

## Colonial Village Fun Park Lesson – Ball-and-Ramp Game

Name of teacher designing the lesson: Marni Brown

Is this a curriculum for a:

Full day field trip to the Fun Park

40-minute (or longer) lesson in school

### LEARNING OBJECTIVES:

#### SKILL (S)

Observing, collecting and recording data. Classifying. Inferring. Predicting.

NYS Standards M 1, 2, 3 S 1, 2, 3

#### CONCEPT (S)

Predictions and inferences can be made from data.

Brief outline of the day:

Location: Indoor Discovery Zone Ramp

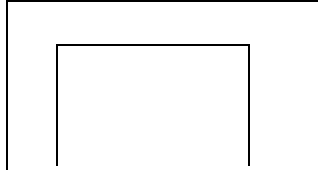
The students will play a ball-and-ramp game with a partner.

Detailed step-by step outline of the day:

Using the center (steepest) ramp, the students will release a soccer ball to roll into a large inverted Styrofoam cooler (located at the end of the ramp) from two different heights. *[The cooler has an open side into which both balls roll easily.]* The students are directed to place a piece of tape on the floor mat at the place where the cooler stops when the ball is released from the middle of the ramp. Next, after moving the cooler back to the end of the ramp, they predict where the same ball will push the cooler when released from the top of the ramp; they release it from that location. They will repeat this activity with a softball predicting the cooler's location both times. The students record their predictions and actual results on a worksheet (see below).

### Resources Required:

1. Pencils
2. Worksheets (see below)
3. Regulation soccer ball
4. Regulation soft ball
5. A coin for tossing
6. Brightly colored tape – easy to tear (e.g. blue Painter's trim tape)
7. Styrofoam cooler 14" X 12" - see Park mgt. for Marni's cooler ;->



*Side view*

**Preparation Required:**

- Writing lesson: recording data on a table
- Reproduce copies of worksheet
- Arrange for adult chaperones to assist students

**Assessment:**

<b>Student:</b>	<b>TOTAL: 0 1 2 3 4 5 6</b>					
<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>			
No worksheet completed or 0 correct answers.	Completed with 1 question answered correctly.	Worksheet completed with 2 questions answered correctly.	Worksheet completed with all questions answered correctly.			
Data table omitted or 0 correct.	Data table completed with 1 correct.	Data table completed with 3 correct answers.	Data table correct.			

## Colonial Village Fun Park

Name: \_\_\_\_\_

Discovery Zone Ramp-And-Ball Game

Date: \_\_\_\_\_

**DIRECTIONS:** You and your partner will work together on this task. You may share your ideas and your answers may be the same as your partner's answers, or they may be different. Record your answers on your own worksheet.

What is your partner's name? \_\_\_\_\_

**Place the cooler upside-down at the bottom of the ramp with the open end facing the ramp so when you roll the ball down the ramp it will go inside the cooler.**

Flip a coin to see who goes first.

**STEP 1:** The first partner takes the soccer ball to the **middle** of the ramp and releases it so that it rolls into the cooler. Sticking a piece of tape to the floor mat, the second partner marks the farthest spot where the cooler moved.

**STEP 2:** Put an **X** in the data table (on the back of this paper) to predict where you think the cooler will stop when the soccer ball is released from the **top** of the ramp. The second partner releases the soccer ball from the **top**. Put an **X** in the data table to show the actual place where the cooler stopped.

***DO NOT REMOVE THE TAPE FROM THE MAT!***

Repeat steps 1 and 2 using a soft ball and recording your data.  
Answer questions 1-3 on the worksheet.

## DATA TABLE

### Where the Cooler Stopped

	Before the Tape	At the Tape	Past the Tape
<b>SOCCER BALL RELEASE POINT ON RAMP</b>			
MIDDLE		<u>X</u>	
TOP prediction	_____	_____	_____
Actual	_____	_____	_____
 <b>SOFT BALL RELEASE POINT</b>			
MIDDLE prediction	_____	_____	_____
Actual	_____	_____	_____
TOP prediction	_____	_____	_____
Actual	_____	_____	_____

1. Pretend that you could have a real bowling ball. At what point on the ramp should you release the bowling ball to move the cooler the farthest distance?

**Circle one:** MIDDLE                      TOP

Explain: \_\_\_\_\_

2. Where would a bowling ball be most likely to move the cooler?

**Circle one:** before the tape              on the tape              past the tape

Explain: \_\_\_\_\_

3. Where would a golf ball be most likely to move the cooler?

**Circle one:** before the tape              on the tape              past the tape

Explain: \_\_\_\_\_