

Marietta City Schools Pacing Guide

Subject: Science (McDougle)

Grade Level: 8

Time Frame: Year Long

Month / Week	Ohio's Learning Standards for Science	Skills/Activities	Resources	Assessment
Weeks 1 - 14	<p>SCIENCE INQUIRY AND APPLICATION (Embedded throughout the unit of instruction)</p> <p>a. Identify questions that can be answered through scientific investigations. (SIA.1)</p> <p>b. Design and conduct a scientific investigation.(SIA.2)</p> <p>c. Use appropriate mathematics, tools and techniques to gather data and information. (SIA.3)</p> <p>d. Analyze and interpret data.(SIA.4)</p> <p>e. Develop descriptions, models, explanations and predictions.(SIA.5)</p> <p>f. Think critically and logically to connect</p>	<ol style="list-style-type: none"> 1. Introduction. 2. Discuss Lab Safety Contract. 3. Discuss Science Activity Rubric. 4. Discuss Science Journals (Daily goals.) 5. Discuss Weather Data Sheets. 6. Discuss Science Folders/Table of Contents. 7. Discuss Remind 101. 8. Discuss Class Syllabus. 9. Distribute textbooks. 10. Video: The Scientific Method. (SIA.1 - .8) 11. Notes/Discuss from Video: The Scientific Method. (SIA.1 - .8) 12. Discuss article/assign questions, "Did an Asteroid Really Kill the Dinosaurs?" (SIA.6) 13. Discuss article, "Dinosaurs Already in Trouble Before Giant Asteroid Struck." (SIA.6) 14. Quiz: The Scientific Method. (SIA.1 - .8) 15. Pretest: Forces & Motion. (PS.1 & .2)(Formative Assessment) 	<p>Teacher created/adapted information packets/sheets</p> <p>Teacher created/adapted lab sheets & necessary materials for labs</p> <p>DVD's for given topics</p> <p>PowerPoint presentations from Teacher's Resource Package</p> <p>Teacher created/adapted quizzes/tests</p>	<p>Pretest for Science Gr. 8</p> <p>Pretests for given units</p> <p>Follow up questions for activities/labs</p> <p>Review questions for sections of given chapters</p> <p>Quizzes as necessary</p> <p>Review questions at the conclusion of given chapters</p>

	<p>evidence and explanations. (SIA.6)</p> <p>g. Recognize and analyze alternative explanations and predictions. (SIA.7)</p> <p>h. Communicate scientific procedures and explanations.(SIA.8)</p> <p>Physical Science (PS)</p> <p>a. Forces between objects act when the objects are in direct contact or when they are not touching. (PS.1)</p> <p>b. Forces have magnitude & direction. (PS.2)</p> <p>c. There are different types of potential energy. (PS.3)</p>	<p>16. Pretest: Science, Grade 8.)(Formative Assessment)</p> <p>17. Video: Physics: Forces at Work. (PS.1, .2, & .3)</p> <p>18. Discuss Video: Physics: Forces at Work. (PS.1, .2, & .3)</p> <p>19. Notes: Video: Physics: Forces at Work. (PS.1, .2, & .3)</p> <p>20. Target Your Reading, pg. 130B. (PS.1 & .2))(Formative Assessment)</p> <p>21. Power Point Presentation: Ch. 5, Sect. 1. (pp. 130 – 135) (PS.1 & .2)</p> <p>22. Read/discuss Ch. 5, Sect. 1. (pp. 130 – 135) (PS.1 & .2)</p> <p>23. Notes: Ch. 5, Sect. 1. (pp. 130 – 135) (PS.1 & .2)</p> <p>24. Graphing Motion TE pg. 135 (Whole class). (PS.1 & .2)</p> <p>25. Discuss Graphing Motion. (PS.1 & .2)</p> <p>26. Graphing Motion .1 TE pg. 135 (Individual). (PS.1 & .2)</p> <p>27. Discuss Graphing Motion .1. (PS.1 & .2)</p> <p>28. Assign Questions, pg. 135. (PS.1 & .2)</p> <p>29. Activity: Calculating Speed & Acceleration. (PS.1 & .2)</p> <p>30. Post Lab Discussion: Calculating Speed & Acceleration. (PS.1 & .2)</p> <p>31. Activity: Calculating Changes in Acceleration. (PS.1 & .2)</p> <p>32. Post Lab Discussion: Calculating Changes in Acceleration. (PS.1 & .2)</p> <p>33. Power Point Presentation pp. 136 – 143. (PS.1 & .2)</p> <p>34. Assign pp. 136 – 143. (PS.1 & .2)</p>		<p>Post Tests for given units</p>
--	---	--	--	-----------------------------------

