

Objective

By the end of this lesson, you will be able to understand the basics of Lego Robotics Spike Prime and create simple robotic movements using the Spike Prime set.

Materials and Prep

- Lego Robotics Spike Prime set
- Computer with Spike Prime software installed
- Table or workspace
- Internet access for additional research (optional)

Before starting this lesson, make sure you have a basic understanding of Lego building and have the Spike Prime set ready for use.

Activities

- Build a basic robot using the Spike Prime set. Follow the instructions provided in the set to assemble the robot.
- Explore the Spike Prime software. Open the software on your computer and familiarize yourself with the different features and functions.
- Program the robot to move forward. Use the Spike Prime software to create a simple program that makes the robot move forward for a certain distance.
- Add sensors to your robot. Experiment with different sensors included in the Spike Prime set, such as the color sensor or distance sensor, and learn how to incorporate them into your robot's programming.
- Create a dance routine. Use your creativity to program your robot to perform a fun dance routine. Experiment with different movements and timing to make it entertaining.
- Challenge yourself. Try to solve a problem or complete a task using your robot and programming skills. It could be navigating through a maze, picking up objects, or any other creative challenge you can think of.

Talking Points

- **Introduction to Lego Robotics Spike Prime:**

"Today, we are going to explore the exciting world of Lego Robotics Spike Prime. Spike Prime is a versatile set that allows us to build and program our own robots. We will learn how to assemble the robot, use the software, and create different movements."

- **Building the Robot:**

"Let's start by following the instructions provided in the set to build a basic robot. Building the robot will give us a better understanding of its structure and components."

- **Exploring the Spike Prime Software:**

"Now that we have our robot built, let's open the Spike Prime software on our computer. Take some time to explore the different features and functions. Familiarize yourself with the user interface and the available programming blocks."

- **Programming the Robot to Move Forward:**

"One of the fundamental movements we can program our robot to do is moving forward. Let's use the Spike Prime software to create a simple program that makes the robot move forward."

We can specify the distance we want it to travel."

- **Adding Sensors to the Robot:**

"Our robot can become even more intelligent by adding sensors. The Spike Prime set includes various sensors, such as the color sensor or distance sensor. Let's experiment with them and learn how to incorporate them into our robot's programming."

- **Creating a Dance Routine:**

"Now, let's have some fun and get creative! Use your programming skills to create a dance routine for your robot. Try different movements, turns, and timing to make it entertaining and unique."

- **Challenging Yourself:**

"To further enhance our skills, let's set ourselves a challenge. Think of a problem you want your robot to solve or a task you want it to complete. It could be navigating through a maze, picking up objects, or any other creative challenge you can think of. Use your programming skills and the capabilities of the Spike Prime set to solve the challenge."