

Redox Titration

| | Beginning | Developing | Accomplished | Exemplary | |
|----------------------------|--|--|--|--|--|
| Overall | <i>Lab report does not reveal objectives, results, and/or has made no attempt at analysis.</i> | <i>Lab report reveals basic objectives and results. Analysis attempted, but does not reveal relevance.</i> | <i>Organized lab report with definite objectives, results, and relevance.</i> | <i>Organized and professional lab report with clear communication of creative, original thinking that demonstrates science as a process.</i> | |
| Presentation/Format | <ul style="list-style-type: none"> ○ Written in pencil or coloured pens ○ White out is used ○ Frequent, obvious grammatical and spelling errors that confuse the reader ○ Headings are missing ○ Sections are missing | <ul style="list-style-type: none"> ○ Written in messy blue/black pen ○ No white out used, but mistakes are scribbled out ○ Some distracting grammar and spelling errors which do not create confusion ○ Title/headings are not underlined ○ All sections are included, but out of order | <ul style="list-style-type: none"> ○ Written in blue/black pen ○ No white out used, mistakes striked with one pen line ○ Minimal Grammar and spelling errors ○ Title/headings are underlined ○ Standard lab report format is followed | <ul style="list-style-type: none"> ○ Neatly written in blue/black pen ○ No white out used, mistakes striked with one pen line using ruler ○ Grammar and spelling correct throughout ○ Title/headings are neatly <u>underlined</u> with ruler ○ Crisp, neat, organized and professional lab report format that pleases the eye | |
| Pre-Lab | Course, Unit, Date, Name, Partner's Name, Block | <ul style="list-style-type: none"> ○ Missing Name and/or Partner's Name ○ Date does not coincide with date in the lab | <ul style="list-style-type: none"> ○ Name, Partner's Name, and Proper Data included, but missing Course, Unit or Block | <ul style="list-style-type: none"> ○ Course, Unit, Name, Partner's Name, proper Date, and Block all included but out of order | <ul style="list-style-type: none"> ○ Course & Unit at top left header ○ Name, Partner's Name, proper Date, and Block at top right header |
| | Title | <ul style="list-style-type: none"> ○ There is no title | <ul style="list-style-type: none"> ○ Title from lab handout used | <ul style="list-style-type: none"> ○ Title does not reveal purpose of lab | <ul style="list-style-type: none"> ○ Title reveals purpose of lab; goes beyond given title |
| | Purpose | <ul style="list-style-type: none"> ○ Point form ○ Some objectives are missing | <ul style="list-style-type: none"> ○ Poor sentence structure (fragments) ○ Not all objectives are clear to the reader ○ Rewording of purpose from lab handout | <ul style="list-style-type: none"> ○ Full sentences ○ All objectives clear, but no predictions | <ul style="list-style-type: none"> ○ Clear communication through structured sentences that connect one idea to the next ○ Clearly identifies objectives and hypotheses/predictions |
| | Materials | <ul style="list-style-type: none"> ○ Material list missing or incomplete | <ul style="list-style-type: none"> ○ All materials are referenced back to the lab sheet/ instructions, but hazardous chemicals are not highlighted | <ul style="list-style-type: none"> ○ All materials are referenced ○ All hazardous chemicals are highlighted | <ul style="list-style-type: none"> ○ All materials are <u>referenced</u> ○ <u>All hazardous chemicals are described in detail with safety precautions</u> |
| | Procedure | <ul style="list-style-type: none"> ○ Reference to Procedure is missing ○ Disposal procedures not included | <ul style="list-style-type: none"> ○ Reference to Procedure is inaccurate or unclear ○ Disposal incomplete or unclear | <ul style="list-style-type: none"> ○ Reference to Procedure is made in short hand notation ○ Complete disposal instructions | <ul style="list-style-type: none"> ○ Reference to Procedure is made accurately and is in complete sentences ○ Disposal instructions complete and clear |

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|-------------------|--|---|---|--|---|---|
| | Results | Prep | <ul style="list-style-type: none"> ○ Tables are missing headings/units ○ No ruler used for tables | <ul style="list-style-type: none"> ○ Tables not organized/neat ○ All table headings include units ○ No titles | <ul style="list-style-type: none"> ○ All tables are neatly prepared ○ All table headings include proper units ○ All tables are titled | <ul style="list-style-type: none"> ○ All tables are neatly prepared with ruler ○ All table headings include proper units ○ All tables are titled and labeled by number |
| During Lab | | Data | <ul style="list-style-type: none"> ○ Improper sigfigs ○ Data recorded in pencil ○ Original data missing ○ Uncertainty missing | <ul style="list-style-type: none"> ○ Some errors in sigfigs ○ Data recorded in pen, but messy ○ Some uncertainty missing | <ul style="list-style-type: none"> ○ Proper sigfigs and uncertainty with minimal errors ○ Data recorded with a pen | <ul style="list-style-type: none"> ○ Proper sigfigs and uncertainty with no errors ○ Data neatly recorded with a pen |
| | | Observations | <ul style="list-style-type: none"> ○ No or limited qualitative description ○ Personal opinions given ex) "I think it smells yucky" | <ul style="list-style-type: none"> ○ Some qualitative description | <ul style="list-style-type: none"> ○ Qualitative description given for all chemicals (reactants and products) ○ Important events are noted | <ul style="list-style-type: none"> ○ Detailed qualitative description given for all chemicals (reactants and products) ○ Detailed log of experiment progress |
| Post Lab | Discussion Questions | <ul style="list-style-type: none"> ○ Point form ○ Answers are incorrect or incomplete | <ul style="list-style-type: none"> ○ Poor sentence structure (fragments) ○ All answers demonstrate a minimal understanding of concepts | <ul style="list-style-type: none"> ○ Full sentences ○ All answers demonstrate an understanding of concepts with minimal errors | <ul style="list-style-type: none"> ○ Clear communication through structured sentences that connect one idea to the next ○ All answers demonstrate a thorough, in depth understanding of concepts | |
| | Conclusion & Sources of Error | <ul style="list-style-type: none"> ○ Point form ○ Purpose and/or results not referred to ○ No conclusion ○ No sources of error ○ Personal opinions are included such as "I like this lab," "This lab was FUN!" | <ul style="list-style-type: none"> ○ Poor sentence structure (fragments) ○ Refers to purpose, summarizes results without insight ○ Sources of error not relevant ○ Does not discuss relevance | <ul style="list-style-type: none"> ○ Full sentences ○ Answers purpose by summarizing results ○ States 1-2 relevant sources of error ○ Reveals relevance of results | <ul style="list-style-type: none"> ○ Clear communication through structured sentences that connect one idea to the next ○ Answers purpose by comparing key results to predictions/hypothesis (supported/not supported/rejected) ○ States 2 or more insightful sources of error and suggests improvement to this lab ○ Connects to big picture (relevance) ○ Asks new questions and suggests new experiments for the future | |