

LINCOLN PUBLIC SCHOOLS
Engineering Learning Expectations: Grade 3

Strand

Building Robots

Massachusetts Standard:

Students will understand that appropriate materials, tools, and machines extend our ability to solve problems and invent.

Big Ideas

- ❑ Technology and Engineering uses math, science and creativity to solve problems.
- ❑ Technology and Engineering makes life easier or better through engineered products.
- ❑ The Engineering Design Process is used to design prototypes that solve specific problems.

Key Outcomes

- ❑ Students will demonstrate an understanding of **robots** by building and testing a robot designed to solve a problem.

Essential Knowledge and Skills

Students will be able to:

- ❑ Use the engineering design process to guide their work.
- ❑ Know what engineering and technology are and demonstrate what engineers do.
- ❑ Understand that robots are man-made inventions used to perform a task.
- ❑ Work as a team to plan, build and redesign a prototype.
- ❑ Use tools and various materials to build a robot.
- ❑ Program a robot to perform a task.
- ❑ Communicate their designs solutions such as sketches, lists, and graphic organizers and present their results using a variety of tools such as PowerPoint presentations, video presentations, demonstrations, and question and answer sessions.
- ❑ Identify materials used to accomplish a design task based on a specific property, e.g., strength, hardness, and flexibility.
- ❑ Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists.