

**Anne Arundel County Public Schools**

**The Innovators of  
Science & Engineering Challenge  
Resource Guide for  
Parents, Teachers, and  
Students**



**Office of Science**



**Revised October, 2019**

**All projects must comply with the safety and ethical considerations as described at  
<https://www.aacps.org/Page/1427>**

## Websites

### **Anne Arundel County Public Schools Innovators of Science and Engineering Challenge**

<https://www.aacps.org/Page/1427>

### **Science Fair Central**

<https://sciencefaircentral.com/students>

Includes handbook, project ideas, and tip sheets. Not all ideas are appropriate for elementary school.

### **Create a Graph**

<https://nces.ed.gov/nceskids/createagraph/>

From the National Center for Education Statistics. Students can create a graph online and print it out for their project notebook or backboard.

### **Neuroscience For Kids**

<https://faculty.washington.edu/chudler/neurok.html>

A science teacher, former science fair organizer and judge, and parent writes this simple step-by-step guide.

### **Earthquakes for Kids and Grownups: Fun and Educational Activities and Information**

<https://earthquake.usgs.gov/learn/kids/>

This World Wide Web (WWW) site, maintained by the Earthquake Hazards Program of the United States Geological Survey (USGS), provides online activities and resources about earthquakes. The website includes sections with specific information for kids, teachers, and adults.

### **Kids' Science Page, National Agricultural Library**

<https://www.nal.usda.gov/main/topics>

This World Wide Web (WWW) site, maintained by the National Agricultural Library, provides listings of books and articles on specific agricultural subjects, science fairs and supplies, and careers and biographies of leading scientists. The website contains lists of resources in five main subject pages including animals, food and nutrition, and general science.

### **Safe Water for Kids**

<https://engineering.purdue.edu/SafeWater/kids/>

The Safe Water for Kids! Activities have been designed as a tool for teachers, educators and water company operators to use so that they may more clearly show the balance between our activities and the environment. Each activity can be used to further clarify specific issues and explore hypothetical situations.

## Books

### **Hands-On Science series, 2017**

Author: Robert Gardner

Publisher: Enslow

Grades: 3-6

Using materials they can find in their home, students can start to learn facts about topics in this series. Each activity is followed by an explanation section to discuss the science concepts that were covered in the experiment. Engaging color illustrations accompany every experiment, and a glossary defines scientific terms

Titles include Science fair projects about water and soil, Science fair projects about the sun and moon, etc.

Note: Many titles also available as ebooks

### **Janice VanCleave's Guide to More of the Best Science Fair Projects, 2000**

Grades: 3-6

This book, part of the SCIENCE FOR FUN series, provides information about producing successful science fair projects for students in grades 3 through 6. The first part of the book provides information about the scientific method, topic research, and science fair project categories.

John Wiley and Sons, Inc., Wiley Publishing  
10475 Crosspoint Blvd, Indianapolis IN 46256  
ISBN: 0-471-25223-9

### **Super Sensational Science Fair Projects, 2003**

Grades: 4-9

This book provides a number of science fair project ideas along with basic information on designing and presenting scientific experiments. Cartoon illustrations and a simple text encourage students to think like a scientist as they decide on a project, carry out the experiment, and present the results.

Sterling Publishing Co., Inc., 40 Sawmill Pond Road, Edison NJ 08817  
ISBN: 0-8069-4409-9

### **Science Rocks!, 2011**

Author: Ian Graham

Publisher: DK Publishing

Grades: 3-6

A collection of ideas for science fairs and extra credit projects includes chemistry, physics and biology-themed activities that can be performed using mainly household items.

**Science Fair Success!, 2015**

Author: Kirsten Larson  
 Publisher: Enslow  
 Grades: 3-6

Learn every step of how to make your next science fair or engineering project a winner by following the detailed instructions, helpful hints, and design information in this title. So, don't be scared, be prepared, and you are sure to have science fair success. This book allows students to understand how knowledge of relevant scientific concepts and research findings is important in engineering.

**The Technology Book for Girls: and Other Advanced Beings, 2001**

Grades: 3-7

This book, written for grades 3 to 7, follows Gina, the main character, as she researches information for her science project. In her quest to learn how advanced technology is used in everyday life, Gina discovers that many daily conveniences, modes of communication, and medical procedures are the result of different types of waves.

Kids Can Press, 2250 Military Road, Tonawanda NY 14150  
 ISBN: 1-55074-619-7

**Whiz Kid Science series, 2015**

Author: Anna Claybourne  
 Publisher: Capstone  
 Grades: 1-4

This engaging series uses fun and exciting experiments to convey key scientific principles.

Titles include: *Make it Grow, Make it Splash, Make it Change*, etc.

