

2018 Navajo Nation Science Fair

Office of Diné School Improvement
Department of Diné Education
Window Rock, Arizona

Goals for the 2018 Navajo Nation Science Fair

- To improve local Science Fairs at all Navajo Nation Participating Schools
- To improve student learning in the classroom and implement Common Core State Standards
- To implement Next Generation Science Standards
- To become an affiliated fair with Intel/ISEF
- Improve the Navajo Nation Science Fair with more Research-Based projects entries using the Scientific Method Process and Engineering Design Process
- To incorporate the Navajo culture and environment into projects and research
- To recognize and reward teachers working with students with research year-round

<http://www.sciencefairregistration.com/az/nnsf>

On-line Registrations will be available January 2018 for:

- Schools
 - Teachers
 - Students/Projects
 - Judges
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- 2018 Navajo Nation Science Fair projects registration **deadline** Wednesday, February 21, 2018 at midnight.

Success Story

- The Professional Development are provided for teachers at the school level.
- We have a GREAT TEAM for our NN Science Fair.
- The great awards, tee-shirts, and lunch served for students.
- Quality judges come each year.
- Our online registration process is part of the success.
- Presentations are provided for parents and teachers on the latest in Education and Health during the Science Fair..
- More research-based projects coming in each year. The level of projects have improved over time, especially at the High level.

The Scientific Method

- The scientific method is a way to ask and answer scientific questions by making observations and doing experiments.
- The steps of the scientific method are to:
 - **Ask a Question**
 - **Do Background Research**
 - **Construct a Hypothesis**
 - **Test Your Hypothesis by Doing an Experiment**
 - **Analyze Your Data and Draw a Conclusion**
 - **Effectively Communicate Your Results**

Engineering Design Process

- **Goal** - What are the overall task that the machine will complete?
What are the overall requirements for the machine?
- **Ask** - What is the challenge/task that your module will complete?
What are the requirements?
- **Imagine** - What are some potential steps? Brainstorm! What steps did you chose for the module design?
- **Plan** - Create detailed sketch of module. Design and create a step list.
Create your materials list.
- **Create** - Follow your plan and create it. Test it out.
- **Improve** - What works in your module? What doesn't work in your module? How could your module be improved? Modify your design to make it better. Test it out again.

2018 Navajo Nation Science Fair

Red Rock State Park, Gallup, NM

- (Pee-Wee Division) (Grades K-4)
February 27, 2018
- (Elementary Division) (Grades 5-6)
February 28, 2018
- (Junior High Division) (Grades 7-8)
- (Senior Division) (Grades 9-12)
March 1, 2018

The Seven Basic Categories

- Animal Science
- Behavioral & Social Science
- Biology
- Chemistry
- Engineering & Computer Science
- Environmental Science
- Physical Science

2018 NN Science Fair Judging Sheet

- **1. SCIENTIFIC INVESTIGATION** (35 points total)
 - Problem stated clearly. Problem challenging. Followed problem precisely. Demonstrate practicality. Variables clearly defined. Enough data for warranted conclusion. Indicate further research and plan.
- **2. THOROUGHNESS** (25 points total)
 - Data and testing extremely thorough. Understood between project and other approaches – cite references. Made all attempts to solve stated problem. Comprehensive log book. Data supported conclusion.
- **3. SKILL** (10 points total)
 - Executed project well. Did all actual work.

2018 NN Science Fair Judging Sheet

- 4. CREATIVE ABILITY/ORIGINALITY (20 points total)
 - Original idea. Approach original. Data analyzed effectively. Project design, neat, detailed.

- 5. CLARITY (10 points total)
 - Exhibit neat and clear. Oral and written responses well organized and thorough.

- 6. INTERVIEW Score (5 points total)

(105 points possible)

- Need project number and judge's signature on every judging sheet. Every project judged three times.

Required for 2018 Navajo Nation Science Fair

- All Navajo Nation Schools are **REQUIRED** to put on a Science Fair at their school **before** competing at the 2018 Navajo Nation Science Fair. The school must submit results to our office.
- Schools will send their **TOP TWO** projects from the (7) categories for the four divisions to the 2018 Navajo Nation Science Fair to compete.

2018 NN Science Fair Rules

- Only **ONE** student (Grades 5-12) to a project at the 2018 Navajo Nation Science Fair. Projects with more than one student will result in disqualification.
- Partners of **TWO** can do projects in (Grades K-4 only).
- All first place winners (Grades 5-12) at the 2018 Navajo Nation Science Fair will be invited to compete at the 2018 Arizona State Science Fair.

