



Robot Prototype

Robots build cars, clean houses, help soldiers and doctors, are played with by kids, and explore other planets. Use your creativity and some common craft materials to design your own robot prototype. What will your robot do to help the world?

TEKS:

3.2A: The student is expected to plan and implement descriptive investigations, including asking and answering questions, making inferences, and selecting and using equipment or technology needed to solve a specific problem in the natural world.

6.2B: The student is expected to design and implement experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology.

Materials:

- 1 3 oz. Dixie cup
- Foam shapes
- Glue or tape
- 2 googly eyes
- 2 index cards
- Jewels
- 4 Life Savers candies
- Piece of cardstock
- 3 pipe cleaners
- 2 pom poms
- 1 rubber band
- 2 small paperclips
- 2 straws
- 4 toothpicks

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How To:

1. Before you design your robot prototype, brainstorm what function or purpose you would like the robot to have. Your robot should have a specific task that will help make the world a better place. It can be anything you want!
2. Sketch a design of your robot prototype. Think about the materials you would use and why. Can your robot move around easily? Is it durable enough to accomplish its purpose? What types of conditions does it need to withstand?
3. Using some or all of the materials above, build your robot prototype!

STEM Explanation:

A robot is a machine that senses the world, processes the sensors' information with a computer, and then does something in response to that information. Robots are used to perform many different jobs that help people. Building cars, cleaning houses, helping soldiers and doctors, entertaining kids, and exploring other planets are just some of the jobs robots do today. Robots may not look like the ones we see in the movies, but they are still doing important jobs. Before a robot can be built and sent out to do an important job, it must first be researched and designed. A **prototype** is the first version of any machine, including robots. After the prototype has been made, it is tested and then improved again and again until the final product has been perfected! The robot you are creating is a prototype because it is the very first time it will be made.

Career Connection:

Robotic engineers design robots, maintain them, and develop new applications for them. They use their in-depth knowledge of computer programming and technology to create high functioning robots to aid humans in many activities. There are robots we send into space, and even robots we use in our homes. Have you ever seen a vacuum that moves around the room without help? That's a robot, and it was designed by robotic engineers!

Resource:

Courtesy of Shelby Schaefer

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