The project to be presented represents a small portion of what was gained from this experience.

Mona Steigerwald
Horseheads High School
5 E CYCLE
MATERIALS

ENGAGEMENT

EXPLANATION

EXTENSION

EVALUATION

EXPLORATION
ELECTROSTATIC FORCES

ENGAGEMENT - Moving a board with a balloon

EXPLORATION - Given the triboelectric series, students will create a demo for the class

EXTENSION - Make a brochure to explain your new product that uses one of the following processes:
  * electrophotography,
  * electrostatic precipitator,
  * electrostatic spray painting
ENGAGEMENT:
- Flame test demo, use spectroscope
- Project the spectrum with overhead projector

EXPLORATION:
- Making a “log” soaked with different solutions, identify ions present
- Diffraction lab

MORE ON ELECTRONS

EXTENSION: Electron microscopes and viewing electron micrographs on the internet
ENGAGEMENT: create a fettuccini structure that can support their book 5 cm off the table

EXPLORATION: draw pictures of crystals, put in order of strength

EXTENSION: - X-ray diffraction - compare graphite to diamond crystal structure
**X-ray Diffraction**

Figure 3.20. The structural makeup of solids.
ENGAGE: compare elasticity of different metals

EXPLORATION:
Design an experiment to
- see if elasticity is related to thermal conductivity
- see if “elasticity ranking” is the same when using rods of a smaller size

EXTENSION:
Use a website to compare “normal” low carbon steel to that with ductile fracture, along with a lab that models the fracturing process
Thanks.....
Nev, Julianne and everyone at CCMR and Cornell

NSF

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My team!!