6th Grade Science Framework

State Goal and Percentage: 11 – Scientific Inquiry 20%

State Goal 11: Understand the process of scientific inquiry and technological design to investigate questions, conduct experiments, and solve problems.

Standard and Skills: 11 A Scientific Inquiry 10%
Stage: F

Standard	Assessment Objective	Instruction & Assessment		Cross curricular connection		Additional Resources
		Instruction and guided practice	Assessment	Reading Assessment number	Math Assessment number	Other books, internet resources, etc.
11.A.3a To formulate hypotheses that can be tested by collecting data 11.A.3b Conduct scientific experiments that control all but one variable 11.A.3c Collect and record data accurately using consistent measuring and recording techniques and media 11.A.3d Explain the existence of unexpected results in a data set 11.A.3e Use data manipulation tools and quantitative (e.g., mean, mode, simple equations) and representational methods (e.g., simulations, image processing) to analyze measurements	11.7.01 11.7.02 11.7.03 11.7.04 11.7.06	▪ Chapter 1 – Science in Our World, section 1, 2, 3, and 4 ▪ Penny lab ▪ Pendulum lab ▪ Lab Safety	▪ Scientific scenario is given, students must investigate and apply scientific method ▪ Lab write-ups ▪ Section review questions	1.6.08	8.6.07	(time frame estimated August – mid Sept.)

11.A.3f Interpret and represent results of analysis to produce findings 11.A.3g Report and display the process and results of a scientific investigations						

13.A.3a Identify and reduce potential hazards in science activities 13.A.3c Explain what is similar and different about observational and experimental investigations 13.B.3c Describe how occupations use scientific and technological knowledge and skills	13.7.01 13.7.02 13.7.03 13.7.04 13.7.05 13.7.06					

6th Grade Science Framework

State Goal and Percentage: 11 – Scientific Inquiry 20%

State Goal 11: Understand the process of scientific inquiry and technological design to investigate questions, conduct experiments, and solve problems.

Standard and Skills: 11B – Technological Design 10%
Stage: F

Standard	Assessment Objective	Instruction & Assessment		Cross curricular connection		Additional Resources
		Instruction and guided practice	Assessment	Reading Assessment number	Math Assessment number	Other books, internet resources, etc.
11.B.3a Identify an actual design problem and establish criteria for determining the success of a solution 11.B.3b Sketch, propose, compare design solutions to the problem considering available materials, tools, cost effectiveness and safety 11.B.3c Select the most appropriate design and build a prototype or simulation 11.B.3d Test the prototype using available materials,	11.7.07 11.7.08 11.7.09 11.7.10	▪ Paper airplane lab	▪ Lab write up		7.6.01	

instruments and technology and record the data 11.B.3e Evaluate the test results based on established criteria, note sources of error and recommend improvements 11.B.3f Using available technology, report the relative success of the design based on the test results and criteria						

13.A.3a Identify and reduce potential hazards in science activities 13.A.3b Analyze historical and contemporary cases in which the work of science has been affected by both valid and biased scientific practices 13.A.3c Explain what is similar and different about observational and experimental investigations 13.B.3a Identify and explain ways that scientific knowledge and economics drive technological development	13.7.01 13.7.02 13.7.03 13.7.04 13.7.05 13.7.06					

13.B.3b Identify important contributions to science and technology that have been made by individuals and groups from various cultures 13.B.3c Describe how occupations use scientific and technological knowledge and skills 13.B.3d Analyze the interaction of resource acquisition, technological development and ecosystem impact.						

6th Grade Science Framework

State Goal and Percentage: 12 – Integrated Science 60%

State Goal 12: Understand the fundamental concepts, principles and interconnections of the life, physical, and earth/space sciences

Standard and Skills: 12C Matter and Energy – 10%
Stage: F

Standard	Assessment Objective	Instruction & Assessment		Cross curricular connection		Additional Resources
		Instruction and guided practice	Assessment	Reading Assessment number	Math Assessment number	Other books, internet resources, etc.
12.C.3a Explain interactions of energy with matter including changes of state and conservation of mass and energy 12.C.3b Model and describe the chemical and physical characteristics of matter	12.7.33 12.7.34 12.7.35 12.7.36 12.7.37 12.7.38 12.7.39 12.7.40 12.7.41	▪ Chapter 2 – Introduction to Matter, sections 1-5 ▪ Mass Number Activity ▪ Atoms to Ions Activity ▪ Volume Lab ▪ Change of state concept map	Chapter test Worksheet/visual representation Lab write up	1.8.08	6.6.12 7.6.01	(mid Sept. – mid Oct.)

