspectors: Check each box on BOTH sides of this form after inspected and confirmed.

☐	**The project display DOES NOT have any of the PROHIBITED ITEMS as described below and on the other side of this form.** ***Inspectors: be sure to complete BOTH sides of this form!***
☐	**Exhibitor name CANNOT appear on front of display board.** Exhibitor name, school and grade may appear on notebooks, research paper, etc. No other personal information may be shown anywhere on display.
☐	**Display Dimensions and Construction:** • The display is within 30" deep; 48" wide; 108" from the floor to the top of project (or 78" from top of table). ALL project materials fit within the given dimensions. • The display items and backboard are self-standing and stable, or secured to table. • All items on display board are attached securely. • All sharp edges on project are removed or protected. No tripping hazards are present.
☐	**ALL graphics are properly cited**. Any graph, photo, or other image on the project display whether created by the exhibitor or not (including those created using AI), **must be *individually* cited.** If the graphic was obtained on the internet, a URL or DOI must be provided. Citations must be displayed alongside the graphic or in a vertically displayed reference list.
☐	**Display of photographs** other than that of the exhibitor must have a photo release signed by the subject, and if under 18 years of age, also by the guardian of the subject (these forms must be available upon request but shall not be displayed) **OR** all faces are blacked out, covered, or otherwise obscured.
☐	**Digital Display/Devices** – Exhibitors using a digital display/device (i.e. video) MUST show the entirety of the content during inspection for approval. If a laptop is a part of the display, exhibitor must provide a laptop lock and demonstrate that it can be secured to the table. Laptops with no lock, tablets, phones used for digital displays that cannot be secured are the sole responsibility of the exhibitor and Research Challenge staff is not responsible for any loss, damage or theft.
☐	**Websites or QR codes to other materials, videos, etc. are not allowed.** *Only URLS used for citations are allowed.*

I certify that this project has been inspected and complies with all Display & Safety Requirements.

_____ _____

Display & Safety Inspector Name **Display & Safety Inspector Signature**

Please note any changes made to and/or items removed from the display:

_____

_____

_____

Student Exhibitor Acknowledgement: I hereby acknowledge that

1) I have been made aware of the display and safety requirements

2) I have been given a copy of the Exhibit Hall Map and know the Emergency Exit Plan.

3) I understand the initial inspection is complete, but a final inspection will be done before judging and regular checks are conducted throughout the Challenge to ensure continued compliance. I further understand that items may be removed from my display by Research Challenge staff at any time and without my consent if they pose a safety risk. *(Removed items will be photographed and held for exhibitor to pick up during project removal).*

_____

Student Exhibitor Signature (or representative if student exhibitor not present)

PLEASE LEAVE THE SIGNED FORM SO IT IS VISIBLE ON YOUR DISPLAY TABLE.

The DISPLAY & SAFETY REGULATIONS AND PROJECT SET-UP APPROVAL FORM includes the display criteria on the front page and the safety criteria on the back.

Use the front side as a display guide.

Use the Safety inspection form on the reverse side as your inspection guide for projects.

There is no Paper Project Only form.

Have the student read the Acknowledgement at the bottom and sign the form.

Safety Inspector then signs the form and leaves the form on the table next to the student's display.

Page 2 of Display Form

Central New Mexico STEM Research Challenge

ITEMS NOT ALLOWED ON DISPLAY *Photographs of these items are allowed as long as they are appropriate and not deemed offensive by Display & Safety inspectors.*			
☐	Living organisms, including plants	☐	Glass (including light/heat sources)
☐	Taxidermy specimens or parts	☐	Preserved vertebrate or invertebrate animals
☐	ALL chemicals including water. Absolutely no liquids can be utilized in the project display	☐	Flames and highly flammable materials. Any materials that were previously flame or fire tested.
☐	Plant materials (living, dead, or preserved) that are in their raw, unprocessed, or non-manufactured state	☐	Any apparatus with belts, pulleys, chains, or moving parts with tension or pinch points that are not appropriately shielded
☐	Human or animal food	☐	3D Printers unless the power source is removed
☐	Human/animal parts or body fluids	☐	Batteries with open-top cells or wet cells
☐	Soil, sand, rock, cement, concrete, and/or waste samples, even if permanently encased in acrylic	☐	Inadequately insulated apparatus capable of producing dangerous temperatures
☐	Sharp items (examples: syringes, needles, pipettes, knives)	☐	Any display items that are deemed distracting (i.e. sounds, lights, odors, etc.)
☐	Items that may have contained or been in contact with hazardous chemicals (Item ***may*** be permitted is professionally cleaned and documentation for such cleaning is available)	☐	All hazardous substances or devices (examples: poisons, drugs, firearms, weapons, ammunition, reloading devices, grease/oil and sublimating solids such as dry ice
☐	Drones or any flight capable apparatus unless the propulsion power source is removed	☐	Brand names, logos, copyrighted /trademarked images **UNLESS** integral to the project
☐	Incandescent and fluorescent light bulbs or any other heat generating light source	☐	Any apparatus or project material deemed unsafe by the Display & Safety Committee
ELECTRICAL REGULATIONS *Note: when exhibitor is not at display, all electrical power must be disconnected or switched off.*			
☐	Electrical power supplied to the project is standard 120 Volt, AC single phase, 60 Hz.		
☐	Power strips/surge protectors and extension cords must be UL-listed, in good condition, and unmodified.		
☐	Electrical devices must be protectively enclosed. Any enclosure must be non-combustible. All external non-current carrying metal parts must be grounded.		
☐	Energized wiring, switches, and metal parts must have adequate insulation. Over-current safety devices (ex: fuses) must be inaccessible to anyone other than the exhibitor.		
☐	Exposed electrical equipment or metal that may be energized must be shielded with a non-conducting material or with a grounded metal box to prevent accidental contact		
☐	An insulating grommet is required at the point where any wire or cable enters any enclosure.		
☐	No exposed live circuits over 36 volts are allowed.		
☐	There must be an accessible, clearly visible on/off switch or other means of quickly disconnecting from power source.		
LASER/LASER POINTER REGULATIONS			
☐	Any Class 1, 2, 3A, or 3R lasers are allowed to be used RESPONSIBLY. No other lasers are allowed.		
☐	Laser beams may not pass through magnifying optics such as microscopes and telescopes.		
☐	Lasers must be labeled by the manufacturer so that power output can be inspected. Lasers without labels will NOT be permitted.		
☐	Use of handheld lasers is discouraged.		
☐	Lasers will be confiscated with no warning if not used in a safe manner.		

Use page 2 of the Display Form as your inspection guide for more complicated projects.

The student may bring in additional items on both THURSDAY and FRIDAY during this time period between 8:00 -8:30 am. If the student intends to bring in additional items on those days, an Item Card must be filled out.

The original is given to the exhibitor as their entry for Friday morning, and the carbon copy returned to the HUB.

Beginning the Inspection

Central New Mexico STEM Research Challenge

If Exhibitor is not at the booth when you arrive, put time of your attempted inspection on the Form (top) and return it to the Hub.

Introduce yourself as a D&S Inspector and assure the exhibitor that you are there to assist him/her in meeting the rules of the event and not to critique the project.

The Exhibitor should answer any questions or explain any problems identified but the parent may assist.

Check Size and Position

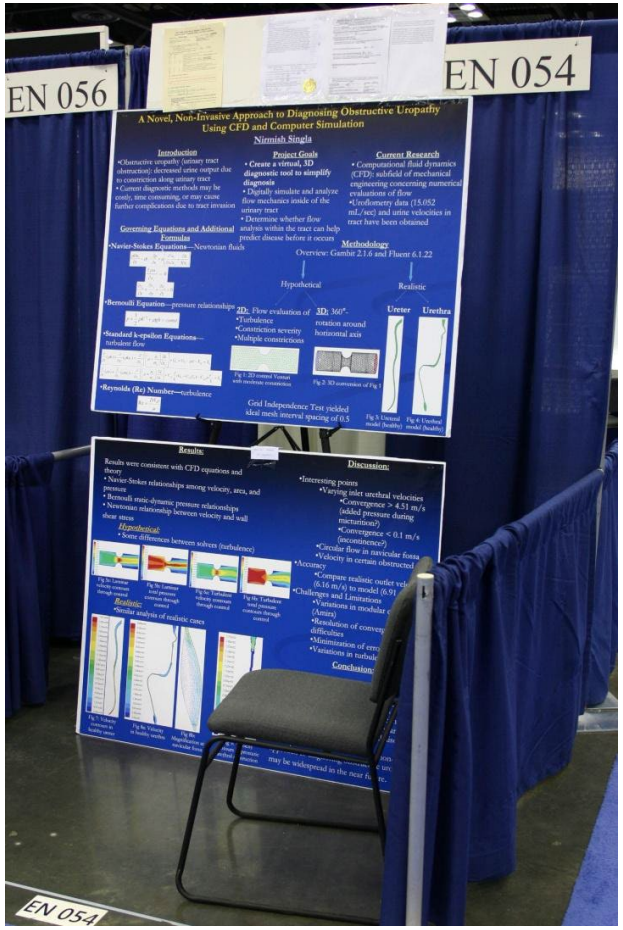
Central New Mexico STEM Research Challenge

Verify that the exhibit meets display criteria specified on the D&S Checklist

- All project materials and support mechanisms must fit within the project dimensions (including table covers)
- The tabletop (where marked) is the permitted width and depth of the project.

