Educators learn, students learn
Rather than be experts themselves, educators learn to code alongside students while fostering healthy class culture and modeling growth mindsets.

Bring coding into content classrooms
CSF enhances core content areas by enabling non-computer science teachers to make curricular connections and explore computer science with their students, from foreign language to science to PE.

Elevate community through SEL
CSF allows learners to grow vital social and emotional learning skills (SEL) as well as 21st century skills, such as creativity, collaboration, critical thinking, communication, and responsible decision-making.

All ages, all abilities
Whether a 3rd grader brand-new to coding or a high school senior who’s a seasoned programmer, CSF is an entry point into problem-solving through programming.

Device compatibility
CSF is designed around the pair-programming technique, where two students share one device and one Sphero robot. The program’s compatibility across devices allows ease of implementation, accommodating any device restriction.

Standards-aligned
Computer Science Foundations is built on the K12 Computer Science Framework Principles and is aligned to various national and international standards, including the Computer Science Teachers Association (CSTA) standards and Next Generation Science Standards (NGSS).
Suitable for your school’s needs

Supports your level of readiness
Perhaps your school desires an entry point for coding and robotics. Or, maybe you have some experience and would like to grow. Or, perhaps you need a creative approach to fostering community. Whatever your unique situation, Sphero CSF can meet you where you are.

Flexible implementation
- School-wide initiatives (STEAM, Computer Science Education, Technology and Robotics)
- Single teacher or team-taught
- Subject-area teams or grade-level teams
- Extracurricular or core content

Flexible device support
- Shared devices (classroom cart)
- 1:1—a device for every student
- BYOD
- Stationary devices in Library Media Center or Learning Lab

Flexible timing
- Weekly in the classroom or monthly in the Library Media Center/Makerspace
- Short “sprints” with a given theme or a year-long marathon
- Build deeper skills or broaden application

Ready to roll (out)

**YEAR 1**
Purchase CSF

Buy a Power Pack to put in your library or makerspace

Buy your most enthusiastic tech educators a Power Pack to pilot CSF in their classroom

Enroll an educator in Sphero Fundamentals to get familiar with the Sphero Edu platform

**YEAR 2**
Add a Power Pack to share between three STEM educators in the same building and a copy of CSF for each to use

Buy additional licenses of CSF for educators to gradually incorporate activities with the guidance of year-one educators

Enroll a cadre of first-time Sphero educators in Sphero Fundamentals, and buy a Power Pack for them to share

**YEAR 3**
Buy additional licenses of CSF and another Power Pack to rotate between last year’s cadre of Sphero educators

Expand to an entire grade level, with additional sets of CSF and Power Packs

Enroll in a Sphero Virtual Training session for the whole school

Contact your Sphero Edu sales rep to tailor a roll-out that meets your needs

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Make CS and robots approachable in all content areas

Scaffolded across three courses and 72 lessons, teachers and students build Draw, Block, and Text coding skills. They then integrate these concepts into curricular content: everything from polygons and poetry to logic-puzzlers and compliment-givers.


PROGRAMMING LEVELS

DRAW
Manual Movement, Distance, Direction, Speed, and Color

BEGINNING BLOCK
Roll, Delay, Sound, Speak, and Main LED

INTERMEDIATE BLOCK
Simple Controls (Loops), Sensors, and Comments

ADVANCED BLOCK
Functions, Variables, Complex Controls (If Then), and Comparators

BLOCK-TEXT TRANSITION
JavaScript Syntax, Punctuation, and Asynchronous Programming

BEGINNING TEXT
JavaScript Movements, Lights, and Sounds

THEMES & LESSONS

Course 1
“A” in STEAM
Shapes & Numbers
Nature

Course 2
Empathy
Storytelling
Game Design

Course 3
Brain Breakers
Missions
Navigation

72 Total Lessons

Ask your Sphero Edu sales rep for a sample lesson
Featured Themes

Course 1

“A” in STEAM
You guessed it, we’re talking about the Arts. Using Sphero robots, students will use the Draw and Block Canvas to paint, write poetry, compose music, and dance.

Shapes & Numbers
As students progress to programming with blocks, they’ll learn how to connect numbers in equations, play dice games, design guessing games, and create their own figure skating routines.

Nature
In this theme, students will use their polycarbonate robotic ball to understand the natural world by mimicking the movement of animals, programming a school of fish, and modeling sleep patterns.

Course 2

Empathy
With their robots and Block programming skills, students will learn to communicate clearly with their partners, offer praise and encouragement, and grow their classroom community.

Storytelling
In this series of Block lessons, students will use their Sphero robots to represent the elements of a story, develop dialogue, retell historical events, and even overcome writer’s block.

Game Design
Bring out your inner gamer through a series of lessons designed to develop your Block programming skills—play Bingo, search for hidden treasure and build your own set of dice.

Course 3

Missions
In this series of lessons, students will become critical thinkers and problem-solvers as they puzzle through obstacle courses, lockboxes, secret codes, and more.

Navigation
From exploring how animals migrate to planning a road trip, this series of lessons brings the world of navigation to life for students through hands-on programming with their Sphero robots.

Brain Breakers
In this theme, students develop their problem-solving and collaboration skills while creating secret codes, solving riddles and cracking a bank robbery.
Elementary School Educator

“This year in my third grade class, I’ll teach one lesson a week with our shared iPad cart and Power Pack. We can progress through a theme to take on new challenges, but when I sense students need more practice, we will use a different theme to review and master coding concepts.”

Skip around content themes and programming levels

An individual educator chooses a theme to start the class. Students can build conceptually by continuing lessons in that theme or reinforce their practice of a given concept by exploring in a different theme.
I look forward to working alongside my colleagues as we tag-team three themes with our students. Across the semester, we will teach collaboratively and—as it suits our content—grow not only our coding abilities, but also our culture as a team.”

A grade-level team covers a different theme in each class

Students work through a given theme with a content-area teacher, with each teacher devoting a portion of their year to incorporating coding in their content area. Teachers learn programming alongside their students, and together apply their new knowledge to enhance their own curriculum.
Library Media Specialist

“In our Library Media Center/Makerspace, grades 6, 7, and 8 schedule quarterly visits to work on engineering-related challenges. Students bring their own devices, and I can easily pull out two Power Packs and assign a lesson for students to tackle. We cover all three courses amongst the grades.”

Different grades follow various themes and programming levels

Grade-level students can journey through the supplemental curriculum over the course of multiple years, progressing across the themes and deepening understanding. Newer students can visit previous lessons, while students who need a challenge can choose more advanced concepts.