

## Blitz, Unit 15, Form A-C

Name \_\_\_\_\_ Period \_\_\_\_\_

***This is a Take Home Exam. You may use your Notes, PowerPoint, or Text on this exam but NO help from human beings!***

**You MUST HAND WRITE THIS EXAM!! NO TYPED PAPERS WILL BE ACCEPTED!**

**EXPLAIN IN COMPLETE SENTENCES AND GIVE EXAMPLES:**

1. Explain how to weigh air and give the density of air in grams/liter.
2. Give the following equivalents for one atmosphere of pressure: a. 1 atm = ? meters of water, b. 1 atm = ? mm of mercury, c. 1 atm = ? kg/cm<sup>2</sup>, d. 1 atm = ? kPa.
3. Tell the story of the Duke of Tuscany's Pump and how it led Torricelli to the discovery of atmospheric pressure.
4. Diagram a mercury barometer and tell how it works.
5. Diagram an open-tube manometer and show how it measures the pressure in a flask of gas.
6. Showing your method, calculate how many kilograms of pull are needed to separate Magdeburg Hemispheres whose radius is 10cm. (Hint: Area =  $\pi r^2$ , and Total Force = Area X Pressure).
7. Describe the situation of molecules in Solids, Liquids, Gases, and Plasmas.
8. State the Kinetic Theory and describe five evidences supporting it.
9. Tell why the Earth Sucks Not, correctly define to the terms Vacuum and Suction , and give three examples of *Suction* in action.
10. Calculate the total force in kilograms of the atmospheric pressure upon a 4-liter jug whose surface area is 3000 cm<sup>2</sup>.

**When finished, please STAPLE this exam onto your papers and turn in on due date.**