

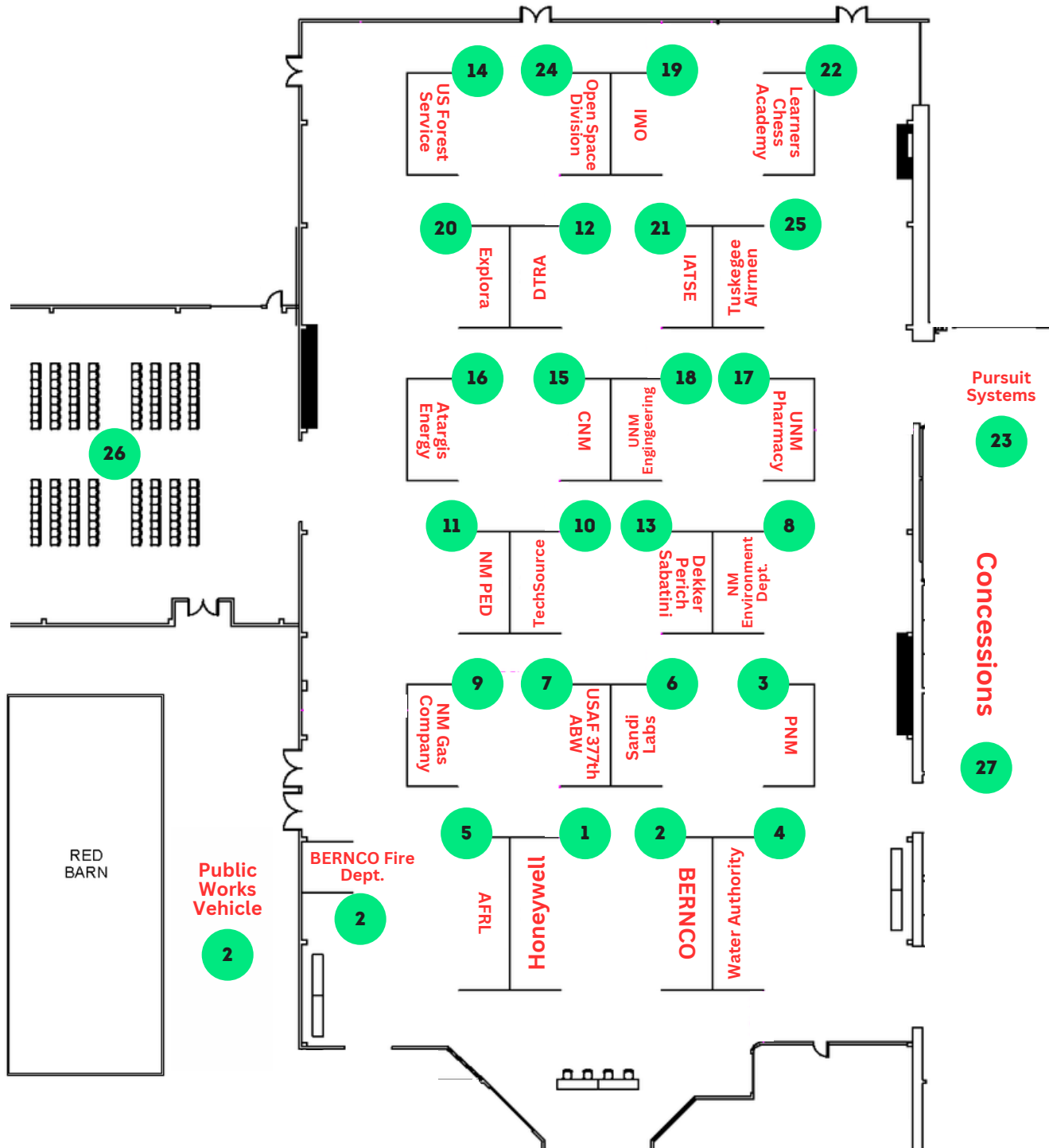


EVENT DAY EXHIBIT GUIDE

November 17th, 2023

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MAP AND BOOTH GUIDE



1

HONEYWELL

Honeywell is the presenting sponsor of Big Brothers Big Sisters Discovery Festival. Inquisitive minds have been the driving force behind Honeywell's success for more than 125 years. Their STEM programming focuses on inspiring and preparing the next generation of engineers from elementary through graduate school.

