# Choose your challenge

**PreK – 2nd**

**Elementary and Junior High**

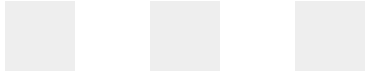**High School**

## Additional Information

Coach Sign-Up

Student Sign-Up

Sphero Website

## Early Elementary Challenge
Community Heroes

- For students ages 4–8 *(born after May 1, 2013)* who would like to participate in the Sphero Global Challenge, we have a free event called Sphero indi: Community Heroes! This event is for teams of up to five students and is designed to give our youngest learners the ability to showcase their creativity, teamwork, and problem-solving skills—no screens required.

- Coaches are also welcome to register for any of the other events designed for older students and more advanced ability levels.

# indi

# Upper elementary and Junior High:

- Elementary school events welcome students ages 8–11 years old.
- Junior High events welcome students ages 11–14 years old.
- Teams can compete in all three events for one registration fee.
- Challenges designed to build computational thinking, engineering and programming skills in participants..

**Super Suit**  **Search+Rescue**  **Super Senses**

- Through collaboration, and critical thinking students will unleash their inner engineer as they work to identify problems and develop solutions using littleBits and their Invention Cycle: create, play, remix, and share.
- Teams will be challenged to design a wearable solution that augments and amplifies the senses so that superheroes and regular heroes alike can better experience and navigate the world.

## THIS IS YOUR CHANCE TO INVENT A SUPER-SUIT!

Gather some teammates and create or join a super squad. Using littleBits powered by Sphero, teams will be challenged to design and program wearable inventions using the Invention Cycle. The inventions will provide a solution to augment and amplify the senses so that superheroes and regular heroes alike can better experience and navigate the world.

**CREATE** — With your team, brainstorm the problem you will solve. What senses are you trying to enhance or recreate with your invention? Who would this invention serve in the real world?

**PLAY!** — Scope out your idea and design your initial solution. Test out your invention to see what works and what needs improvement.
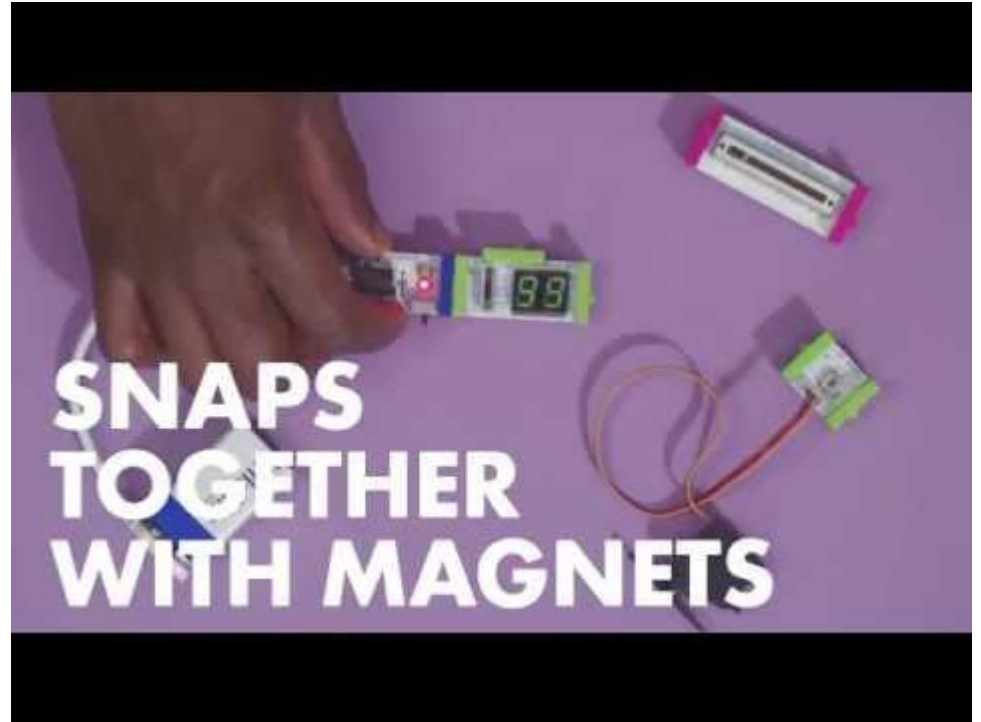
**REMIX** — This is your opportunity to experiment with fixes and improvements. Track your observations and try to improve or add more details to your design.

