

Chapter Title	Chapter Description	Lesson Title	Lesson Description	Activity Code	Activity Title
Experimentation	Students will explore how a scientific experiment is conducted. Topics include lab safety, hypotheses and theories, scientific tools and measurements, designing experiments, and conducting experiments.				
		Lab Safety	Students will learn to correctly use safety equipment while conducting an experiment.		
				MSSC004	Lab Safety
				MSSC401	Odyssey Community: What Should Timmy Have Done?
					Lesson Quiz: Lab Safety
		Experimental Questions	Students will be able to identify testable scientific questions.		
				MSSC005	Identifying Testable Questions
				MSSC501	Odyssey Writer: What Makes a Question Testable?
					Lesson Quiz: Experimental Questions

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		Predictions and Hypotheses	Students will be able to create a prediction or hypothesis for a scientific investigation.		
				MSSC006	Making Predictions and Hypotheses
				MSSC424	Odyssey Community: Practice Making Predictions
					Lesson Quiz: Predictions and Hypotheses
		Hypotheses and Theories	Students will be able to explain how hypotheses are revised and tested to eventually produce scientific theories.		
				MSSC007	Hypotheses and Theories
				MSSC502	Odyssey Writer: "Just" a Theory?
					Lesson Quiz: Hypotheses and Theories
		Measurements	Students will be able to identify and be able to make metric (SI) measurements for length, temperature, mass, and time.		
				MSSC008	SI Measurements

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				MSSC601	Authentic Task: Origin of the Metric System
					Lesson Quiz: Measurements and Tools
		Using Scientific Tools	Students will be able to safely use appropriate tools to make SI measurements, including meter sticks, thermometers, balances, and stopwatches.		
				MSSC009	Using Scientific Tools
				MSSC602	Authentic Task: Practice Reading a Triple Beam Balance
					Lesson Quiz: Using Scientific Tools
		Observations and Data Collection	Students will be able to distinguish between observations and other information including inferences, make observations, and collect data in a table or chart.		
				MSSC010	Making Observations and Collecting Data
					Lesson Quiz: Observations and Data Collection

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		Characteristics of a Scientific Experiment	Students will be able to describe the characteristics of a scientific experiment and identify situations in which experiments are useful.		
				MSSC402	Odyssey Community: What Is an Experiment?
				MSSC011	What Is a Scientific Experiment?
				MSSC503	Odyssey Writer: Characteristics of a Good Scientific Experiment
					Lesson Quiz: Characteristics of a Scientific Experiment
		Independent and Dependent Variables and Controls	Students will be able to identify independent and dependent variables, and factors which should be controlled in an experiment.		
				MSSC012	Scientific Variables
					Lesson Quiz: Variables and Controls
		Designing an Experiment	Students will be able to design an experiment to investigate a scientific problem.		

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				MSSC013	Designing an Experiment
				MSSC603	Authentic Task: Simple Steps to Science Fair Success
					Lesson Quiz: Designing an Experiment
		Repetition and Replication	Students will be able to describe the importance of conducting multiple trials in an experiment and having results verified by other scientists.		
				MSSC014	Experimental Trials
				MSSC504	Odyssey Writer: The Need to Replicate Experiments
					Lesson Quiz: Repetition and Replication
		Descriptive Investigations	Students will be able to differentiate between description and explanation, and conduct a descriptive investigation.		
				MSSC015	Descriptive Investigations
				MSSC425	Odyssey Community: Analyzing an Experiment

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					Lesson Quiz: Descriptive Investigations
Data Analysis	Students will investigate how to use simple statistical tools to analyze data, describe the accuracy and precision of measurements, and represent data using graphs, charts, and scientific models.				
		Understanding Data	Students will be able to identify patterns in data using statistical methods such as mean, median, mode, and range.		
				MSSC016	Data Analysis
				MSSC505	Odyssey Writer: Analyzing a Data Set
					Lesson Quiz: Understanding Data
		Accuracy and Precision	Students will be able to describe the accuracy and precision of experimental data.		
				MSSC017	Accuracy and Precision
				MSSC403	Odyssey Community: Which Is More Important: Accuracy or Precision?

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					Lesson Quiz: Accuracy and Precision
		Circle and Bar Graphs	Students will be able to create and interpret circle and bar graphs.		
				MSSC018	Making Circle and Bar Graphs
				MSSC604	Authentic Task: Create a Graph: Pie Chart
				MSSC426	Odyssey Community: When Are Circle and Bar Graphs Helpful?
					Lesson Quiz: Circle and Bar Graphs
		Linear Graphs and Scatter Plots	Students will be able to create and interpret linear graphs and scatter plots.		
				MSSC019	Making Linear Graphs and Scatter Plots
				MSSC605	Authentic Task: Create a Graph: Scatter Plot
				MSSC404	Odyssey Community: How Could This Graph Be Improved?
					Lesson Quiz: Linear Graphs and Scatter Plots

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		Scientific Models	Students will be able to identify the advantages and limitations of different scientific models.		
				MSSC020	Scientific Models
				MSSC642	Authentic Task: Modeling
				MSSC427	Odyssey Community: Strengths and Limitations of a Model
					Lesson Quiz: Scientific Models
Drawing Conclusions	Students will discover how to research the work of previous scientists, evaluate evidence, draw conclusions from evidence, and present their results to others.				
		Research	Students will be able to conduct research about a topic in science using sources such as books, magazines, and internet sources.		
				MSSC021	Research
				MSSC428	Odyssey Community: Appropriate Use of Information
					Lesson Quiz: Research

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		Making Conclusions from Data	Students will be able to draw conclusions and predict trends based on scientific data.		
				MSSC022	Drawing Conclusions
				MSSC429	Odyssey Community: Case Study: Drawing Conclusions
					Lesson Quiz: Making Conclusions from Data
		Presenting Experimental Results to Others	Students will be able to communicate the steps and results from an investigation in written reports and oral presentations.		
				MSSC023	Presenting Results
				MSSC405	Odyssey Community: Analyzing a Peer's Results
					Lesson Quiz: Presenting Experimental Results to Others
		Evaluating Scientific Evidence	Students will be able to distinguish valid sources of information and samples of data, identify flaws in reasoning, and recognize alternate interpretations of data.		

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				MSSC024	Evaluating Scientific Evidence
				MSSC430	Odyssey Community: Who to Believe?
				MSSC523	Odyssey Writer: Evaluation of a Web Site
					Lesson Quiz: Evaluating Scientific Evidence