Frequently Asked Questions (FAQs) about STEM Projects

1. **Can I build something instead of performing an experiment?**

Yes, but you must still test the item you are building. Start with the problem you are trying to solve, create your item, and perform **5** tests (trials).

1. **What do I need to submit to my teacher?**

Students are required to submit:

* The completed Science Project Notebook.
* Backbaord display.
1. **When is my STEM Project due?**

Check with your teacher for due dates.

1. **What types of questions are good for experiments?**

 Your questions need to be testable and measurable. For example: “Which paper airplane will fly the best?” This is not a good question. You cannot test or measure “best”. However, “Which paper airplane will fly a further distance (or higher or longer duration) the one made of construction paper or the one made of newspaper?” This question clearly states you will **test** the two different airplanes and you will **measure** the distance traveled.

1. **How can I find ideas for my project?**

 Look at the different sites I have posted on the STEM PROJECTS 2020 link on the **GTES website**. Find something that interests you or come up with something similar to those examples.

 Remember, you need to test something and be able to measure the results of each test (trial) you run. You can measure things like distance, height, time, temperature, or depth.

Testing can be done on 2 different items (see airplane example above) with **5 trials** performed on each item.

1. **What are variables?**

When you start to run your trials, you can only change one thing between the items being tested. For example, on the paper airplane experiment, we only changed the type of paper. We keep the size of the paper the same and the fold of the paper the same. The independent variable is the type of paper. The dependent variable here is the distance the airplane flies. It “depends” on other factors (type of paper).

The Independent variable causes a change in the dependent variable.

1. **What are some things I should not use for my project?**
* Do not try to measure “best” or “better”.
* Do not use opinions, “Which soda tastes the best?”
* Do not use abstract tests, “Which paint wears off the quickest?” (Is that when the paint is completely gone, a little bit is still on, or just partially gone?)
* Do not build a model of something – a volcano, a robot, the water cycle, a cell, a lava lamp, etc.
1. **What about making a backboard?**
* See the Power Point, Backboard Headings, with all of the titles needed for the backboard display.
* The suggested layout of the backboard is on the back of the Guide on the Side booklet.

 The GTES STEM Fair is on December 12, 2019.