



STEM Fair 2020

The 2020 STEM Fair will be held on Friday March 27th.

STEM stands for Science, Technology, Engineering and Mathematics. The STEM Fair is our annual science event where kids from all grades have an opportunity to show off science-related projects and participate in hands-on activities. All level projects are welcome and encouraged. The planned hands-on activities will be announced soon. The purpose of the fair is to cultivate a curiosity and love of science and all the other disciplines that are part of STEM. There are no prizes, all students displaying projects will receive a personalized certificate. In addition to displaying projects, students have an opportunity to participate in specific STEM challenges. This year we will be doing the popsicle bridge challenge from the last two years, because it was so well received, and we want to give more students a chance to participate. New this year, we will have a challenge to build a fast sled that will go down a “mountain”. Rules are posted below. Students displaying a project or participating in the STEM Challenges may arrive at 6:45pm. For families of spectators only, the fair starts at 7:00pm. The schedule of events and map of the event will be posted closer to the event date.

Basics for Participating in the STEM Fair

All HES students (K-4) are encouraged to participate in the STEM Fair. Registration will occur through community pass. At that time, you will have the opportunity to register to display a project, take part in popsicle bridge STEM challenge, take part in the speed sled challenge or any combination of the three. Students can do the STEM challenge without registering to display a project. A registration needs to be completed for each student participating. For families with multiple children participating, there will be an option to check that siblings displaying projects will also be participating so they can be placed at adjacent spots at the fair.

For families that only want to visit the fair and take part in hands-on activities that do not require pre-registration, no registration is needed. Just arrive at the school beginning at 7:00pm. Each student that registers will have 1/2 of a 6 foot table to display their project. Except for siblings, the person who shares the table is random. Students may display their project anyway that works best, but the majority find using the trifold poster board to be useful as it can stand on its own. Displays can be handwritten or typed. It is better to be the student’s best try then to be perfect! Any type of science-based display is welcome. The internet is a great source of ideas. Searching something like ‘elementary school science fair projects’ is useful to start getting ideas.



In the week before the science fair, the students registered to display a project or participate in challenge will receive a packet with important information and their t-shirt if purchased. The letter will indicate important times and locations.

The student presentation is the best part. At an assigned time, a teacher, administrator or outside volunteer in a STEM field will visit the student's display. The student has an opportunity to tell the evaluator about their project and show any demonstrations they have prepared. The evaluator will ask some questions as appropriate. While it is great for the student to practice what they are going to say beforehand, this is meant to be a low stress opportunity to show off their work. Students who may need more help getting started, may want to write down what they want to say on index cards in case they need the prompt. The evaluators only have about 5 minutes to visit each display, so please remember this when preparing. At the end of the time, the evaluator will give the student their certificate. Displays are taken home at the end of the evening. Any Questions, please reach out to stemfair@heshsa.org

Registration and Volunteers

Registration: Registration to display a project or participate in one of the STEM challenges is open now via Community Pass. Registration will close March 6, 2020.

Volunteers: Please consider volunteering to help out during a short shift. Your child's presentation time will be scheduled to not overlap with volunteer slot. If you sign up to volunteer before the end of February, please e-mail stemfair@heshsa.org with any requests for your child's presentation and challenge times. Requests can only be taken from volunteers. Sign up will be done via Konstella. Volunteer sign up will begin early February and a Konstella notice will be sent out announcing when it is available and this website will be updated with the link.



STEM Fair Challenge:

Popsicle Stick Bridge (individual, group or family)

Can you build the strongest bridge using only popsicle sticks? In this fun challenge, students bring in a bridge built at home following the rules below. How much weight can these bridges hold? Sign up and find out.

Goal:

To build the strongest possible bridge using wooden Popsicle sticks.

Materials:

- No more than 150 Popsicle sticks (Available at craft stores (4 1/2 x 3/8 x 1/12 in.)
- Elmer's white school glue
- Popsicle sticks can be colored with markers, but NO paint or stain.

Dimensions/ Specifications:

- The bridge must span a 14" gap – this means that it should be at least 16" long at the base.
- The bridge must have a driving deck to allow for a matchbox car to cross.
- The bridges can have a truss system on top or below the driving deck.
- Total height at tallest point should be no higher than 6"
- Total width of bridge at widest point should be no more than 6"

Contest Rules:

Participants must register in advance using Community Pass. No walk-ins will be allowed.

Students can participate in the challenge without displaying a project.

In the packet that the student will receive 1-2 weeks before the fair, there will be an index card with the student's name, group and challenge time. Please attach to the bridge via a tie or tape (no glue). This will be important to facilitate bridge check-in. Upon checking in, the bridge will be examined for compliance with the rules (correct size of popsicle sticks, correct type of glue, etc.).

During judging, test loads will be applied to the bridge deck using our HES Bridge Breaker, until the bridge breaks or buckles by 2". The weight that breaks the bridge is the breaking load. All bridges will be destroyed during testing!

This challenge can be done by an individual student, group of students or family.



STEM Fair Challenge:

Speed Sled (individual challenge only)

Can you build the fastest sled to go down Mount Star (otherwise known as an angled table or board)? In this fun challenge, students bring in a sled built at home following the rules below. How fast can these sleds go? How would they do in a competition with other sleds? Sign up and find out.

Goal:

To build a fast sled using the materials below. You will have three timed changes to have the sled race down the mountain. An additional station will be set up if participants who are already done want to race friends and classmates.

Materials:

You are free to use any materials. Exceptions would be any prebuilt parts. Some example materials are: index cards, card stock, thin cardboard, cereal boxes, plain paper, tape weights, bottle caps, straw, string, play-doh, craft sticks, marbles, glue, paper clips, binder clips, fabric, wax paper, cotton balls, aluminum foil, pencils, paper towel rolls, etc. No limits as long as you build the sled.

Dimensions/ Specifications:

The overall sled cannot be heavier than 4 ounces.

Contest Rules:

Participants must register in advance using Community Pass. No walk-ins will be allowed.

Students can participate in the challenge without displaying a project.

In the packet that the student will receive 1-2 weeks before the fair, there will be an index card with the student's name, group and challenge time. Please attach to the sled via a tie or tape (no glue). This will be important to facilitate sled check-in. Upon checking in, the sled will be examined for compliance with the weight and no pre-built parts requirement.

Each sled will be tested and timed three times. While we will try to give all sleds back at the end of the challenge, it is possible that the sled could become damaged during the testing. Racing sleds at the additional track is only allowed after the participant has finished the timed challenge.