

Name: _____

Golf Ball Lab: Density

Lab partners names _____ Table # _____

Purpose: To determine the minimum amount of magnesium sulfate salt needed to make a golf ball float.

Materials: (list here only the materials you and your partner(s) used) **(0.5point)**

Golf Ball Number _____ Cup Number _____

1. _____
2. _____
3. _____
4. _____
5. _____

Initial Observations: use details and scientific vocabulary (1.5points)

- 1) **Describe** the salt crystals _____.
- 2) What is the formula for the salt crystals (determine or look up online) _____.
- 3) What happens to the golf ball when it is placed in tap water? _____.
- 4) Based on your answer to #3, what can you conclude about the density of the golf ball? _____.
- 5) How can you calculate the density of a golf ball? _____.

Procedure:

1. Weigh out 50.0 g of magnesium sulfate
2. Add approximately 5 g additions of salt to the water, dissolve, check to see if ball floats
3. Complete trial 1 Float/Sink portion of the data table below
4. Continue with this method of successive additions (and complete data for trial 2, 3, etc.) until ball floats
5. Re-weigh remaining salt and subtract this amount from 50.0 g to determine the amount of salt needed.

Data Table (3 points)

Trial	Salt (g)	Total	Float /Sink
1	5.0 g	5.0 g	
2			
3			
4			
5			

The minimum amount of salt needed to make the golf ball float _____grams.

Draw a picture of your group's floating golf ball here. **(0.5 point)**



Take it a step further! How can you make the golf ball "suspended" in the cup? (see example at front)
Explain what you did here... _____

Discussion Questions for Understanding: (2 points)

- a. How can you determine the density of your golf ball?

- b. Why does a golf ball normally sink to the bottom of a pond at the golf course?

- c. Which body of water will make the golf ball float the best? (research online!)

- f. Describe your sources of error.
(Human error and faulty equipment are unacceptable answers)

Lab Safety and Clean-Up Checklist: (0.5 point)

	Yes	No
Is the lab area free of bags, coats, etc?		
Did I wear safety goggles throughout the lab?		
Are my group's materials put away properly?		
Has the golf ball been returned to the teacher?		
Is the table clean (and dry)?		