		<p>35. Notes: pp. 136 – 143. (PS.1 & .2)</p> <p>36. Demonstration: Small boat vs. Large boat (accel., action/reaction forces). (PS.1 & .2)</p> <p>37. Post Demonstration Discussion: Small boat vs. Large boat (accel., action/reaction forces). (PS.1 & .2)</p> <p>38. Assign Questions, pg. 143. (PS.1 & .2)</p> <p>39. Assign pp. 144 – 150. (PS.1 & .2)</p> <p>40. Discuss/Notes: pp. 144 – 150. (PS.1 & .2)</p> <p>41. Activity: Measuring the Amount of Work. (PS.1 & .2) (SIA.3, .4, .6, & .8)</p> <p>42. Post Lab Discussion: Measuring the Amount of Work. (PS.1 & .2) (SIA.3, .4, .6, & .8)</p> <p>43. Activity: Working with Pulleys. (PS.1 & .2) (SIA.3, .4, .6, & .8)</p> <p>44. Post Lab Discussion: Working with Pulleys. (PS.1 & .2) (SIA.3, .4, .6, & .8)</p> <p>45. Assign Questions, pg. 150. (PS.1 & .2)</p> <p>46. Distribute Study Guide. (PS.1 & .2)</p> <p>47. Students will design/conduct an experiment to determine if the size of a marble will affect its acceleration as it travels down a ramp. (PS.1 & .2) (SIA.1 -8)</p> <p>48. Post Lab Discussion: Students will design/conduct an experiment to determine if the size of a marble will affect its acceleration as it travels down a ramp. (PS.1 & .2) (SIA.1 -8)</p> <p>49. Begin Review Activities for Chapter 5 Test. (Study Guide, pg. 155, pg. 156 #'s 11-20, & pg. 158 #'s 1 – 11.) (PS.1 & .2) (Formative assessment)</p>		
--	--	---	--	--

		<p>50. Continue Review for Chapter 5 Test. (Vocabulary & Concept Review) (PS.1 & .2)</p> <p>51. Chapter 5 Test. (PS.1 & .2)(Summative Assessment)</p> <p>52. Discuss Chapter 5 Test. (PS.1 & .2)</p> <p>53. Notebook Check. (SIA.3)/Video: The Runaway Universe. (PS.1 & 2)</p> <p>54. Journal Check. (SIA.3)</p> <p>55. Energy Pretest . (PS.3) (Formative Assessment)</p> <p>56. Video: Behind the Big Bang Theory. (PS.1 & 2.)</p> <p>57. Video: Energy (Bill Nye). (PS.3)</p> <p>58. Target Your Reading, pg. 162. (PS.3)(Formative Assessment)</p> <p>59. Power Point Presentation, Ch. 6, Section 1. (PS.3)</p> <p>60. Assign pp. 162 – 169. (PS.3)</p> <p>61. Activity: Comparing Kinetic Energy & Height. (PS.3) (SIA.3, .4, .5, .6, .7, & .8)</p> <p>62. Notes: pp. 162 – 169. (PS.3)</p> <p>63. Assign Questions pg. 169. (PS.3) (Formative Assessment)</p> <p>64. Activity: Converting Potential/Kinetic Energy. (PS.3) (SIA.3, .4, .5, .6, .7, & .8)</p> <p>65. Activity: Radiation. (PS.3)(Calculate/compare amount of daylight from various dates from 8/25 to 9/22 during wait time.) (SIA.3 & 4)</p> <p>66. Assign pp. 170 – 177. (PS.3)</p> <p>67. Power Point Presentation, Ch. 6, Section 2. (PS.3)</p> <p>68. Notes: pp. 170 – 177. (PS.3)</p> <p>69. Assign Questions pg. 177. (PS.3) (Formative Assessment)</p>		
--	--	---	--	--