Students will have access to a variety of circuit building pieces that they can experiment with. There will also be a virtual reality demonstration, in which students can try on a virtual reality headset to test a VR experience.

2

BERNALILLO COUNTY

Bernalillo County is bringing a full STEAM experience to students in two parts! Both Fire and Rescue and Public Works will be in attendance.

PUBLIC WORKS: Both the engineering and construction programs develop and improve county roads and utilities through acquisition and management of right of way, design, and construction of roadway, bridges, drainage and utility systems. The sections provide programming of future improvements and engineering studies as needed to provide quality customer service and maximize the effects of funds available by identifying infrastructure projects necessary to meet the needs in developing areas of the county. The programs utilize a 'cradle-to-grave' concept whereby the project team stays with the project and manages its projects completely through the construction phase.

Public Works will be using small scale construction trucks to show what is used in the development of our construction projects.

3

PNM

PNM supports organizations and educational programs that develop local talent and skills to drive current and future work force readiness. We focus on programs that promote literacy, improve high school graduation rates, youth leadership and workforce development skills related to the energy industry.

PNM will be hosting a "Light Bike" activity which consists of a stationary bicycle which can be connected to either a string of incandescent or LED light bulbs. Students will be encouraged to pedal the bicycle and experience how much more energy it takes to power old inefficient light bulbs compared to newer energy efficient light bulbs. PNM will also be exhibiting an all-electric Volvo XC40 to allow students to experience the current state of technology for electric vehicles.

4

WATER AUTHORITY

Our organization is responsible to supply drinking water for the city of Albuquerque and Bernalillo County, and clean used water before returning it to the river, to be used by populations downstream.

Multiple demonstrations will be available: from figuring the total resulting water from a leaky faucet; a "wastewater" cleaning; a density demonstration; a song for how to clean water called "my name is Jack"; and an activity which helps people visualize available drinking water called "A drop in the bucket", and coloring books.

The ABCWUA provides learning experiences for all ages free for in-class presentations grades pre-K to 3rd and 5th grade to 12th grade, 5th grade and up tours of our reclamation plant, as well as our nationally recognized, award-winning field trip with buses provided to all 4th graders in the Albuquerque area to the Bosque.

Please read more and sign-up for these great opportunities at:
<https://www.abcwua.org/education/>

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AIR FORCE RESEARCH LABORATORIES

The Air Force Research Laboratory (AFRL) is the science and technology arm of the Air and Space Forces. We have five main locations around the country, and New Mexico is our second-largest location, with about 2000 staff members working mostly on Kirtland Air Force Base. Here in New Mexico, AFRL focuses on technology for space systems which includes satellites and software, and technology for directed energy which includes lasers and high-power microwaves. Students will explore properties and states of matter through the follow activities:

Exploration of Solids: Ice Melting Blocks: Two square blocks made of different solid materials interact very differently with a block of ice. Two black rubber balls made of different sold materials behave very differently when dropped in a tube.

Exploration of Liquid & Gas: Liquid Nitrogen: What happens when balloons are submerged in liquid nitrogen?

Exploration of Plasma: Plasma Ball: How do LED bulbs and other items behave when they interact with the electric field created by the plasma ball?

6

SANDIA NATIONAL LABORATORIES

The demonstration will be paper helicopters! Students will be able to make their own helicopter from card stock paper. The helicopters will fly by riding the warm air plume coming off a fresh cup of coffee. Sandians will help show the students how to construct the helicopters and then fly the helicopters for students to show them how the rising hot air from the warm liquid below allows the helicopters to spin and stay afloat for as long as the warm water is below. They will also demonstrate the use of ozobots and snap circuits.