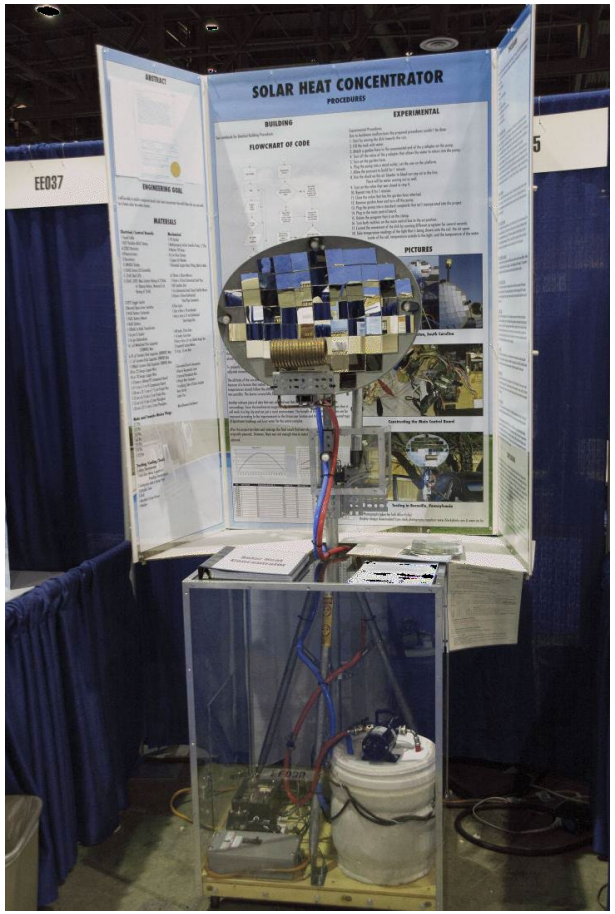
Whether set up on the provided table or freestanding, it should be positioned against the back of the assigned location.

For questions regarding the height of a display on a table, consult with Tim Riley or James Vigerust (there will be a premeasured device to verify height conformance.



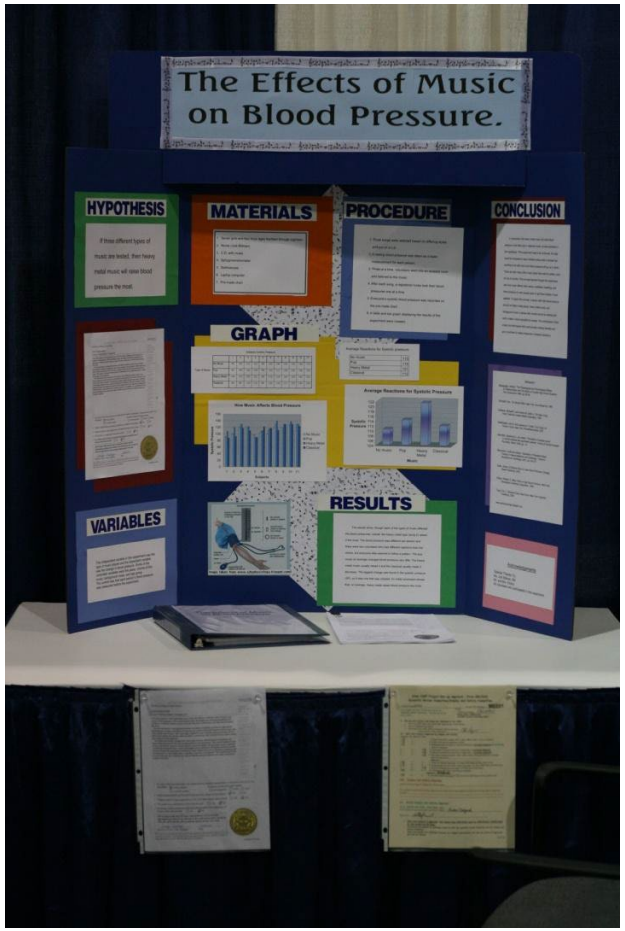
Properly Placed Projects

Central New Mexico STEM Research Challenge



Freestanding Project

Examples of projects properly placed and adhering to size limitations.



Uses only Tabletop

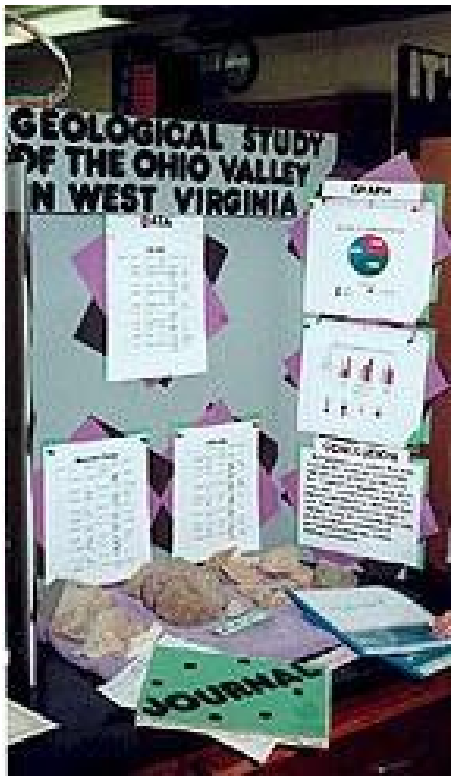
Typical Project Size Violations

Central New Mexico STEM Research Challenge

Project 1

Objects outside the allowed width.

Project 2



Objects hanging over front edge.

Project 3

Objects outside allowed depth.

Freestanding Display

Central New Mexico STEM Research Challenge

This project shows a proper freestanding display.

Floor items and board fit within allowed dimensions.

General Inspection Matters

Central New Mexico STEM Research Challenge

Use the Safety Checklist as a guide as you conduct the inspection. If you encounter a situation that is unclear contact Tim Riley or James Vigerust through the HUB for a final determination.

1. Try to put the Exhibitor at ease.
2. Review the project and if it passes place your name and signature on the Form and ensure the exhibitor signs the acknowledgement.

Handling Violations

Central New Mexico STEM Research Challenge

- When you encounter violations of the rules that can be quickly corrected, give the Exhibitor a minute or two to make the correction.
- Some violations can be corrected by taking a photograph of the object/apparatus and having the Exhibitor explain the project to the Judges. Photos are available through photographers at the HUB.
- If the violation is a major one and will take time to correct, note it and the time on the Safety Form. Return the form to the HUB and provide a short description to the HUB Coordinator. The HUB Coordinator will redistribute the Form after a prudent time.

Photograph/Visual Image / Graph / Chart / Data Table Requirements

Central New Mexico STEM Research Challenge

ALL graphics that *are created* by the Finalist MUST BE properly cited individually using statements such as:

- "Photo taken by Finalist,"
- "Image created by Finalist using . . ."
- Graph created by Finalist using . . ."
- Chart created by Finalist using . . ."; or
- "Data Table created by Finalist."

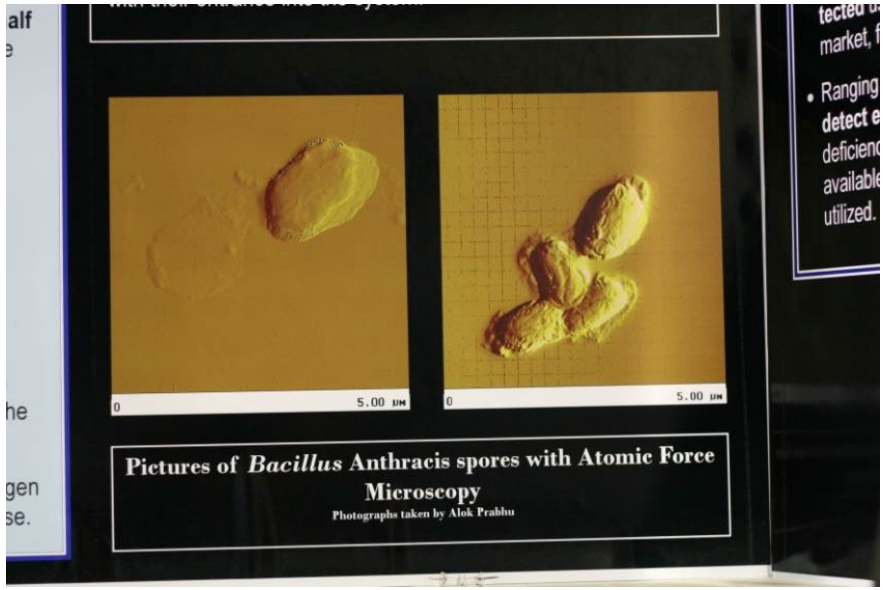
ALL graphics *not created* by the finalist(s) MUST BE properly cited individually (APA format is preferred).