		<p>70. Assign pp. 178 – 182. (PS.3)</p> <p>71. Power Point Presentation, Ch. 6, Section 3. (PS.3)</p> <p>72. Notes: pp. 178 – 182. (PS.3)</p> <p>73. Assign Questions pg. 182. (PS.3) (Formative Assessment)</p> <p>74. Discuss Questions pg. 182. (PS.3) (Formative Assessment)</p> <p>75. Lab Activity #1. (PS.3 & SIA .3, .4, .6, & .8)</p> <p>76. Assign/Check pg. 188 #'s 1 – 17. (PS.3) (Formative Assessment)</p> <p>77. Assign pg. 190 #'s 1 – 11. (PS.3) (Formative Assessment)</p> <p>78. Discuss Study Guide. (PS.3)</p> <p>79. Assessment Transparency “Energy.” (PS.3)</p> <p>80. Chapter 6 Test. (PS.3) (Summative Assessment)</p> <p>81. Assign pp. 440 – 446. (PS.1 & 2.)</p> <p>82. Power Point Presentation, Ch. 15, Section 1. (PS.1 & 2.)</p> <p>83. Notes: pp. 440 -446. (PS.1 & 2.)</p> <p>84. Section Summary 1-2. (PS.1 & 2.)</p> <p>85. Assign Section 1-2 Review/Reinforce. (PS.1 & 2.)(Formative Assessment)</p> <p>86. Discuss Section 1-2 Review/Reinforce. (PS.1 & 2.)</p> <p>87. Read/Discuss pg. 186. (PS.3)</p> <p>88. Discuss diagram: Phases/Tides. (PS.1 & 2.)</p> <p>89. Assign pg. 446. (PS.3) (Formative Assessment)</p> <p>90. Quiz: Phases, Eclipses, & Tides. (PS.1 & 2.) (Summative Assessment)</p>	
--	--	--	--

		<p>91. Semester Final. (SIA.1-8) (Summative Assessment)</p> <p>92. Notebook check. (SIA.2, 3, &.8)</p> <p>93. Clean out old & organize new Science Notebooks. (SIA.2, 3, &.8)</p>		
Weeks 15 - 28	<p>SCIENCE INQUIRY AND APPLICATION (Embedded throughout the unit of instruction)</p> <p>a. Identify questions that can be answered through scientific investigations. (SIA.1)</p> <p>b. Design and conduct a scientific investigation.(SIA.2)</p> <p>c. Use appropriate mathematics, tools and techniques to gather data and information. (SIA.3)</p> <p>d. Analyze and interpret data.(SIA.4)</p> <p>e. Develop descriptions, models, explanations and predictions.(SIA.5)</p> <p>f. Think critically and logically to connect evidence and explanations. (SIA.6)</p> <p>g. Recognize and analyze alternative</p>	<p>1. Video: Plate Tectonics. (ESS.1, 2, & 3)</p> <p>2. Pretest: Forces Shaping the Earth. (ESS.1, 2, & 3)</p> <p>3. Target Your Reading pg. 288B (ESS.1, 2, & 3) (Formative Assessment)</p> <p>4. Assign pgs. 288 – 297. (ESS 1 & 2)</p> <p>5. Power Point Presentation, Ch. 10, Section 1. (ESS 1 & 2)</p> <p>6. Notes: pgs. 288 – 297. (ESS 1 & 2)</p> <p>7. Activity: Black Box Lab (SIA.3, .4, .5 , & .6)</p> <p>8. Video: Earthquakes: Seismic Sleuths. (ESS 1 & 2)</p> <p>9. https://www.learner.org/interactives/dynamicearth/structure.html (ESS 1 & 2)</p> <p>10. Assign Questions pg. 297. (ESS 1 & 2) (Formative Assessment)</p> <p>11. Notebook check. (SIA.2, 3, &.8)</p> <p>12. Activity: Earth’s Moving Plates, pg. 298. (ESS 1 & 2) (SIA.4, 5, & 6)</p> <p>13. Post Lab discussion. (ESS 1 & 2)</p> <p>14. Assign pgs. 299 – 305. (ESS.3)</p> <p>15. Power Point Presentation, Ch. 10, Section 2. (ESS.3)</p> <p>16. Notes pgs. 299 – 305. (ESS.3)</p> <p>17. Assign Questions pg. 305. (ESS.3) (Formative Assessment)</p>	<p>Teacher created/adapted information packets/sheets</p> <p>Teacher created/adapted lab sheets & necessary materials for labs</p> <p>DVD’s for given topics</p> <p>PowerPoint presentations from Teacher’s Resource Package</p> <p>Teacher created/adapted quizzes/tests</p>	<p>Pretests for given units</p> <p>Follow up questions for activities/labs</p> <p>Review questions for sections of given chapters</p> <p>Quizzes as necessary</p> <p>Review questions at the conclusion of given chapters</p> <p>Post Tests for given units</p>

