

## FABRIC OF SPACETIME

The stretched-out fabric around the ring can be used as a model of how gravity works in 2-dimensions when a weight is put in the middle of the ring.

1. Play around with the marbles on the table and record your observations for the following experiments.
  - a. Release a marble from rest near the top.
  
  
  
  
  
  
  
  
  
  
  - b. Roll a marble on the table tangent to the table so that it stays on the table.
  
  
  
  
  
  
  
  
  
  
  - c. Roll a marble on the table tangent to the table so that it flies off the table.
  
  
  
  
  
  
  
  
  
  
  - d. Roll two marbles next to each other tangent to the table so that they stay on the table.
  
  
  
  
  
  
  
  
  
  
  - e. Take a random uneven number of marbles in each hand and roll them in opposite directions around the table.

Name \_\_\_\_\_

2. Break into groups and explain how the fabric imitates the effect of gravity that led to the results in the experiments above. Start with Newton's 1<sup>st</sup> Law to explain the effects.

