

## **Gemstone Identification Challenge:**

### **Question:**

Can we determine whether a gem is what a seller is telling you using a cylinder of water and a ruler?

### **Hypotheses:**

I believe that we can determine if a gem is what the seller is telling you with these resources.

### **Procedure:**

- Weigh the diamond.
- Measure the water before the diamond goes in.
- Put diamond in.
- Measure new water level.
- Subtract old water level from new water level.
- Divide the grams by the millilitres to get the g/ml.

### **Results:**

Results

With no rocks in the jar the water level was at 16ml After all rocks in the jar the water level was at 21ml The water level raised by 5ml

$$17.7 \div 5 = 3.54 \text{ g/ml}$$

All three rocks weighed 17.7g

We did the lab twice and the results were the exact same

### **Conclusion:**

We can determine if a diamond is fake by using this test if done properly. Some sources of error that we could have encountered were not adding enough water, not putting the rocks in correctly without splashing, or weighing them wrong.