

Table 4a: Modeling Curriculum Activities in Unit Four, in Order of the NYSS

Activity title and number	New York State Standards	Description
	Standard 1	
13) Test	M1.1	Abstract representation
8) Worksheet 3: Velocity Selector	M1.1	to communicate mathematically
9) Activity: Small Motors	M1.1	
5) Lab: Force On a Current Bearing Wire	M2.1	Deductive and inductive reasoning to reach mathematical conclusion
13) Test	M3.1	Explain physical relevance of a graph
5) Lab: Force On a Current Bearing Wire	M3.1	of real world data
5) Lab: Force On a Current Bearing Wire	S1.1	Develop explanation of natural
9) Activity: Small Motors	S1.1	phenomena
1) Lab 1: New Field Exploration Around a Vertical Wire	S2.1	Design experiment to investigate
2) Lab 2 : Permanent Magnets With Iron Filings	S2.1	relationship between physical
4) Demo: Force On a Current Bearing Wire	S2.1	phenomena
9) Activity: Small Motors	S2.1	
1) Lab 1: New Field Exploration Around a Vertical Wire	S2.3	Develop, predict, and explain
2) Lab 2 : Permanent Magnets With Iron Filings	S2.3	proposed relationships for physical
4) Demo: Force On a Current Bearing Wire	S2.3	phenomena
5) Lab: Force On a Current Bearing Wire	S2.3	
9) Activity: Small Motors	S2.3	
1) Lab 1: New Field Exploration Around a Vertical Wire	S2.4	Carry out research to test theories
2) Lab 2 : Permanent Magnets With Iron Filings	S2.4	
4) Demo: Force On a Current Bearing Wire	S2.4	
5) Lab: Force On a Current Bearing Wire	S2.4	
9) Activity: Small Motors	S2.4	
1) Lab 1: New Field Exploration Around a Vertical Wire	S3.1	Scientific data-graphs, diagrams
2) Lab 2 : Permanent Magnets With Iron Filings	S3.1	charts, equations
4) Demo: Force On a Current Bearing Wire	S3.1	
5) Lab: Force On a Current Bearing Wire	S3.1	
9) Activity: Small Motors	S3.1	
1) Lab 1: New Field Exploration Around a Vertical Wire	S3.3	Reach a conclusion on whether
2) Lab 2 : Permanent Magnets With Iron Filings	S3.3	your data supports your explanation
4) Demo: Force On a Current Bearing Wire	S3.3	
5) Lab: Force On a Current Bearing Wire	S3.3	
9) Activity: Small Motors	S3.3	
1) Lab 1: New Field Exploration Around a Vertical Wire	S3.4	Discuss relationships with class
2) Lab 2 : Permanent Magnets With Iron Filings	S3.4	revise if necessary
4) Demo: Force On a Current Bearing Wire	S3.4	
5) Lab: Force On a Current Bearing Wire	S3.4	
9) Activity: Small Motors	S3.4	
	Standard 2	
1) Lab 1: New Field Exploration Around a Vertical Wire	1.2	Prepare multimedia presentation
	Standard 4	
9) Activity: Small Motors	4.1v	Observe/explain energy conservation
9) Activity: Small Motors	4.1vi	Recognize conversions among different forms of energy in real world devices
9) Activity: Small Motors	4.1vii	Compare power developed with work done to different objects
9) Activity: Small Motors	4.1viii	Measure current and voltage in a circuit
13) Test	4.1xv	Map magnetic field of a permanent magnet
2) Lab 2 : Permanent Magnets With Iron Filings	4.1xv	Indicate direction of fields between north and south
3) Worksheet 1	4.1xv	
7) Quiz 1: Fields	4.1xv	
9) Activity: Small Motors	4.1xv	
13) Test	5.1v	Draw force diagrams to scale
3) Worksheet 1	5.1v	
4) Demo: Force On a Current Bearing Wire	5.1v	
4) Demo: Force On a Current Bearing Wire	5.1vi	Break down vectors into components graphically and algebraically
13) Test	5.1vii	Sketch the path of projectiles
6) Worksheet 2	5.1vii	
8) Worksheet 3: Velocity Selector	5.1vii	
4) Demo: Force On a Current Bearing Wire	5.1viii	Use vector diagrams to analyze systems
	Standard 6	
4) Demo: Force On a Current Bearing Wire	1.1	Define boundary conditions when doing system analysis
1) Lab 1: New Field Exploration Around a Vertical Wire	2.1	Revise a model to make an improved
2) Lab 2 : Permanent Magnets With Iron Filings	2.1	representation of a system
5) Lab: Force On a Current Bearing Wire	2.1	
4) Demo: Force On a Current Bearing Wire	2.1	
1) Lab 1: New Field Exploration Around a Vertical Wire	2.2	Use observations of behavior of a
2) Lab 2 : Permanent Magnets With Iron Filings	2.2	system to develop a model
5) Lab: Force On a Current Bearing Wire	2.2	
4) Demo: Force On a Current Bearing Wire	2.2	
5) Lab: Force On a Current Bearing Wire	2.3	Use mathematical and physical models to represent real world systems
1) Lab 1: New Field Exploration Around a Vertical Wire	2.4	Compare predictions with observations
2) Lab 2 : Permanent Magnets With Iron Filings	2.4	to validate or reject predictions
4) Demo: Force On a Current Bearing Wire	2.4	
4) Demo: Force On a Current Bearing Wire	4.1	Describe how disturbances may effect a systems equilibrium
4) Demo: Force On a Current Bearing Wire	4.2	
5) Lab: Force On a Current Bearing Wire	5.1	Predict systems behavior based on mathematical models and graphs
5) Lab: Force On a Current Bearing Wire	5.2	Search for trends in data
10/11/12 teachers discretions	NA	