# Modeling Curriculum Activities in Unit Three, in Order of the NYSS

| Activity title and number | New York State Standard | Description |
|---|---|---|
| | Standard 1 | |
| 7) Worksheet 2 | M1.1 | Abstract representation to communicate mathematically |
| 5) Lab 3: Ohm's Law | M2.1 | Deductive and inductive reasoning |
| 7) Worksheet 2 | M2.1 | to reach mathematical conclusion |
| 1) Lab: What is happening in a wire? | M3.1 | Explain physical relevance of a graph |
| 5) Lab 3: Ohm's Law | M3.1 | of real world data |
| 7) Worksheet 2 | M3.1 | |
| 5) Lab 3: Ohm's Law | S1.1 | Develop explanation of natural |
| 6) Lab 4: Series and Parallel Circuits | S1.1 | Phenomena |
| 3) Lab 2: Charge Distribution and Potential Difference | S2.1 | Design experiment to investigate |
| 5) Lab 3: Ohm's Law | S2.1 | relationship between physical |
| 6) Lab 4: Series and Parallel Circuits | S2.1 | Phenomena |
| 3) Lab 2: Charge Distribution and Potential Difference | S2.3 | Develop, predict, and explain |
| 5) Lab 3: Ohm's Law | S2.3 | proposed relationships for physical |
| 6) Lab 4: Series and Parallel Circuits | S2.3 | Phenomena |
| 1) Lab: What is happening in a wire? | S2.4 | Carry out research to test theories |
| 6) Lab 4: Series and Parallel Circuits | S2.4 | |
| 1) Lab: What is happening in a wire? | S3.1 | charts, equations |
| 2) Worksheet 1: Fields and Potential Difference in Circuits | S3.1 | |
| 3) Lab 2: Charge Distribution and Potential Difference | S3.1 | |
| 5) Lab 3: Ohm's Law | S3.1 | |
| 6) Lab 4: Series and Parallel Circuits | S3.1 | |
| 5) Lab 3: Ohm's Law | S3.3 | Reach a conclusion on whether |
| 6) Lab 4: Series and Parallel Circuits | S3.3 | your data supports your explanation of the experiment |
| 3) Lab 2: Charge Distribution and Potential Difference | S3.4 | Discuss relationships with class |
| 5) Lab 3: Ohm's Law | S3.4 | Revise if necessary |
| 6) Lab 4: Series and Parallel Circuits | S3.4 | |
| | Standard 2 | |
| 1) Lab: What is happening in a wire? | 1.1 | Understand features of word processors, spreadsheets and database software |
| 1) Lab: What is happening in a wire? | 1.2 | Prepare multimedia presentation |
| | Standard 4 | |
| 9) Worksheet 3 | 4.1iv | Determine the factors that affect the period of a pendulum |
| 1) Lab: What is happening in a wire? | 4.1ix | Use measurements to determine |
| 10) Unit Review | 4.1ix | the resistance of a circuit element |
| 11) Unit Test | 4.1ix | |
| 2) Worksheet 1: Fields and Potential Difference in Circuits | 4.1ix | |
| 3) Lab 2: Charge Distribution and Potential Difference | 4.1ix | |
| 5) Lab 3: Ohm's Law | 4.1ix | |
| 6) Lab 4: Series and Parallel Circuits | 4.1ix | |
| 8) Quiz 2 | 4.1ix | |
| 1) Lab: What is happening in a wire? | 4.1v | Observe / explain energy conservation |
| 3) Lab 2: Charge Distribution and Potential Difference | 4.1v | |
| 1) Lab: What is happening in a wire? | 4.1vi | Recognize conversions among different forms of energy in real world devices |
| 11) Unit Test | 4.1vi | |
| 3) Lab 2: Charge Distribution and Potential Difference | 4.1vi | |
| 5) Lab 3: Ohm's Law | 4.1vi | |
| 6) Lab 4: Series and Parallel Circuits | 4.1vi | |
| 7) Worksheet 2 | 4.1vi | |
| 8) Quiz 2 | 4.1vi | |
| 9) Worksheet 3 | 4.1vi | |
