

In-class activity M&Ms and common pool resources

This exercise is aimed to visualize the difficulty of dealing with a common pool resource

Materials needed:

- Large clear bowl or bag filled with M&Ms or other small candies/macaroni
- Provide students with 3 SMALL pieces of paper and a pen
- Instructor has Excel open
- One or two envelopes with an award/prize

Show the large bowl of candy to the students. Tell the students they can no longer talk or chat to each other. Next, run scenario 1:

Scenario 1: No information

Procedures:

- Display the (pre-counted) bowl of M&Ms where it is clearly visible to all students
- Explain the rules:
 - No talking/chatting: you may not consult with other people
 - Every students “claims” any number of M&Ms by writing the number and your initials on a scrap of paper.

Outcomes:

- You will receive the number of M&Ms you claimed, but **ONLY IF** the total claimed **does not exceed** the total number of M&Ms in the bowl. In addition,
 - There is a **special award** for the **largest claim** (e.g. a 30 min review session, a movie ticket, a book).
 - Do NOT tell the students what the reward is, just tell them it is something that is of great value.
 - If there is a **tie, nobody receives** the envelop or remainder of M&Ms.
- HOWEVER, if the claims exceed the number of M&Ms in the bag, nobody will receive anything (not even the person with the largest claim).

Now the game starts:

- Have student write their claim on a piece of paper
- Have everyone pass the piece of paper to the person to the right
- Now, have everyone read out the number they have on the paper in front of them.
- Enter the numbers in excel and calculate the total

Suggestion: **MAKE SURE THEY ALWAYS LOSE THE FIRST GAME** (Simply announce that the total number in the bowl is LOWER than the number added up by the students... but don't give specifics).

Scenario 2: Known amount o/f M&Ms, and information from one other member

Continue with a second game. Importantly, now the students now approximately know the number of M&Ms in the bowl.

In addition, they will get some additional information.

1. Explain the rules:
 - a. Still no talking; you may not consult with other people.
 - b. “Claim” any number of M&Ms by writing the number and your initials on a scrap of paper.
 - c. Now receive and share the following:
 - i. Show your claim to your right hand neighbor (YOU CANNOT SEE HIS CLAIM)
 - ii. Receive information about the claim of your LEFT hand neighbor (YOU CANNOT SHOW YOUR CLAIM)
 - d. **Decide whether you want to “Claim” a different number of M&Ms by changing the number and your initials on a scrap of paper.**
 - e. Instructor will collect all the claims and
 - i. you will receive the number of M&Ms you claimed IF the total claimed **does not exceed** the total number of M&Ms in the bag.
 - ii. Also, if the claims **do NOT exceed** the # in the bag, the following prizes will be awarded:
 1. The A envelope with a special award (pick this yourself)
 2. All the remaining M&Ms for the second largest claim

Next:

- Have everyone pass the piece of paper to the person to the right
- Now, have everyone read out the number they have on the paper in front of them.
- Enter the numbers in excel and calculate the total

Outcomes:

- You will receive the number of M&Ms you claimed, but **ONLY IF** the total claimed **does not exceed** the total number of M&Ms in the bowl. In addition,
 - There is a **special award** for the **largest claim** (e.g. a 30 min review session, a movie ticket, a book).

- Do NOT tell the students what the reward is, just tell them it is something that is of great value.
- If there is a **tie, nobody receives** the envelop or remainder of M&Ms.
- HOWEVER, if the claims exceed the number of M&Ms in the bag, nobody will receive anything (not even the person with the largest claim).

Suggestion: **AGAIN MAKE SURE THEY ALWAYS LOSE THE FIRST GAME** (Simply announce that the total number in the bowl is LOWER than the number added up by the students... but don't give specifics).

Scenario 3: Discussio

Continue the game, but now tell them the number of M&Ms in the bowl. Next, tell the students they have 5 minutes to discuss amongst themselves how they will divide the M&Ms. You will not intervene.

Highlight again that there is a prize... make them aware it is very valuable.

After the 5 minutes, students again write their claim on a piece of paper

- However, this is still done anonously... so they can decide not to follow agreement
- It is up to them
- And... remind them again of important prize

Next:

- Have everyone pass the piece of paper to the person to the right
- Now, have everyone read out the number they have on the paper in front of them.
- Enter the numbers in excel and calculate the total

Outcomes:

- You will receive the number of M&Ms you claimed, but ONLY IF the total claimed does not exceed the total number of M&Ms in the bowl. In addition:
 - There is a special award for the largest claim (e.g. a 30-minute review session, a movie ticket, a book).
 - Do NOT tell the students what the reward is, just tell them it is something that is of great value.
 - If there is a tie, nobody receives the envelop or the remainder of M&Ms.
- HOWEVER, if the claims exceed the number of M&Ms in the bag, nobody will receive anything (not even the person with the largest claim).

Experience shows that it works best if you really put something on the line. For example, we have a sealed envelope, and tell students that the winner could benefit significantly from the award (e.g. a 30 min review session).