**Dear Parents: February 2019**

The 2018-2019 Drew Science and Engineering Fair will be held on **Wednesday, March 27, 2019 from 4-6pm**. Fourth and fifth grade students are required to participate. Participation is optional (but encouraged) for students in pre-kindergarten through third grade. The Drew Science Team will be available (upon request) to provide before and during school support to students in fourth and fifth grade. Primary students who develop individual projects must complete work at home. To provide the primary grades with an opportunity to participate in the fair, students will conduct class projects in school under the supervision of their teachers.

As part of the STEAM initiative, students have been exposed in varying stages to the Scientific Method or the Engineering Design Process. Details regarding each method will be available in student packets for your reference. Students in Pre-K through 4th grade will have flexibility to select from either method to complete a project. **However, fifth grade students must use The Scientific Method for their project, and will be judged based on this criteria (more details will be provided to fifth grade students).**

On the day of the Science and Engineering Fair (March 27) the displays will be set up in Drew’s multipurpose room between 4 and 6 PM for parents, friends, and staff to view. Students will be asked to remain with their projects for part of this time in order to explain their projects and answer questions. The fifth grade projects will be formally judged and awarded ribbons (first place, second place, third place).

On the other side of this paper, we have provided you with ideas for both testable questions and real-world problems/design questions that you can explore with your child. Please keep in mind that we want these projects to be student led in order to provide a meaningful learning experience for your children.

Please contact Maggie Pierce (Model Lead Science Teacher) or Eve Mendolia (Montessori Lead Science Teacher) with any questions or concerns.

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Sincerely,

Maggie Pierce and Eve Mendolia

Science Lead Teachers

Below are some examples of both testable questions and problems that may be used for projects:

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| **The Scientific Method (testable questions)** | **The Engineering Process (real-world problems/design questions)** |
| * Will seeds germinate in the dark?
* Which way do plants grow in the dark?
* Does the color of light affect the growth of plants?
* Does the amount of light affect the growth of plants?
* Does colored water rise up the stem of a celery stalk if the stem is upside down?
* Do leaves make colored water rise up a celery stalk faster?
* Does adding salt to water make it denser?
* Do water and vegetable oil warm at the same rate?
* Can water conduct electricity?
* Does water leak faster from a filled bucket or a half-empty bucket?
* Does the number of turns of wire in an electromagnet affect its strength?
 | * My backpack is too heavy to carry.

*How can I make it easier to get to school?* * My juice gets warm in my lunch box. *How can I keep it cold?*
* My little brother is too small to reach the light switches. I always have to turn it on for him. *How can I make it so he can turn his bedroom room lights on or off?*
* My mom’s coffee always gets cold quick and she has to keep microwaving it.

*How can I keep her coffee warm?** The bread my dad buys gets moldy too quickly. *How can I redesign the packaging to keep food fresh the longest?*
* There are so many different tires to choose from and my uncle can’t figure out which ones to buy this winter. *How can I investigate how different wheels impact movement?*
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