Table 2a: Unit Two Modeling Curriculum Activities on NYSS Order

Activity number and title	New York State Standards	Description
	Standard 1	
12) E & M Unit 2 Review	M1.1	Abstract representation
13) Unit Test	M1.1	to communicate mathematically
6) Quiz 1	M1.1	
12) E & M Unit 2 Review	M2.1	Deductive and inductive reasoning
12) E & M Unit 2 Review	M2.1	to reach mathematical conclusion
13) Unit Test	M2.1	
7a) Worksheet 3a: With EM Field Software	M2.1	
9) Lab/Demo: Bridge to Circuits	M2.1	
9) Lab/Demo: Bridge to Circuits	M2.1	
4) Lab: Mapping Electric Potential	M3.1	Explain physical relevance of a graph
9) Lab/Demo: Bridge to Circuits	M3.1	of real world data
9) Lab/Demo: Bridge to Circuits	M3.1	
1) Activity: Defining Potential	S1.1	Develop explanation of natural
4) Lab: Mapping Electric Potential	S1.1	phenomena
5) Worksheet 2: Potential in Non Uniform Fields	S1.1	
7a) Worksheet 3a: With EM Field Software	S1.1	
8) Worksheet 4: Applications of Electric Potential in Uniform Fields	S1.1	
9) Lab/Demo: Bridge to Circuits	S1.1	
3) Lab/Demo/Discussion: Topographic Maps	S2.1	Design experiment to investigate
4) Lab: Mapping Electric Potential	S2.1	relationship between physical
7a) Worksheet 3a: With EM Field Software	S2.1	phenomena
9) Lab/Demo: Bridge to Circuits	S2.1	
9) Lab/Demo: Bridge to Circuits	S2.1	
3) Lab/Demo/Discussion: Topographic Maps	S2.3	Develop, predict, and explain
4) Lab: Mapping Electric Potential	S2.3	proposed relationships for physical
7a) Worksheet 3a: With EM Field Software	S2.3	phenomena
9) Lab/Demo: Bridge to Circuits	S2.3	
3) Lab/Demo/Discussion: Topographic Maps	S2.4	Carry out research to test theories
4) Lab: Mapping Electric Potential	S2.4	
9) Lab/Demo: Bridge to Circuits	S2.4	
3) Lab/Demo/Discussion: Topographic Maps	S3.1	Scientific data-graphs, diagrams
4) Lab: Mapping Electric Potential	S3.1	charts, equations
9) Lab/Demo: Bridge to Circuits	S3.1	
9) Lab/Demo: Bridge to Circuits	S3.2	Explain data to validate results
4) Lab: Mapping Electric Potential	S3.3	Reach a conclusion on whether
7a) Worksheet 3a: With EM Field Software	S3.3	your data supports your explanation
9) Lab/Demo: Bridge to Circuits	S3.3	of the experiment
3) Lab/Demo/Discussion: Topographic Maps	S3.4	Discuss relationships with class
4) Lab: Mapping Electric Potential	S3.4	revise if necessary
7a) Worksheet 3a: With EM Field Software	S3.4	
9) Lab/Demo: Bridge to Circuits	S3.4	
9) Lab/Demo: Bridge to Circuits	S3.4	
	Standard 2	
4) Lab: Mapping Electric Potential	1.1	Understand features of word processors
9) Lab/Demo: Bridge to Circuits	1.1	spreadsheets and database software
4) Lab: Mapping Electric Potential	1.2	Prepare multimedia presentation
4) Lab: Mapping Electric Potential	1.5	Use software to model and extend lab experiences
	Standard 4	
12) E & M Unit 2 Review	4.1i	Describe and explain conservation of energy
3) Lab/Demo/Discussion: Topographic Maps	4.1i	from potential energy to kinetic energy
9) Lab/Demo: Bridge to Circuits	4.1i	
1) Activity: Defining Potential	4.1v	Observe/explain energy conservation
12) E & M Unit 2 Review	4.1v	
13) Unit Test	4.1v	
3) Lab/Demo/Discussion: Topographic Maps	4.1v	
7) Worksheet 3: Fields, Potential, and Energy	4.1v	
9) Lab/Demo: Bridge to Circuits	4.1v	
9) Lab/Demo: Bridge to Circuits	4.1v	
9) Lab/Demo: Bridge to Circuits	4.1vi	Recognize conversions among different forms of energy in real world devices
8) Worksheet 4: Applications of Electric Potential in Uniform Fields	4.1vii	Compare power developed with work done to different objects
3) Lab/Demo/Discussion: Topographic Maps	5.1iii	Determine acceleration due to gravity near the Earth's surface
8) Worksheet 4: Applications of Electric Potential in Uniform Fields	5.1v	Draw force diagrams to scale
8) Worksheet 4: Applications of Electric Potential in Uniform Fields	5.1vii	Sketch the path of projectiles
8) Worksheet 4: Applications of Electric Potential in Uniform Fields	5.1viii	Use vector diagrams to analyze systems

	Standard 6	
1) Activity: Defining Potential	1.1	Define boundary conditions when doing
2) Worksheet 1: Potential and Uniform Fields	1.1	system analysis
3) Lab/Demo/Discussion: Topographic Maps	1.1	
1) Activity: Defining Potential	2.1	Revise a model to make an improved
12) E & M Unit 2 Review	2.1	representation of a system
3) Lab/Demo/Discussion: Topographic Maps	2.1	
1) Activity: Defining Potential	2.2	Use observations of behavior of a
3) Lab/Demo/Discussion: Topographic Maps	2.2	system to develop a model
9) Lab/Demo: Bridge to Circuits	2.2	
4) Lab: Mapping Electric Potential	2.2	
9) Lab/Demo: Bridge to Circuits	2.2	
1) Activity: Defining Potential	2.3	Use mathematical and physical models
12) E & M Unit 2 Review	2.3	to represent real world systems
9) Lab/Demo: Bridge to Circuits	2.3	
2) Worksheet 1: Potential and Uniform Fields	2.3	
5) Worksheet 2: Potential in Non Uniform Fields	2.3	
9) Lab/Demo: Bridge to Circuits	2.3	
1) Activity: Defining Potential	2.4	Compare predictions with observations
3) Lab/Demo/Discussion: Topographic Maps	2.4	to validate or reject predictions
9) Lab/Demo: Bridge to Circuits	2.4	
4) Lab: Mapping Electric Potential	2.4	
7a) Worksheet 3a: With EM Field Software	2.4	
9) Lab/Demo: Bridge to Circuits	2.4	
6) Quiz 1	3.2	Estimate solutions using orders of magnitude and scientific notation
1) Activity: Defining Potential	4.1	Describe how disturbances may
2) Worksheet 1: Potential and Uniform Fields	4.1	effect a systems equilibrium
9) Lab/Demo: Bridge to Circuits	4.1	
7) Worksheet 3: Fields, Potential, and Energy	4.1	
1) Activity: Defining Potential	4.2	Give examples of dynamic equilibrium
7) Worksheet 3: Fields, Potential, and Energy	4.2	
1) Activity: Defining Potential	5.1	Predict systems behavior based on
12) E & M Unit 2 Review	5.1	mathematical models and graphs
9) Lab/Demo: Bridge to Circuits	5.1	
9) Lab/Demo: Bridge to Circuits	5.2	Search for trends in data