



# Physics Playground

4th-5th Grade, Week of: June 24th, 2024

## What We Did on...Monday:

### Free Fall Demo

- Students explored the effect of gravity, height, and air resistance on free fall time.

### Inclined Plane Experiment

- Student physicists designed inclined planes (ramps) and tested what variables affect the distance a marble travels.

### Catapult Launch

- Catapults were constructed and foam cork balls were used as ammunition in a distance challenge.



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## What We Did on...Tuesday:

### Balloon Cars

- Students studied forces by designing and constructing vehicles powered by the air in a balloon.

### Cars vs. Friction

- Students discovered how different surfaces oppose the motion of a car through frictional forces.

### Gravity Well

- Gravity was visualized through an interactable model of space; spheres of varying mass and size were used to demonstrate planets and stars.



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## What We Did on...Wednesday:

### Coulomb's Law Activity

- Students learned about Coulomb's law and electrostatic forces by inducing a charge in various items.

### Circuits and Ohm's Law

- Students mastered Ohm's law by constructing circuits and powering led lights.

### Make Your Own Etch-a-Sketch

- Students assembled their own Etch a Sketch that functioned through magnetism.

### Van Der Graaf Generator Demo

- Charges and static electricity were explored with the interactive Van der Graaf Generator; students were able to discover how different forces affected various objects.



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## What We Did on...Thursday:

### Calorimetry

- Students got to conduct a chemistry experiment to find calorie values in foods like marshmallows using a calorimeter.

### Rubber band Car Challenge

- This was a design challenge where students were given access to parts to build a car powered only by a rubber band.

### Paper Roller Coasters

- Students had full creative liberty in designing roller coasters made of cardstock for cork ball passengers.



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## What We Did on...Friday:

### Double Slit

- Explored the wave particle activity of light with a double slit paper.

### Solar Ovens

- Employing the power of the Sun, students roasted s'mores in ovens they constructed out of solar catching materials..

### Laser Maze

- Students investigated diffraction and refraction by devising a mirror maze tested by a laser beam.