	<p>explanations and predictions. (SIA.7)</p> <p>h. Communicate scientific procedures and explanations.(SIA.8)</p> <p>Earth & Space Science (ESS)</p> <p>a. The composition and properties of Earth's interior are identified by the behavior of seismic waves. (ESS.1)</p> <p>b. Earth's crust consists of major and minor tectonic plates that move relative to each other. (ESS.2)</p> <p>c. A combination of constructive and destructive geologic processes formed Earth's surface. (ESS.3)</p> <p>d. Evidence of the dynamic changes of Earth's surface through time is found in the geologic record. (ESS.4)</p>	<p>18. Assign/discuss pp. 310 #'s 1 – 15. (Review) (Formative Assessment) (ESS.1, 2, & 3)</p> <p>19. Assign/discuss pp. 312 #'s 1 – 9. (Review) (Formative Assessment) (ESS.1, 2, & 3)</p> <p>20. Distribute/discuss Study Guide. (Review) (Formative Assessment) (ESS.1, 2, & 3)</p> <p>21. Chapter Test. (Summative Assessment) (ESS.1, 2, & 3)</p> <p>22. Pretest, "Weathering & Erosion." (ESS.3)</p> <p>23. Target Your Reading, pg. 316B. (Formative Assessment) (ESS.3)</p> <p>24. Assign pgs. 316 – 321. (ESS.3)</p> <p>25. Power Point Presentation, pgs. 316 – 321. (ESS.3)</p> <p>26. Notes: pgs. 316 – 321. (ESS.3)</p> <p>27. Activity: Does Water Expand? (ESS.3) (SIA.3, .4, .5, .6, &.8)</p> <p>28. Activity: Chalk. (ESS.3) (SIA.3, .4, .5, .6. & .8)</p> <p>29. Post Lab Discussion: Does Water Expand? & Chalk. (ESS.3) (SIA.3, .4, .5, .6. & .8)</p> <p>30. Assign Questions, pg. 321. (ESS.3) (Formative assessment)</p> <p>31. Assign pgs. 323 – 331. (ESS.3)</p> <p>32. Power Point Presentation, pgs. 323 – 331. (ESS.3)</p> <p>33. Notes: pgs. 323 – 331. (ESS.3)</p> <p>34. Assign Questions, pg. 331. (ESS.3) (Formative assessment)</p> <p>35. Discuss Study Guide. (ESS.3)</p>		
--	--	---	--	--

		<p>36. Assign pg. 336 #'s 11 – 20. (ESS.3)(Formative assessment)</p> <p>37. Assign pg. 338 #'s 1 – 10. (ESS.3) (Formative assessment)</p> <p>38. Pretest: Earth's Past. (ESS.4) (Formative assessment)</p> <p>39. Chapter 11 Test. (ESS.3) (Summative assessment)</p> <p>40. Video: Earth: The Biography. (ESS.3 & 4)</p> <p>41. Discuss Video: Earth: The Biography. (ESS.3 & 4)</p> <p>42. Video: Fossils (Prentiss Hall supplementary)</p> <p>43. Students observe various fossils with hand lenses. (ESS.4)</p> <p>44. Assign pp. 106 – 112, Prentiss Hall "Earth's Changing Surface." (ESS.4)</p> <p>45. Discuss Section 4-1 Summary. (ESS.4)</p> <p>46. Assign Section 4-1 Review & Reinforce. (ESS.4) (Formative assessment)</p> <p>47. Assign pgs. 113 – 117. (ESS.4)</p> <p>48. Discuss pgs. 113 – 117. (ESS.4)</p> <p>49. Discuss Section 4-2 Summary. (ESS.4)</p> <p>50. Assign Section 4-2 Review & Reinforce. (ESS.4) (Formative assessment)</p> <p>51. Video: The Earth Library. (ESS.4)</p> <p>52. Group Activity: Chapter 4 Real World Lab. (ESS.4) (Formative assessment)</p> <p>53. Post Lab Discussion: Group Activity: Chapter 4Real World Lab. (ESS.4)</p> <p>54. Assign pgs. 119 – 122. (ESS.4)</p> <p>55. Video: Geologic Time. (ESS.4)</p> <p>56. Discuss pgs. 119 – 122. (ESS.4)</p> <p>57. Discuss Section 4-3 Summary. (ESS.4)</p>	
--	--	---	--

