

7th 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: G

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	<ul style="list-style-type: none"> ▪ Seed growth lab ▪ Clean up your act lab ▪ The Best Bread Bakery Dilemma ▪ Cells Alive 	<ul style="list-style-type: none"> ▪ Scientific scenario is given, students must investigate and apply scientific method ▪ Lab write-ups ▪ Section review questions 	1.6.08	6.7.05 6.7.08 6.7.11 6.7.12 7.7.01 7.7.03	(time frame estimated August – mid Sept.)

<p>11.A.3f Interpret and represent results of analysis to produce findings</p> <p>11.A.3g Report and display the process and results of a scientific investigations</p>						
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<p>13.A.3a Identify and reduce potential hazards in science activities</p> <p>13.A.3c Explain what is similar and different about observational and experimental investigations</p> <p>13.B.3c Describe how occupations use scientific and technological knowledge and skills</p>	<p>13.7.01</p> <p>13.7.02</p> <p>13.7.03</p> <p>13.7.04</p> <p>13.7.05</p> <p>13.7.06</p>	<p>Above labs also cover these state standards</p>				
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7th 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: G

Standard	Assessment Objective	Instruction & Assessment		Cross curricular connection		Additional Resources
		Instruction and guided practice	Assessment	Reading Assessment number	Math Assessment number	
11.B.3a Identify an actual design problem and establish criteria for determining the success of a solution	11.7.07	<ul style="list-style-type: none"> ▪ Marshmallow Catapult lab ▪ For the Birds Lab ▪ Go Fly a Bike Lab ▪ Blast Off! Lab 	<ul style="list-style-type: none"> ▪ Lab write up ▪ Research paper ▪ worksheets 	1.8.08	7.6.01	Other books, internet resources, etc.
	11.7.08			1.8.17	6.7.08	
	11.7.09			1.8.19	6.7.09	
	11.7.10			1.8.21	6.7.12	
11.B.3b Sketch, propose, compare design solutions to the problem considering available materials, tools, cost effectiveness and safety				1.8.23	6.7.14	
					6.7.15	
11.B.3c Select the most appropriate design and build a prototype or simulation						
11.B.3d Test the prototype using available materials,						

<p>instruments and technology and record the data</p> <p>11.B.3e Evaluate the test results based on established criteria, note sources of error and recommend improvements</p> <p>11.B.3f Using available technology, report the relative success of the design based on the test results and criteria</p>						
<p>13.A.3a Identify and reduce potential hazards in science activities</p> <p>13.A.3b Analyze historical and contemporary cases in which the work of science has been affected by both valid and biased scientific practices</p> <p>13.A.3c Explain what is similar and different about observational and experimental investigations</p> <p>13.B.3a Identify and explain ways that scientific knowledge and economics drive technological development</p>	<p>13.7.01</p> <p>13.7.02</p> <p>13.7.03</p> <p>13.7.04</p> <p>13.7.05</p> <p>13.7.06</p>					

<p>13.B.3b Identify important contributions to science and technology that have been made by individuals and groups from various cultures</p> <p>13.B.3c Describe how occupations use scientific and technological knowledge and skills</p> <p>13.B.3d Analyze the interaction of resource acquisition, technological development and ecosystem impact.</p>						
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7th 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: 12A Living Things – 10%