**SHARE** — Create a video pitch that explains the problem you addressed and your process of designing the invention. Then present your invention by showing it in action!

# littleBits



SNAPS TOGETHER WITH MAGNETS

- Students will be challenged to complete mission objectives through different programming skills including loops, conditionals, variables, and functions.
- Students will program BOLTs using block or text (JavaScript) programming in the Sphero Edu app.
- Students will demonstrate their skills in their final submission (virtual) for judging and evaluation.

## BOLT: SUPER SENSES MISSION

BOLT has some incredible senses without being bit by a spider! Gather some teammates and create or join a super squad because now is your time to activate the super senses of BOLT to complete the superhero missions!

Teams will design, program, and engineer their BOLTs to solve the superhero challenges that await them.

## ONLY THE BRAVEST SUPERHEROES WILL BE READY TO TAKE ON THE CHALLENGES OF:

- Programming multiple BOLTs to navigate through complex missions and challenges.

- Harnessing the power of BOLTs sensors to show off your programming prowess.

- Creating and engineering interactions for BOLT as part of the mission objectives.

During the challenge season, you will document your learning in your engineering journal. Each team will showcase the mission objectives by submitting program code, providing a video of their BOLTs completing the outlined challenges and completing a creative challenge.

# Bolt



BEGINNER
TO ADVANCED CODING

SPHERO RVR + LITTLEBITS

SEARCH + RESCUE

MISSION

- Students will design, build, and engineer solutions using RVR and littleBits.
- Students will combine the RVR and littleBits in order to complete the mission objectives.
- Students will focus on algorithms, circuitry, engineering design, and debugging.

## THERE WILL BE MANY CHALLENGES IN YOUR BOLD QUEST WHICH INCLUDE:

- Program RVR to navigate through obstacles semi-autonomously, just like the Batmobile steering through a crime-ridden Gotham City.

- Use RVR's sensors, including its built-in color sensor and infrared sensors to stealthily avoid being caught during the mission.

- Engineer solutions with littleBits and craft materials to transport objects back to a safe zone.

During the challenge season, you will document your learning in your engineering journal. Each team will showcase the mission objectives by submitting program code, providing a video of their RVR and littleBits inventions completing the outlined challenges and completing a creative challenge.
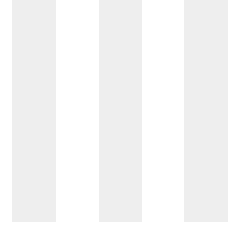
# RVR

# High School Challenge:
## RVR Supercar Challenge

- The high school challenge welcomes students ages 14–18

- From Wonder Woman's invisible plane to the iconic Batmobile to S.H.I.E.L.D's helicarrier, superheroes have always had some of the slickest and most decked out vehicles.

- If you were in charge of creating a superhero vehicle, what would you do? Showcase your creativity and ingenuity by turning RVR into a supercar!

- Students will make a Super Car with RVR and a Raspberry Pi while practicing:

  - Advanced Coding
  - Circuitry
  - Engineering design
  - Debugging

## WHAT WILL YOU CREATE?

- Design, engineer, and program a superhero mobile with RVR and Raspberry Pi and 3rd party hardware.

- Invent a superhero that would get to be the passenger or driver on your Sp(HERO) mobile.

- Use the engineering design process to document your progress and iterations over the course of your invention.

During the challenge season, you will document your engineering design process in your engineering notebook. Each team will showcase the mission objectives by submitting program code, a video of your robot turned superhero mobile, and a creative challenge.

# Useful Information

- All registrations fee paid by WISD

- All supplies furnished by WISD

- Each team needs a manager/coach

- Practice time and learning offered at Curriculum and Instruction building but can be done at home as well.

- Coaches receive everything they need to be successful!

## Once Registered Coaches Receive:

★ Coaching Guides
★ At-Home and Virtual Coaching Guide
★ Team Meeting Agendas
★ Sphero Global Challenge Official Rules Book and Evaluation Rubrics
★ Sphero Community Customizable Resources and Collateral
★ Support from WISD Advanced Academics Team
★ And More!

# Student Interest Form

https://bit.ly/2WJjJLz

**Scan here** if your child **is interested** in joining the **Sphero Challenge!**

# Now is time to start!

## Scan here if you are interested in coaching a team!

https://bit.ly/3Bx9PM1

# Thanks!

Do you have any questions?

**Theresa Smithey**
tsmithey@wisd.org
972-923-4727
https://sphero.com/pages/global-challenge