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EASY ROBOTIC PROJECTS FOR KIDS

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Robotics and engineering, which have become indispensable in today's society, including our homes and kids are exposed every day. Kids can learn all about robotics and automation by using their critical thinking skills, a few coding steps, as well as a little structure to help them learn all about robotics.

One interesting fact about kids today is that they have better opportunities to learn technology and STEM at a young age. Compared to their parents, kids have unlimited access to tech resources, tools, toys, and projects that teach them the basic concepts and rudiments of programming and STEM.

One of the best ways to teach kids how to code is through robotic projects. For kids, and adults even, the idea of learning how to

program a robot is thrilling! Robotics is the perfect start for kids who have little or no knowledge about programming and STEM.

Robotics, programming, and other STEM-related skills are rapidly replacing conventional and manual jobs. The relevance of digital skills in the 21st century cannot be exaggerated, as a significant percentage of emerging jobs require digital and technical skills. This is why everyone, especially young children, must learn digital skills to stay relevant, not only in their careers, but in other aspects of modern society.

This article gives a step by step guide on simple robotic projects for kids to learn programming, robotics, and other [STEM subjects](#). These robotic projects are beginner-friendly and suitable for complete beginners.



OVERVIEW OF ROBOTIC FOR KIDS

[Robotics for kids](#) is simply the means of bringing kids into the world of STEM through learning automation of machines. Robotics primarily deals with building, controlling, and maintaining robotic devices. It is a complex field that requires some form of technical prowess. Robotic projects, however, have been simplified to allow young people to participate and learn at an early age.

Robotics for kids is one of the best and easiest ways for kids to learn programming and how to build robots. There are several kid friendly robotic projects kids can engage in, like the line following robot,

bristle bots, firefighting robot, and coloring robot, among others. Robotics is a great skill for kids who want to develop their careers in programming. With robotics, kids can learn current skills in the 21st century. Skills such as problem-solving, teamwork, creativity, critical thinking, and [computational thinking](#) are skills that will continue to remain relevant in their lives and careers.

Robotic toys like the [Sphero Bolt](#), [Dash Robot](#), and [Artie 3000](#) serve as excellent tools for teaching coding and robotics to kids. The toys are equipped with step-by-step guides for kids to learn robotics from scratch. Kids can practice hands-on learning with the robots and engage in amazing projects through structured guides and learning activities. Kids as young as 5 years old can learn how to program a robot. The robotic kits vary in terms of difficulty and level. Teachers can teach kids programmable robots using just the right kits for their age and level of experience.

There's no limit to what kids can create with the robot, as long as they are truly interested and dedicated to it.

DETERMINING WHETHER KIDS ARE READY FOR ROBOTICS

The first factor that determines whether kids are ready to dive into the world of robotics is **age**. The best age for kids to learn robotics is

eight years old. However, several beginner robotics projects are suitable for **kids a few years younger, at six and seven.** As a parent, you understand your kids better, and if you think they are ready for robotics at any time, then you should give it a trial if you see interest in problem solving and home automation tools.

Another way to determine if you know if your kids are ready for robotics is **interest.** Regardless of their age, kids need to be truly invested in learning robotics. Interest births the determination to learn, and without it, learning will be difficult and boring. There are several ways to [get your kids interested in programming](#), and our articles on how to teach [robotics to kids of all ages](#) will guide you through how best to teach robotics to kids.

TEN BEGINNER ROBOTIC PROJECTS FOR KIDS

Choosing the perfect robotic projects for your kids can be a little overwhelming, especially without proper guidance. Below is a selection of beginner robotic projects for kids who are just starting in robotics and programming in no particular order.

GESTURE CONTROLLED ROBOT

Did you know that the [Gesture controlled robot](#) can be controlled using simple hand gestures? Kids can have absolute fun while

learning the basic concepts of robotics and [Scratch programming language](#). Using an accelerometer, the robot can follow simple commands and actions. For instance, if you move your hand forward, the robot will also move forward.

Kids will also use drag-and-drop programming, which makes it easy for younger kids to practice.

FIREFIGHTING ROBOT

The [firefighting robot](#) is a useful robot and a must-have in every home. The features of the robot include digital IR sensors that help it detect fire, DC motors that help it move in the direction of the fire, and a DC miniature fan to put out the fire. Kids can also learn to program the fire fighting robot using an [Arduino robot kit](#).