| 11) Unit Test | 4.1vii | Measure current and voltage in a circuit |
| 5) Lab 3: Ohm's Law | 4.1vii | |
| 7) Worksheet 2 | 4.1vii | |
| 8) Quiz 2 | 4.1vii | |
| 9) Worksheet 3 | 4.1vii | |
| 10) Unit Review | 4.1viii | Measure current and voltage in a circuit |
| 11) Unit Test | 4.1viii | |
| 6) Lab 4: Series and Parallel Circuits | 4.1viii | |
| 8) Quiz 2 | 4.1viii | |
| 9) Worksheet 3 | 4.1viii | |
| 11) Unit Test | 4.1x | Interpret graphs of voltage versus current |
| 5) Lab 3: Ohm's Law | 4.1x | |
| 7) Worksheet 2 | 4.1x | |
| 1) Lab: What is happening in a wire? | 4.1xi | Measure and compare resistance of conductors of |
| 10) Unit Review | 4.1xi | various lengths and cross-sectional area |
| 2) Worksheet 1: Fields and Potential Difference in Circuits | 4.1xi | |
| 3) Lab 2: Charge Distribution and Potential Difference | 4.1xi | |
| 1) Lab: What is happening in a wire? | 4.1xii | |
| 11) Unit Test | 4.1xii | Construct simple series and parallel circuits |
| 3) Lab 2: Charge Distribution and Potential Difference | 4.1xii | |
| 5) Lab 3: Ohm's Law | 4.1xii | |
| 6) Lab 4: Series and Parallel Circuits | 4.1xii | |
| 8) Quiz 2 | 4.1xii | |
| 9) Worksheet 3 | 4.1xii | |

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|---|---|---|
| 10) Unit Review | 4.1xiii | Draw and interpret circuit diagrams which include |
| 5) Lab 3: Ohm's Law | 4.1xiii | voltmeters and ammeters |
| 6) Lab 4: Series and Parallel Circuits | 4.1xiii | |
| 10) Unit Review | 4.1xiv | Predict behavior of lightbulbs in series |
| 11) Unit Test | 4.1xiv | and parallel circuits |
| 3) Lab 2: Charge Distribution and Potential Difference | 4.1xiv | |
| 4) Quiz: Voltage and Current | 4.1xiv | |
| 5) Lab 3: Ohm's Law | 4.1xiv | |
| 7) Worksheet 2 | 4.1xiv | |
| 9) Worksheet 3 | 4.1xiv | |
| 2) Worksheet 1: Fields and Potential Difference in Circuits | 5.1v | Draw force diagrams to scale |
| 2) Worksheet 1: Fields and Potential Difference in Circuits | 5.1vii | Sketch the path of projectiles |
| | Standard 6 | |
| 3) Lab 2: Charge Distribution and Potential Difference | 2.1 | Revise a model to make an improved |
| 5) Lab 3: Ohm's Law | 2.1 | representation of a system |
| 6) Lab 4: Series and Parallel Circuits | 2.1 | |
| 1) Lab: What is happening in a wire? | 2.2 | Use observations of behavior of a |
| 3) Lab 2: Charge Distribution and Potential Difference | 2.2 | system to develop a model |
| 5) Lab 3: Ohm's Law | 2.2 | |
| 6) Lab 4: Series and Parallel Circuits | 2.2 | |
| 3) Lab 2: Charge Distribution and Potential Difference | 2.3 | Use mathematical and physical models |
| 5) Lab 3: Ohm's Law | 2.3 | to represent real world systems |
| 6) Lab 4: Series and Parallel Circuits | 2.3 | |
| 3) Lab 2: Charge Distribution and Potential Difference | 2.4 | compare predictions with observations |
| 5) Lab 3: Ohm's Law | 2.4 | to validate or reject predictions |
| 6) Lab 4: Series and Parallel Circuits | 2.4 | |
| 5) Lab 3: Ohm's Law | 5.1 | Predict systems behavior based on |
| 9) Worksheet 3 | 5.1 | mathematical models and graphs |
| 3) Lab 2: Charge Distribution and Potential Difference | 5.2 | Search for trends in data |
| 5) Lab 3: Ohm's Law | 5.2 | |
| 3) Lab 2: Charge Distribution and Potential Difference | 6 | Determine optimal solutions that can be solved quantitatively |