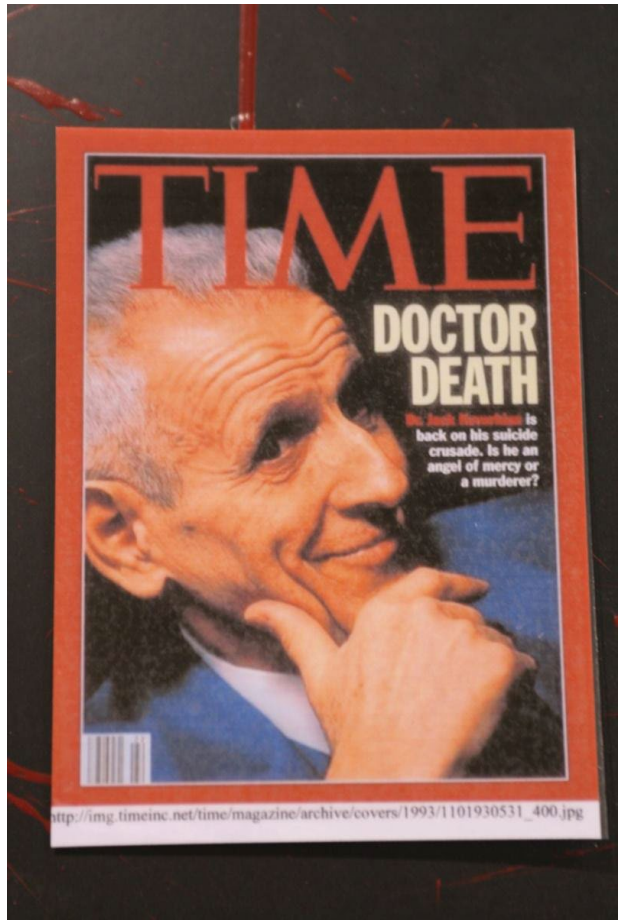
If the graphic was obtained via the Internet, then a URL must be provided (digital object identifiers are acceptable in place of long URLs). This applies even if the license under which the graphic was obtained does not require credit or citation.

Properly Credited Images

Central New Mexico STEM Research Challenge

In each example, the Exhibitor has identified the source of the image with a credit line prominently displayed beneath the image or images.





Photograph Requirements

Central New Mexico STEM Research Challenge

Photographs or images of people other than the Finalist need to have a signed photo/video release form from those individuals in a notebook. These signed release forms must be available upon request during the set-up and inspection process, but may not be displayed.

Note: *Consent forms are confidential and must be kept in a folder at the project.*

Sample statement of release: "*I consent to the use of visual images (photos, videos, etc.) involving my participation/my child's (under 18) participation in this research*."

Picture or Image Problems

Central New Mexico STEM Research Challenge

Inappropriate images:

Photographs may not be offensive or inappropriate in nature. This includes, but is not limited to, images/photographs showing invertebrates, vertebrates or humans in surgical, necrotizing dissection or distressing situations.

If an image(s) is questionable because of content, Tim Riley or James Vigerust to review the image.

Not Allowed at Project or in Booth

Central New Mexico STEM Research Challenge

Items such as the following are not allowed:

- living organisms (including plants)
- plant materials (living or dead)
- sand, soil, rocks, etc.
- taxidermy specimens
- preserved vertebrate or invertebrate animals
- human/animal food
- human/animal parts or body fluids
- chemicals (including water)
- hazardous substances (laser restrictions)
- drugs
- personal items or packaging materials stored in or around the booth, including under the table

Review the Safety Checklist!

Allowed at Project with Restrictions

Central New Mexico STEM Research Challenge

Exceptions are judgment calls; consult Tim Riley or James Vigerust if questions arise. The examples below illustrate when consultation may be required. Although integral to the project, the pictures are inappropriate for display as they show an animal in lab conditions or could be offensive to the general public.

Items Not Allowed at Project or Booth

Central New Mexico STEM Research Challenge

An example of soil or waste materials.

Even if encased in acrylic, plant and soil materials are not allowed on projects.

Items Not Allowed at Project or Booth

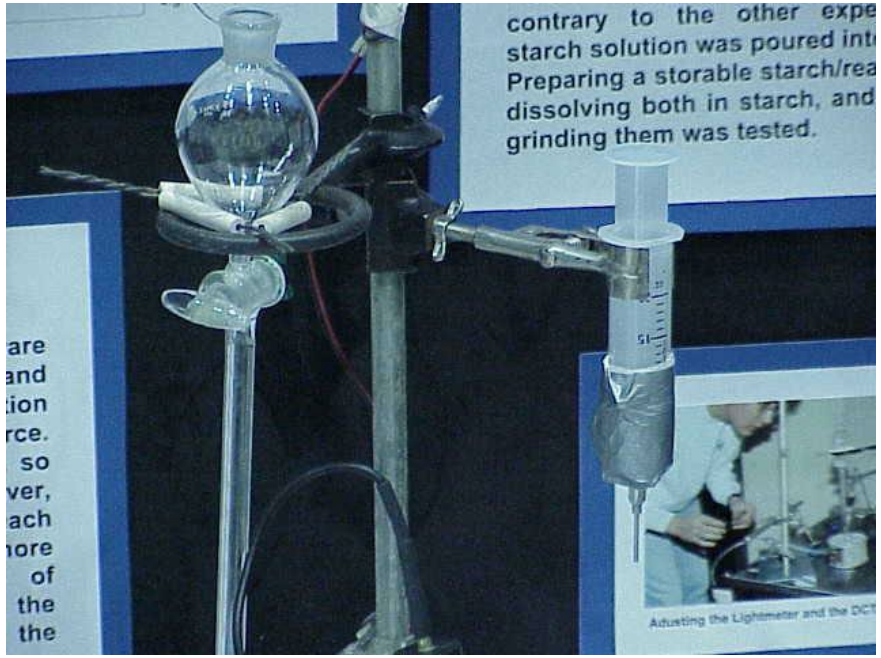
Photographs of vertebrate animals in lab procedures, unnatural environments, or stress situations not allowed.

Containers of plants and dirt not allowed.

Glass items not allowed.

Items Not Allowed at Project or Booth

Central New Mexico STEM Research Challenge



Sharp objects, such as this needle, not allowed. Nor is the lab glassware allowed.

Plant and other dried materials scattered for decoration or display is not allowed.

Items Not Allowed at Project or Booth

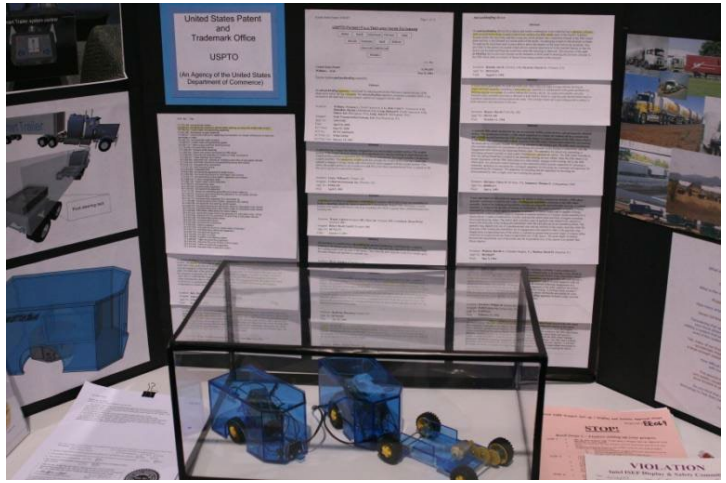
Central New Mexico STEM Research Challenge

Weapons, as well as hazardous devices, not allowed.

If company and/or product names or logos are displayed, contact Tim Riley or James Vigerust to review the exhibit.