7

UNITED STATES AF 377TH ABW

The Air Force is at the forefront of space, science, and technology from flying planes to communications, engineering and logistics to protect our country and its interests in, from, and to space. Their demonstration of Ozobots will allow hands-on robotics, math and programming experience.

8

NEW MEXICO ENVIRONMENT DEPT.

The New Mexico Environment Department is here to protect and restore the environment and to foster a healthy and prosperous New Mexico for present and future generations. Scientists and other staff at the Environment Department use the best available science to inform our decision-making and innovation to develop creative solutions to solve environmental challenges.

We will be demonstrating the importance of groundwater in New Mexico. We will have a groundwater flow model for kids to see how water infiltrates the aquifer and is cleaned through natural filtration. We will also be presenting a hands-on Benthic Macroinvertebrate Aquatic Insect Lab where students can handle insects and learn about their importance as an indicator species and their role in the food web. We will also have other wildlife items for the kids to touch such as antlers, pelts, skulls, and track mold.

9

NEW MEXICO GAS COMPANY

New Mexico Gas employees team members across the state to actively, safely support New Mexico's energy future. In meeting this goal NMGC has team members with expertise in Engineering, Mathematics, Accounting, Safety, Construction and Maintenance.

We will have two main exhibits one to have the kids understand why and how we run smart tools thru pipeline. Kids will be able to make small tools out of paper cups and run them thru a pipe. The second is the importance of knowing what is below, Kids will be able to get hands on with small excavators and dig in a sand box.

10

TECHSOURCE

TechSource is an engineering and scientific consulting company that hires professionals to support various Department of Energy and Department of Defense long-term contracts. We believe in the importance of exposing children and youth to STEAM disciplines and career choices as early as elementary school. Many children may not know about various STEAM career choices if their family members aren't in those fields. TechSource wants to work with the community to explore ways in which children may see themselves in STEAM areas professionally. We have offices in Albuquerque, NM, Los Alamos, NM, and Washington, DC area. TechSource will be using simple household items, such as baking soda and vinegar, to show children how to inflate a balloon using a chemical reaction.

11

NM PED MATH AND SCIENCE

The Math and Science Bureau at the New Mexico Public Education Department supports implementation of high-quality instruction aligned to state academic math, science and computer science standards and outdoor/environmental education. The Bureau works in partnership with public school districts, state-chartered/local chartered-charter schools to improve STEM education. The Bureau's vision is to build collaborative communities that support equitable access and opportunities for all, honoring the rich cultural heritage of New Mexico and putting our students first.

NM PED presents the Float Your Boat STEM Activity. Using only 1 sheet of 15x15 cm aluminum foil, students will design a boat that is capable of holding the greatest number of pennies possible without sinking.

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DEFENSE THREAT REDUCTION AGENCY

DTRA provides cross-cutting solutions to enable the Department of Defense, the United States Government, and international partners to deter strategic attack against the United States and its allies; prevent, reduce, and counter WMD and emerging threats; and prevail against WMD-armed adversaries in crisis and conflict.

DTRA's core functions represent our enduring approach to deter, prevent, and prevail against WMD threats. Even as these essential activities continue, the Agency must seek to tackle new and pressing challenges in innovative ways.

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DEKKER PERICH SABATINI

The need for great architecture is stronger today than it has ever been. But the role of the architect has changed. It's no longer enough to design beautiful buildings or change the silhouette of a city. Great architecture involves a deeper engagement with the people involved in creating a building, with the communities they will be a part of, and being a conduit between them all. It requires a broader knowledge of industries, technology and culture. It means being more attentive and more empathic, and preventing risk from falling through the cracks. Our designs become others' futures. So, we don't stop at design.

Both art and science, architecture is a practice that is never perfected. Instead, those of us dedicated to its craft know ours is a never-ending endeavor to design better, enduring solutions for the people who need them. And those needs are changing. Tomorrow's answers will look different, but how we find them will always come from Architecture in Progress.

