

Lisa Bullard

ACTIVITY: CHANCES ARE

Learning/Standards Focus:	Interdisciplinary (Math, Language Arts)
Time Needed:	1-2 class periods
Grade levels:	4-8 (note "Alternate suggestion for older students")
Activity Overview:	Youth will create a "Chicken Poop Bingo" game to demonstrate randomization



OBJECTIVES:

- Create a Chicken Poop Bingo game.
- Demonstrate the concept of randomization and odds by tossing objects and recording the results.
- Present "poop data" and observations to class.

MATERIALS NEEDED (FOR EACH TEAM/TABLE):

- A pair of dice
- Recycled, open-topped box
- Sharpie
- Ruler
- Objects that can be tossed into the box; this could include coins, jelly beans, chocolate chips, etc.
- Paper for recording data

DO AHEAD (DAY OF THE ACTIVITY)

- Set up tables with box, Sharpie, ruler, paper, and dice.
- Create a set of objects to be tossed, one set per table. Number will depend on time allowed.

INTRODUCTION TO THE ACTIVITY (5 MINUTES):

"In the mystery novel *Turn Left at the Cow* by Lisa Bullard, the character Travis is introduced to a strange game at a fundraiser in the small rural town where his grandmother lives. The game is called Chicken Poop Bingo [alternately, Chicken Drop Bingo]. People buy numbered tickets that match the numbers on a plywood grid. Then a chicken is placed on the plywood; whichever number the chicken first poops on is the winning number, and the person with that ticket wins a big prize.

"The game Chicken Poop Bingo depends on randomization. Randomization occurs in all our lives. When you roll a pair of dice the results are random. There are odds for rolling certain numbers, but how the dice come up on your turn is random. For example, the odds of rolling a 7 using a pair of dice are 17%, whereas the odds of rolling a 2 or a 12 are 3%.

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“Carnival games use randomization and chance to create entertainment. In Chicken Poop Bingo, random chance – wherever the chicken happens to poop – adds up to someone winning the game. There are odds for all games of chance. Let’s all make our own game and chart the odds.”

CHANCES ARE ACTIVITY (35 MINUTES):

1. Break youth into teams.
2. Using the ruler and Sharpie, each team will create a grid on the bottom of their box. Explain that the grid should cover the entire bottom of the box and should contain 25 squares/rectangles of equal size (5 squares vertically and 5 squares horizontally). Once they are done making the grid, students should number the squares from 1-25.
3. Have each team choose an object to toss.
4. Have students stand a minimum of 2 feet away from the box so that they can’t direct their throw to a particular number.
5. Each team is allowed 4 tosses per youth. The coordinates where each toss lands should be recorded on a separate piece of paper and the item should be removed from the box before the next toss.
6. If there is time, choose 3 variables to experiment with. For example: height, distance, type of object thrown, etc.
7. Present the data to the class and ask: What was the most common number? Did the most common number change when you changed the objects you tossed? What variables seemed to make a difference?

ALTERNATE SUGGESTION FOR OLDER STUDENTS:

- Have students calculate the percentages of the number of times the object hit each particular number. To find what percent of number y is number x , you should divide number x by number y . Then multiply your result by 100 and this will give you the percentage. Your formula should look like $x/y * 100$.

EXTENSION:

- Have students decorate their boxes with images inspired by *Turn Left at the Cow*.

DEBRIEF: (10 MINUTES)

- What surprised you about your experience?
- What was the most challenging part of this activity?
- What did you learn from this activity that you didn’t know before?
- What advice would you give others who would do this activity?
- How can you use these skills in other situations?

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VOCABULARY:

Randomization: A deliberately haphazard arrangement so as to simulate chance.

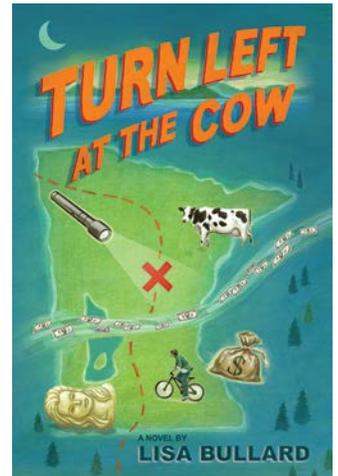
Odds: The odds in favor of an event are the ratio of the probability that the event will happen to the probability that the event will not happen.

Probability: A measure or estimation of how likely it is that something will happen or that a statement is true. Probabilities are given a value between 0 (0% chance, or will not happen) and 1 (100% chance, or will happen). The higher the degree of probability, the more likely the event is to happen, or, in a longer series of samples, the greater the number of times such event is expected to happen.

TURN LEFT AT THE COW

Published by Harcourt Children's Books/Houghton Mifflin
Hardcover ISBN: 978-0-5440-2900-2

Thirteen-year-old Trav has always wondered about his dead-before-he-was-born dad. But when he heads from California to his grandmother's house in rural Minnesota, hoping to learn about his past, he gets more than he bargained for. It turns out his dad was involved in a bank robbery right before he mysteriously disappeared, and the loot from the take is still missing. Along with Kenny and Iz, the kids next door, Trav embarks on a search for the cash. But the trio's adventure quickly turns dangerous when it becomes clear that someone else is looking for the money – someone who won't give up without a fight!



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