**Lesson Title:** Buoyancy Bobbing

**Grade:\_\_3\_\_**

**Objectives:**

**Standard 3: Measure the Volume, Weight, & Density of an Apple**

***Core Standard:***

Observe, describe and ask questions about plant growth and development.

3.3.2 Investigate plant growth over time, take measurements in SI units, record the data and display the data in graphs. Examine factors that might influence plant growth.

**Materials/preparation:**

Apples, plastic containers, water, balance in oz or grams, measuring container in tsp. or ml. (Wea Creek Orchard has some calibrated pitchers we may use), journal

**Sequence of activities/procedures:**

1. Fill containers with water up to 1/2 and apples.
2. Predict if apples will sink or float.
3. Bobbing activity
4. What made it difficult to grasp the apple? Why do apples float?
5. How can we measure the air in the apple? Density
6. Place an apple on the balance and record the weight. (oz or grams)
7. Fill calibrated container with water to a certain level. Record water level. (tsp or ml)
8. Gently place the same apple in the same container and record the displaced measurement.
9. Take the weight and divide that number by the volume, to get the density of the apple. If it’s 1 or greater, and it will sink, then it’s more dense. If it’s less than 1, it will float, then it’s less dense.
10. Do the same with a rock.

**Assessment/Closure:**

Journal