

Exploring the Sphero BOLT Robot

The Sphero BOLT is an advanced programmable robotic ball. It combines cutting-edge technology with educational potential. This presentation will explore its features and applications.

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Introducing the Sphero BOLT

Smart Robotic Ball

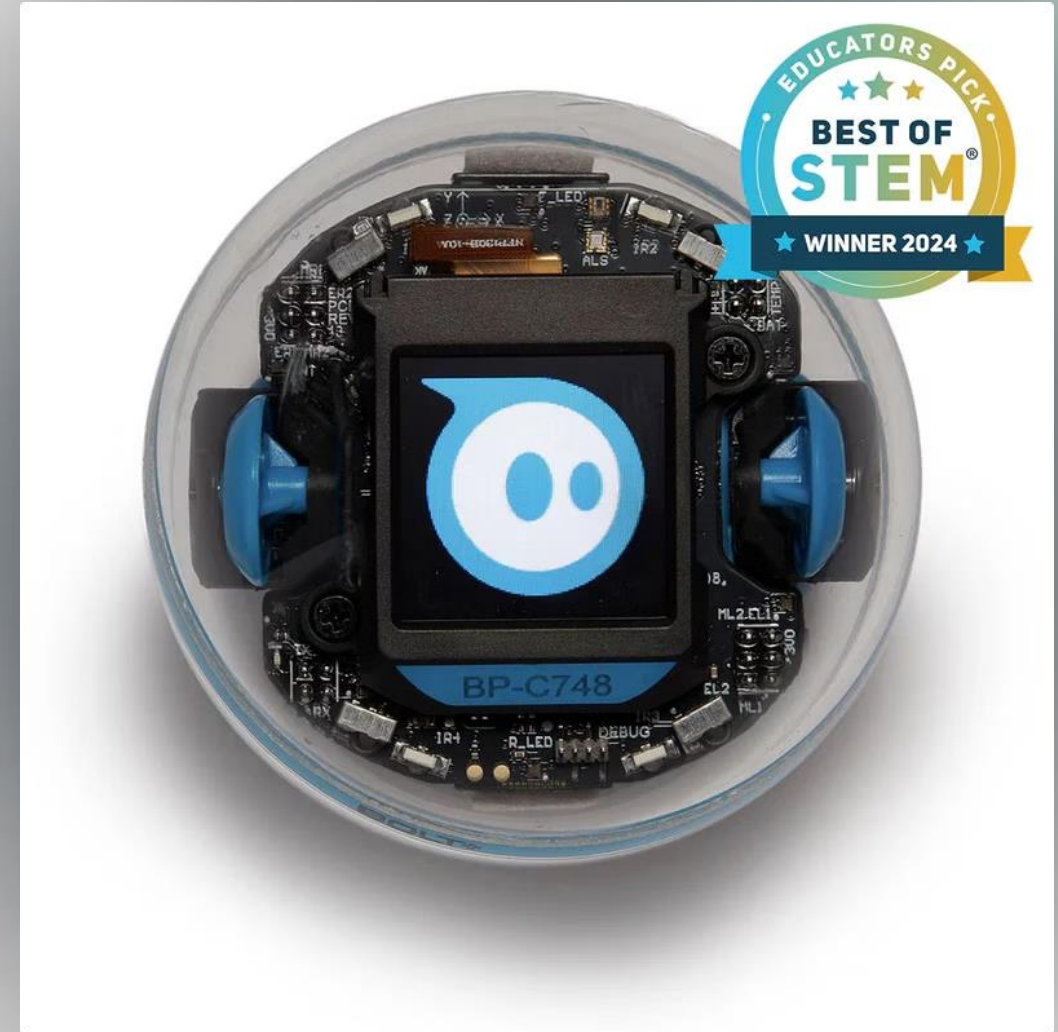
The Sphero BOLT is a programmable robot in a spherical form factor.

Educational Tool

It's designed to teach coding and STEAM concepts through interactive play.

Versatile Device

BOLT can be used for gaming, art projects, and robotics experiments.



Sphero BOLT Features



LED Matrix

8x8 programmable light matrix for displaying animations and data.



Advanced Sensors

Includes compass, gyroscope, accelerometer, and light sensor.



Long Battery Life

Up to 2 hours of continuous play on a single charge.



Sphero BOLT Programming

Block-based Coding

Beginners can use drag-and-drop blocks to create programs.

Text-based Coding

Advanced users can write JavaScript code for more complex behaviors.

Real-time Feedback

Instant execution of code allows for quick iteration and learning.



Programmable LED Matrix

Custom Animations

Create scrolling text, patterns, and animations on the 8x8 matrix.

Data Visualization

Display sensor data, game scores, or status information visually.

Interactive Feedback

Program the matrix to respond to user input or environmental changes.

Sensors and Motors

1

Infrared Sensors

Enable robot-to-robot communication and obstacle detection.

2

Gyroscope and Accelerometer

Allow precise control of movement and orientation.