This is a kid friendly robotics project that teaches kids the basic concepts of [scratch programming](#), electronics, and robotics.

EDGE DETECTION ROBOT

Using IR sensors to sense the edges, and an 8051 microcontroller to control the robot's movements. The idea behind the [edge detection robot](#) is for the robot to sense when it reaches the edges and avoids falling off. This is a kid friendly project that teaches kids the basics of algorithms, programming, and robotics.

BRISTLE BOTS

The [Bristlebots](#) remain one of the easiest beginner-friendly robots for kids. It involves simple objects like a toothbrush head, pipe cleaners, a small watch battery, double-sided tapes, a vibrating pager head motor, and optional craft eyes. The robot can easily move around without falling off.

COLORING ROBOTS

Just as the name implies, the [coloring robot](#) is an actual robot that colors! With basic plastic robot supplies, a plastic cup, and markers of different colors, your kids can create an incredible coloring robot and have fun with it. This robotic project improves creativity in kids.

ROBOTIC ARM

This simple robotic project is ideal for kids to learn the basics of building robots. It is simple to make, and suitable for younger kids. Some of the materials needed to make a [robotic arm](#) include popsicle sticks, sizeable thread, cardboard, straws, etc. The robotic arm can grab small items like a cup and toys.

LINE FOLLOWER ROBOT

The [line follower robot](#) is similar to the edge detection robot. This Arduino robot kit works by using a drag-and-drop method with Scratch programming language. It also includes IR sensors that help the robot detect the lines to follow.

MOBILE CONTROLLED ROBOT

Designed for older kids, this [mobile controlled robot](#) can be controlled using a phone. Using a step by step guide, kids will learn the basics of drag-and-drop scratch-based programming language. It is a fun project for kids and other interested learners.

LEAPING FROG ROBOT

This is another incredible beginner robotics project for kids. The [leaping robot frog](#) leaps and jumps like a frog, hence the name. It is highly suitable for younger kids and learners with no experience in programming, as it does not require any coding skills. Kids will be working with scissors, knives, etc., so parents should ensure they provide maximum supervision always.

MINI ROBOT BUG

This is a fascinating robot that runs fast across smooth surfaces. The tools required to build a [mini robot bug](#) include paper clips, a coin cell lithium battery, wires, two LEDs, and a vibrating motor.

PROPELLER CAR

Building a [propeller car](#) costs very low as all you need are bamboo sticks/meat containers, light wheels, stiff cardboards, balsa, and foam boards. Kids can also add a little aesthetics by painting their favorite colors on their little robot car.

HOMEMADE WIGGLEBOT

With as low as \$20, kids can build a little wigglebot robot that [creates its own designs](#). Materials needed are paper/plastic cups, popsicles, scissors, batteries, markers, and a DC motor.

FREQUENTLY ASKED QUESTIONS

What are some simple robotic projects for beginners?

Bristlebots, line follower robots, propeller cars, fire fighting robots, etc., are some of the simple robotics projects for beginners. Click [here](#) for more amazing beginner projects.

What is the easiest robot to make for kids?

The **Bristlebots** has proven to be the easiest robot for kids to make. With just a toothbrush head and other simple tools, kids can create incredible [bristle bots](#).

SUMMARY

I hope you found some fun, robotics projects that you can do with your kids. Getting kids to learn how to make robots function on command and building STEM skill sets is a great way to get their critical thinking skills sharpened.

MORE INSPIRATION FOR ROBOTICS FOR KIDS

- [Easy Robotics Projects for Kids](#)
- Why Kids Should Learn Robotics
- [Robotics for Elementary School Students](#)
- [Robotics for Middle School Students](#)
- [Robotics for High School Students](#)
- [Programmable Robots for Kids](#)
- [Arduino Kits and Robots for Kids](#)
- [Robotics Toys to Teach Kids Coding](#)
- [Top Raspberry Pi Projects for Kids](#)
- [Overview of Raspberry Pi for Kids](#)
- [Choosing Best Arduino Kits for Students](#)

- [Raspberry Pi vs Arduino for Kids - Overview and Comparison Guide](#)
 - [Getting Started Guide for Arduinos for Kids](#)
 - [AWS DeepRacer for Kids](#)
 - Robotic Platforms for Kids
 - Show and Tell Ideas with Robotics for Kids
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