

## **iROBOT® CODING**

Wednesdays, January 27-April 28 (no class Feb 17, Apr 7; 12 weeks)

11:15am-12:30pm

Ages 8-10

Kids study the basics of computational logic and programming as they learn to code our Root® iRobots® to complete tasks and challenges, troubleshoot coding errors and use robot features, including touch and light sensors.

Instructor: Tina Oresteen, BSc

Location: Science Center (suite 5)

Course fee: \$220 OR \$20/lab

10% sibling discount

### **LAB SCHEDULE:**

**Robots and Coding Languages** - Wednesday, January 27

Students are introduced to programming and coding languages and learn about Root® (our iRobot®) and its features as they program it to move and draw shapes.

**Root® Skiing** - Wednesday, February 3

We explore how our iRobots® move by coding them to collect points, avoid obstacles, and win a race down a ski course.

**Touch Sensors** - Wednesday, February 10

Students transform Root® into a robotic piano by coding responses to its touch and bump sensors.

**Writing with Root®** - Wednesday, February 24

Today, students code Root® to write and create letters on a whiteboard, and program it to automatically write a message.

**Algorithms** - Wednesday, March 3

Students learn about algorithms, and create programs that solve a Rubix cube and code a dance.

**Troubleshooting** - Wednesday, March 10

This week, we explore codes with syntax errors to learn how to troubleshoot and fix them as we go on a bug hunt and help Root® debug code to draw the picture that was intended.

**Intro to Drawing with Root®** - Wednesday, March 17

In this coding challenge, we explore how Root® draws pictures, how to create shape wheels and collaborate to make a group picture.

**Advanced Drawing** - Wednesday, March 24

We continue to work with drawing codes as we try to guess the picture Root® will draw by examining the code, and write code to draw pictures.

**Robot Sensors** - Wednesday, March 31

Students investigate how Root's light sensors work as they create "sunglasses" for the robot, and program it to respond to light.

**Code Breakout** - Wednesday, April 14

We work as a team to decode a series of clues to reveal Root's secret message.

**Obstacle Course** - Wednesday, April 21

In lab today, we practice collaboration and communication skills to conquer a class robot obstacle course, and create a custom course to challenge each other.

**Free Code** - Wednesday, April 28

Students use coding skills they have learned to design and code robot challenges to share with their friends.