

Theodore Gray is the author of *Popular Science* magazine's "Gray Matter" column, the proprietor of *periodictable.com*, and the creator of the iconic photographic periodic-table poster seen in universities, schools, museums and TV shows from *MythBusters* to *Hannah Montana*. In his other life, he is co-founder of the major software company Wolfram Research, creators of the world's leading technical software system, *Mathematica*®. He lives in Champaign-Urbana, Illinois.

Jacket design by Matthew Riley Cokeley

Cover photographs by Mike Walker

Printed in the United States of America

See Theo Gray's monthly column in **POPULAR SCIENCE** THE MORE YOU KNOW  
[www.popsci.com](http://www.popsci.com)

Find more *Mad Science* online at [www.graysci.com](http://www.graysci.com).



BLACK DOG & LEVENTHAL PUBLISHERS NEW YORK

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**Celebrated POPULAR SCIENCE columnist Theodore Gray demonstrates the beauty and madness of science through 55 visually thrilling, daredevil experiments**

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**MAD SCIENCE**  
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"Gray's encyclopedic knowledge and contagious enthusiasm transport us to deep intellectual realms, while never sacrificing a sense of wonder and, above all, fun."  
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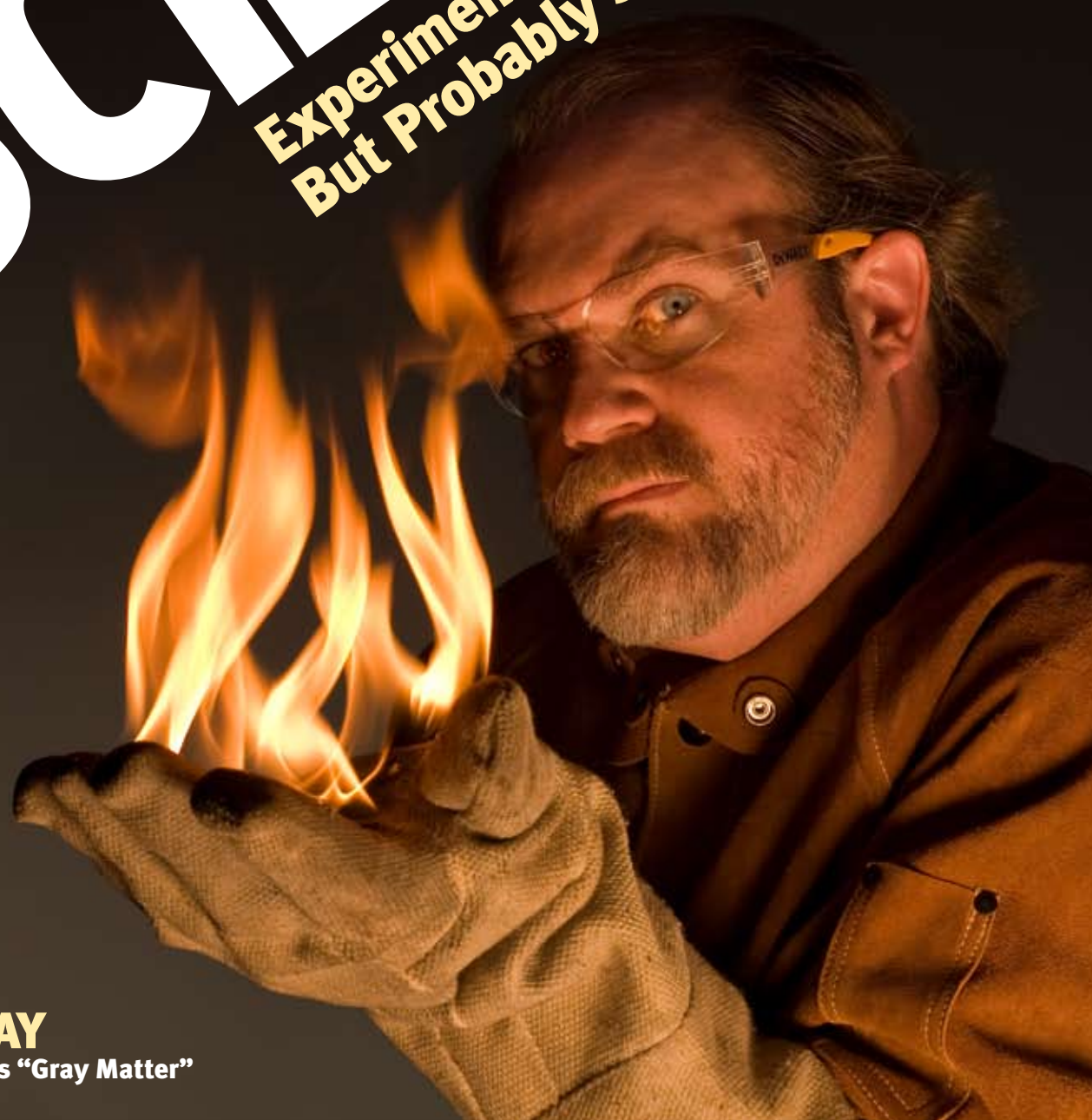
# MAD SCIENCE

**Experiments You Can Do at Home— But Probably Shouldn't**

**INCLUDING**

- \* **DIY Hydrogen**
- \* **Making Salt the Hard Way**
- \* **Hillbilly Hot-Tubbing**
- \* **Trap Lightning in a Block**
- \* **Turning Beach Sand Into Steel**

**THEODORE GRAY**  
Author of *Popular Science*'s "Gray Matter"



In *Mad Science*, Theodore Gray demonstrates scientific principles through extreme experiments. He launches a toy rocket using the energy released from an Oreo cookie, ignites a phosphorous sun by suspending half a gram of white phosphorus in a globe filled with pure oxygen, whips up a batch of homemade nylon thread by linking the molecules of hexamethylenediamine and sebacyl chloride, and gets the party started by adding 500 pounds of quicklime to water to create a homemade hot tub. Every experiment in *Mad Science* is accompanied by stunning full-color photographs that provide a front-row seat to exotic chemical reactions and glorious subatomic activity. To further enhance the hands-on experience, Gray includes step-by-step instructions for nearly every experiment. Following all of the safety guidelines, readers can re-create many of the book's 55 experiments, from making ice cubes that sink to building sodium acetate sculptures to lighting pure steel on fire. (Other demonstrations, such as making a mercury motor or creating glowing oxygen bubbles, would be just plain crazy to attempt without the aid of an experienced chemist or someone who has performed the experiment successfully before.)

But whether one re-enacts the controlled madness or just bears witness to it, Gray's writing is fresh, humorous, and makes the science exciting and easy to understand. Not only are the experiments visually arresting, each one explains a principle of elemental science in a unique and compelling way. Culled from Gray's column "Gray Matter," which has been a favorite of *Popular Science* magazine readers for years, these experiments have been expanded to include even more of the fascinating science behind them and dozens of never-before-seen photographs.

*Mad Science* is the perfect book for anyone fascinated by all things electrical, chemical, or explosive, and who loves a vicarious thrill.