3

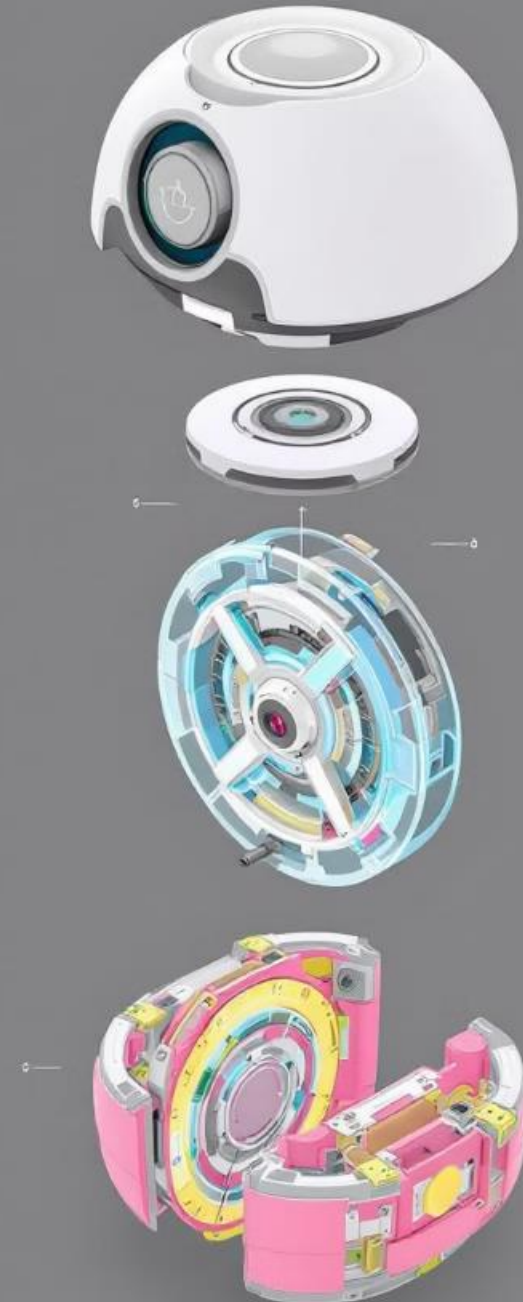
Encoders

Provide accurate speed and position data for navigation.

4

Advanced Motor System

Enables smooth rolling and precise maneuvers.





Mobile App Control

1

Connect

Pair BOLT with your smartphone or tablet via Bluetooth.

2

Program

Use the Sphero Edu app to create and edit programs.

3

Control

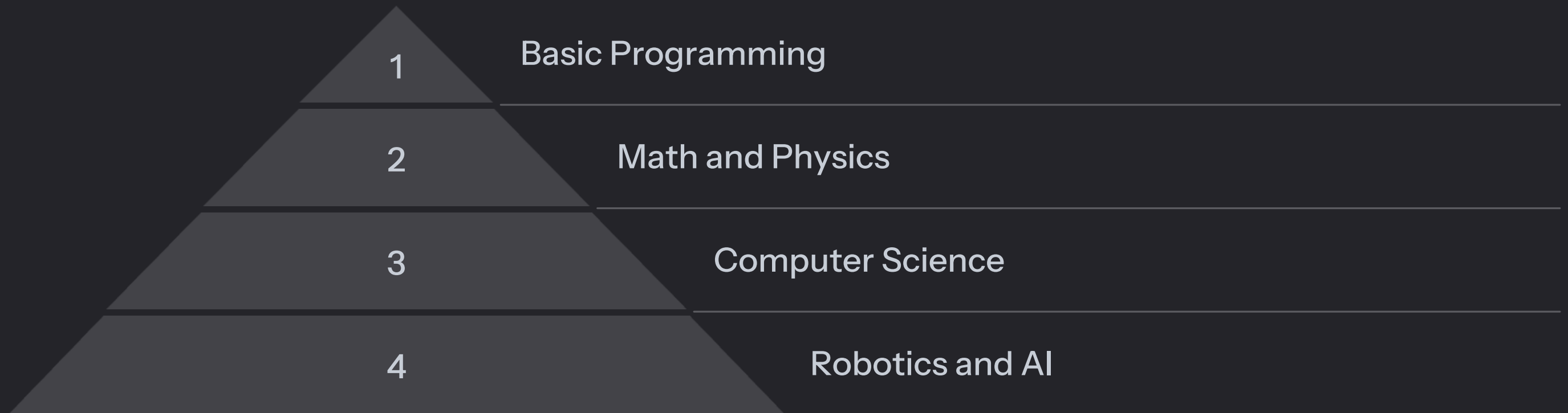
Drive BOLT manually or run your custom programs.

4

Share

Upload and share your creations with the Sphero community.

Educational Applications



BOLT serves as a versatile educational tool, supporting learning across multiple disciplines.

Coding for Beginners

1

Draw and Drive

Trace paths for BOLT to follow.

2

Block Programming

Use drag-and-drop code blocks.

3

Simple Scripts

Write basic JavaScript programs.

4

Advanced Coding

Create complex, interactive programs.

STEAM Learning

5

STEAM Disciplines

Science, Technology, Engineering,
Art, and Mathematics integrated
into one platform.

360°

Holistic Learning

BOLT encourages a well-rounded
approach to education.

100+

Lesson Plans

Ready-to-use STEAM lessons
available in the Sphero Edu app.



Robotics Competitions

Maze Challenges

Program BOLT to navigate complex mazes autonomously.

Sumo Battles

Compete to push opponent BOLTs out of a defined area.

Relay Races

Create team-based races with multiple BOLTs working together.

Creating Custom Games

Virtual Bowling

Use BOLT as a ball to knock down virtual pins.

Hot Potato

Pass BOLT around, programming it to "explode" at random intervals.

Sphero Golf

Create courses and program BOLT to navigate them.



Augmented Reality Integration



3D Visualization

See BOLT's movements mapped in 3D space on your device.



AR Games

Play games that blend the physical BOLT with virtual elements.



Educational AR

Visualize concepts like force and motion in augmented reality.

Drawing and Artistic Applications





Collaborative Robotics Projects

1

Team Programming

Groups work together to create complex multi-BOLT programs.

2

Swarm Robotics

Program multiple BOLTs to work as a coordinated swarm.

3

Interactive Installations

Create large-scale interactive experiences using multiple BOLTs.

4

Global Challenges

Participate in worldwide BOLT programming competitions and projects.