LUSD STEAM Festival Assignment May 29, 2015, 6-8 PM

Science, Technology, Engineering, Art and Math

Assignment for Secondary Grades

The Friday night STEAM Festival promises to be an unforgettable event that you won't want to miss. It's happening at Lompoc High School. For more information go to: http://www.ccstemexpo.org/ and click on "STEAM Festival".

There will be a variety of hands-on demonstrations of various scientific principles and/or engineering. You are to study some of these, sketch how the demonstrations work, and write a few brief sentences discussing the scientific principles or engineering at work.

You must choose 4 different demonstrations.
You are to choose one demonstration from four different categories.
For each demo sketch a figure showing how the apparatus was set-up. Label the figure with important pieces of equipment. For many demos you should draw both a before and an after picture.
In a few sentences, explain the scientific concepts or demonstrated engineering (see the next page for a template).

Group 1: **Computer Science**	o Writing Computer Code -Code.org o Gizmos Simulations	o Booth 3 o Booth 4
Group 2: **Environmental Science**	o Watershed Model o Intro to Environmental Sciences	o Booth 1 o Booth 5
Group 3: **Health Science**	o Smoking Effects on Lungs & Environment o Human Gastrointestinal Tract o CPR Demonstration o Lung Development After Pollution	o Booth 11 o Booth 29 o Booth 30 o Booth 31
Group 4: **Life Science**	o CHS Life Science & Physical Science o Marine Touch Tanks and Kelp Holdfast dissection o Animal Tracks; Bone I.D.; Milkweed o Microscopes Pond Water, Elodea & Cheek Cells o Aquarium touch tanks o Petting Zoo o Fossils, Diatoms & Air Classification of Diatomaceous Earth	o Booth 24 o Booth 6 o Booth 10 o Booth 16 o Booth 20 o Booth 43 o Booth 2

<u>Group 5</u>: Physical Science	o CHS Life Science & Physical Science o Making Slime o Cloud in a Bottle o Making a Lava Lamp o Miguelito- Hands on Activities o Infrared Camera o Making Ice Cream o Lompoc Valley Radio Control Race Track o Action Figures Zip Line Races o Elephant Toothpaste o Making Oobleck a Non-Newtonian Fluid (Magic Mud)	o Booth 24 o Booth 7 o Booth 8 o Booth 12 o Booth 18 o Booth 19 o Booth 22 o Booth 26 o Booth 36 o Booth 38 o Booth 39
<u>Group 6:</u> Art	o Butterfly Art o Visual Arts- Arts, Color & Light	o Booth 9 o Booth 13
<u>Group 7:</u> Engineering	o Building Castles and Bridges o Catapults o Engineering; Electronics; Robotics; Manufacturing, & 3D printing o Scaled Rocket Models o Making & Testing Bridges o Water Balloon Cannon Target Shoot o Trebuchet Target Strike o Launch Rockets o Air Rockets o ROVs o Making Rubber Band Powered Helicopters o Egg Drop Contest o Skateboard Wheels Hardness and Size Impact on Performance or "What's So Special about Skateboard Wheels?"	o Booth 14 o Booth 17 o Booth 21 o Booth 25 o Booth 27 o Booth 32 o Booth 33 o Booth 34 o Booth 35 o Booth 37 o Booth 40 o Booth 41 o Booth 42

Student Name: _____

Student School: _____

Demonstration Name: _____

Sketch of Presentation

BEFORE	AFTER

Explanation of Scientific Concept or Engineering:

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