

How to Host a Family STEM Night – Festival Format

Phase 1: Planning & Organization (6–8 Weeks Before the Event)

1. Secure a Host Partner: Collaborate with a school, library, museum, or other community institution. Ideally, your partner should be a STEM advocate (e.g., a principal, teacher, or librarian) who can make decisions and help coordinate logistics.

2. Define Your Goals: Clarify what you want families to gain from the event. Example goals:

- Spark interest in STEM careers and exploration.
- Highlight student learning and creativity.
- Encourage STEM activities at home.
- Strengthen school–community connections.

3. Set the Date, Time, and Location: Coordinate with the host’s calendar; avoid major holidays or competing events.

- Use multiple spaces creatively—gyms, classrooms, hallways, and outdoor areas (weather permitting).

4. Establish a Budget: Include costs for materials, signage, printing, and refreshments.

- Consider providing lunch or dinner for volunteers, depending on the event time.
 - *Tip:* the hosting venue or the PTA/PTO are usually helpful with this
- Seek funding or in-kind donations from:
 - IEEE TryEngineering STEM Grant Program
 - **Introductory Level:** Up to \$500 (minimum of 15 grants)
 - **Share Level:** \$501–\$1,000 (minimum of 10 grants)
 - **Inspire Level:** \$1,001–\$2,000 (minimum of 5 grants)

- IEEE sections, societies, or affinity groups

IEEE Society	Focus Area	Max Support
Computer Society	Computer science/engineering	\$10,000
Communications Society	5G, IoT, Wireless	\$7,500
Oceanic Engineering Society	Ocean protection, renewable energy	\$5,000
Women in Engineering	School-aged girls	\$2,000
Signal Processing Society	AI, speech/image/video processing	\$3,000

- Local businesses or STEM-focused nonprofits

5. Select Engaging Activities: Focus on age-appropriate, hands-on experiences using affordable, accessible materials.

Sample ideas:

- **Science:** Volcanoes, circuits, simple reactions
- **Technology:** Coding games, VR, robotics

- **Engineering:** Paper airplanes, LEGO towers, marble runs
- **Math:** Tangrams, statistics, logic puzzles & riddles

Tip: Resources to consider:

TryEngineering	https://www.exploratorium.edu/	https://www.weareteachers.com/stem-activities/
movestem.ieee.org	https://www.firstinspires.org/	https://www.invent.org/educators/resources
TryNano.org	https://www.khanacademy.org/	https://www.nasa.gov/learning-resources/
https://reach.ieee.org/	https://code.org/en-US	https://www.sciencebuddies.org/
https://robotsguide.com/	https://stemfinity.com/	https://eisca.org/teaching-science-at-home/

6. Build Your Program with Partners: Invite organizations to run stations (*and bring their own materials*).

Organizations to Consider:

- Universities (e.g., University Clubs, Student Organizations, etc.)
- After-school programs (e.g., FIRST Robotics, Girls Who Code, etc.)
- Learning Centers (e.g., Mathnasium, Tutoring Centers, etc.)
- Government offices (e.g., Public Works, Fire Department, etc.)
- Community groups (e.g., Audubon Society, Beekeepers, Hobbyists e.g., Garden Societies, HAM Radio clubs)
- Local high school STEM clubs and afterschool programs

7. Recruit Volunteers: Clearly define volunteer roles and expectations.

- **Consider:**
 - IEEE members **Inside your Section:**
 - Put out a call for volunteers from your section to support the event
 - **Don't Forget to invite:**
 - Technical Societies (e.g., ComSoc, PES, etc.)
 - Affinity Groups (e.g., Women in Engineering, Young Professionals, Life Members)
 - Community partners (Girl Scouts, Science Olympiad, etc.)
 - Translators (where applicable)
 - High school volunteers (Beta Club, NHS, JROTC)
 - *Tip:* Partner elementary schools with their feeder high schools.
 - *Note:* Avoid middle school volunteers for elementary-focused events.

8. Plan Logistics

- **Event Format:** Festival-style with families visiting stations at their own pace.
- **Host Responsibilities:**
 - Confirm HVAC, tables, and chairs
 - Provide an estimated attendance count 2 weeks in advance
 - Parking for presenters and volunteers
- **Volunteer Prep:**
 - Remind volunteers of the date, location, and attendee count.
 - Share expectations, supply requirements, and parking instructions.
- **Materials:**

- Create detailed supply lists for any activities where you'll be providing materials.
 - Prepare instructions and place them in plastic sheet covers; include real-world STEM connections.
 - **Printing:**
 - Prepare:
 - Name badges
 - Directional signs
 - Station labels
 - Activity guides
 - **Additional Needs:**
 - Station layout map (Master Plan)
 - Disposable tablecloths (for easy cleanup)
 - **Safety & Accessibility:**
 - Eliminate unsafe activities.
 - Provide safety gear (goggles, gloves) as needed.
 - Ensure the event is accessible for families with disabilities or language needs.
 - **Don't Forget:** Plan time for setup and clean-up!
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Phase 2: Implementation (Event Day)

1. Prepare Materials and Set Up Stations

- Pre-pack labeled bins with all needed supplies for each station.
- Include signage, tape, name badges, plastic tablecloths, and the Master Plan.
- Set Up:
 - Optimize traffic flow and content distribution: Strategically arrange activities to ensure smooth participant movement and prevent congestion. Avoid placing similar activities next to each other to encourage exploration and reduce bottlenecks.
 - Allocate sufficient setup time: Accurately estimate the time required for complete setup, factoring in the complexity and number of activities.
 - Account for volunteer capacity: Adjust your setup plan based on the number of stations and the availability of setup volunteers to ensure efficient execution.

2. Welcome Volunteers and Presenters

- Open check-in table for volunteer arrival (20-30 minutes before the event starts).
- Distribute name badges and station assignments.
- Assign additional support volunteers as floaters or greeters.

3. Run the Event

- Open the doors and welcome families!
- Ensure all stations are staffed and supported.
- Float around to monitor stations and assist as needed.

4. Capture the Moments

- Take photos and videos (with permission) for future promotion, reporting, and sharing with families.
 - *See attached IEEE photo release.*

Phase 3: Follow-Up (After the Event)**1. Gather Feedback**

- Use quick paper or digital surveys for families, volunteers, and presenters.
 - Post a QR code at the event or having the hosting school or venue send it out on your behalf
- Ask what worked well, what could be improved, and suggestions for next time.

2. Send Thank-Yous

- Acknowledge all who contributed—volunteers, presenters, staff, and sponsors.
 - *Suggested:* Establish a section award to recognize volunteers

3. Share the Highlights

- Post photos and a short recap on the school website, social media, or in newsletters.

4. Reflect and Improve

- Review feedback and identify changes for next time.
 - Update your templates and supply lists for easier planning next year.
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Tips for Success

- **Keep it Hands-On:** Kids learn best by doing.
- **Make it Fun:** Focus on exploration, not perfection.
- **Offer Variety:** Include activities for all ages and interests.
- **Start Small:** A few well-run stations are better than too many chaotic ones.
- **Engage Families:** Design activities parents and children can do together.
- **Connect to Curriculum:** Reinforce what students are learning in school.
- **Empower Older Students:** They make excellent role models and leaders.
- **Leverage Community Partners:** Many local groups want to help—just ask!