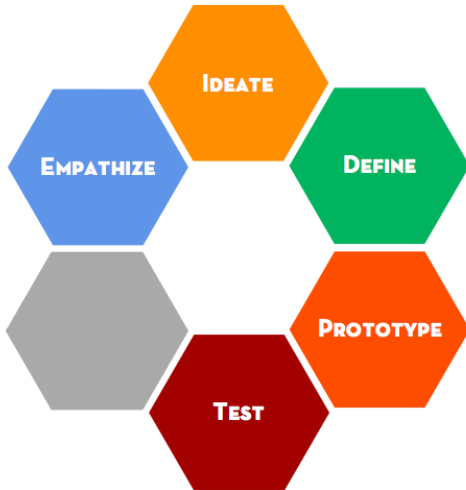


# DESIGN THINKING



EMPATHIZE: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

DEFINE: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

IDEATE: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

PROTOTYPE: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

TEST: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

## devBots Sumo

### Building the ultimate sumo robot

Your job is to design a sumo wrestling robot. Before you begin building, you must go through the design thinking process to design and create the best sumo wrestling robot. The three most important aspects you should consider are: defense, offense, and simple attachments. That means your robot should be able to defend itself from attacking robots, effectively knock over, wedge, or push its opponent, and be able to clip its attachments on and off in less than 3 minutes.

## **EMPATHIZE**

Watch the robot battle then answer the following questions.

*What happened in your battle? What problems did you encounter?*

## **DEFINE**

WHAT PROBLEM ARE YOU SOLVING?

## IDEATE

Develop a game plan for building your robot. Sketch a sample of your attachments below. (*What type of attachments does your robot need? Will that help defend your robot from attackers? How can your robot attack other robots?*)

## **PARTNER IDEATE**

*With your partner, develop an idea that uses the best parts of each design.*

## **PROTOTYPE**

Time to finalize your design! Grab a robot parts box and build a prototype of your design. Then, write a paragraph explaining how your design includes defense, offense, and simple attachments.

**Explain your design in the space below:**

# TEST

Let's put your design to the test! We will battle other groups in a mini sumo competition.

1. How did your attachments hold up during the competition? Did any parts fall off?

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2. Were your defense attachments able to protect your robot from its opponent?

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3. How did your offense attachments perform in attacking the other robot?

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4. Are you able to rebuild your robot in less than 3 minutes?

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