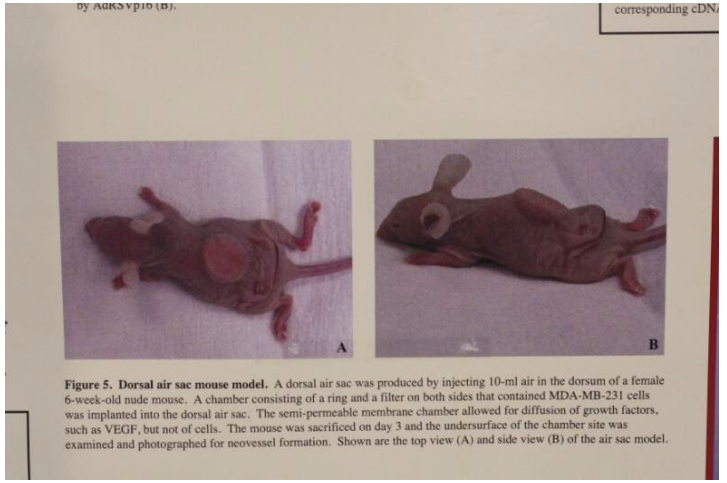
Typical Violations

Central New Mexico STEM Research Challenge



Unofficial abstracts displayed

No Photo Credits

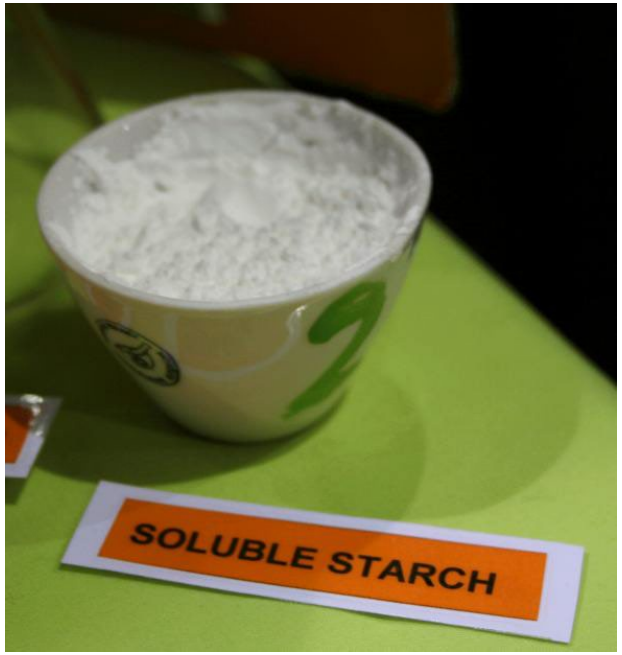


Inappropriate pictures of animals

Typical Violations

Central New Mexico STEM Research Challenge

Liquids



Chemical compounds

Glass & combustive materials

Correct Display

Central New Mexico STEM Research Challenge

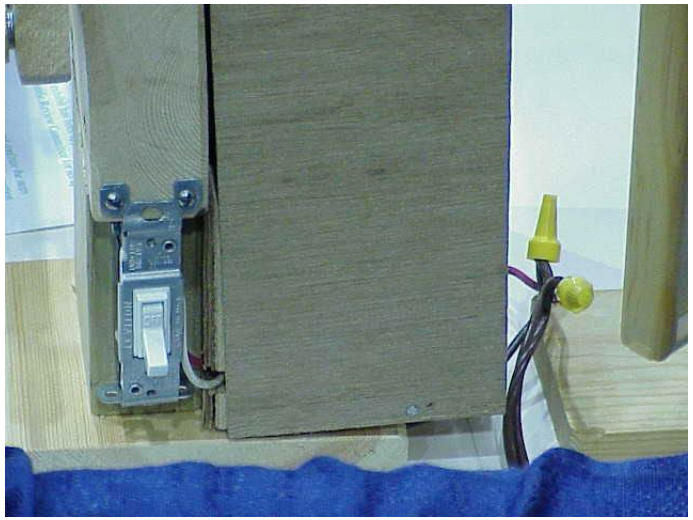
All equipment displayed here meets safety regulations. Paperwork hanging on top front edge of project permitted.

No awards, acknowledgments, handouts, etc., or addresses other than Exhibitor's are visible.

Safety Issues

Central New Mexico STEM Research Challenge

Example illustrates open electrical connections and exposed electrical equipment. Low voltage DC circuits. Evaluate for safety.



Example illustrates the presence of an on/off switch which all projects using electricity (120V) must have. However, the wiring and screw connections are exposed.

Safety Issues

Example illustrates exposed wiring and connections without non-conducting shielding or a grounded metal box or cage.

Check voltages being used, DC possibly OK, 120 volt AC, needs guards or display static only.

Electrical

Central New Mexico STEM Research Challenge

- Electrical power supplied to the project is 120 or 220 Volt, AC, single phase, 60 Hz. No multi-phase will be available or shall be used.
- Electrical devices must be protectively enclosed. Any enclosure must be non-combustible. All external non-current carrying metal parts must be grounded.
- Energized wiring, switches, and metal parts must have adequate insulation and over-current safety devices (such as fuses) and must be inaccessible to anyone other than the finalist.
- Exposed electrical equipment or metal that may be energized must be shielded with a non-conducting material or with a grounded metal box to prevent accidental contact.
- Decorative lighting or illumination is discouraged. If used, lighting must be as low a voltage as possible and must be LED lighting that does not generate heat. Incandescent and fluorescent light bulbs are prohibited.
- An insulating grommet is required at the point where any wire or cable enters any enclosure.
- There must be an accessible, clearly visible on/off switch or other means of quickly disconnecting from the 120 or 220 Volt power source.

Violations Review

Central New Mexico STEM Research Challenge

- If the violation is a minor one and can be corrected quickly, have the Finalist do so.
- If the violation is one that will take considerable time for the Finalist to correct, write the violation on the top of the form and return the form to the HUB for re-distribution at a later time. Re-inspection once the violation is corrected.
- Assist the exhibitor with options/suggestions to bring the project into compliance.

Remember!

Central New Mexico STEM Research Challenge

If you are in doubt or the Finalist questions your decision, contact Tim Riley or James Vigerust to assist in resolving the issue.

We are there to help the student succeed, and find/fix any issues now so in the event that the student wins and advances to the next round of competition, that they do not get disqualified then for something that we could have helped them identify and address now!

Completing the Inspection

Central New Mexico STEM Research Challenge

Once you have checked for size, safety, allowed/ disallowed items and have not found any violations, only a few steps remain:

1. Sign the Safety Checklist Form and have the exhibitor read and sign the acknowledgement section at the bottom of the first page. Leave the Form on display at the Exhibit.
2. Wish the Exhibitor good luck and return to the HUB for another assignment.

Knowledge Check

What is the Issue?

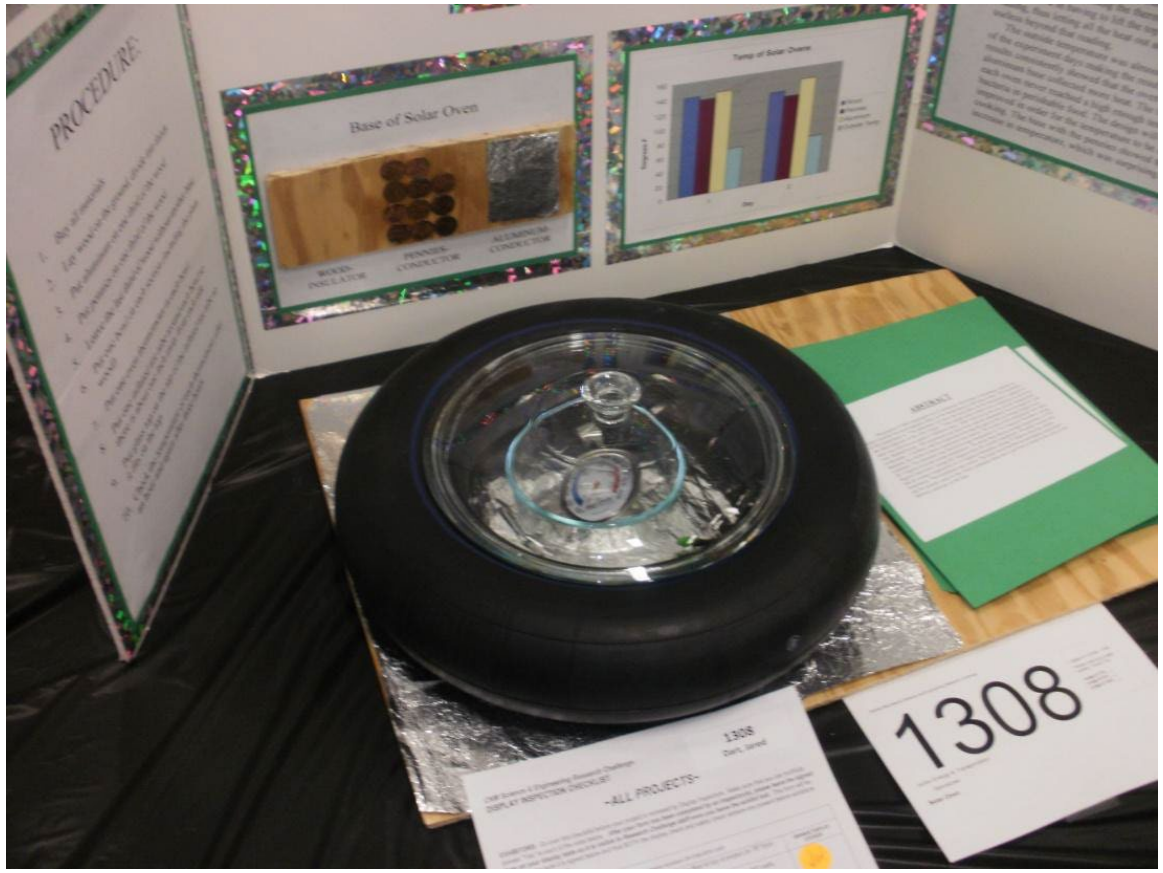
Central New Mexico STEM Research Challenge

