



Mad Science of the Bay Area In-Class Workshop Descriptions



Good for grades K-6

Good for grades K-2

Good for grades 3-6

Workshops appropriate for Kindergarten through 6th grades	
Decomposers	Dig into the world of worms! Experiment to find the ideal worm habitat. Observe worms on the move. Experience how worms eat and take home your very own worm composter.
Dry Ice	Explore the 3 states of matter and melt metal in boiling water. Turn water into ice in 30 seconds and build a giant bubbling potion, and create the same awesome smoke illusions used in the movies ...
Mad Messages	Become a Science Spy and learn how to send secret messages using special codes. Discover how to keep secret information safe. <i>(Not recommended for Kindergarten)</i>
pH Phactor	Slide down the colorful pH scale and dip into the world of acids and bases! Discover whether liquids found in your home are acids or bases using pH paper! Take home your own penny shine experiment.
Polymers (Slime)	Explore the exciting world of polymers, the chemical reactions we use to create them and the inner workings of silly putty. Transform two regular liquids into an oozing batch of your very own slime...
Space Travel	We will learn about different parts of the rocket. We will experiment with thrust to understand how a rocket works. We will then launch a non-inflammable airburst rocket using compressed air. <i>A large outdoor open field is needed</i>
Harnessing Heat	Take-on temperature! Learn how thermometers work and heat things up with friction. Feel how hot and cold can change at a touch. Apply your red-hot knowledge to your very own Heat Sheet.
Lights... Color... Action!	Catch some cool colors and make a rainbow out of white light. Split your name with ink and reveal numbers with color filters. Color the world with your very own color wheel.
Magnetic Magic	Investigate the powers and daily uses of magnets. Explore magnetic fields and their relative strengths and properties. Take home your own floating magnets.
Mission Nutrition	Focus in on nutrition and fitness, including the essential components of a healthy diet and lifestyle. Children will learn about the role of carbohydrates, proteins and fats, stimulating their enthusiasm for maintaining personal health and a healthy attitude.
Optical Illusions	Discover how mirrors and their reflections can play tricks on what you see. Learn about optics, reflection and sight. Seeing is not always believing...
Fantastic Fliers	The Wright Brothers would be proud as we follow in their footsteps and learn the forces that affect flight. Make and test various plane designs to see these forces in action.
Under Pressure	Join Bernoulli and Newton as we take this exciting look at the science behind aerodynamics and the properties of air... under pressure. Make your own air rocket to create air pockets with a punch, and levitate ping-pong balls in defiance of gravity!
All About Animals	Feathers, fins, fur and more! Explore the animal kingdom and learn about the habitats, anatomy and life cycles of your favorite creatures. Investigate the amazing, and sometimes strange, sounds that animals make.
Bugs	Investigate the world of creepy, crawly creatures. Learn about insects' fabulous flying abilities, defense mechanisms and the unusual way they see their surroundings.
Kitchen Chemistry	Create chemical reactions in the kitchen! Students will be introduced to the virtual laboratory we call a kitchen in a novel and practical application of science! Mix up your own batch of Mad Dough. Dinnertime will never be the same....
Mad Science Machines	Children will be hard at work with wheels, pulleys and levers. We will learn how we use simple machines everyday. <i>(Not recommended for Kindergarten)</i>

Movie Effects	Grab your popcorn but don't sit back... we're going to learn first-hand how advances in science and technology make our favorite special effects possible. It's Einstein meets Spielberg in a class of 3...2...1...action!
Science of Toys	Tinker with technology and learn about the science behind some of your favorite toys. Use classic toys to discover the science of motion. Discover the science of your own yo-yo!
Walloping Weather	Neither rain, nor sleet, nor snow will prevent us from enjoying our hands-on exploration of the science of meteorology! Discover how clouds and thunderstorms are formed, and how powerful they can be! Harness the energy of the wind.. you'll be blown away by this class! Make your own ultraviolet keychain to take home!

Workshops appropriate for Kindergarten through 2nd grades	
Aerodynamics	Wrestle with the strength of air and experiment with invisible forces that have incredible power. Build your own aero copter!
Body Basics	Explore the major systems of the human body and their basic functions. Through a hands-on approach, students will explore how the digestive, skeletal, muscular and respiratory systems work.
Dinosaurs (Kindergarten ONLY)	Let's become Paleontologists and learn all about excavating and recovering fossils. We'll discover all about dinosaurs, what they were, what they ate and where they went.
Measure for Measure	A hands-on look at the metric system. Children will learn how to measure mass and lengths and to put these skills to the test when they have to trek through a treasure trail.
Seeking Our Senses	Learn to be a sense-ative person! Test your vision with our mind-boggling illusions. Navigate your nerves and give your ears a hand by amplifying sounds. Test your tasters and learn just what your nose knows!
Sonic Sounds	Create sound effects and change the pitch of your voice. Surf sound waves, catch some and amplify others! Use your Sonic Horn to create your own sound waves.
Wacky Water	Simulate the effects of an ocean oil spill and develop creative techniques to clean it up. Explore the concept of density and learn about this remarkable substance that covers three-fourths of the earth's surface. <i>(Requires sink in room)</i>
Life in the Sea	The ocean holds many mysteries. Children learn about its diverse life forms – from plankton to whales! They discover underwater habitats, and learn how humans can help protect ocean life. They'll get to take home part of the ocean!

