

DIRECTIONS: In this lab, you will be moving a ball bearing along a set path at your lab station USING ONLY a straw and your breath. **YOU ARE NOT ALLOWED TO TOUCH THE BALL WITH YOUR HANDS.** The ball should move as quickly as possible and you should try to keep the ball moving as close to the chalk line as possible the entire time.

MATERIALS:

- 2 books
- Ball bearing
- Straw
- Chalk

RULES:

- Be aware of your surroundings, please do not crash/interfere with other students
- Chalk is for the lab, not graffiti. Do use the chalk for anything but following instructions.
- While timing, don't touch the ball bearing unless you make a mistake.
- Every student must complete every task.
- At the end of the lab, you will return your ball bearing to the soap dish ONE AT A TIME. Part of your grade depends on whether or not I get the ball back
- Throw away your straw when you are finished.

DATA:

<p>Place two books on the table. As quickly as possible, time how long to complete two laps of this.</p>	<p>Objective 1- Loop Observations - why is a faster bearing more difficult?</p>	<p>Picture</p>
<p>Draw two circles on your lab table. Starting from rest, time how long it takes to get the bearing to be at rest in the other circle.</p>	<p>Objective 2 - Drag Race Observations - If you wanted to be fastest, how should you complete this task?</p>	<p>picture</p>
<p>Place a book under two of the feet on the lab table. Repeat objective 2 with your now slanted surface.</p>	<p>Objective 3 - not so level playing field Observations - compare to objective 2</p>	<p>picture</p>

<p>With your lab table still slanted, place a large obstacle on the table. Time how long to complete two laps.</p>	<p>Objective 4 - leaning circle of physics Observations - compare this task to objective 1</p>	<p>picture</p>
<p>Make your lab table level again. Draw a large square on the table. Time how long to complete two complete laps.</p>	<p>Objective 5 - hip to be a square Observations - compare this task to objective 1</p>	<p>picture</p>
<p>Draw a large spiral on your lab table. Follow the path to the center. Do this again, but travel inside to outside the spiral.</p>	<p>STATION 6 Observations - Which direction was easier & WHY</p>	<p>picture</p>
<p>Create your own course:</p>	<p>STATION 7 Observations -</p>	<p>picture</p>

QUESTIONS:

1. Which path was the easiest to blow the ball along? Why?

2. Which path was the hardest to blow the ball along? Why?

3. What do you think would happen if you tried to repeat the same experiment with a heavier ball? Why?