For The Common Good

Introduction:
Renewable resources, such as trees or fish, can be maintained if managed properly. But if not given an opportunity to reproduce, these resources can be exhausted quickly, especially as the demand for the resources grows. In managing these resources, it is important for people to use them cooperatively and to not sacrifice long-term gain for short-term profits. In the first part of this activity, students play a game where cooperative decisions must be made if all are to benefit. Note: It is best to play the game first without telling the students that the chips represent resources that must be shared. Part 2 reinforces the concept that cooperation, rather than selfishness, brings more long-term benefits to the society.

Materials:
Tokens (such as poker chips or peanuts in the shell)
10 tokens per student should be available altogether
Hard candies, stickers or something the students value highly
Stopwatch or watch with a second hand
Music
Paper and pencils or pens

Part 1: Something for Everyone

Procedure:
1. Count out, but do not distribute, 10 chips for each student playing the game. Put one-fourth of them in a separate pile.
2. Seat the students in a circle.
3. In the center of the circle, place the pile comprising one-fourth of all the chips. For example, if you have 10 students, you use 100 chips and begin with 25 in the center.
4. Read the following rules twice to the students.

Rules:
1. The chips belong to all of you.
2. Music will be played, and while it is playing, everybody may take chips out of the pool of chips in the center.
3. You may not put chips back into the pool once you have taken them out.
4. You may trade in 10 chips for a piece of candy (or sticker).
5. As soon as the music stops, I will double the number of chips left in the pool at that time, and then continue the game.
6. There will never, however, be more chips in the pool than there are at the start of the game; this is the maximum number of chips the pool can hold.

7. You may not talk or communicate in any way to anyone during the game.

Notes to the Teacher:

DO NOT explain the significance of the chips before playing the game. The rules are the only instruction the players get.

The players will most likely empty the pool at the start of the game. Point out that, as it’s impossible to double zero, the game is over. Ask if they’d like to try again. Each student must return all of his/her chips to the pool.

Continue to play the game for several rounds without giving the students time to communicate with one another in between.

When doubling the chips in the pool, remember there can “never be more chips in the pool than at the start of the game.” This is the pool’s carrying capacity for chips.

After several rounds, you may allow the students to talk while the music plays so they can discuss strategies.

After five or six rounds, ask students how they feel about the way the game worked out. As a group, help students think of ways they could cooperate to allow more of them to get their 10 chips without depleting the pool of resources. Play again using the strategies developed by the students.

Discussion Questions:

1. What do the chips represent?
   
   Renewable resources, such as fish or trees. A resource is renewable if it can replace itself in the course of a human life. (Coal, gasoline, oil and iron are examples of nonrenewable resources, and therefore aren’t applicable in this exercise. Water is also not a renewable resource; we have the same amount of water now as we ever had or will.)

2. The chips, we said, belong to everyone. Can you think of any examples of resources that belong to everyone?
   
   (Wildlife, air, public lands like national parks, oceans, etc.)

3. Can we draw any parallels between the way the group treated the chips and the way individuals and society as a whole use or overuse renewable resources?
   
   Deforestation: cutting trees down without planting replacements or at a
rate that does not give new trees enough time to grow to maturity before harvesting. **Overfishing:** taking so many fish that not enough are left to reproduce and replenish the stocks for next year. **Overfarming:** depleting the soil of nutrients without giving it time to regenerate.

4. How many chips were taken out of the pool in the different game variations? How many candies did this generate? How did it make you feel about other members of the group?

5. Was there an ideal number of chips to take out of the pool? If so, what was it, and why?

   (Students build up their supply of chips the fastest if they take exactly half of the chips out of the pool during each round. That allows the maximum number to be added for the next round. If students take more than half, the number of chips to be doubled is lower, and there will be fewer available to take in the future. If they take fewer than half, it will take them much longer to build up the supply that they need for trade-in. Wildlife managers call this concept the Maximum Sustainable Yield, and use it to figure out limits for hunting and fishing.)

6. How did talking about the game make you play differently? After discussing strategies, did it seem that differing attitudes were behind the different ways you played the game? Why did some players take as many chips as they could reach and others left some behind? How did this make you feel?

7. Have you experienced a similar situation at home, with friends or in your community? (It may help to provide an analogy, such as several people in the house competing for hot water in the morning.) How, in the long run, can more benefit if individuals refrain from taking too much? What sort of attitude do we need to have to achieve the goal of the greatest benefit for all?

**Part 2: A Social Dilemma**

**Procedure:**

Distribute small pieces of paper and instruct the class that they are to choose to write a C or a D on the papers after listening to the following guidelines:

1. If you write a C, I give you nothing, but I give everyone else in the class a dollar (pretend money).

2. If you write a D, I give you $2, but I give everyone else nothing.

3. None of you are allowed to see what anyone else has written.

4. The result is that **you’ll** get however many dollars you gave yourself, **plus** however many dollars everyone else gave you.
Again: you’ll each get $1 for everyone else in the class who writes C, plus $2 if you yourself write D.

Give them a short time to make their decisions and write C or D. Then tell them to consider the following two points:

1. If everyone puts down a C, each of you gets a dollar for everybody in the class except yourself. That’s how many dollars? (The number of students in the class minus one.)

2. If everyone puts down a D, everybody gets only $2. Anyone who would like to change his/her answer may do so now.

Give students time to reconsider and change their answers if they so choose. Then ask the students to reveal their final choices, whether they’ve changed and why.

Notes to the Teacher:

This type of situation is called a social dilemma. Everyone will get more money if they cooperate (C) and act in the best interest of the group. If students do not act in the best interest of the group by defecting (D), they are guaranteed money, but they will receive much less than they would have by cooperating. It is a common situation. Students who understand the theory of social dilemmas will be better able to understand the need for solutions to them.

Discussion Questions:

1. C stands for cooperating and D for defecting. How would you feel if you cooperated and everyone else defected?

2. How would you feel if you defected and everyone else cooperated?

3. In this game, when do all the participants get the most? The least?

4. What are some examples of C-type (cooperative) behavior in the real world?

* Contributing to public TV, not trying to evade the law, keeping promises, doing one’s job wholeheartedly in the absence of supervision, not taking more than one’s share of a public resource, not polluting the air and not having too many children. The D response corresponds to the opposite choice in each case.

5. Think of a real-life social dilemma in which too few people cooperate. How could people be encouraged to cooperate more?
