

## **ROBOTICS**

**NOTE:** If applicable for their class and display, exhibitors must bring their own computers for demonstration purposes; computers will not be provided. Internet access will not be available.

**See General Rule #16 regarding size restrictions.**

\* **Robotics Explorer, Chapter 1** – Create a computer slide show or science board display describing 3-5 examples of robots and their uses in the real world. Label and describe what makes each robot more than a machine or computer.

\* **Robotics Explorer, Chapter 2** – Use your robot to demonstrate **OR** create a display of a program you wrote to make a robot travel in a square. Provide a narrative that describes your experience designing and troubleshooting this program.

\* **Robotics Explorer, Chapter 3** – Use your robot to demonstrate **OR** create a display of a line tracking program you wrote that uses input from a sensor (e.g. touch, light). If exhibitor brings a robot, bring your own mat or track for demonstration purposes. Provide a narrative that describes your experience designing and troubleshooting this program.

\* **Robotics Explorer, Chapter 4** – Use your robot to demonstrate **OR** create a display of a line tracking program you wrote that combines input from two sensors. If exhibitor brings a robot, bring your own mat or track for demonstration purposes. Provide a narrative that describes your experience designing and troubleshooting this program.

\* **Robotics Probe, Chapter 1** – Use your robot to demonstrate **OR** create a display of a line tracking program you wrote that uses a rotational sensor to determine distance traveled or to control turns. If exhibitor brings a robot, bring your own mat or track for demonstration purposes. Provide a narrative that describes your experience designing and troubleshooting this program.

\* **Robotics Probe, Chapter 2** – Use your robot to demonstrate **OR** create a display of an experiment you designed to test the travel distance and speed of a robot designed using different gears. Provide a picture of the robot you designed with all gear types, pulleys, and belts labeled. Provide a narrative that analyzes the results of your experiment.

\* **Robotics Probe, Chapter 3** – Use your robot to demonstrate **OR** create a display of a line tracking program you wrote that uses advanced programming strategies, such as using containers, loops and subroutines and using combined sensors. If exhibitor brings a robot, bring your own mat or track for demonstration purposes. Provide a narrative that describes your experience designing and troubleshooting this program.