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Welcome

Sphero's mission is to inspire the creators of tomorrow. The creators of tomorrow are collaborative and communicative changemakers, working together as parts of efficient teams. The creators of tomorrow are problem solvers, helping humanity navigate the world's toughest challenges. The creators of tomorrow are engineers, designing new products and solutions to improve our world and our lives.

Our students, the creators of tomorrow, need a classroom tool to make engineering education come to life. Enter Sphero Blueprint.

IN EACH BLUEPRINT BUILD KIT:

- over 320 Blueprint parts
- quick start guide
- 5 engineering challenge cards
- storage bin

IN EACH BLUEPRINT BUILD CLASS PACK:

- 5 Blueprint Build Kits
- educator guide
- additional storage bin with 90+ extra Blueprint parts



What's in this Guide

Blueprint Build Kits make engaging with mechanical and structural engineering hands-on, fun, and accessible to all. This guide will walk you through Blueprint's features and best practices for your classroom. Here's what you can look forward to:

Curriculum - While Blueprint can integrate into any STEM project, you'll also be able to access curriculum specifically designed for Blueprint. This curriculum covers engineering basics and offers opportunities for students to create and build on their own.

STEM Classroom Strategies - Hands-on learning can create unique challenges in the classroom. This guide includes student group ideas, suggested preparation for lessons, assessment options, and more.

Challenge Cards - Start using Blueprint right away in your classroom with fast, fun, and engaging challenges that can help students with the design process and introduce them to Blueprint.

The Importance of Teaching Engineering with Blueprint

Solving problems is the foundation of engineering education. Blueprint allows students to quickly build, test, and learn engineering concepts in the classroom.

21ST CENTURY SKILLS

Blueprint is the perfect platform to help students develop the mindset and skills that are necessary to compete in a global, technology-rich 21st-century economy such as:

- problem solving
- iterative design
- analytical thinking
- collaboration
- communication

PROJECT-BASED LEARNING

Teaching and learning with Blueprint values quality over quantity, encouraging students to engage deeply with science and engineering concepts instead of simply memorizing vocabulary and facts. Project-based Learning (PBL) can lead to:

- increased student engagement
- enhanced retention of content
- development of college and career skills

ENGINEERING FOR ALL

We need to prepare students for the future and the future needs engineers. At the same time, the engineering challenges of the future are complex. Diverse teams with diverse sets of backgrounds, perspectives, and skills are essential to finding the most innovative solutions. Yet, to our detriment, there are many groups of people who continue to be underrepresented in engineering occupations.

Blueprint can help make engineering engaging and accessible to all, attracting more students to engineering Career Technical Education (CTE) pathways and encouraging them to stick with it through graduation.

RELEVANT LEARNING

Blueprint encourages students to take a fresh look at the world around them through an engineering lens. Blueprint curriculum brings engineering to life by taking engineering fundamentals and tying them to each of the following:

- **Engineering careers:** Get a hands-on understanding of mechanical, civil, and electrical engineering fields.
- **Historical engineering successes:** Revisit and learn from the feats of past engineers.
- **Engineering Grand Challenges:** Apply your learning toward the biggest challenges facing our species and our planet in the coming century.