Names:

# Beanbag Toss

## Worksheet

**Introduction:** You and your team are going to build a beanbag toss at a carnival! In a group of 3 – 5**,** you will work together to create a model to determine how the beanbag toss game changes when you change how far away you stand**.** Your model will find out where to stand to make the game fair. Once you create a model, you will share it with your class.

**Define the Problem:** Let’s find out more about our problem!

1. What do you need to know to make a model of beanbag toss?

______________________________________________

______________________________________________

______________________________________________

______________________________________________

2. How can you find out the things you need to know?

______________________________________________

______________________________________________

______________________________________________

______________________________________________

3. What mathematical tools could you use in your model?

______________________________________________

______________________________________________

______________________________________________

______________________________________________

*This lesson was developed by Jacob Cordeiro, Jody Britten, Marka Carson, Misael Jimenez and Erika Villegas-Jimenez*
*Grant STEM-C-1441024*
*Last Edited Date: 20 July, 2017*

Template developed at HARVEY MUDD COLLEGE

4. What accuracy makes the game challenging but still fair? Is there something other than accuracy to consider?

**Gather Information:** Now let's get the information we need for our model. Draw pictures or write down important numbers you find out. This table may be helpful!

| Trial | Number of Hits |
|---|---|
| | |

**Do the Math:** Use your mathematical tools to create a mathematical model of your game. Show your math and pictures.

**Reflection:** It’s almost time to show everybody your model!

1. Does your solution make sense? Why or why not?

2. Is your solution useful?

3. What mathematical tools did you use? How do they help you solve the problem?

4. What did you change in your model throughout the modeling process?

5. How could you change your model to apply to more situations?

6. If you had more time, what else would you do?

**Presentation:** When it’s your turn, show your class your game and use your table to explain why it is fair.