Newton's Second Law Lab – Grading Rubric

<u>Directions</u>: Start with 100 points. Mark only the boxes corresponding to things the student DID do, circle numbers next to things the student did NOT do. Subtract the circled number of points from 100. If the student lost more than 100 points, the score is 0.

Title, Purpose, Table of Contents		**Graph of Acceleration vs. Net Force for Part 1**	
❑ Lab listed in table of contents	3	❑ Scale on both axes.	5
❑ Page numbers on all pages for this lab	3	❑ 5 points plotted from data table.	5
❑ Title of lab	3	❑ Best-fit *straight* (not-freehanded) line	5
❑ Date of lab	3	❑ Regression equation with slope	5
❑ Purpose of lab	5		
		Graph of Acceleration vs. Mass for Part 2	
Materials – These are listed:		❑ Scale on both axes.	5
❑ Hall's carriage	3	❑ 5 points plotted from data table.	5
❑ Pine board (cart stopper)	3		
❑ Hanging mass	3	**Error Analysis**	
❑ Stopwatch (timer)	3	❑ Two plausible reasons that are explained in detailed complete sentences	10
❑ String	3		
❑ Table pulley	3		
		Outside Application	
Procedure – Mentions these things:		❑ One real-world application of the driving physics concept(s) in this lab, finding this concept in action	10
❑ Mentions the use of all materials listed	3		
❑ Describes how the accelerations were determined	3		
❑ Procedure is written in paragraph form with complete sentences.	5	**Conclusion**	
		❑ Discuss meaning of the slope from each graph	5
		❑ Discuss whether data trends are consistent with Newton's Second Law	5
Diagram – Has these elements *labeled*:			
❑ Car, table, pulley, string, and masses	3	❑ Conclusion is written in paragraph form with complete sentences.	5
❑ Stopwatch with student	3		
		[ ] Check this box for messy or scratched out work (20-point deduction)	
Data Table			
❑ 5 rows of data for each part (Subtract 1 point for each missing)	10	[ ] Check this box for "lazy pasting" (automatic zero)	

Notebook Belongs To: _____   Grader: _____   Grade: _____