|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Beginning** | **Developing** | **Accomplished** | **Exemplary** |
| Presentation/Format | o Frequent, obvious grammatical and spelling errors that confuse the reader  o Headings are missing  o Sections are missing | o Some distracting grammar and spelling errors which do not create confusion  o Title/headings are not underlined  o All sections are included, but out of order | o Minimal grammar and spelling errors  o Title/headings are underlined  o Standard lab report format is followed | o Grammar and spelling correct throughout  o Title/headings are neatly underlined with ruler  o Crisp, neat, organized and professional lab report format |
| Flowchart – due on the day of the lab | - Unorganized  - No diagrams - Procedure is mostly copied/not in own words - Many steps are missing or unclear | - Unorganized - Diagrams are unclear - Words commands are unclear - Some minor steps are missing or unclear | - Organized - Diagrams clear - Clear word commands, but not concise - All steps included | - Excellent organization, easy to follow. - Diagrams clear and catch the eye - Clear, concise word commands - All steps included with originality /creativity |
| Performance/ Observations  (During the lab) | -Just watched the lab be performed and/or didn’t clean-up  -Only ½ of the data is included or almost impossible to read data  -Could not answer the mystery question fully | -Needed some help to follow the procedure and/or clean up  -Most data/observations included or date recording messy  -Answered the mystery question correctly when given a bit of help | -Followed the procedure an cleaned up  -All data/observations included and neatly recorded  -Answer the mystery question correctly | -Followed the procedure carefully including cleaning up  -Detailed/thorough data/observations included and neatly recorded  -Answered the mystery question easily and thoroughly |
| Data | o Original data missing  o Tables are missing headings/units | o Data complete but messy  o Tables not organized/neat  o All table headings include ***most*** units | o All tables are neatly prepared  o All table headings include proper units  o Data is clear and complete | o All tables are neatly prepared ***with a ruler***  o All table headings include proper units  o Data is clear and complete |
| Calculations | o Major calculations are missing  o It is difficult/impossible to follow calculation progression | o Calculations are ***somewhat*** ordered in a step-wise fashion  o ***Some*** calculations are easy to follow as they move from solving one variable to the next  o ***Some*** calculations includes a statement of understanding: (Fnet = Fg1-Ff) | o Calculations are ***mostly*** ordered in a step-wise fashion  o ***Most*** calculations are easy to follow as they move from solving one variable to the next  o ***Most*** calculations includes a statement of understanding: (Fnet = Fg1-Ff) | o Calculations are ordered in a step-wise fashion  o ***All*** calculations are easy to follow as they move from solving one variable to the next  o ***All*** calculations includes a statement of understanding: (Fnet = Fg1-Ff) |
| Graphs | o ***No*** title  o ***No*** ruler used for axis/line  o ***No*** axis labels  o Scale increments intervals unequal /incorrect  o Many data plots missing/incorrect  o ***No*** line or curve | o Title does not follow “Y vs. X” or improper placement of independent (X) and dependent (Y) variables  o Axis not drawn with ruler, labelled with measurement and units  o A few errors in uniformity of scale  o A few data plots are unclear/ incorrect  o Line/curve not best fit | o Title follows “Y vs. X”, without description of process being analyzed o Axis drawn with ruler and labelled with measurement and units  o Uniform scale that includes origin but does not use space effectively  o Line of best fit “forced” through origin | o Title follows “Y vs. X”, and includes description of process being analyzed  o Proper placement of independent (X) and dependent (Y) variables  o Axis drawn with ruler (or on computer) and labelled with measurement and units  o Uniform scale that includes origin and uses space effectively  o Line/curve of best fit represent data plots |
| Discussion (completed after the lab) | --Fragments or point form  -Does not demonstrate a **basic understanding** of concept. Substantial errors throughout | -Sentence structure lacking or confusing  -Demonstrates a basic understanding of concepts. Errors and inconsistency reveal some missing understanding of the concepts. | -Full sentences, well structured  -Demonstrates a solid understanding of concepts. Most answers are correct with only a few errors. | -Full sentences, well structured  -Demonstrates complete and in depth understanding of concepts. |
| Conclusion (completed after the lab) | - Point form  - only 1 or 2 pieces of criteria are covered but not thorough  - Personal opinions are included “I like this lab” or, “This lab was FUN!” | - Sentence structure lacking  - 3 or 4 pieces of criteria are missing or incomplete | - Full Sentences, well structured  - 1 or 2 pieces of criteria are missing or incomplete | - Full Sentences, well-structured and thorough/detailed  All criteria listed below must be included:  - Answers purpose - summary of results and what they mean  - Interesting Findings - States sources of error - Connects results to big picture (relevance) - Asks new questions  -Suggests improvement to this lab |

**Newton’s 2nd Law**

**Physics 11– Lab pre and post assessment Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**During**

* Fully participates and follows the steps of the lab including clean up
* Data table filled out – fully and neatly
* Answers the mystery question easily

**Post lab**

* Data
* Calculations
* Graphs
* Answered discussion questions fully and correctly
* Conclusion

**Prelab**

* Predication
* FBD
* Flowchart
  + Excellent organization
  + Diagrams clear and catch the eye
  + Clear concise word commands for each step
  + All steps included with creativity and originality