Workshops appropriate for 3rd through 6th grades	
Black & Blue Oceans	Icky, sticky oil can make quite a mess when it ends up where it shouldn't. Discover what damages it causes when it accidentally enters our environment and devise a way to clean it up!
Cells	Get under your own skin and take a journey into your body. Discover the micro-world of cells and how they compare to your city. Make your very own model cell to take home.
Electricity	Don't insulate yourself from this electrifying class! Visit the circuit circus and discover its positives and negatives. Apply your knowledge and build your own static tube.
Exploring Ecosystems	Not all webs are made by spiders! See how plants and animals are connected and how they interact with their surroundings. Work with classmates to create their own ecosystem.
Great Gravity	Step into the shoes of Sir Isaac Newton and recreate some famous experiments that explore the force of gravity, the center of gravity and even defy gravity. Make your own Da Vinci parachute!

Heredity	This workshop introduces students to the basic principles of heredity. Students will learn about the inheritance of traits, the principle of dominance, and how genotypes represent phenotypes. Students will put their critical thinking skills to work when they assemble creatures with unique phenotypes and genotypes. (5 th & 6 th only!)
Inner Workings	This workshop introduces children to the basic concepts of human anatomy. They will use their prior knowledge to assemble the organs of the digestive system and orient themselves in the three-dimensional organization of the digestive, respiratory and circulatory systems.
Matter of Fact	Investigate the ingredients of the universe! Build your own model molecule! Play alchemist by turning a nickel into gold...well almost...and use our secret formula to make your own Mad Science Putty!
Mineral Mania	Look beneath the earth's crust and discover what's underneath us. See how scientists find riches underground and learn how to identify and categorize rocks and minerals!
Photosynthesis	Understand the chemical processes at work in plants, plant respiration and the role of plants in the food web.
Radical Reactions	Experiment with substances that create really radical reactions. You'll even take home your own Mad Science Super Ball!
Up, Up & Away	See the amazing power of buoyancy and pressure. You'll make your own sea diver that will float or sink at your command!
Che-Mystery	Eliminate the mystery in chemistry! Explore one of the most exciting and fundamental sciences as you watch water turn into juice and liquids turn into solids. Explore physical and chemical reactions and take home your own dynamic dish!
"Current" Events	Take a tour on the electron freeway! Conductors, insulators, transistors, and other elements in the world of circuit electricity introduce themselves to you via the tingle in your fingertips and the twinkle in your eye...
Fun-damental Forces	Gravity...Inertia...Centripetal force. Who could ever imagine that an introduction to physics could be so much fun? We'll experience these awesome forces for ourselves and build some cool devices to watch them at work!
Science Of Magic	Magic? No...it's science! You'll learn the secrets behind famous magic tricks, and see it's all science.
Watts-Up	Learn about electricity, its properties and its role in natural phenomena. Make indoor lightning while conducting hair-raising experiments with our electro-static generator...
Detective Science	Discover how science is used to solve real crimes! Watch as the classroom is transformed into a crime lab for this exciting exploration of the fundamentals of forensics. Children will take home their very own finger print chart. It's so much fun, it's criminal!
Earthworks	Take a voyage to the center of the Earth! We'll investigate the powerful process that shapes our planet and forms remarkable rocks, magnificent minerals, and glittering gems! Children will take home density stackers which they built themselves!
Energy Burst	Children explore the energy of motion. They pop, jump and flip with hopping, swimming and swinging toys. They check out the kinetic energy in rubber band-wound gadgets and reach their potential with the spring thing.
Moving Motion	Children catapult into Newton's three laws of motion! They yank a cloth from under dishes, send crash test dummies flying and launch mini-rockets across the room. They see action-reaction forces at work with their own inertia kit!
Space Technology	Discover technology designed for outer space! Steer a laser beam through a laser maze, use radar technology to discover shapes or hidden objects and discover everyday objects originally designed for use in space.

Scientific Method	This workshop introduces students to the common methodology used by scientists to formulate questions, make predictions, develop and perform experiments, collect and analyze data and draw conclusion. Students will be presented with a problem and asked to develop their own ideas to formulate a solution, make predictions, and test their solutions.
Science Fair Basics	Students will work through each step of the Science Fair process using a mini Science Fair experiment from Question to Conclusion. Through their findings, they will create a Science Fair display board throughout the class, adding pieces of information to it as each part of the process is completed, showing the kids how fun and easy it can be.

The MAXIMUM number of children per session is 30 (K-6). For every child over 30, up to an ABSOLUTE MAXIMUM of 35, a \$5 materials fee will apply.

For all classes with more than 35 children, a second workshop will need to be scheduled.

In order to deliver our programs, we will need a room with tables/desks that the children can work at, access to water and electricity and a table for the Instructor's equipment. For back-to-back workshops, please allow 15 minutes to reset/transition.

**Workshops may not start later than 12:30 PM.
Please inquire for alternate availability.**

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