Stage: G

Standard	Assessment Objective	Instruction & Assessment		Cross curricular connection		Additional Resources		
		Instruction and guided practice	Assessment	Reading Assessment number	Math Assessment number			
12.A.3a Explain how cells function as “building blocks” of organisms and describe the requirements for cells to live 12.A.3b Compare characteristics of organisms produced from a single parent with those of organisms produced by two parents 12.A.3c Compare and contrast how different forms and structures reflect different functions	12.7.01	Chapter 9 – It’s Alive!! Or Is It?	Play doh cells	1.8.03	6.7.08	Other books, internet resources, etc.		
	12.7.02		Chapter 10 – Cells – The Basic Units of Life	Cell menu planner project	1.8.07		6.7.16	
	12.7.03	Chapter 11 – Classification		Living/Non-living characteristics posters	1.8.08		7.7.01	
	12.7.04			Chapter 12 – Bacteria and Viruses	Chapter quizzes		1.8.19	8.7.12
	12.7.05				Chapter 14 – Introduction to Plants		Chapter tests	1.8.23
	12.7.06	Chapter 15 – Introduction to Animals		Cell theory timeline				7.7.06
	12.7.07		Silly science –				9.7.05	
	12.7.08							
	12.7.09							
	12.7.10							
	12.7.11							
	12.7.12							
	12.7.13							
	12.7.14							
	12.7.15							
	12.7.16							
	12.7.17							

	12.7.18 12.7.19 12.7.20 12.7.21 12.7.22 12.7.23 12.7.24		dichotomous key activity Shape Island activity Microscope activity Virus shapes – play doh activity Lima bean quick lab Seed growth activity		10.7.01 10.7.02 10.7.03	
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13.A.3a Identify and reduce potential hazards in science activities	13.7.01 13.7.02 13.7.03 13.7.04					
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	13.7.05					
	13.7.06					

7th 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: 12B Environment and Interactions of Living Things – 10%
Stage: F

Standard	Assessment Objective	Instruction & Assessment		Cross curricular connection		Additional Resources
		Instruction and guided practice	Assessment	Reading Assessment number	Math Assessment number	
12.B.3a Identify and classify biotic and abiotic factors in an environment that affect population density, habitat, and placement of organisms in an energy pyramid	12.7.25 12.7.26 12.7.27 12.7.28 12.7.29 12.7.30 12.7.31	Chapter 14 – Introduction to Plants	Chapter quizzes	1.8.03	6.7.08	Other books, internet resources, etc.
12.B.3b Compare and assess features of organisms for their adaptive, competitive and survival potential		Chapter 15 – Introduction to Animals	Chapter tests	1.8.07	6.7.16	
		Chapter 16 – Interactions of Living Things	Moncot vs. dicot table	1.8.08	7.7.01	
12.A.3c Compare and contrast how different forms and structures reflect different functions		Chapter 17 – Cycles in Nature	Seed growth activity	1.8.19	8.7.12	
			Flower dissection	1.8.23	7.7.05	
			Food web start up activity		7.7.06	
			Vocabulary crossword		9.7.05 10.7.01	

					10.7.02 10.7.03	
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13.A.3a Identify and reduce potential hazards in science activities	13.7.01 13.7.02 13.7.03 13.7.04 13.7.05 13.7.06					
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7th 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: G

Standard	Assessment Objective	Instruction & Assessment		Cross curricular connection		Additional Resources
		Instruction and guided practice	Assessment	Reading Assessment number	Math Assessment number	
12.C.3a Explain interactions of energy with matter including changes of state and conservation of mass and energy	12.7.33 12.7.34 12.7.35	<ul style="list-style-type: none"> ▪ Chapter 18 -- Properties and States of Matter ▪ Make a colloid activity ▪ Different densities demonstration ▪ Changing Change Activity ▪ Density Equation practice 	Chapter test	1.8.08	7.7.01 7.7.03	(mid Sept. – mid Oct.)
	12.7.36		Chapter quizzes			
	12.7.37		Lab write up			
12.C.3b Model and describe the chemical and physical characteristics of matter	12.7.38		worksheets			
	12.7.39					
	12.7.40					
	12.7.41					

	12.7.42					
	12.7.43					
13.A.3a Identify and reduce potential hazards in science activities	13.7.01					
	13.7.02					
13.A.3c Explain what is similar and different about observational and experimental investigations	13.7.03					
	13.7.04					
	13.7.05					
	13.7.06					

7th 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: 12D Force and Motion – 10%

