Don’t Lose Your Marbles!

Some activities are impossible or impractical to do all by yourself. This activity cannot be done individually so participants must practice their communication and teamwork skills to complete the task. Youth will have to cooperate with each other, follow directions, and engage in problem solving – all skills critical for the workforce. Teams will have to learn how to utilize the strengths of each team member to develop solutions for this activity.

Youth Will Learn

*Workforce Skills:* Teamwork, communication, and problem solving
*Success Indicators:* Youth will solve a complex problem as a team by using the basic steps of problem solving.

**What You Need:**

Time Involved: 30 minutes
Suggested Group Size: Any size
Materials Needed:
- Marbles, five per team
- Pieces of PVC piping, one for each team member OR 8.5” x 11” sheet of paper for each team member
- Cup, one per team
- Tape; scotch or masking

**Facilitator Tips:**

Have teens divide into groups of five to seven members (adjust accordingly to total group size).

You can use either PVC piping cut into foot-long segments or 8.5” x 11” sheets of paper, rolled and taped to make tubes. The pipes or tubes need to be large enough for a marble to pass through.

*For an added challenge:*

If using PVC- Have an assortment of sizes and shapes of PVC pipes for teens to choose from. Allow them to problem solve as to which pieces would be most useful.

If using paper – Have the teens construct their own tubes with the paper and tape. Allow them to figure out how big or small to roll the tube to work best for the activity.
The Activity

1. Ask the group to define problem solving. Discuss the basic steps of problem solving:
   a) Identify the problem to be solved.
   b) Identify the ideal solution(s) to the problem.
   c) Identify optimal solutions to the problem.
   d) Consider consequences of your solution(s).
   e) Make your decision.
   f) Implement your decision.
   g) Decide if your approach worked.

2. Explain to the group that they had been out for a hike during camp when they noticed that there are five bird’s eggs laying in the grass. They realize that they must have rolled out from a nearby nest on a very low branch during last night’s storms. Knowing that some animals are wary of human scent, the team needs to find a way to transport the “eggs” back into the “nest” without touching them.

3. Have the youth divide up into teams of 5-7 people. Hand out 5 eggs (marbles) per team. If using PVC, hand out or have each teen select a piece of tubing. If using paper tubes, hand out or have the teens construct their own tubes. Remind them that the marbles must be able to pass through them.

4. Choose a reasonable distance to place the nests (cups), such as across the room (50-70 feet). Designate each team to a specific cup. Explain that the goal is for each team to transport all five of their eggs back to the designated nest.

5. Once the teams have their supplies, have them use the “Basic Steps of Problem Solving” to come up with a plan of action for how they will transport the eggs to the nest. Have them write down the plan that they decide upon to complete the task.
6. After the teams have come up with a plan, explain that they must now complete their task while following these instructions:
   - You can use only the equipment given to you to transport the marble.
   - You can only touch your own tubing.
   - You may not move your feet while the marble is in your tube.
   - The marble may not come into contact with anything but the tubes and the final container.
   - You may not block the ends of the tubes with any objects or other tubes.
   - If an egg falls to the floor, you must restart the process for that egg.
   - Eggs cannot bounce out of the nest so they must be carefully placed into the nest. If an egg does bounce from the nest, you must restart the process for that egg.

Variations

- Lay out an obstacle course that must be passed through to reach the “nest” using buckets, brooms, etc., to resemble damage from the storm.
- Try passing the marbles up a flight of stairs or up an incline of a hill. Allow the participants to hold near the ends of the tubes to make this task a little easier.
- Instead of being able to touch only their own tube, allow participants to touch any tube they like but the tubes cannot touch each other.
- Attach a variety of colored tape to the ends of the marble tubes and allow only those with the same color to pass the marbles to each other.
- If using PVC, use various connection pieces such as elbows, tees, and Y sections for an added challenge.
- Drill a few holes in some of the marble tubes creating an additional obstacle for participants.
- Try passing other objects through the tubes such as small foam balls, M&Ms, golf balls, etc.
- Only allow participants to use one hand to hold their tube.
Talk It Over

Share
• Do you think your group worked well together?
• How did your group decide on a plan?
• How did your plan change once you found out all of the instructions?
• Did your plan change during the activity because of it?
• What was the most difficult part of the task?

Process
• Describe some of the problems or issues your team faced during the activity.
• What did you learn about working with others?
• Why was it important to use teamwork in this activity?

Generalize
• Describe a time when you were asked to do something that would have been easier if you had a team to help you with that task.
• How have you responded to a situation where you were asked to do something, but you were not given enough support to do it on your own?
• Have you ever been given a task but you felt you were not given enough information to successfully complete the task?
• How have you responded to a situation where you were asked to do something but were not given enough information to successfully complete the task?

Apply
• What can you do to ensure you and others you work with have everything you need to successfully complete tasks you are given?

Did you know one of the top three skills associated with improving chances for employment is the ability to problem solve?

How can you make sure potential employers know you have this skill?