Difference in Difference

Bean Bag Toss: A game to explore a difference in difference research design

How many can you knock down?

Rules of the game:
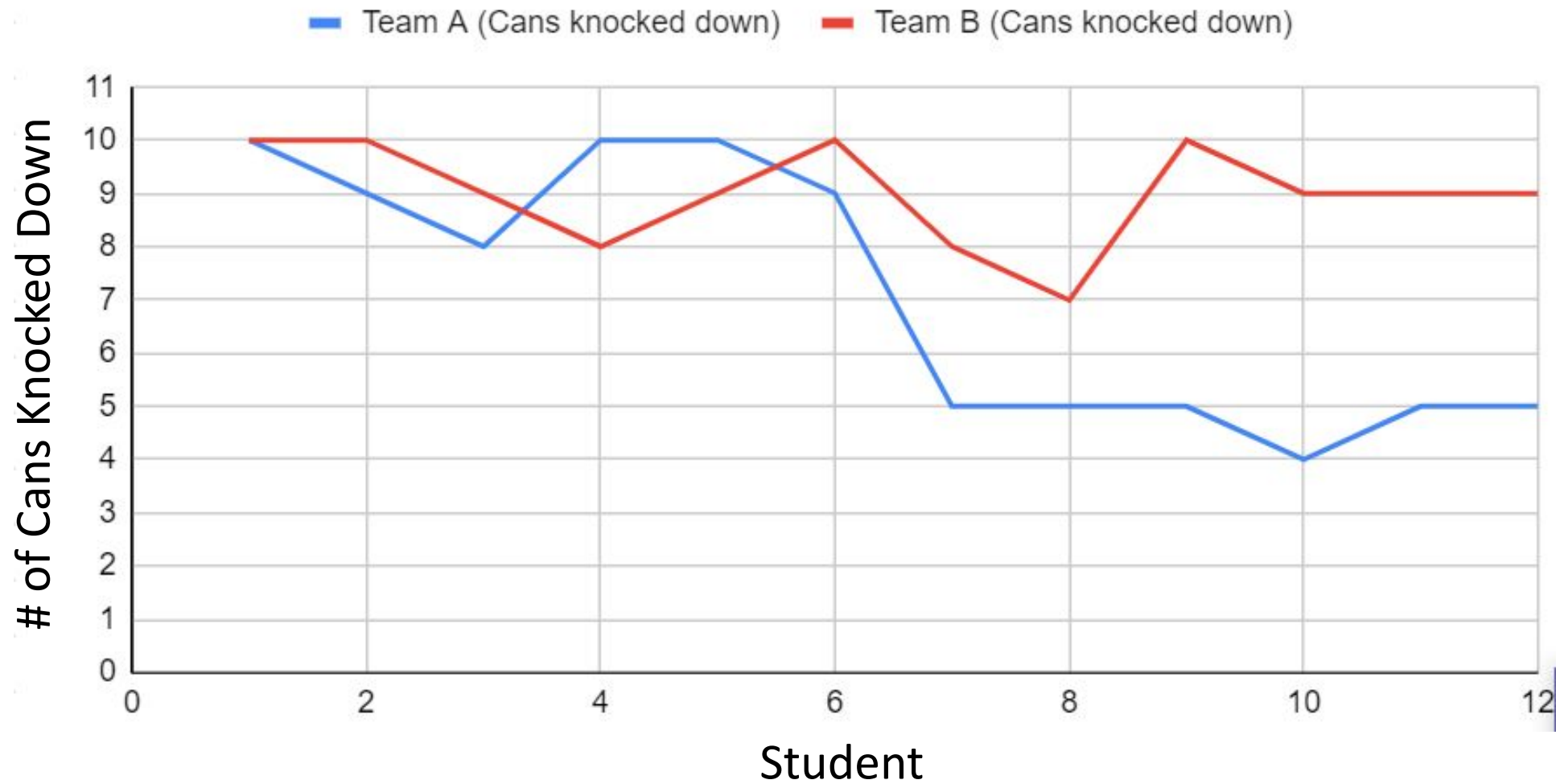
The class will be divided into two teams

Each team should:

- Come up with a team name and record it on your index card
- Team members take turns based on the number on index card
- Throw bean bag to see how many cans each member can knock down
- Record that number on their index card
- When instructed, plot data on graph.
- Link to the [Data table and graph for activity](#)

The team that knocks down the most cans wins!

Sample Graph

Cans Knocked Down by Student

What is Difference-in-Difference?

- Difference-in-difference is a statistical technique used in research
- It mimics an experimental research design in a natural setting by asking if a group that was affected by a <u>treatment</u> had a different outcome than the group that was not (<u>control</u>)
- It compares an outcome (like bean bags or deaths) before a treatment to an outcome afterwards (difference 1 for group 1) and then compares the trend in deaths to the control group (difference 2)
- Because we're comparing these two differences, this is a "difference-in-difference" design

- If we see a significant difference in trends for the two groups (difference in difference) that is a clue that the treatment had an impact