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US FOREST SERVICE

The Forest Service manages over 193 million acres of the nation's forests and grasslands. Our jobs are as diverse as the landscapes we manage. We have a wide range of S.T.E.A.M. careers in field like science communication, wildlife biology, forestry, archaeology and engineering.

We will learn about fire ecology, by making predictions about fire behavior. There will be three trays that model different fuel properties, students will use post-it notes to make predictions about what will happen. We will watch short videos of the trays burning after predictions have been made and learn terminology. These hands-on investigations will help students better understand where we live and explore how fire can impact our environment. We believe that in a time of increased fire activity it is important for students to understand the complexity of wildland fire management and the role fire plays in our lives. We will also have opportunities for career exploration, through hands-on engagement with career trunks, career cards, and career quizzes.

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CENTRAL NM COMMUNITY COLLEGE

We provide a wide range of associate degrees and certificates in S.T.E.A.M. Most courses are transferable to other degree-granting institutions as freshmen and sophomore electives or requirements.

CNM will host a booth on circuits, where students can manipulate Snap Circuits along with other circuit activities.

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ATARGIS ENERGY

Atargis Energy is developing breakthrough technology that combines advanced, patented hydrofoil-based hardware combined with sensors and software that result in the capture of 95% of the energy in ocean waves. This technology will unlock very low cost electricity from ocean waves for as much as 25% of the world's electricity while avoiding the generation of millions of tons of CO₂.

There will not be a hands on demo of our technology, but there will be a stand-up poster of our technology and a video demonstration/presentation on a laptop.

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UNM SCHOOL OF PHARMACY

The UNM College of Pharmacy is the only pharmacy school in the state of NM. Our educational programs set up our students for success in paving the way in pharmacy innovation and practice.

Pharmacists provide many benefits to the community including medication counseling and poison prevention education. Information such as keeping all medicines and substances in locked cabinets, proper medication storage, and how to properly take medications are all discussed by the pharmacist. Pharmacists are familiar with proper medication labeling and how to read those labels as well as the dangers of sharing medications. Our booth highlights the importance of household poison prevention and how to properly identify dangerous vs non-dangerous poisons in the home.

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UNM SCHOOL OF ENGINEERING

The UNM School of Engineering is the highest-ranked engineering program in New Mexico, and the only Carnegie R1 (highest research activity) university in the state, putting it in the same class as MIT, Stanford, Purdue and other well-respected engineering programs in the country. UNM is a member of the Sandia Academic Alliance.

As the vanguard of inclusive excellence, UNM Engineering is a place where everyone belongs, thrives, and shines. As the School of Engineering for New Mexico, we advance the welfare of the land and its people. As partners for discovery and student empowerment, we transform lives and communities.

Through creative partnerships with government, industry, and local communities we realize impact, enhance economic development, and improve quality of life.

We will have various demonstrations (two main sections):

1. Demos will explore water resources and water problems as well as how engineers might solve these problems. Specifically, through the floodplain simulator, students will explore the value of wetlands and retention ponds in flood management, witness how downstream communities are affected by runoff, and work as a team to find and test solutions to a variety of floodplain problems. From the RO demonstration, students should understand that reverse osmosis is an advanced water treatment process designed to remove dissolved material on the molecular level from water. Students will see a cross-section of an RO membrane and see dyed water treated as it makes its way through the system.
2. Chemical engineering demo for biomedical applications. Within this area, synthetic biology aims at improving treatments, understanding and creating better 3D cell models, testing environments, etc.

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OFFICE OF THE MEDICAL INVESTIGATOR

The Office of the Medical Investigator investigates any death in NM that is sudden, violent, untimely, unexpected or the cause of death is unknown. The office determines the cause and manner of death on these cases and provides a formal death certificate.

Fingerprinting will be demonstrated, and students will have the opportunity to fingerprint and view through a magnifying glass.

