AIR AND FLIGHT TEST REVIEW NAME:\_\_\_\_\_\_\_\_\_\_\_\_\_

1. a) What is matter?

b) Is air matter? How do we know? What proof have we seen? Provide at least two examples.

1. What are fluids? Describe and provide examples.
2. a) What is air pressure?

b) Provide a couple of examples of where we have seen evidence of air pressure.

c) Provide a couple of examples (other than flight) of using air pressure to do work.

d) How is air pressure playing a role when you suck a milkshake through a straw?

1. Describe using scientific language how and why a hot air balloon flies.
2. a) Describe with words and diagrams how suction cups work.

b) What are some applications for suction cups?

c) How can suction cups be easily lifted? Why

1. When we poked holes in the water bottle, why did the water not pour out until we removed the lid?
2. What is an airfoil?
3. Use diagrams and examples to explain what Bernoulli’s Effect/Principle is. Include discussion on how Bernoulli’s Effect/Principle plays a role in flight.
4. Label the control surfaces of an airplane on a diagram and explain what they do?
5. How does a helicopter fly?
6. What are some important things to consider when designing a parachute?
7. What are some important things to consider when designing a paper airplane glider?
8. What are some important things to consider when designing a rocket(bottle, straw)?
9. What are the four forces that affect flight?
10. Complete the following fill in the blank:

All objects within the earth’s atmosphere are pulled downward by\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The upward force that enables an object to fly is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. In order to fly, objects must overcome \_\_\_\_\_\_\_\_\_\_\_\_\_ and attain\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The greater the mass of the object, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_the attraction of gravity. The greater the mass of the object, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_the force of lift required.

**What is the single most important thing required for flight? Explain in detail as this will be a very important question on the test.**