

## PATHFINDER Idea

TOPIC: **Robotics**

TOPIC SEARCH SUGGESTIONS: robotics, robots, rover, programming, electrical engineering, computer science

FHS AVAILABLE BOOKS:

**Flying cars, zombie dogs, & robot overlords : how world's fairs and trade expos changed the world**

**Charles Pappas**

Explores the history of world expos, trade shows, and state fairs.

**I, robot**

**Isaac Asimov.**

Dr. Susan Calvin, the first great practitioner of the new science of robo-psychology in 2008, looks back on her career with U.S. **Robotics** on the occasion of her retirement fifty years later, telling stories of how the mechanical race developed.

**Your robot dog will die**

**Arin Greenwood.**

In the near future, the few surviving dogs are studied in a sanctuary, Dog Island, where seventeen-year-old Nano Miller tests robotic dogs, seeks her missing brother, and experiences her first romance.

**The story of computing : from the abacus to artificial intelligence**

**The story of computing : from the abacus to artificial intelligence**

**Dermot Turing.**

"This is a history of computing from its earliest days, when individual mathematicians worked as 'computers' manually making calculations for their rulers, to the ubiquitous pocket-sized devices of the modern day. Subjects range from Babbage's difference engine to the creation of the Bombe and the Colossus in the codebreaking efforts of the Second World War to the fascinating future of the field, including artificial intelligence and the new risks presented by cybercrime"--Provided by publisher.

**Top STEM careers in engineering**

**Gina Hagler.**

Introduces a variety of careers available in the field of **engineering**.

**Remarkable minds : seventeen more pioneering women in science and medicine**

**Pendred Noyce.**

Profiles seventeen women of science and medicine and features anecdotes, quotations, illustrations, and timelines.

**Kimberly Bryant : founder of Black Girls Code  
Kathryn Hulick.**

A look at the life of Kimberly Bryant, founder of Black Girls Code, covering her early life, her career in technology, and her efforts to bring STEM education to girls.

**The big book of Makerspace projects : inspiring makers to experiment, create, and learn  
Colleen Graves, Aaron Graves.**

Contains instructions for creating Makerspace projects, including coding and programming projects, musical instruments, 3D printing, and others.

**The greatest brick builds : amazing creations in LEGO  
writer, Chris Gatcum ; introduction by Nathan Sawaya.**

Showcases intricate LEGO builds of a variety of objects, including buildings, animals, stadiums, musical instruments, and more.

**BOOKS TO PURCHASE**

*Becoming a member of a robotics club (Hands-On Robotics)*

by [Baum, Margaux](#)

Includes bibliographical references (pages 44-45) and index.;Building robots -- Start a club -- The world of robot competitions -- Rolling Thunder: a real-life robotics club. An introduction to robotics clubs with guidance on how to start, manage, or join one.

*Engineering and building robots for competitions (Hands-On Robotics)*

by [Baum, Margaux](#)

Includes bibliographical references (pages 43-45) and index. A guide to building robots for competition, that covers how to find and enter contests, design and construction of your robot, and tips on how to improve your robots performance.

*FIRST robotics*

by [Gilby, Nancy Benovich](#)

Includes index. Learn more about the FIRST Robotics Competition through detailed explanations built to foster creativity and critical thinking.

*FIRST robotics (21st Century Skills Innovation Library-Makers)*

by [Gilby, Nancy Benovich](#)

Makers of all ages are creating robots on their own. In this book, students learn more about this recent innovation through detailed explanations built to foster creativity and critical thinking. Fun, engaging text introduces readers to new ideas and builds on maker-related concepts they may already know. Additional tools, including a glossary and an index, help students learn new vocabulary and locate information.

*Actuators and the power to do tasks (Robotics (Cavendish))*

by [Pereira, Lana](#)

There are many kinds of motors that are used to put a robot in motion. This book lists the types that are available, what they can do, and how much power they require. Also, it provides examples of ways to determine mathematically if a motor is strong enough to do the task required.

*Advanced programming and design*

by [McCombs, Kevin](#)

Title proper from title frame.;Mode of access: World Wide Web.;Includes bibliographical references and index.;Description based on print version record. Discusses the tools and processes used in designing and building robots.

ONLINE DATABASE REFERENCES

[WorldBook Online](#) - Student and Discover apps

[Science Reference Center](#) in Utah's Online Library

[Gale Reference Library](#)

WEBSITES

[NASA.gov](#)

[First Lego League](#)

[Best Robotics Apps and Websites for Stem Classrooms](#)