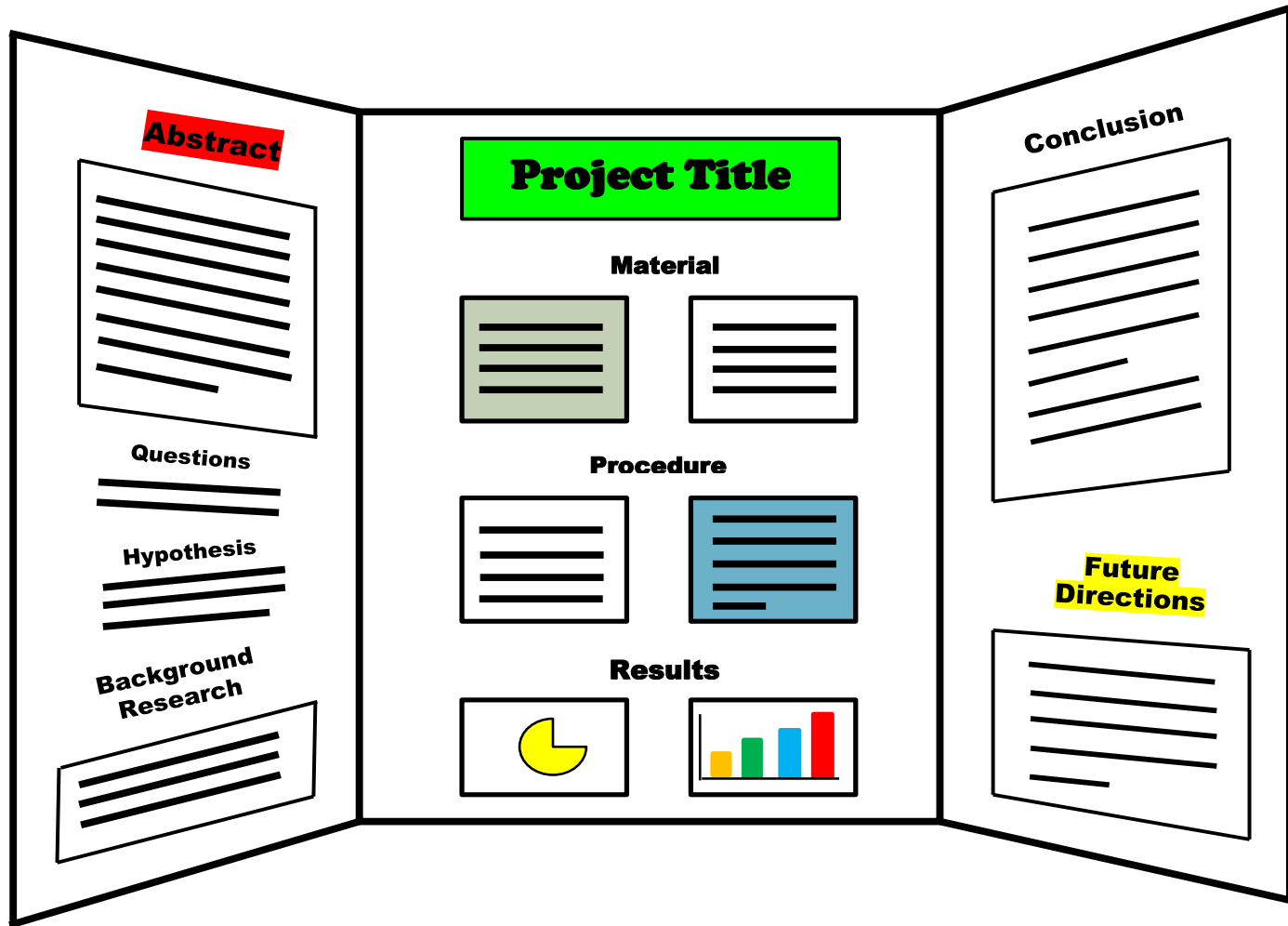
CONCERNS

- School Science Fair issues should be settled at school level
- Project deletions and corrections need to be in writing to our office. Be specific on what you want changed.
- Internet bought projects, not allowed. Will result in automatic disqualification.
- All Science Fair projects need to be done with teachers at school level
- Information boards not welcome unless at K-4 level
- Information and Survey projects discouraged at Elem, JH and HS level
- All Complaints must be writing to our ODSI office
- Teachers are responsible for behavior of their students

Maximum Size of Project

- Depth (front to back) 30 inches or 76 centimeters
- Width (side to side) 48 inches or 122 centimeters
- Height (floor to top) 108 inches or 274 centimeters

Project Display Boards



SAFETY:

- There will not be any electricity provided for students and their projects in the convention center.
- No glass and sharp objects are permitted such as light bulbs or glasses.
- No chemical compounds are allowed in the convention center.
- No flammable materials or liquids are permitted such as lighters, matches or gasoline.
- No live animals are permitted.
- No live plants or animal tissues are allowed.
- Battery operated devices must have their power source disconnected if they are not supervised.
- Anything that can pose a hazard to participants will not be allowed in the hall.
- Our Safety Officers reserve the right to enforce these rules to their discretion.

Rules for Judging Rules

- Students must be present on judging day to be eligible for any awards. No replacement of students the day of Science Fair.
- All pictures must include a credit to the source of the picture.
- No food or drinks are allowed in the judging hall. Water stations will be provided.
- Students are discouraged from wandering around in the hall during open judging.
- We are not responsible for any items that are left in the hall unattended.
- No electronic devices such as media players or cell phones are permitted to be used.
- Laptops are permitted only for presentation purposes only.
- Only registered students are allowed in the judging hall.

Recommendations

- Designate one **INDIVIDUAL** from your school to register students and teachers.
- Have your local Science Fair **EARLY** so your school can have enough **TIME** to register all students and projects properly.
- When registering, **DOUBLE-CHECK** all information before submitting.
- Make **PLANS** to be on time for the 2018 Navajo Nation Science Fair.

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