**Available at the Anne Arundel County Public Library:****Experiments in Science: How Does It Work?, 2001**

Grades: K-4

A visually attractive hands-on science experiments book that is certain to appeal to young children and their parents.

Dorling Kindersley, Inc., New York, NY  
 ISBN: 0-7894-7849-8

**Scientific American Everything You Need for Simple Science Fair Projects, Grades 3-5, 2006**

Grades: 3-5

In this volume you will find two dozen simple experiments using supplies easily found in the home. An additional 12 websites are listed inside the front cover for further exploration and reference.

Chelsea House Publishers, New York, NY  
 ISBN: 079109054X

# A.A. County Public Library

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**Hands-on Projects about Saving the Earth's Resources**

West, Krista.

Publisher: PowerKids Press,  
 Pub Date: c2002.  
 Pages: 24 p.  
 ISBN: 0823958477

**Science Fair Success using Household Products**

Tocci, Salvatore.

Publisher: Enslow Pub.,  
 Pub Date: c2002.  
 Pages: 112 p.  
 ISBN: 0766016269

**Energy Projects for Young Scientists**

Adams, Richard C. (Richard Crittenden)

Publisher: Franklin Watts,  
 Pub Date: c2002.  
 Pages: 160 p.  
 ISBN: 0531163806

**Science Fair Success in the Hardware Store**

Tocci, Salvatore.

Publisher: Enslow Publishers,  
 Pub Date: 2000.  
 Pages: 128 p.  
 ISBN: 0766012875

**A+ Projects in Earth Science: Winning Experiments for Science Fair and Extra Credit**

VanCleave, Janice Pratt

Publisher: John Wiley  
 Pub Date: 1999.  
 Pages: 234 p.  
 ISBN: 0471177695

**The Curious Kid's Science Book: 100 Creative Hands on Activities for ages 4-8**

Citro, Asia

Publisher: Innovation Press  
 Grades: Prek-3  
 Date: 2015

**Weather Projects for Young Scientists: Experiments and Science Fair Ideas**

Carlson, Mary Kay

Publisher: Chicago Review Press  
 Grades: 3-6  
 Date: 2007

**Junkyard Science: 20 Projects and Experiments about Junk, Garbage, & Waste**

Young, Karen R.

Series: Science Fair Winners  
 Publisher: National Geographic  
 Grades: 3-6  
 Date: 2010

## A.A. County Public Library, e-Books

### **Ace Your Science Project series**

Gardner, Robert

Publisher: Enslow

Grades: 3-6

Date: 2013

### **Wheels! Science Projects with Bicycles, Skateboards, and Skates**

Goodstein, Madeline

Publisher: Enslow

Grades: 3-6

Date: 2013

## AACPS, Library Media Services

### **Online Databases:**

Use MackinVia ([www.mackinvia.com](http://www.mackinvia.com)) to easily access AACPS online databases from home or a remote location. Type in the name of the school, the userID (your 6 digit AACPS student ID number), and password (last 4 digits of the student ID).

Click Databases on left hand side of screen. Remote login credentials are also provided for direct access or if there are technical difficulties.

### **FactCite Science**

Provides articles on topics in science including planets, elements, plants, animals, and biomes.

Remote login: ID: aacps PWD: aacps

### **PebbleGo**

Provides a collection of databases to be used by students while doing research including science, social studies, etc.

See local school librarians for remote passwords.

### **EBSCO Explora**

Includes children's magazine articles, encyclopedia articles, graphs, pictures and more on a wide range of topics for elementary students.

Remote login: ID: aacps PWD: AnneArundel1\$

### **Scholastic Go**

Explore nonfiction texts, world newspapers, videos and more with this easy-to-navigate digital resource. Includes the following digital libraries: Amazing Animals of the World, America the Beautiful, The New Book of Knowledge, The New Book of Popular Science, Lands and Peoples, Grolier Multimedia Encyclopedia, and Encyclopedia Americana.

Remote login: ID: aacps PWD: research

### **SIRS Discoverer**

Elementary and middle school level general reference database of carefully selected full-text articles and images from magazines and government documents. An Activities section includes science and nature projects.

Suggested Research Topics are provided.

Remote login: ID: aacps PWD: aacps

### **World Almanac for Kids Online**

Kids can explore grade-appropriate topics while developing online research skills with a trusted content source.

Remote login: ID: aacpsmedia PWD: aacps

### **World Book Online**

Encyclopedia articles, tables, and graphics online. Offers animations and videos, audio clips, and pictures including photographs, animal illustrations, and reproductions of great works of art. For grades 4 through 12 and adults.

Remote login: ID: aacps PWD: library



## **Anne Arundel County Public Schools** **Office of Science** **George Arlotto, Ed.D., Superintendent of Schools**

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