Joe Smoe, Xou Vang

Pd 8

THE GREAT RACE

Purposes: **Given 16 objects that roll, race pairs of them down an incline plane:**
> **Determine which object rolls the fastest.**
> **Determine which object rolls the slowest.**
> **State 3 or 4 factors that you think influence the rate at which a given shape rolls.**

Procedure:

> **Same lab partner as last lab only partners switch who records everything.**
> **Choose any two objects (wisely, meaning ones that you are not sure which will win).**
> **Record what they are in the data table.**
> **Record which one you each of you think will win.**
> **Start them by holding them evenly with a plastic ruler at the top area of an incline plane.**
> **Let them go noting which reached the bottom the quickest.**
> **Record which one actually won.**
> **If they tie, try them two more times. If they still tie, record tie.**
> **Roll at least 18 pairs of objects.**
> **Record fastest and slowest of the 18 objects.**
> **Write down 3 or 4 factors that you think influence the rate at which a given shape will win or not.**
> **Make sure you have all 16 objects neatly back where you found them.**

DATA TABLE (examples are made up and not necessarily the winner)

Trial #	Object #1	Object #2	Joe's Prediction	Xou's Prediction	Actual Winner
1	Golf ball	Pool ball	Pool ball	Pool ball	Pool ball
2	Large cardboard ring	Smaller cardboard ring	Larger ring	Larger ring	Smaller ring
3	Super ball	Empty pop can	Empty pop can	Super ball	Empty pop can
4	marble	steely	tie	steely	Tie, not consistent winner
5					
.					
18					

Conclusions:

Fastest item was the: _____   **Slowest item was the:** _____

Factors that influence the rate: (Not necessarily true, just an example.)

1. **A ring will always beat a sphere. Thus shape might matter.**
2. **A small ring always beats a large ring. Thus how far the mass is from the center of rotation might matter.**
3. **A lighter object will always beat a heavier object if they are same size and same shape. Thus mass matters if the same shape and size.**
4. **…**