

TENNIS BALL ACTIVITY

For facilitation guide:

Setup:

- You will need 3 tennis balls and a timer.
- Ask for 8-10 volunteers from the group to participate in the activity, everyone else can observe.
- Ask the 8-10 participants to stand in a circle without crowding each other (if space is tight, feel free to find a space outside of the room).

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1. Tennis Balls

Establish the process:

- Say “We are going to create a process aimed at having everyone touch the ball.”
- Toss the ball to someone on the opposite side of the circle from where you are standing.
- Tell that person to pass the ball to someone, and to remember who touches the ball after them
- Have the next person pass the ball to someone new, and so on until everyone has had a turn.
- Say, “let’s see if we can remember the sequence that the ball travels in”, and ask them to do this one more time

Complicate the process:

- Say “We never do one thing at a time – we’re always multitasking.” Add in another ball for them to pass around in the same sequence following the first ball.
- Once they have the process down, hand the three balls to the first person. Remind them of the rule **that everyone must touch each ball once and in the same established sequence**. Now you step out of the circle.

Time the process – Baseline:

- Say “We don’t just multitask – we are usually working under time pressure. So now we will time you.” Call START when the first ball leaves the hand of the first person, and STOP when the third ball touches the hand of the last person.
- Have them do a round. Time them, call out the time and record it as the baseline on a flipchart.

Incremental Improvement:

- Ask: “Do you think you can do it faster?” Let the group repeat a few times or until they are happy with the progress they have made (and they are doing it without dropping the balls).
- Repeat the rule after every round: **that everyone must touch each ball once and in the same established sequence.**
- Call out and record their time(s) for each iteration of the process.

First Challenge:

- Say “You should be proud of getting your speed down to ___ seconds. However, every group that has done this exercise has been able to bring it down to less than 3 seconds”.
- Most groups figure out how to change their positions and routines so they can get the time down to 2-3 seconds.
- Don’t give any hints! Play it straight.
- If they are not coming up with any new ideas, ASK: “Should you rethink what you’re doing?”
- Continue to record their time- if they beat 3 seconds and you still have time, tell them that some groups have done it in less than 1 second!

Debrief with the Group and ask them what this showed them.

AIRPLANE GAME

Aim: To design the furthest flying paper airplane in the room

Measure: Distance of each flight

Instructions:

1. Design a paper plane using the materials provided.
2. Fill out the “pre-flight” section of the grid.
3. One member of your team should be the designated “flyer.” No modifications can be made to the plane between construction and flight.
4. After each test flight, the data coordinator should measure the distance the plane traveled down the runway and record this on the form.
5. Based on the measurements, review the design of your plane and look for improvements (what can we do that will result in an improvement). Make just ONE change to the design of the plane, and repeat steps 1-4 until you have collected data for 4 cycles (original design cycle + 3 change cycles). Be sure to specify the impact you want the change to have for each cycle (e.g. to increase distance flown by 15%).

Rules:

- Only one design change per PDSA cycle
- All planes must have wings and be able to glide
- The worksheet should be completed before and after the worksheet
- Use only materials provided (one sheet of paper PER airplane)

	Pre-Flight		Post Flight		
Test Cycle	What do we want to try? Improvement idea?	Prediction	What did you do? Any unanticipated results?	Result:	Compare prediction to actual and note any lessons learned
1		Distance: Other?		Distance:	
2		Distance: Other?		Distance:	
3		Distance: Other?		Distance:	
4		Distance: Other?		Distance:	
5		Distance: Other?		Distance:	
6		Distance: Other?		Distance:	

Data Collection Sheet

