STEAM Showcase Design Options for 7th grade

Students will demonstrate their projects in class and at the evening showcase on Thursday, March 28 from 6:00-7:30 pm.

Projects are due in class on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**1. Build a Trebuchet** - **Design and make a trebuchet that will launch a 2.5cm clay ball and hit wall that is 8 meters away.**

**Important Specifications**

* Device loaded must be no larger than 61 cm by 61 cm area (2ft by 2ft)
* You may not use a pre-designed kit materials
* Partners of 2 are permitted

**2. Self Propelled Vehicle - Design a vehicle that can move a 50 g payload 7 meters.**

**Important Specifications**

* No kits, motors, or batteries
* Must travel on a straight marked path on a flat surface
* Must use recycled materials
* Package is 50 grams
* Partners of 2 are permitted

**3. Design a plane or hang glider with launcher that can carry a 10 gram payload**

**over a 1 meter high barrier and land in a hula hoop a total of seven meters from**

**Launch**

**Important Specifications**

* No motorized gliders, no pre-designed kits
* No hand launching
* Glider must be no larger than 61 cm by 61 cm (2ft by 2ft)
* The barrier is 3 meters from the launch
* The hula hoop is 1 meter in diameter
* Partners of 2 are permitted

**4. Identify an actual problem and engineer a working prototype as a solution**

**Important specifications**

* Must built with previously used materials
* Approval by teacher
* Partners of 2 permitted

**\*\*\*Any other project MUST be approved by the teacher before beginning**