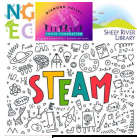# Next Gen EduCare & DVYF – STEAM After School Club Descriptors

GRADES 6-9: SUPER MARIO KART ROBOTS

- **Description:** Grab your kart and shells and join us in building a grand Prix full of adventure! From creating your team to understanding the dynamics of races, students will feel the thrill of victory by just having fun in this club.

- **Goals:** Club members will learn the basics of racing robots and artificial intelligence; building racing tracks, block coding and storytelling

- **Learning objectives:**

  o Learn basic to intermediate Scratch Coding

  o Learn basic of robotics with Ozobots, Spheros and Lego Spike

  o Appreciate basic image ad sound editing as well as supervised Artificial Intelligence (AI) use for a story book creation.

- **Technology used:** Scratch, Sphero Mini, Lego Educational (SPIKE), Laptops, AI text and image generation.

- **Summarized curricula:**

Club lesson	Theme/Focus
1	Introduction to Scratch Layout and user interface, Sprites, Sounds and Backdrop editing. Youth will learn the basics of Scratch User interface while learning where to go when they need to add sounds, get sprites, code, editing, etc.
2	Project #1 – Movement, Looks, Sounds and Loops use Youth will create a simple project while using 4 types of codes in one sprite.

3	Game Creation #1, Part 1 – Bowser vs Peach Part 1 out of 3. Youth will create a full game using all the basics code learned while learning other types of codes (sensing, operators, variables, etc.). This 1st session will set the stage for the game.
4	Game Creation #1, Part 2 – Bowser vs Peach Part 2 out of 3. Youth will create a full game using all the basics code learned while learning other types of codes (sensing, operators, variables, etc.). This 2nd session will fully code Bowser.
5	Game Creation #1, Part 3 – Bowser vs Peach Part 3 out of 3. Youth will create a full game using all the basics code learned while learning other types of codes (sensing, operators, variables, etc.). This 3rd session will fully code Princess Peach and let children to play their game.
6	Introduction to Robotics #1 – Ozobots This introductory session will use Ozobots – bots that can be coded using markers in a sheet of paper. The focus will be to understand the basics of robotics.
7	Introduction to Robotics #1 – Spheros This intermediary robotics will use Spheros – fully codeable and controlabe robots to beat various engineering challenges.
8	Introduction to Robotics #1 – Lego Spike This advanced robotics session will use Lego Spike kits to allow youth to use their coding knowledge while building designs with Legos.
9	Project #2 – Camera and Light Creation with Lego Spike
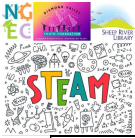
	Youth will build and code a Lego design that uses a camera and an LED panel.
10	Project #3 – Servos Kart creation with Lego Spike Youth will create their Lego Spike kart using 2 servos/motors that will allow them to create a kart race by coding their designs.