**Name \_\_\_\_\_Period\_\_**

**Scientific Method**

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| **Problem / Question:** Identify the problem or question using complete sentences:  Is it possible to launch off of a gigantic waterslide, fly through the air, and land in a kiddy pool 115 feet away? |
| **Research:** Proof of Concept, Background knowledge about the topic, Small scale test results, knowledge about how to control experiment  Proof of Concept – Used small scale experiment to learn whether a full scale test is even possible and learn about any issues   1. Learned – Soapy water reduces friction, fly father 2. Need a fixed position for accuracy / consistency |
| **Hypothesis:** If / Then statement What are you specifically going to test?  If a person’s body position is fixed and we use soapy water, then it is possible to down a waterslide and fly 115 feet through the air and land in a 10ft. diameter pool. |
| **Experiment: Materials and Procedures**  Dependent Variable: We will measure the distance flown and accuracy of landing in the same spot  Independent Variable: Size of waterslide  Materials: Lake, Bulldozer, 30 degree ramp, 24 degree slope, wood, water, straw waddles, carpet, vinyl, soapy water, 2 rolls of duct tape (haha)  Procedures Steps (Be **VERY** detailed)  1) Use bulldozer to create a dirt slope of 24 degrees that ends next to lake  2) Cover slope with plywood and build a 30 degree ramp  3) Cover plywood with carpet then put waddles on edges to prevent sliding off sides  4) Cover waddle and carpet with vinyl and use duct tape to secure it  5) Cover slide with soapy solution using sprayer  6) Place speed and distance meter in sliders vest and send slider down hill. Collect data  7) Place 10 ft diameter ring in lake at distance the meter indicated.  8) Send slider back down hill and record if landed in ring. |
| **Data Collection:** Create a data table with your Independent Variable and Dependent Variables. THEN Graph using the best way to represent the data.  (Bar Graph, Line graph, Pie Chart etc.?  **Data Table:**   |  |  |  | | --- | --- | --- | |  | Distance | Accuracy | | Adam | 70 feet | Hit Ring 1/1  Landed in same spot = 3/3 | | Jamie | 72 feet | N/A – Didn’t attempt |   **Graph**:  Show students how to create bar graph for distance only. Didn’t graph Accuracy |
| **Conclusion**: **1)** Restate Problem (We wondered…), **2)** Restate Hypothesis (It was predicted that…) **3)** accept or reject hypothesis by quoting data ( Based on the data….) **4)** Note any problems that affected data (One problem we noticed…), **5)** One way to correct problem. (Next time we will correct the problem by….)  **6)** conclusion sentence (All in all I learned…)  We wondered if it was possible to go down a giant waterslide, fly through the air and land 115 feet away safely in a 10 foot diameter pool. It was predicted that if a person’s body position is fixed and we use soapy water, then it is possible to go down the waterslide and launch 115 feet and land in a 10 foot diameter pool. Based on the data we have conflicting information. The data does not support 115 ft as we only average 71 feet, but we did consistently land in the same spot3 out of 3 times. One problem we noticed was Adam and Jamie did not go down in a fixed position. Their legs and arms were spread apart possibly slowing them down resulting in a shorter flying distance. To correct this next time we should duct tape their feet and hands in a fixed position, ( they have a life vest on). All in all I learned that you can consistently land in the same spot however it does not look likely you’ll be able to fly 115 feet using a 165 foot waterslide. |

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| REVISED Hypothesis: (Based on the data YOU gathered in this experiment)  If a body position is fixed and we use soapy water, then it is possible to land in the same spot but not possible to to jump 115 feet using a 165 foot waterslide.  **<<<<<<SCIENTISTS WOULD THEN TEST NEW HYPOTHESIS>>>>>>** |