

Activity/Demonstration: "Cleaning up the Lake"

Materials Needed:

- large plastic garbage bag (like the dark green Hefty "lawn/yard" bags)
- six Styrofoam cups
- magic marker
- a bunch of trash with small and large pieces of garbage (e.g., newspapers, empty soda cans, confetti, used coffee grounds)
- 30 pennies or beans or marbles
- plastic gloves
- an empty plastic trash bag

Activity:

1. Designate each of the cups as a different portion of the city budget. Write the word "education" in large letters on one cup, "public works" on another, and "parks and recreation," "transportation," "police/fire dept," and "welfare" on the rest of the cups with a magic marker.
2. Put five pennies (or marbles, beans, etc.) in each cup.
3. Gather the students into a circle and lay the plastic garbage bag on the floor in front of them. Tell them that they are all part of a city and the plastic bag represents a beautiful local lake. People swim and fish in it, walk and jog around it, and come from all around to see it.
4. Begin to dump the garbage onto the bag as you explain to the kids that unfortunately the lake has become very polluted.
5. Tell the students that they need to figure out how to clean up the lake. Select a town mayor from the group.
6. Show everyone the five cups for city spending. Tell the class that the City Council has entered into a contract to pay the firm, "Clean Water Specialists, Inc." to clean up the lake. Workers from the firm will be paid 5 pennies/marbles each.
7. Ask for volunteers from the class. You need one student to serve as the Mayor and 3 more students to serve as staff workers from Clean Water Specialists, Inc. Have the volunteers come to the front of the class. Have the Mayor stand by the table/desk where all the cups with pennies/marbles are.
8. Give the plastic gloves to the first worker from Clean Water Specialists, Inc. and also give them an empty plastic trash bag. Tell this worker he/she has 10 seconds to work on removing as much trash from the lake as possible. (Note that the worker is not allowed to just lift up the big plastic garbage bag that represents the lake.)

9. The first worker should make a visible “dent” in the task. Have the mayor ask the class how well they think worker #1 did. The class should hopefully say “a good job.” At the same time, the lake will not be completely cleaned up, because in the small amount of time given, worker #1 will have most likely picked out the biggest trash items from the lake but not been able to get every little coffee ground or piece of confetti. Now the mayor must pay worker #1 the 5 pennies/marbles as per the contract with Clean Water Specialists, Inc. The mayor should ask the class to direct him/her as to which area of the city budget (e.g., which cup) worker #1 should be paid. Give the class a minute or so to make its decision (mostly likely they will choose to pay the five pennies from the cup labeled “public works” or “parks and recreation”). The mayor should take the plastic gloves from worker #1 and pay him/her the five pennies/marbles.

10. The mayor should give worker #2 the plastic gloves and the trash bag and tell him/her to go to work cleaning up the lake. The mayor should time this person – giving him/her ten seconds. When worker #2 is done, ask the class “How well did worker #2 do?” The class should hopefully respond that worker #2 worked as hard as worker #1, though the results will likely be fewer/less visible. Also, the lake will still not be 100% cleaned up, though it will look a lot better than it did at the beginning of the class.

11. Now worker #2 must be paid 5 pennies/marbles. Have the mayor ask the class which area of the city budget should be used to pay. This will hopefully spark the key discussion of the activity. Resources are limited and the worker has to be paid – so this will produce trade-offs. Have the different students defend their choices (i.e., someone may say to take one penny from each of several cups to come up with the resources to pay for the lake clean-up; someone else may counter that the city shouldn’t take away money from education to pay for the clean-up, etc.) Let the discussion go on for some time and help the students see the various opportunity costs of their decisions. Once they come to agreement on how to pay worker #2, the mayor should collect the worker’s gloves and pay him/her.

12. Now point out that the lake is still not 100% clean. It’s better than it was, though. Now the citizens of the town have to decide whether to continue to spend money on lake clean-up or not. Have the class discuss the pros/cons of spending more of the city budget on lake clean-up. If the class decides to continue clean-up, then the mayor should hand the plastic gloves to worker #3 and give him/her ten seconds to work. Now the mayor and class will have to make another decision on how to pay worker #3. Or, if the class decides it’s not worth it to hire a third person to clean the lake, get them to talk about the rationale behind that decision.