

## POPCORN DROP Teaching Guidelines

**Subject:** Mathematics

**Topics:** Statistics

**Grades:** 4 - 7

### **Knowledge and Skills:**

- Can find the mean, median, mode and range of a set of numbers
- Knows the purpose of the subject of statistics
- Understands the concepts average (mean), range, mode, and median
- Can decide which statistical measure is most appropriate in a given situation
- Understands the purpose and value of organizing information in charts

### **Materials** (for each team):

- 1 bag of popcorn
- 1 wide-mouthed jar
- 1 wide, shallow cardboard box top (to place the jars in on the floor so as to catch pieces of popcorn that miss the jars)

### **Procedure:**

Before class starts, write this “Do-Now” on the board: “What do you think is the most common sneaker size for girls and for boys? Explain your answer.”

Give students a few minutes for the do-now, and ask for their answers. Write these on the board (grouped as “girls” and “boys”). Ask students for their observations about the numbers. Point out that you have gathered, organized, and talked about the meaning of some numerical information, and introduce the term “statistics” as the name of the kind of mathematics that you have been doing.

*\*Do Now: A short warm-up activity that students can do on their own at the beginning of class. “Do now” instructions are usually written on the blackboard before class begins so that students can do the activity immediately and without further direction.*

Ask students to write down everything they know about statistics, and allow them to discuss what they know about statistics in small groups as they do so. After a few minutes, discuss what they came up with, and use this as an opportunity to review “mode”, “range”, and “average”.

Noting that one use of statistics is to keep track of how well teams and players are doing in sports, introduce the “popcorn drop” game as the activity of this class.

Arrange the class in teams of four, and give each team a fun team name.

Assign a “manager” for each team to be in charge of the team for that activity.

Assign a “recorder” for each team, and tell the recorders to take out their Popcorn Ball Score Sheets and write down the names of each team member in the spaces provided.

Demonstrate how the game is played: hold a piece of popcorn on the bridge of your nose and try to drop it so it falls into a plastic jar on the floor. Explain that each time a team member is “at bat” he or she gets 10 attempts, and the recorder is to mark down how many times out of 10 that the popcorn landed in the jar. Every member of the team has two times “at bat”.

As students do the activity, circulate and observe.

When the activity is complete, tell students to compute the average, mode and range for all of the times at bat, and review quickly how to do this.

Ask each team to report their statistics, and decide through class discussion which statistical measure should be used to determine the winner of the game.

## "Popcorn Drop" Score Card

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

Student's name	1st trial	2nd trial

Team Range	
Team Average	
Team Mode	