Rusted metal can transfer rust and debris to the public.

What is the Issue?

Central New Mexico STEM Research Challenge

Glassware is not allowed.

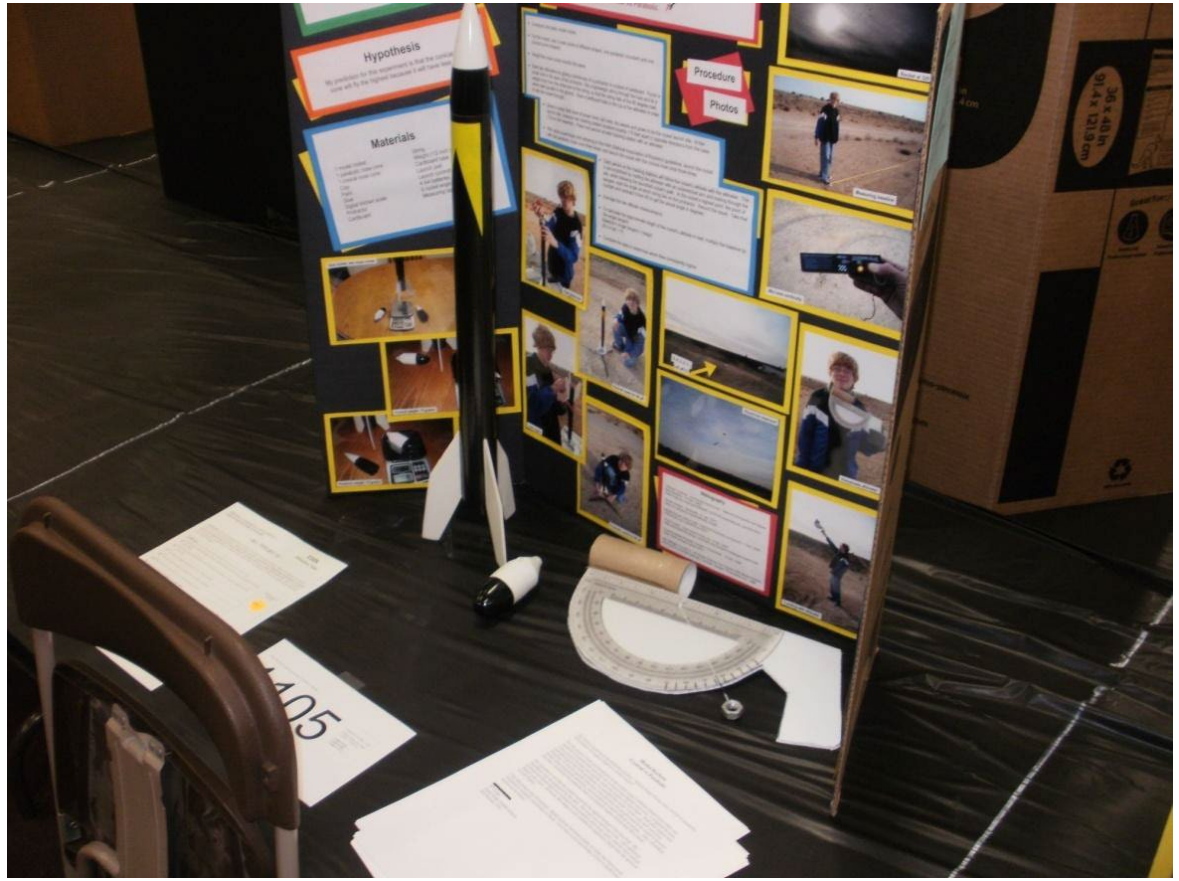


What is the Issue?

Central New Mexico STEM Research Challenge

Are rocket motors present? (not allowed)

Spent rocket motors present? (also not allowed)



What is the Issue?

Central New Mexico STEM Research Challenge

Chemical residue is present (not allowed).

What is the Issue?

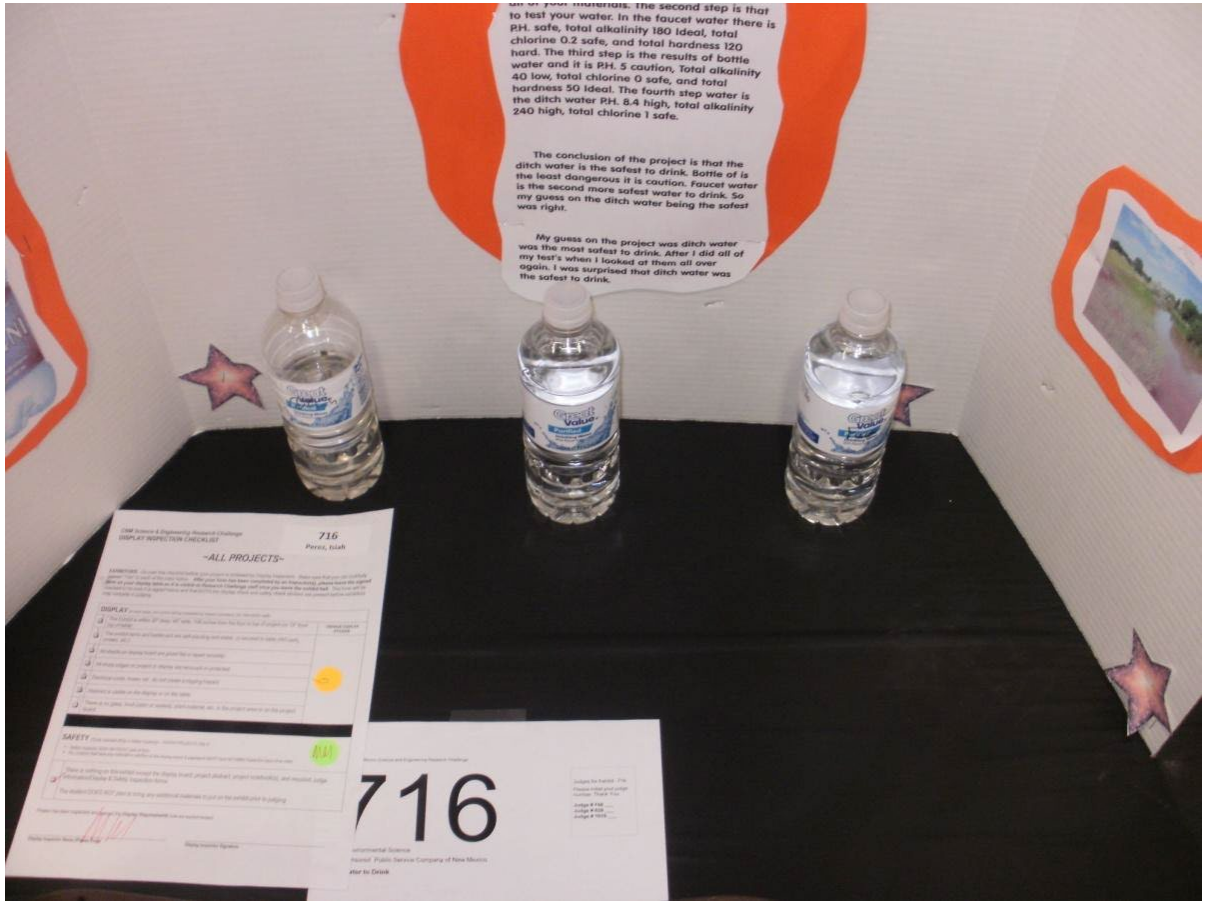
Crystals are not allowed

***even if sealed in acrylic*.**

What is the Issue?

