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.

1. Release a marble from rest near the top.

1. Roll a marble on the table tangent to the table so that it stays on the table.
2. Roll a marble on the table tangent to the table so that it flies off the table.
3. Roll two marbles next to each other tangent to the table so that they stay on the

     table.

1. Take a random uneven number of marbles in each hand and roll them in opposite

     directions around the table.

1. 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 1st Law to explain the effects.