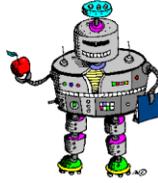


# Robotics

Duration: 10 Weeks



clipart courtesy of discoveryschool.com

## Leaner Objectives:

Students will:

- Understand how robots work and are constructed
- Understand why robots are used in many different fields and in society
- Understand the need for space and measurement in the design and use of robots
- Understand the practical applications of mathematics such as number and fractions in programming robots
- Understand how to develop and produce appropriate structural engineering solutions using problem solving strategies
- Understand how to develop and produce appropriate computer programming solutions using problem-solving strategies to solve challenges
- Work cooperatively with other students to develop problem-solving strategies and compete a team project

## Show-Me Standards:

### Knowledge Standards:

*In Mathematics, students in Missouri public schools will acquire a solid foundation which includes knowledge of*

Math 1	addition, subtraction, multiplication and division; other number sense, including numeration and estimation; and the application of these operations and concepts in the workplace and other situations
Math 2	geometric and spatial sense involving measurement (including length, area, volume), trigonometry, and similarity and transformations of shapes
Math 3	data analysis, probability and statistics
Math 4	patterns and relationships within and among functions and algebraic, geometric and trigonometric concepts

*In Science, students in Missouri public schools will acquire a solid foundation which includes knowledge of*

Science 2	properties and principles of force and motion
Science 7	processes of scientific inquiry (such as formulating and testing hypotheses)
Science 8	impact of science, technology and human activity on resources and the environment

**Performance Goals:**

*Students will demonstrate within and integrate across all content areas the ability to*

Goal 1.1	develop questions and ideas to initiate and refine research
Goal 1.4	use technological tools and other resources to locate, select and organize information
Goal 1.6	discover and evaluate patterns and relationships in information, ideas and structures
Goal 2.3	exchange information, questions and ideas while recognizing the perspectives of others
Goal 3.1	identify problems and define their scope and elements
Goal 3.2	develop and apply strategies based on ways others have prevented or solved problems
Goal 3.3	develop and apply strategies based on one's own experience in preventing or solving problems
Goal 3.4	evaluate the processes used in recognizing and solving problems
Goal 3.5	reason inductively from a set of specific facts and deductively from general premises
Goal 3.6	examine problems and proposed solutions from multiple perspectives
Goal 3.7	evaluate the extent to which a strategy addresses the problem
Goal 3.8	assess costs, benefits and other consequences of proposed solutions
Goal 4.1	explain reasoning and identify information used to support decisions
Goal 4.5	develop, monitor and revise plans of action to meet deadlines and accomplish goals
Goal 4.6	identify tasks that require a coordinated effort and work with others to complete those tasks