Central New Mexico STEM Research Challenge

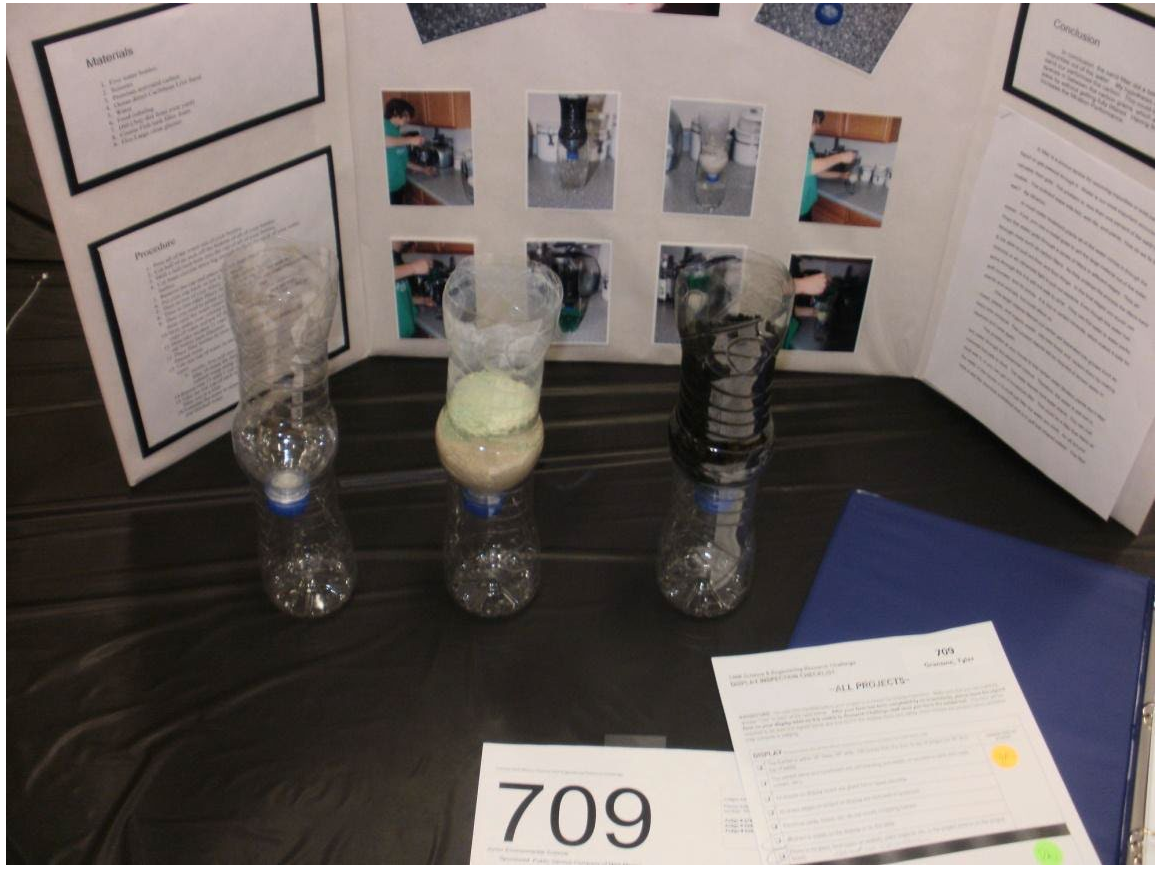
Water is not allowed except for drinking water being used by the exhibitor.



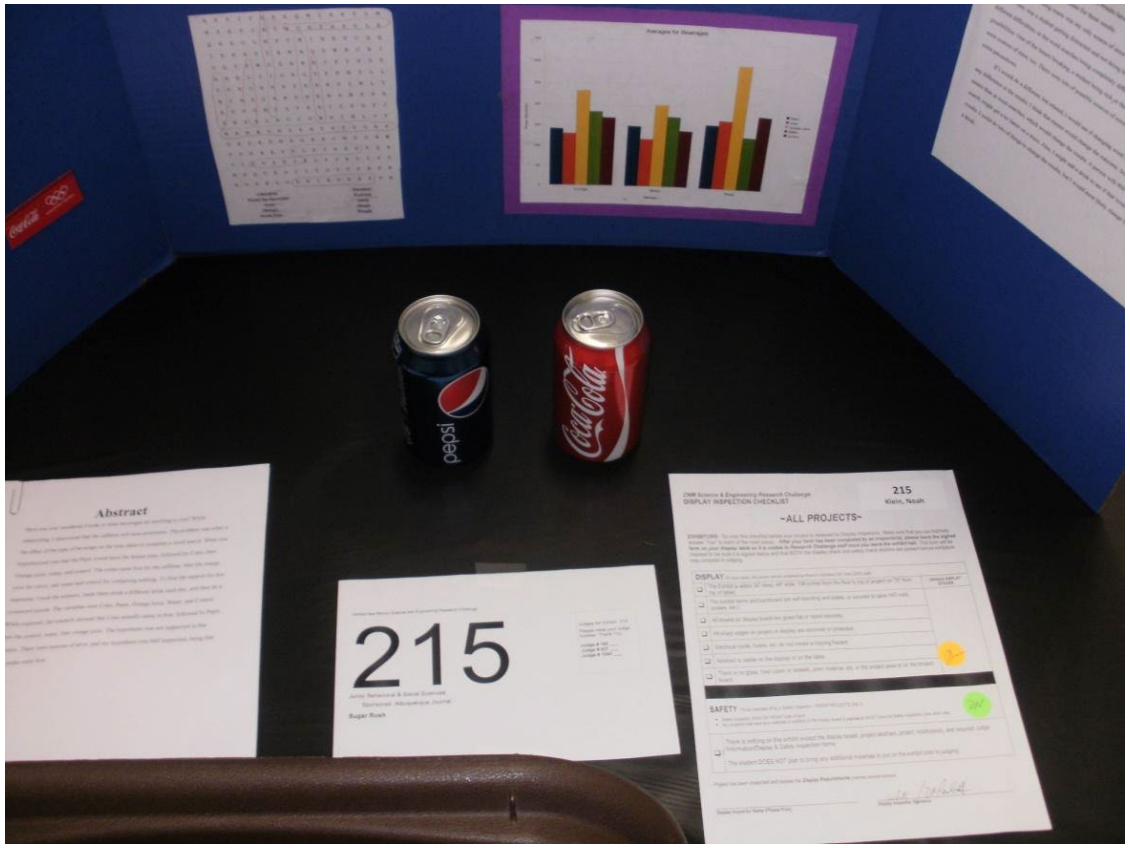
What is the Issue?

Central New Mexico STEM Research Challenge

Charcoal and clay are not allowed.

