



MIDDLE SCHOOL PHYSICAL SCIENCE LABS

Tuesdays, September 15-December 15

No class October 13, November 3 or November 24

11:00am-12:00pm

Ages 11-14

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 (pick up or shipping options available).

Location: Online

Full Series - \$200 OR \$20/lab

50% off sibling discount

LAB SCHEDULE:

METRICS CHALLENGES - Tuesday, September 15

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 22

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

PHYSICS OF RACING - Tuesday, September 29

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 6

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

MOMENTUM - Tuesday, October 20

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

KINETIC ENERGY - Tuesday, October 27

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 10

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 17

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

LEVERS AND EFFORT - Tuesday, December 1

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

PULLEYS AND FORCE - December 8

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 - December 15

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

www.DiscoverScienceCenter.com