

PHYSICAL SCIENCE LABS

Tuesdays, September 13-December 13 (no class Oct 11, Nov 8, or Nov 22; 11 weeks)

11:15am-12:45pm

Ages 11+

Throughout this course, students investigate the behavior of the universe by experimenting with matter, motion, changes through space and time, energy, and force. Students explore physics in real-life situations to better understand relationships within this field of science. Lab supplies are included in registration fee.

Location: Discover Science Center - Peachtree City

Course fee: \$250 OR \$25/lab

10% off sibling discount

Register for full semester or individual labs.

LAB SCHEDULE:

METRICS CHALLENGES - Tuesday, September 13

This week, we review the use of the metrics system in science, practice metric conversions and proper use of laboratory tools, and then complete one-minute scientific challenges to reinforce these concepts in a fun way.

BALANCED AND UNBALANCED FORCES - Tuesday, September 20

Students study opposing forces and how unbalanced forces result in movement as we experiment with buoyant and gravitational forces.

PHYSICS OF RACING - Tuesday, September 27

Students use physics principles to design and build aerodynamic cars, and determine which features of the vehicle are important in maximizing speed, velocity and acceleration.

3D MOTION - Tuesday, October 4

We study motion through space this week as we conduct experiments with 3-dimensional projectile trajectories.

MOMENTUM - Tuesday, October 18

This week, we experiment with collisions to study net force, momentum and transfer of momentum from one object to another.

KINETIC ENERGY - Tuesday, October 25

We develop hypotheses and draw conclusions about changes in mass and velocity as we use pendulums to explore potential and kinetic energy.

WORK AND POWER - Tuesday, November 1

Students investigate the relationships among force, work and power as they conduct experiments to calculate the amount of work required to lift objects.

FORCE AND FRICTION - Tuesday, November 15

This week, we apply Newton's Laws to calculate force and study the effects of friction and drag with airplanes.

LEVERS AND EFFORT - Tuesday, November 29

Students experiment with levers and math to design and construct a balanced hanging mobile.

PULLEYS AND FORCE - Tuesday, December 6

We work with pulleys and pulley systems to examine how this simple machine changes the direction of a force and makes work easier.

HEAT CONDUCTION - Tuesday, December 13

We study the transfer of heat between objects and the ability of various materials to conduct heat in today's lab.

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