**Case Details**

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| **Case Title:**  |
|  | The fender bender |
| **Author(s):**  |
|  | Jeff Cramer, Grady High SchoolJeffrey Gross, Emory University |
| **Date Published:**  |
|  | 10/1/2008 |
| **Grade Level(s):**  |
|  | High School |
| **Subject(s):**  |
|  | Physics |
| **Summary:**  |
|  | John knew that his parents would be furious when he told them about the fender bender he just got in. But he was convinced that the accident was not his fault. Can John's experiment prove to his dad that he was not to blame for the fender bender?  |
| **Suggested Citation:**  |
|  | Cramer, J., & Gross, J. (2008).*The fender bender*. Retrieved May 14, 2012 from Emory University, CASES Online Web site: http://www.cse.emory.edu/cases/casedisplay.cfm?case\_id=1943 |
| **Learning Objectives:**  |
|  | 1. Create a hypothesis that explains the circumstances of the case.
2. Design and perform an experiment that tests a hypothesis.
3. Accurately record data during experimentation.
4. Graph and analyze data.
5. Graphically determine the coefficient of friction.
6. Explain how friction and forces affect motion.
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| **National/State Standards:**  |
|  | *Georgia Performance Standards*SCSh1. Students will evaluate the importance of curiosity, honesty, openness, and skepticism in science. (NSES Content Standard A)SCSh3. Students will identify and investigate problems scientifically. (NSES Content Standard A) a. Suggest reasonable hypotheses for identified problems. b. Develop procedures for solving scientific problems. c. Collect, organize and record appropriate data. d. Graphically compare and analyze data points and/or summary statistics. e. Develop reasonable conclusions based on data collected.SP1. Students will analyze the relationships between force, mass, gravity, and the motion of objects. (NSES Content Standard B)SP3. Students will evaluate the forms and transformations of energy. (NSES Content Standard B) |