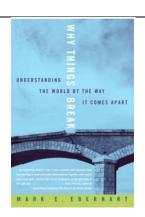
Technology

Recommended Reading List



Key Stage 3



Why Things Break: Understanding the World by the Way it Comes Apart Did you know—

- It took more than an iceberg to sink the Titanic.
- The Challenger disaster was predicted.
- Unbreakable glass dinnerware had its origin in railroad lanterns.
- A football team cannot lose momentum.
- Mercury thermometers are prohibited on airplanes for a crucial reason.
- Kryptonite bicycle locks are easily broken.

"Things fall apart" is more than a poetic insight—it is a fundamental property of the physical world. Why Things Break explores the fascinating question of what holds things together (for a while), what breaks them apart, and why the answers have a direct bearing on our everyday lives.



Drawing for Product Designers

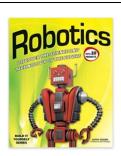
With its tutorial-based approach, this is a practical guide to both hand- and computer-drawn design. Readers will learn to think three-dimensionally and build complex design ideas that are structurally sound and visually clear.

The book also illustrates how these basic skills underpin the use of computeraided design and graphic software. While these applications assist the designer in creating physical products, architectural spaces and virtual interfaces, a basic knowledge of sketching and drawing allows the designer to fully exploit the software.



Product Design Sketches

All great products begin with a rough sketch. This book is an outstanding compilation of the work of the world's most innovative product designers. It showcases thousands of hand drawings and 3D renderings of amazing products, ranging from the very smallest to tree-houses and road vehicles. The book includes photographs and digital prototypes - sketches which offer the reader a detailed look at the creative process from start to finish. Descriptive captions and contact details for every designer are also featured. Products features include kitchen gadgets (e.g., coffee machines), office equipment (desktop accessories, and ballpoint pens), footwear.



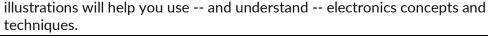
Robotics: Discover the Science and Technology of the Future with 25 Projects Once, robots were only found in science fiction books and movies. Today, robots are everywhere! They assemble massive cars and tiny computer chips. They help doctors do delicate surgery. They vacuum our houses and mow our lawns. Robot toys play with us, follow our commands, and respond to our moods. We even send robots to explore the depths of the ocean and the expanse of space. In *Robotics*, children ages 9 and up learn how robots affect both the future and the present. Hands-on activities make learning both fun and lasting.



Make: Electronics: Learning Through Discovery

Want to learn the fundamentals of electronics in a fun, hands-on way? With Make: Electronics, you'll start working on real projects as soon as you crack open the book. Explore all the key components and essential principles through a series of fascinating experiments. You'll build the circuits first, then learn the theory behind them!

Build working devices, from simple to complex. You'll start with the basics and then move on to more complicated projects. Go from switching circuits to integrated circuits, and from simple alarms to programmable microcontrollers. Step-by-step instructions and more than 500 full-colour photographs and





Make: Technology on Your Time Volume 39: Robotic Me

The future is here, and robots are playing a bigger role than ever! Today it's possible to build and program a robot that can emulate, even replace, some of the tasks that humans previously performed.

Increasingly humanoid through voice and facial recognition, the robots that makers are building can be easily controlled and communicated with, invoking images of popular Star Wars characters like R2D2 and 3CPO. Finally, open-source hardware, software, sensors, and servos, comprise the complete toolbox, enabling the creation of complex, futuristic robots with a remarkable resemblance to their makers! In MAKE Volume 39, readers will learn to build many projects.



Arduino: Getting Started with Arduino: The Ultimate Beginner's Guide

Whether you've just bought yourself your first Arduino or you're thinking of buying one and would like to know more before taking the plunge, this book will provide you with all the information you need to take the first steps into the amazing world of Arduino!

Written with the absolute beginner in mind, we'll cover all the essentials and answering all the questions an Arduino "newbie" is likely to have.



Inclusive Designing: Joining Usability, Accessibility, and Inclusion

'Inclusive Designing' presents the proceedings of the seventh Cambridge Workshop on Universal Access and Assistive Technology (CWUAAT '14). It represents a unique multi-disciplinary workshop for the Inclusive Design Research community where designers, computer scientists, engineers, architects, ergonomists, policymakers, and user communities can exchange ideas. The research presented at CWUAAT '14 develops methods, technologies, tools and guidance that support product designers and architects to design for the widest possible population for a given range of capabilities, within a contemporary social and economic context. In the context of developing demographic changes leading to greater numbers of older people and people with disabilities, the general field of Inclusive Design Research strives to relate the capabilities of the population to the design of products.