

# STEM Expo 2019 -- FAQ

## Kindergarten – 3rd - Frequently Asked Questions

**(1) My child really wants to do a research project, build a model to better understand something, or just observe something in the world around us. Does my child have to do an experiment or observational study?**

No, your child can choose a science, engineering, or math project that is of interest to them. The point is to have fun learning something new about something in a STEM field that interests them. With busy schedules, it is often hard to give kids enough time to pursue interests and projects outside of school. So, just think of this as an opportunity for your child to undertake a project and share it with others.

Website resources: Science Buddies: <https://www.sciencebuddies.org>

The STEM Laboratory: <https://thestemlaboratory.com>

**(2) Where can I go for project ideas?**

Sciencebuddies.org is a wonderful resource for any kind of project idea. Students can answer a questionnaire about their interests and this site will provide possible projects. Sections of the website are dedicated to science, engineering, and math. Some examples include: design an automatic pet feeder; make a homemade solar air heater; test different bubble solutions and which makes the best bubbles; build a small geodesic dome; learn about math and volume by testing play-doh shapes. The possibilities are endless depending on what your child is interested in exploring!

**(3) How long do students have to complete their projects? When is the expo and what is the format?**

The information is being provided early this year so students are welcome to start working on their project as soon as possible. We hope this helps students who want to do things like grow plants, build models, or do computer programming as part of their project. January 9th there will be a presentation by John Allwine, a computer scientist and software engineer, with the goal of getting kids excited about STEM and encouraging them to get started on their projects. Students should turn in registration forms by February 11th. Visiting scientists will come into the classrooms to hear student presentations from **March 5th-7th**, and the evening Expo displaying student posters will be on March 7th.

**(4) How will students be given feedback?**

Visiting scientists (primarily graduate students from MSU) will ask your student questions similar to those found on the *Guiding Questions* sheet included in this packet. The visitors will work to make the questions specific to the grade level and individual student. Each student will receive some written feedback about their project from the visitors. Projects will *not* be ranked or compared to each other.

**(5) Why do we bring in the visiting STEM experts and provide feedback?** This gives the students a chance to interact with researchers from MSU about their projects and provides a more formal setting for orally communicating about their project. This is very similar to what researchers experience when presenting a poster at a scientific conference. The purpose of the visits and format is not to give awards or rank projects relative to each other, but to provide a different experience for students and to provide them with some meaningful feedback. Students will get to have conversations about their projects with multiple people and be asked a variety of questions, which is a unique experience for most students.

**(6) Why won't awards be given?** We want students to focus on the excitement of doing a project for its own sake, rather than for the possibility of earning a medal. We hope the STEM Expo can be focused on the learning process, the interactions with students and judges, and simply celebrating the process of working through an independent project. We will be doing the scavenger hunt and door prizes at the Expo.

**(7) What is the format of the classroom presentation?**

Students may do a traditional presentation with a trifold board that displays their process and results, but this year we also encourage students to present their projects creatively in the classroom. This could be in the form of a demonstration of what they did, built, or modeled. All students will still want to create a poster to display at the evening Expo for the Longfellow community.

**(8) Can I do research using live animals?**

Lower orders of life (bacteria, fungi, protozoa, insects, plants, and invertebrate animals) can be used in experimentation to reveal valuable basic biological information. Vertebrate animals (birds, fish, mammals, reptiles, amphibians) are not to be used in any active experiments that may be deleterious to the health, comfort, or physical integrity of the animals. This permits observation of wild animals, animals in zoos, farm animals, and pets. More details can be found at [http://www.sciencebuddies.org/science-fair-projects/project\\_src vertebrate animals.shtml](http://www.sciencebuddies.org/science-fair-projects/project_src vertebrate animals.shtml)

**(9) Can I do research involving human beings?**

If you use humans in your study, you must make sure they have agreed to be in your study. This involves the principles of informed consent and specifics can be found at [http://www.sciencebuddies.org/science-fair-projects/project\\_ideas/Safety\\_Guidelines.shtml](http://www.sciencebuddies.org/science-fair-projects/project_ideas/Safety_Guidelines.shtml)

**(10) Are there any other rules I should know about?**

Projects should be safe for the student and others. Here are some additional rules:

- NO live disease-causing organisms that are pathogenic to human/other vertebrates

- NO flame, open or concealed, or highly flammable or explosive solids, fluids, or gases
- NO dangerous chemicals including caustic acids or bases
- NO pressurized tanks containing combustible gases
- NO human or animal blood or other bodily fluids

**(11) How do I find a poster board to present the project?**

Poster boards will be available to purchase from the school for \$3. Please talk to your student's teacher if this presents a problem. The project should be no bigger than 3 feet wide and 2 feet deep.

**If you have further questions to contact Laurie Rugemer at [laurie.rugemer@gmail.com](mailto:laurie.rugemer@gmail.com), Matt Kline at [metfigga@gmail.com](mailto:metfigga@gmail.com) , or Megan Higgs at [higgs.stat@gmail.com](mailto:higgs.stat@gmail.com)**