Stage: G

Standard	Assessment Objective	Instruction & Assessment		Cross curricular connection		Additional Resources
		Instruction and guided practice	Assessment	Reading Assessment number	Math Assessment number	
12.D.3a Explain and demonstrate how forces affect motion	12.7.63	Chapter 19 – Matter in Motion	Chapter test	1.8.03	6.7.08	(mid Sept. – mid Oct.)
	12.7.64		Chapter quizzes			
12.D.3b Explain the factors that affect the gravitational forces on objects	12.7.65	Chapter 20 – Forces and Motion	Catapult Lab	1.8.07	6.7.16	
	12.7.66		Chapter 21 – Forces in Fluids	Average Speed lab (outside)	1.8.08	
	12.7.67	Chapter 22 – Work and Machines	Domino Derby	1.8.19	8.7.12	
	12.7.68		Card houses	1.8.23	7.7.05	
	12.7.69		Friction 500 activity		7.7.06	
	12.7.43		Bowling ball		9.7.05	
					10.7.02	

			activity Sticky Sneakers (Physical Science Book) Colliding cars (Physical science book) Balloon in a bottle activity Lab write up		10.7.03	
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13.A.3a Identify and reduce potential hazards in science activities	13.7.01					
	13.7.02					
13.A.3c Explain what is similar and different about observational and experimental investigations	13.7.03					
	13.7.04					
	13.7.05					
	13.7.06					

7th 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: G

Standard	Assessment Objective	Instruction & Assessment		Cross curricular connection		Additional Resources
		Instruction and guided practice	Assessment	Reading Assessment number	Math Assessment number	
12.E.3a Analyze and explain large-scale dynamic forces, events, and processes that affect the Earth's land, water and atmospheric systems	12.7.70 12.7.71 12.7.72	Chapter 5 – The Atmosphere Chapter 6 – Understanding Weather	Chapter quizzes Chapter tests Weather Lab	1.8.08 1.8.10 1.8.17 1.8.19 1.8.20 1.8.21	7.6.01 7.6.03 9.6.04	Science Explorer Book – Earth Science (mid Oct. – Jan)
12.E.3b Describe interactions between solid earth, oceans, atmosphere and organisms that have resulted in ongoing changes of Earth	12.7.73 12.7.74 12.7.75	Chapter 7 - Climate	Research paper Weather Bug Cool breeze quick lab	1.8.22 1.8.23		
12.E.3c Evaluate the biodegradability of renewable and nonrenewable natural resources	12.7.76 12.7.77 12.7.78					

	12.7.79					
	12.7.80					
	12.7.82					
	12.7.83					
	12.7.100					

13.A.3a Identify and reduce potential hazards in science activities	13.7.01					
	13.7.02					
13.A.3b Analyze historical and contemporary cases in which the work of science has been affected by both valid and biased scientific practices	13.7.03					
	13.7.04					
	13.7.05					
	13.7.06					
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						

<p>technology that have been made by individuals and groups from various cultures</p> <p>13.B.3c Describe how occupations use scientific and technological knowledge and skills</p> <p>13.B.3d Analyze the interaction of resource acquisition, technological development and ecosystem impact.</p>						
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7th 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: G

Standard	Assessment Objective	Instruction & Assessment		Cross curricular connection		Additional Resources
		Instruction and guided practice	Assessment	Reading Assessment number	Math Assessment number	
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 8- A Family of Planets	Planet diorama/mobile Planetary postcards Clever Insight Quick Lab Comet labeling Chapter quizzes Chapter tests	1.8.17 1.8.18	6.7.08 6.7.12 6.7.15 7.7.01 7.7.06	(est. Jan. – Mar.)

13.A.3a Identify and reduce potential hazards in science activities	13.7.01					
	13.7.07					
	13.7.08					
13.A.3b Analyze historical and contemporary cases in which the work of science has been affected by both valid and biased scientific practices	13.7.09					
13.A.3c Explain what is similar and different about observational and experimental investigations	13.7.13					
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.B.3d Analyze the interaction of resource acquisition, technological development and ecosystem impact.						
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