

Design Brief

Our project is to measure the pressure as the altitude of the balloon rises. We will measure them in intervals of one hundred feet. We will continue to raise the balloon until we reach the elevation of one thousand feet. We will be using a one way valve to be able to bring the jar down while still holding the same pressure at the altitude it was at before. To measure the altitude of the balloon we will tie a string to the balloon and at every one hundred feet on the string we will attach a little paper.

PDS

Reliability- Reliability would be a big factor for the valve because we want it to get an exact or almost exact number. If the valve leaks then it will not be reliable and we will have to make it reliable. If we don't make it reliable, our numbers will turn out wrong and the test will be a complete failure.

Product Cost- The product cost is important because if the materials cost too much then we will not be able to conduct the experiment which will also make our project a failure. If the products do not cost a lot of money then we could get the data we need to and finish the experiment

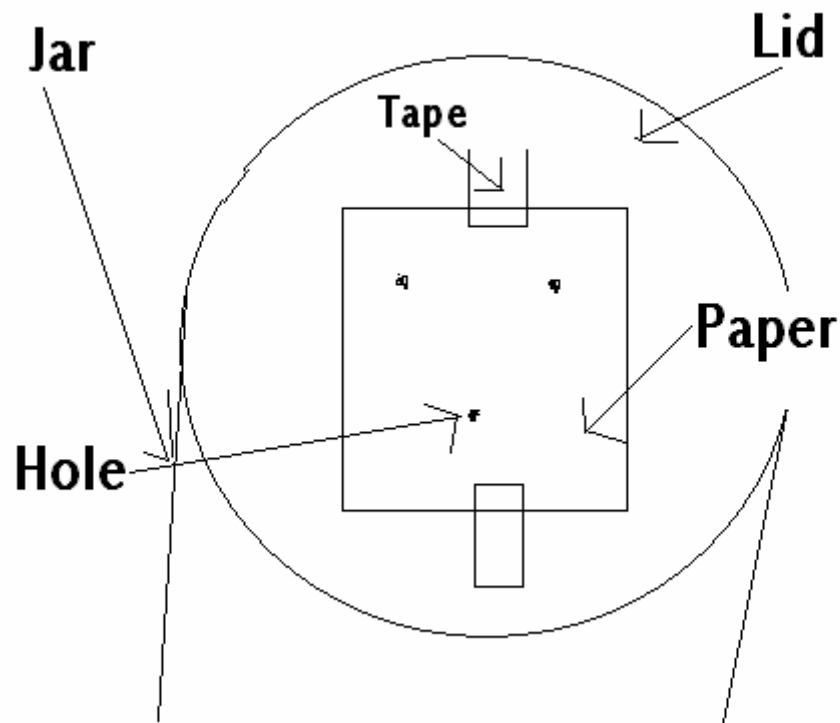
Environment- The environment is relevant to our project because the weather will affect the performance of the experiment. If it rains it might interfere with the balloons flight and the one way valve might break. Also the rain might change the pressure in the air. If it is windy the apparent distance might be higher then the actual distance because the wind will blow the wind away.

Quality- The quality of our project is crucial because once its up in the air we will not be able to fix it if a problem occurs. The quality is important because we would not want to have to re due a flight because of the valve leaking. The reliability is a key issue because we will be making the balloon go up at least ten times.

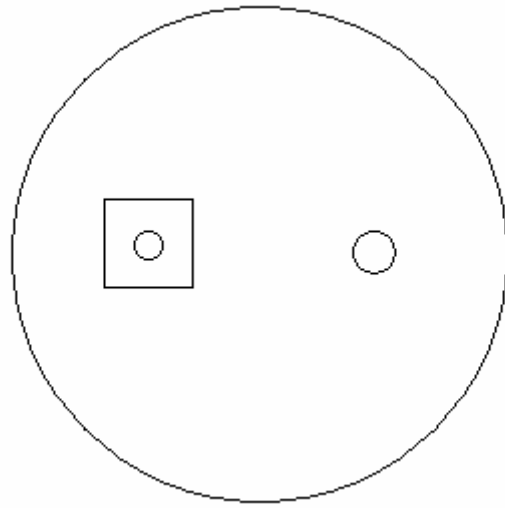
Size- The size is an issue because if the one way valve is too big it will be difficult to work with. A benefit to using a smaller one way valve is that it will not be blown around is the wind.

Alternative Design

- 1.) Our first design will be to create a valve from paper taped to the top of a jar and the jar has some holes in it. This will make it so that when the pressure in the jar is too high it will release some pressure through the holes pushing the paper up, but when the pressure is equal to the outside the paper will shut and will not release the rest of the pressure.



2. The second design would be to have a glass jar with a lid that has two holes on the top. One hole would have a valve to measure the pressure after it has come down. The second valve would have a piece of plastic partially taped to the side to close as the balloon came down.



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