CYLINDER PROBES

Introduction You and your partner are officers of a space research and development firm. You are competing to win contracts to produce cylinder probes for planetary exploration. The probe you are going to construct will need to travel over long distances. Don't forget to keep notes on the exact measurements of your probes and the distances each probe flew, so the company will know who gets the contract.

Materials

- paper—*two pieces per group*
- paper clips—*four per group*
- ruler—*one per group*
- scissors—*one per group*
- straws—*two per group*
- tape—*one roll*

Directions

1. Cut your paper into two strips for each probe.
   A. Cylinder Probe Type A: one strip = 18 cm x 2.5 cm
      one strip = 15 cm x 2 cm

   B. Cylinder Probe Type B: one strip = 17 cm x 2 cm
      one strip = 12 cm x 1.5 cm

2. Bend each strip into a loop and fasten it with a paper clip.
3. Attach each loop with its paper clip to one end of a straw.
4. For both probes, make sure that the loops are lined up with each other. Check the alignment by looking down the straw through one of the loops. Adjust the size of the loop by pushing or pulling the strip of paper through the paper clip.
5. Test fly each probe.
6. When you and your partner are satisfied with the probes' flying performances, tape the paper clips in place so they can't move.
7. Record the diameter and circumference of the Type A and Type B Cylinder Probes created by you and your partner.
8. Give each probe 10 test flights and record your data below.

Probe		Diameter	Circumference
Type A	Big Loop Little Loop		
Type B	Big Loop Little Loop		

8. Give each probe 10 test flights and record your data below.

TEST FLIGHT	TYPE-A-DISTANCE	TYPE-B-DISTANCE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		
MEAN (AVERAGE)		

9. Draw a line graph comparing the distance flown by each probe. You may use colored markers to represent the two types of cylinder probes on your graph.