The Tortoise and the Egg

Materials:

- **Eggs**
- **Kitchen/plastic gloves**
- **Writing utensil**
- **Paper towels**
- **Cardboard box/plastic bin**

Instructions:

Those participating in the lab will put on the plastic gloves and handle the eggs, taking care not to break them immediately. The participants will then squeeze an egg with the thumb and forefinger along one side of the egg squeezing with increasing force until the egg breaks over the box or bin. Next, the participant will squeeze along the opposite direction in the same manner until it cracks into the bin. After cleaning up the participants will answer the following questions.

1. **Which side of the egg took the most force to break?**
2. **Why did one side break before the other?**
3. **What are for the differences in the two sides of the egg?**
4. **How do these differences effect how much pressure the egg can take?**
5. **How is the shape of an egg related to a turtle's shell?**

In this activity it is important for the proctor to allow the participants to form groups to discuss these questions and formulate answers to the questions lifted above, on their own. The purpose of this activity is to get the participates thinking critically about why an egg is stronger in either a flatter or more vertical orientation.

This serves as an introduction to the scientific method as well as the role shapes play in the strength of an object. The knowledge of how an egg distributes force across its more rounded edge can then be related to how a turtle shell applies the same methods and shapes to protect itself i.e. using a domed and rounded shell.