Forces and Motion Lab Answer   Name:_____

5. Press the play button. Count to ten, what happens? (Look at the speedometer)

6. Repeat steps 4 and 5 with the refrigerator. (look at the speedometer)

9. What happens to the speed, does it slow down as different objects are added and the applied force is different?

10. Why do you think this happens?

11. Is there a sum of forces?

12. How much time does it take for 1 crate, 2 crates, a refrigerator, the man, the girl, and the mystery object, with same applied force get to maximum speed? Maximum speed is reach when the hand on the speedometer cannot go any further. (Record your answers in table below.) Use the stopwatch on your phone or watch.

Object	Mass	Applied force (Newtons)	Time (Use stopwatch)
1 crate		300N	
2 crates		300N	
Refrigerator		300N	
Man		300N	
Girl		300N	
Mystery Object		300N	

13. Do you think the object's mass determines how long it will take for that object to reach maximum speed with an applied force of 300 N?   Yes or No, Explain your answer.

14. How much do you think the mystery object weighs based on how long it took to reach maximum speed at 300N?

Part II-Friction
4. What happened? Did the refrigerator move?

8. What happens as you slide the fiction tab closer to "None"?

13. Complete the table. Fill in the missing values. *You can use the Friction Tab to help you check your answers.

Object	Applied Force (N)	Friction Force (N)	Sum of Forces (N)
Crate	200	125	
Man	472		272
Refrigerator		51	99
Girl	363	100	
Garbage Can	500		375

14. How does the force placed on an object affect how it moves?

15. What happens if there is too much friction? Will the object move slowly, fast or not at all?

16. What if only a little friction is added, how will the object move?