20

EXPLORA

Explora has been, and will continue to be, a learning place for people of all races, ages, genders, abilities, and backgrounds. We believe that family, caregivers, peers, and colleagues are essential partners in learning. Explora advocates for lifelong, materials-rich inquiry, while acknowledging that it isn't always easy. We value curiosity, hands-on trial and error, and the agency and growth that comes with both failing and succeeding.

Hands-on STEAM activities including electrical circuits, gyroscopes, and vision shifting goggles.

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INTERNATIONAL ALLIANCE OF THEATRICAL STAGE EMPLOYEES (IATSE)

IATSE local 480 of New Mexico is a studio mechanics, local and part of the international alliance of theatrical motion picture technicians. IATSE covers all the crafts from the office and payroll through construction, props, lighting, and set dressing.

The IATSE booth will be manned by two professionals in different crafts, representing close to 80 years of experience. They will be there to talk to students about pursuing a career in the motion picture industry, how one might do it and joining the union.

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LEARNERS CHESS ACADEMY

Founded in the Spring of 2010, and reincorporated as a 501c3 not-for-profit organization in 2012, Learners Chess Academy is an educational program with the mission to enhance child development by using the game of chess to promote and stimulate intellectual maturity, social skills, and leadership development. Our vision is a world where all kids have the opportunity to grow through learning the game of chess.

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PURSUIT SYSTEMS

Pursuit Systems was formed on behalf of the world's most ambitious and extraordinary filmmakers. By combining advanced engineering, technical prowess and massive amounts of horsepower, we've enabled today's creative visionaries to capture breathtaking and never-before-seen footage of all types.

Directors, cinematographers and technicians have trusted Pursuit Systems to help them realize their vision for some of the world's most famous high-performance feature films, television commercials and all things live action.

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OPEN SPACE DIVISION

Forest and grassland conservation is accomplished through S.T.E.A.M. skills such as investigation, data analysis, problem-solving, creativity and collaboration.

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TUSKEGEE AIRMEN

To preserve the Legacy of the Tuskegee Airmen and encourage post-secondary education among the youth of our community particularly in Aviation, Aerospace, and other Science-Technology, Engineering, and Math (STEM) career Fields.

Tuskegee Airmen will provide an interactive experience of the 4 forces of Flight and the opportunity to put the newfound knowledge to the test on our portable flight simulators. Have you got what it takes to fly? Let's find out.

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PRESENTER'S STAGE

Throughout the event, exhibitors will be hosting live stage demonstrations for your students. All presentations will be announced prior to start time over the intercom and a schedule will be available at the event.

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CONCESSIONS AND LUNCH

Food and beverages will be available for purchase at Manuel Lujan Jr. Exhibit Complex, but students are welcome to bring their own lunches. There will be picnic benches set up for eating.

PLEASE SEE NEXT PAGE FOR CONCESSION STAND MENU

Tino's Tacos

Concession Menu

Carne Asada Fries-----\$15

Green Chili Cubanos-----\$13

- Slow roasted pork, ham, Swiss, mustard, pickles on a Hoagie Bn

Street Tacos-----\$3 ea

- Choice of Carne Asada, Chicken, Al Pastor or Veggie Mix
- Topped with onion, Cilantro & Salsa

Lunch Burritos -----\$10

- Choice of Carne Adovada, Carne Asada, Chicken, Al Pastor or Veggie Mix

Tortas -----\$12

- Comes with Lettuce, Tomatoes, Avocado Sauce and Salsa

Quesadillas -----\$12

- Choice of Carne Asada, Chicken, Al Pastor or Veggie Mix

Aguas Fresca's -----\$6 32 oz Cup

Basket of Fries -----\$6

Fruit Cup -----\$6

Add Side of fries to any item -----\$3

Extra Meat or Veggie Mix -----\$3

Extra Salsa, avocado sauce, Crema, queso, or chile

- \$1 for 2 oz or \$3 for 4 oz

THANK YOU TO OUR SPONSORS



managed by **Honeywell FM&T**



**DEKKER
PERICH
SABATINI**

**Architecture
in Progress**

