

# MAD SCIENCE WORKSHOP TOPICS

## LIFE SCIENCES

**BUGS** – Explore the world's most abundant animals. Learn their role in the ecosystem and how they defend themselves. Take home a "Bug Box" to continue your explorations.

**SEEKING OUR SENSES** – Learn to be a "sense-ative" person! Test your vision with our mind-boggling illusions. Test your taster and learn what your nose knows.

**LIFE IN THE SEA** – Take a trip into the ocean and learn about the classification systems, food webs and animal adaptations in this special habitat.

**CELL-EBRATE** – Take a look at an introduction to cell structure, including an understanding that cells are the building blocks of all living things.

**PHOTOSYNTHESIS** – Look at an introduction to photosynthesis including an understanding of the chemical processes at work in a plant, and the role of plants in food webs.

**DECOMPOSERS** – Explore the wonderful world of worms and a variety of other decomposers (both plant and animal) and the part they play in decomposition.

**BODY BASICS** – Explore the major systems of the body (the lungs, heart, nerves and brains) and the functions they serve in your incredible body.

**Mmmm TASTE** – Experiment with taste sensations while "mapping" out your tongue. Carbonate and taste your own soda pop. Take the "MAD SCIENCE" taste challenge.

**BE TOBACCO FREE** – Take a close look at the effects of tobacco on the human body. This workshop helps you make intelligent life-style choices.

**DINOSAURS** – Discover what Dinosaurs were, what they ate and where they went. Learn about excavating and recovering fossils. Even make your own tooth cast.

## OTHER TOPICS

**INVENTION-ATION** – Learn about one type of scientist called an inventor. Begin with Rube Goldberg and move on to other famous inventors. Create your own invention.

**STUNT PLANES** – Make the Wright brothers proud. Learn the fundamental principles of flight. Build a "football" glider and your very own loop flying stunt plane.

**DETECTIVE SCIENCE** – Discover how science is used to solve real crimes. Explore the fundamentals of forensics. Take home your own Child Identification Kit.

**MOVIE EFFECTS** – Take a turn in the director's chair and find out how physics and chemistry are involved in movie making

**SCIENCE OF MAGIC** – Learn the secrets behind magic that you can recreate yourself. We will show you some tricks that Mother Nature has up her sleeve.

**OPTICAL ILLUSIONS** – Use a periscope while learning about optics, reflection and sight. Watch celebrity images change before your eyes. Make your own kaleidoscope toy to take home.

## PHYSICAL SCIENCES

**MATTER OF FACT** – Investigate the ingredients of the universe. Test for chemical or physical changes and use our secret formula to make silly putty to take home.

**P.H. PHACTOR** - Slide down the colorful pH scale and dip into the world of acids and bases! Explore the extremes of pH with your *Reaction Tube™* in what is sure to be a stopper-popping experience!

**DRY ICE CAPADES** – Explore the 3 states of matter. Build a giant bubbling potion. Carbonate plain drinking water and create the same awesome smoke illusions used in the movies.

**KITCHEN CHEMISTRY** – Use chemicals found in your kitchen and search for starch, sugar and fats in foods. Become a kitchen chemist with the things you will learn.

**CHE-MYSTERY** – Explore one of the most exciting and fundamental sciences. Grow your own crystal garden and make a "chemical" soda pop.

**WHERE'S THE AIR?** - Interact with the principles of air pressure and apply your new knowledge while experimenting with your own flying device.

**UNDER PRESSURE** – Join Bernoulli and Newton and look at the science behind aerodynamics and the properties of air under pressure. Levitate ping-pong balls and defy gravity.

**"FUN"-DAMENTAL FORCES** – Experience the awesome forces of gravity, inertia and centripetal force and build some cool devices to watch them work.

**SUPER STRUCTURES** – Discover the strengths of triangles, cylinders, and arches. Learn how combinations of these shapes make for sturdy homes and skyscrapers.

**SLIME TIME** - Ooze into a gooey hour of sliming around! Create slime using the Mad Science recipe, and then enter your creation in the Slime Olympics! Take home your own concoction of Mad Science Slime™!

**ENERGY BURST!** – Explore the energy of motion (potential versus kinetic energy), and how energy can be conserved. Build a rubber band powered rattlesnake egg to help learn all about energy.

## EARTH SCIENCES

**MINERAL MANIA** – Discover planet Earth. Peek beneath its crust and uncover what it is made of. Pan for gems that you get to take home.

**SPACE** – Explore the mysteries of the solar system and what space travel is really like. Test fuel, protect a payload and learn about centrifugal force. Make your own centrifugal force toy to take home.

**ROCKET DEMO** – Discover the dynamics of rocket flight. Take part in the launching of model rockets which soar into the air and return to earth by parachute.

**GOOD VIBRATIONS** – Surf sound waves and catch some. Play with a supersonic banger and compose a "MAD SCIENCE" symphony.

**LIGHTS...COLOR...ACTION** – Uncover the hidden components in ordinary light and build a Newton's color wheel. Attend a spectacular chemical energy display.

**HARNESSING HEAT** – Witness a mini rocket launch while learning the properties of heat. Change the states of matter. Make cotton candy that you can eat.

**MISCHIEVOUS MAGNETS** – Discover that opposites really do attract. Build your own compass and learn how magnets help people find their way.

**WATTS-UP** – Learn about electricity and its properties. Make indoor lightning while conducting hair-raising experiments with our electro-static generator.

**ELECTRICITY** – Discover the positives and negatives of the circuit circus. Create your own electronic game. Take a tour on the electron freeway.

**MAD MACHINES** – Learn about and try out different types of simple machines to find out how these simple machines can make our life easier. Make your own catapult to take home.

**LAB WORKS** - Try your hand as a real Mad Scientist in this whirlwind program on how a lab works! Learn to manipulate laboratory equipment at your personal lab bench. Take home your very own *Scientific Cylinder Kit™* to continue your research!

**CHEM IN A FLASH** - Hop on the chemistry express for a high-speed science experience! Perform instantaneous experiments in this fast-paced class on reactions. Pick up an *Action Flask™* and perform some chemistry experiments at home!

**THE GLOW SHOW** - Amazing discoveries will come to light in this class on things that glow bright in the dark! Probe the properties of light and explore some unusual applications of glow-in-the-dark technology.

**SCIENCE OF ART** – Get your left and right brains working together and discover the links between science and art. Mix and separate colors, uncover art forgeries, and discover that science is an important part of art.

**WALLOPING WEATHER** – Enjoy hands-on exploration of the science of meteorology. Discover how hurricanes, tornadoes and thunderstorms form.

**BLACK AND BLUE OCEANS** – Discover what damage that icky, sticky oil can cause when it accidentally enters our environment. Learn how to clean it up.

**EARTHWORKS** – Investigate the powerful process that shapes our planet and forms rocks, minerals and gems. Take home Ultraviolet detectors that you build.

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