

MODULE

Robots

- Explore the history of robotics using a software program.
- Experience and understand the fundamentals of industrial robots by viewing a video segment.
- Use a computer to program and operate a robotic arm.

SESSION FOCUS

- 1 Exploring Robots
- 2 Programming SAM
- 3 Touch Sensor
- 4 Ultrasonic Sensor
- 5 Sound Sensor
- 6 Light Sensor
- 7 Motor Control and Program Challenge

Dear Parent,

As parents and teachers, we realize it can be hard to get a child to discuss what he or she is learning in school. We hope the information provided on this page will assist you in communicating with your child about what he or she is learning.

Your participation in the learning process is extremely important, as you are your child's best teacher.

For the next few days, your child will be learning about the operation, programming, and use of robots in different environments while completing the *Robots* Module.

Words students will learn in this Module include:

- automation
- axis
- end effector
- labor or slave
- programming (robots)
- remote control
- repetitive
- robot
- teach pendant
- work envelope

Questions for Discussion

During the course of this Module, your child will be assessed on key concepts and activities. You might want to discuss these concepts and activities with your child. He or she will be asked to:

- Explain the power rating of a servo. (*A servo is a motor. Its power rating, measured in weight per distance, is the amount of work it can do.*)
- Describe how a robot can determine the color of an item. (*The robot evaluates the amount of light reflected from an object. The amount reflected is related to the color of the object.*)
- Explain what "teach pendant" means when operating a robot. (*When you use the teach pendant mode, you maneuver a part on the robot; store the move in memory; move another part; store that move; and so on. The opposite procedure is straight programming, which is setting all the moves at once.*)

Student: _____

Parent: _____