

MAKERSPACE CARDBOARD CHALLENGE!

Lesson Plan

Design Competition

Lesson Plan for *Cardboard Robot Challenge!*

Grade 3

Objective

To help students work together in groups to design robots and present their designs to the class.

Things Needed

- *Cardboard Robot Challenge!* book
- Poster board and markers

Before the Activity

Read *Cardboard Robot Challenge!* as a class. Divide the students into groups of four.

Activity

Explain that engineers are people who design and build machines or structures. Before building something, engineers draw a design. The design is a plan or drawing that shows how the finished object will look and work. For example, a design for a robot might show a picture of the robot with labels that point out its different parts.

Explain to students that they will have a competition. Each group of students will design a robot. At the end of class, groups will present their robots, and the class will vote on the best design.

First, groups must choose what job or task their robot will do. Then, students in a group should work together to determine the parts the robot must have in order to be able to complete that job. Here are some questions for students to consider:

- Can the robot move? If so, how?
- What is the robot's body made of?
- What is the robot's power source?
- Where is the robot's computer?
- Does the robot have sensors or robotic arms?



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When students are ready, they should draw labeled diagrams of their robots on the poster boards. Toward the end of class, have groups present their robots. Presentations should include four parts, with each student in a group taking on one of the parts:

- An engaging introduction describing a scene in which the group's robot could come in handy
- A clear description of what the robot does and how it works
- An overview of the robot's different features and how they contribute to the robot's function
- A persuasive conclusion that highlights the robot's usefulness

At the end of each presentation, allow other students time to ask the presenting group questions about the robot. At the end of the class, have students vote on their favorite robot.

Evaluation

Could students work together to design and present their robots? Could students consider how a robot's function affects how it looks or moves? Could students present their robots clearly and articulately?

Standards

This lesson plan may be used to address the Common Core State Standards' speaking and listening standards, grade 3 (SL 3.4, 3.6).

