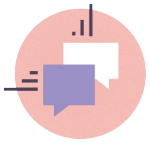
Back to sumo build

Robotics



OVERVIEW

Students iterate on their design ideas for their sumo robot.

OBJECTIVES

Students will iterate on and improve their sumo robot designs.

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AGENDA

Length: 45 minutes

1. Explain - Discuss the importance of iteration.
2. Engage - Student work on improving their sumo designs.

MATERIALS

1. Working on your build worksheet
2. EV3 robots
3. EV3 Lego kits

EXPLAIN

Length: 5 minutes

Explain to students about why iteration is important for building.

Teacher Actions	Student Actions
1 Ask students, "What is iteration?" • Iteration is the process of building, testing, and then improving the design in a continuous cycle.	1 Students raise their hands to provide answers.
2 Ask students, "Why is iteration important in building an designing?" • It is impossible to develop the perfect solution on the first attempt. Testing and iterating allows designers to see how their product works in the real world and then improve on flaws. Each cycle moves the product closer to an optimal design.	2 Students raise their hands to provide answers.
3 Explain that today, students are going to iterate and test their sumo designs. Now that their robots move around more, it may be important to design their robot differently.	

ENGAGE

Length: 40 minutes

Students use the working on your build worksheet to guide their thinking as they build and test their sumo designs.

Teacher Actions	Student Actions
1 Split students into their groups and distribute the working on your build worksheet.	1 Students split into groups and gather their computers, robots and building kits.
2 Tell students do an initial test by participating in a sumo battle. After the test students will fill in the worksheet. • In these battles the robots should start facing away from each other.	2 Students do an initial battle, then fill in the worksheet.
3 Explain that each time students build and test they should think about the questions on the handout to plan improvements.	3 After each cycle, students discuss the questions from the handout with their groups and plan new improvements.