	12.7.42 12.7.43					

13.A.3a Identify and reduce potential hazards in science activities 13.A.3c Explain what is similar and different about observational and experimental investigations	13.7.01 13.7.02 13.7.03 13.7.04 13.7.05 13.7.06					

6th Grade Science Framework

State Goal and Percentage: 12 – Integrated Science 60%

State Goal 12: Understand the fundamental concepts, principles and interconnections of the life, physical, and earth/space sciences

Standard and Skills: 12E Earth Science – 10%
Stage: F

Standard	Assessment Objective	Instruction & Assessment		Cross curricular connection		Additional Resources
		Instruction and guided practice	Assessment	Reading Assessment number	Math Assessment number	Other books, presentations, etc.
12.E.3a Analyze and explain large-scale dynamic forces, events, and processes that affect the Earth's land, water and atmospheric systems 12.E.3b Describe interactions between solid earth, oceans, atmosphere and organisms that have resulted in ongoing changes of Earth 12.E.3c Evaluate the biodegradability of renewable and nonrenewable natural resources	12.7.70 12.7.71 12.7.72 12.7.73 12.7.74 12.7.75 12.7.76 12.7.77 12.7.78	Chapter 18 – Climate and Climate Change Activity – How does Earth's Shape Affect Climate Zones? Chapters 3 and 4 – Rocks and Plate Tectonics Activity—Horizontal Stress (spaghetti) Demonstration/Activity—Convection Connection (8th grade science book)	Written and Oral assessment Lab write ups	1.8.08 1.8.10 1.8.17 1.8.19 1.8.20 1.8.21 1.8.22 1.8.23	7.6.01 7.6.03 9.6.04	Science Explorer Book – Earth Science (mid Oct. – Jan)

	12.7.79 12.7.80 12.7.82 12.7.83 12.7.100	Deformation activity with clay Activity – Model of Earth's magnetic fields p. 241 Integrated Science Book				

13.A.3a Identify and reduce potential hazards in science activities 13.A.3b Analyze historical and contemporary cases in which the work of science has been affected by both valid and biased scientific practices 13.A.3c Explain what is similar and different about observational and experimental investigations 13.B.3a Identify and explain ways that scientific knowledge and economics drive technological development 13.B.3b Identify important contributions to science and	13.7.01 13.7.02 13.7.03 13.7.04 13.7.05 13.7.06					

technology that have been made by individuals and groups from various cultures 13.B.3c Describe how occupations use scientific and technological knowledge and skills 13.B.3d Analyze the interaction of resource acquisition, technological development and ecosystem impact.						

6th Grade Science Framework

State Goal and Percentage: 12 Integrated Science 60%

State Goal 12: Understand the fundamental concepts, principles and interconnections of the life, physical, and earth/space sciences

Standard and Skills: 12F Astronomy – 10%
Stage: F

Standard	Assessment Objective	Instruction & Assessment		Cross curricular connection		Additional Resources
		Instruction and guided practice	Assessment	Reading Assessment number	Math Assessment number	Other books, internet resources, etc.
12.F.3a Simulate, analyze and explain the affects of gravitational force in the solar system 12.F.3b Describe the organization and physical characteristics of the solar system	12.7.91 12.7.92 12.7.93 12.7.94 12.7.95 12.7.96 12.7.97 12.7.98 12.7.99 12.7.100 12.7.101	Chapter 14 – Studying Stars Chapter 15 – Stars, Galaxies, and the Universe Activity – Exploring the Movement of Galaxies in the Universe Chapter 16 – Formation of the Solar System Oreo phases of the moon lab Flow chart – life cycle of the star	Timeline of 10 events important to the development of astronomy Chapter quizzes Chapter tests	1.8.17 1.8.18	9.6.13	(est. Jan. – Mar.)

13.A.3a Identify and reduce potential hazards in science activities 13.A.3b Analyze historical and contemporary cases in which the work of science has been affected by both valid and biased scientific practices 13.A.3c Explain what is similar and different about observational and experimental investigations 13.B.3a Identify and explain ways that scientific knowledge and economics drive technological development 13.B.3b Identify important contributions to science and technology that have been made by individuals and groups from various cultures 13.B.3c Describe how occupations use scientific and technological knowledge and skills	13.7.01 13.7.07 13.7.08 13.7.09 13.7.13					

13.B.3d Analyze the interaction of resource acquisition, technological development and ecosystem impact.						