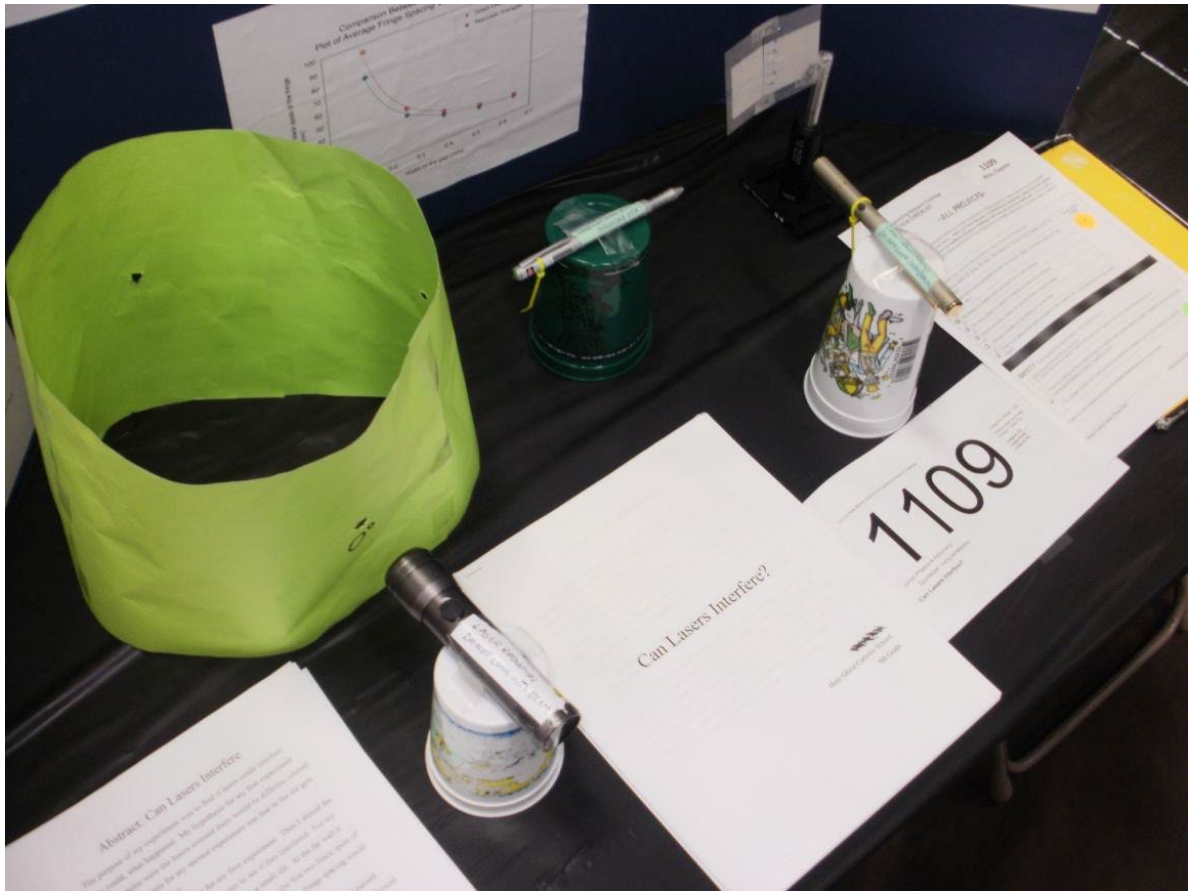


What is the Issue?



Food is not allowed, ***even in sealed containers***.

What is the Issue?



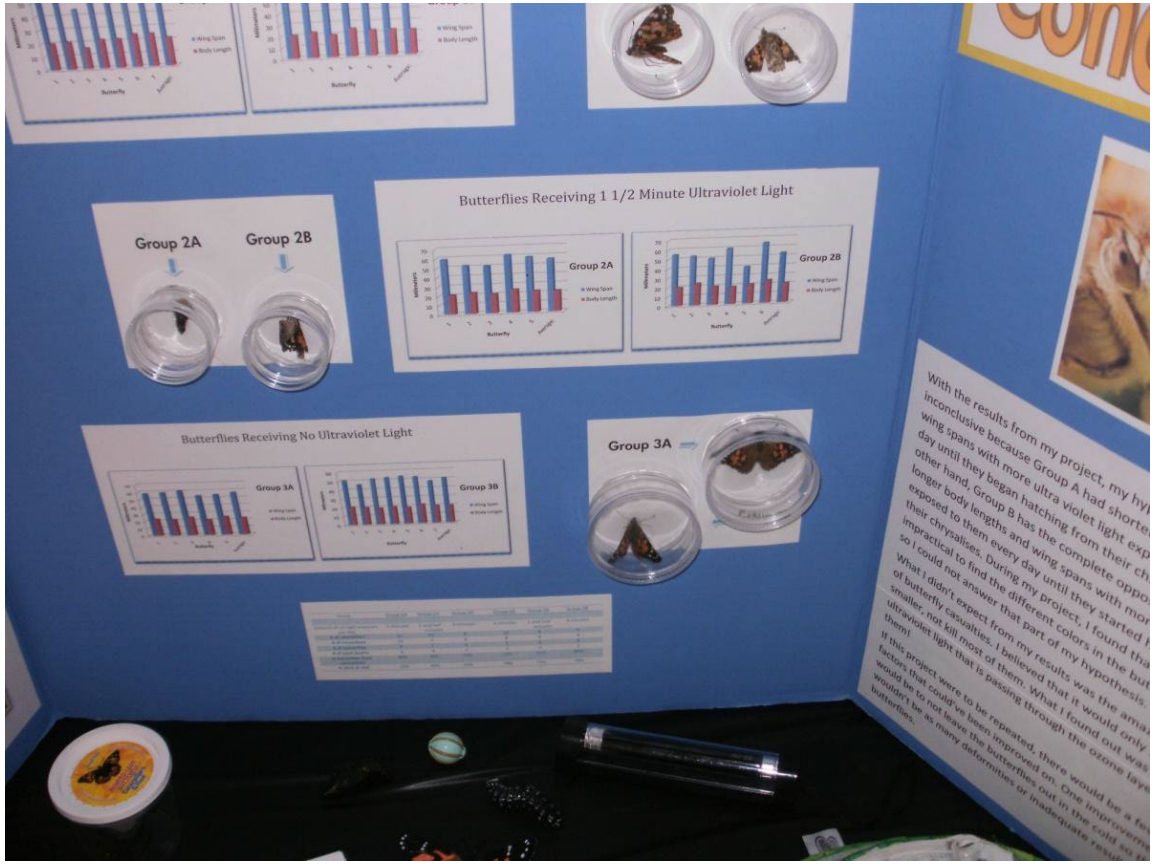
Class IV lasers not allowed.

Class 1, 2, 3A or 3R are allowed *with restrictions*.

What is the Issue?

Central New Mexico STEM Research Challenge

Insects, plants and animals are not allowed.



What is the Issue?

Central New Mexico STEM Research Challenge

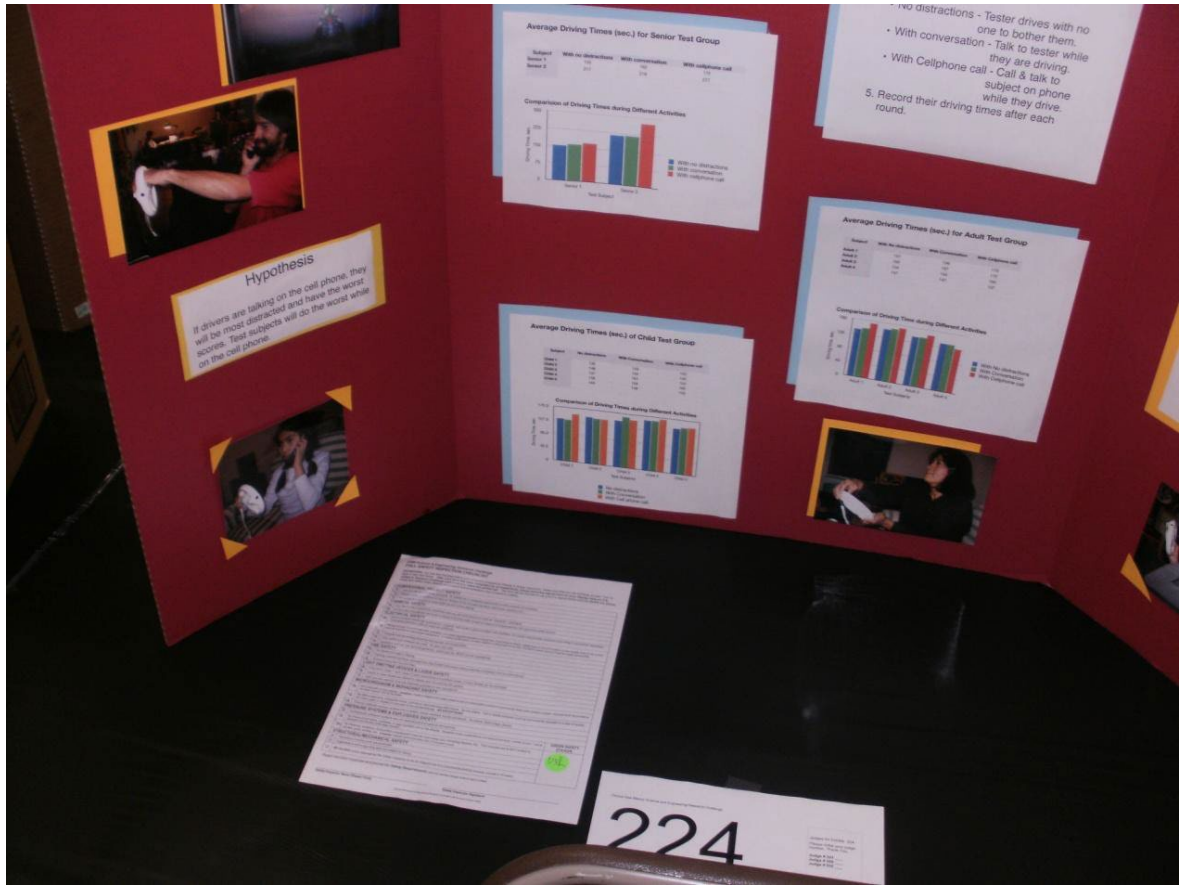
Chemicals or cloth used as filters are not allowed.

What is the Issue?

Materials that can transfer char and soot are not allowed.

What is the Issue?

Central New Mexico STEM Research Challenge



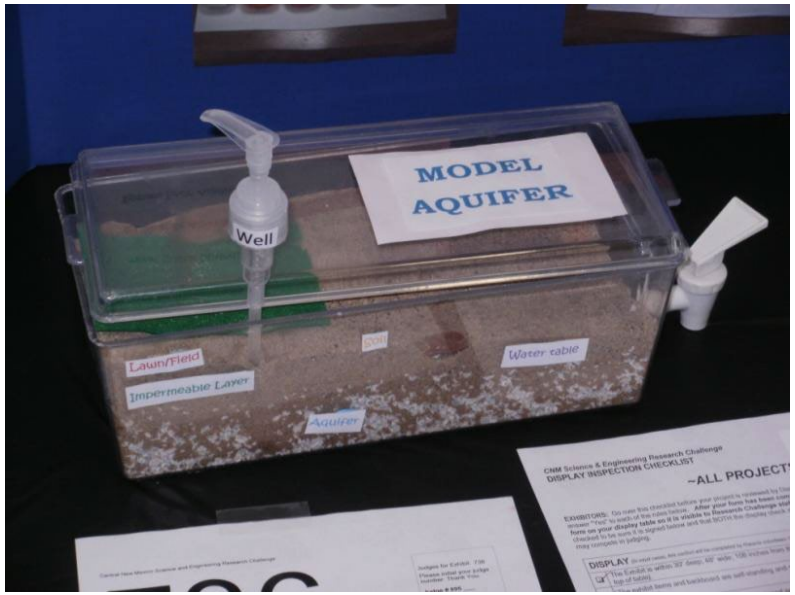
No photo credit (a common oversight).

What is the Issue?

Central New Mexico STEM Research Challenge

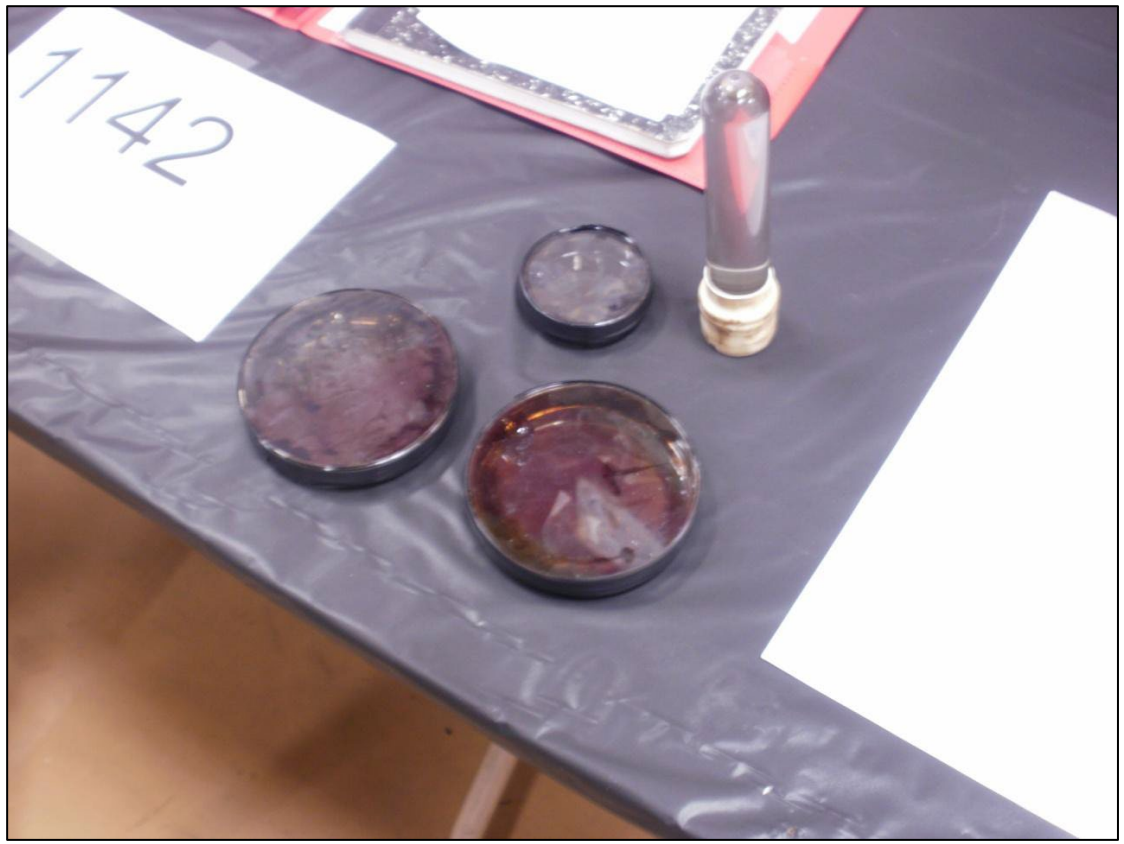
Animal fur is not allowed.

What is the Issue?



Sand is not allowed.

What is the Issue?



Chemicals and liquids are not allowed.

What is the Issue?

Only commercial building products are allowed.

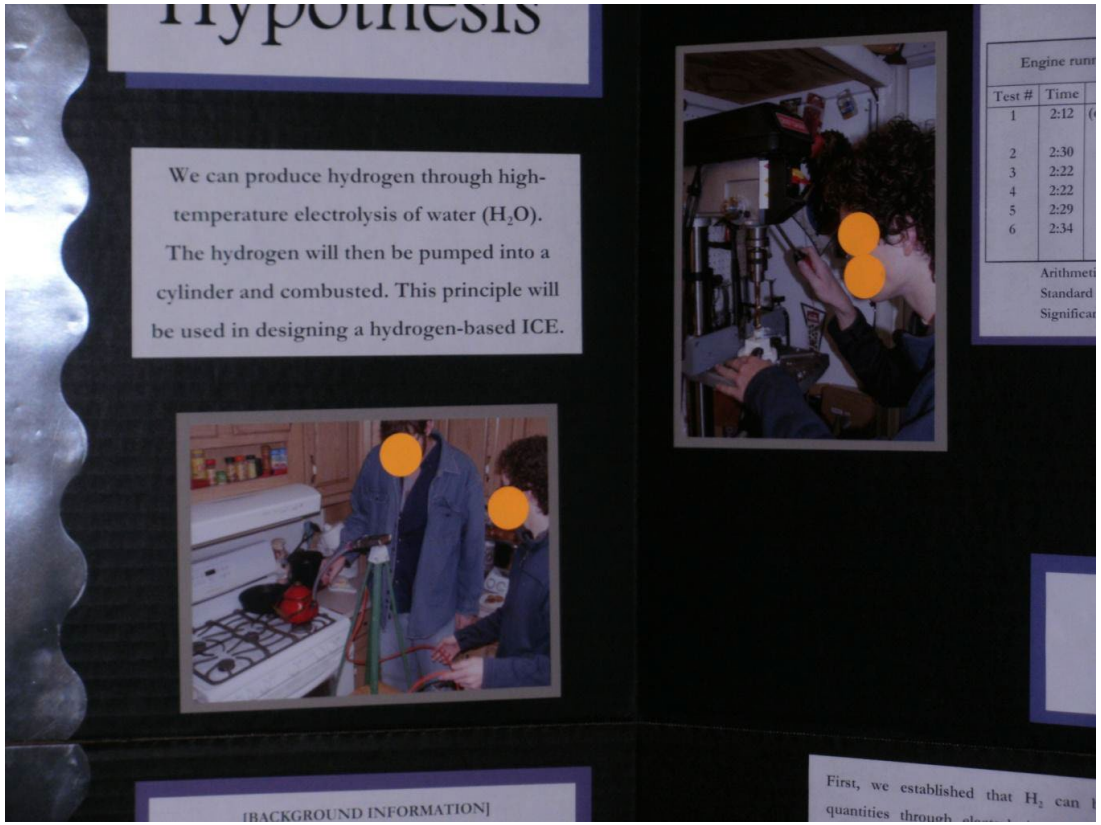
Homemade products that create fragments or dust from the product are not allowed.

What is the Issue?

Central New Mexico STEM Research Challenge

Only photos of the Exhibitor are allowed on the board unless releases have been signed.

Concealing the faces is allowed in lieu of releases.



In Closing

Central New Mexico STEM Research Challenge

The friendly Display and Safety Committee members are there to help.

Contact one of them any time you are in doubt, or contact Tim Riley or James Vigerust.

Finally THANK YOU for volunteering!

Volunteers help the students make the most of their hard work and displays, and showcase the awesome science that they are learning.


Thank
You