		<p>58. Assign Section 4-3 Review & Reinforce. (ESS.4) (Formative assessment)</p> <p>59. Discuss Section 4-3 Review & Reinforce. (ESS.4)</p> <p>60. Activity: Discover, pg. 123. (ESS.4)</p> <p>61. Assign/discuss pgs. 123 – 125. (ESS.4)</p> <p>62. Discuss Section 4-4 Summary. (ESS.4)</p> <p>63. Assign Section 4-4 Review & Reinforce. (ESS.4) (Formative assessment)</p> <p>64. Activity: Discover, pg. 128. (ESS.4 & LS.1)</p> <p>65. Assign/discuss pgs. 128 – 140. (ESS.4 & LS.1)</p> <p>66. Discuss Section 4-5 Summary. (ESS.4 & LS.1)</p> <p>67. Assign Section 4-5 Review & Reinforce. (ESS.4 & LS.1) (Formative assessment)</p> <p>68. Practice Test “Ohio State’s Test” for Science.</p> <p>69. Discuss Practice Test “Ohio State’s Test” for Science.</p> <p>70. Discuss Study Guide, pg. 141. (ESS.4 & LS.1)</p> <p>71. Assign/discuss Chapter 4 Review, pg. 142, #'s 1 – 10. (ESS.4 & LS.1) (Form. Assess.)</p> <p>72. Chapter 4 Test. (ESS.4 & LS.1) (Summative Assessment)</p> <p>73. Discuss Chapter 4 Test. (ESS.4 & LS.1)</p> <p>74. Check notebooks. (SIA.2, 3, &.8)</p>		
--	--	--	--	--

<p>Weeks 29 - 36</p>	<p>SCIENCE INQUIRY AND APPLICATION (Embedded throughout the unit of instruction)</p> <p>a. Identify questions that can be answered through scientific investigations. (SIA.1)</p> <p>b. Design and conduct a scientific investigation.(SIA.2)</p> <p>c. Use appropriate mathematics, tools and techniques to gather data and information. (SIA.3)</p> <p>d. Analyze and interpret data.(SIA.4)</p> <p>e. Develop descriptions, models, explanations and predictions.(SIA.5)</p> <p>f. Think critically and logically to connect evidence and explanations. (SIA.6)</p> <p>g. Recognize and analyze alternative explanations and predictions. (SIA.7)</p> <p>h. Communicate scientific procedures and explanations.(SIA.8)</p>	<ol style="list-style-type: none"> 1. Organize new notebooks. (SIA.2, 3, &.8) 2. Video: Bill Nye; "Evolution." (ESS.4 & LS.1) 3. Finish/discuss Video: Bill Nye; "Evolution." (ESS.4 & LS.1) 4. Pretest: The Role of genes in Heredity. (LS.2 & 3) (Formative Assessment) 5. Target Your Reading, pg. 509 B. (LS.2 & 3)(Formative Assessment) 6. Video: Cells. (LS.2 & 3) 7. Power Point Presentation: Pgs. 590 – 597. (LS.2 & 3) 8. Assign pgs. 590 – 597. (LS.2 & 3) 9. Notes: pgs. 590 – 597. (LS.2 & 3) 10. Assign Questions, pg. 597. (LS.2 & 3)(Formative Assessment) 11. Discuss "Cloning." (LS.2 & 3) 12. Activity: "Modeling Probability." (LS.2 & 3) 13. Assign pgs. 599 – 605. (LS.2 & 3) 14. Power Point Presentation: pgs. 599 – 605. (LS.2 & 3) 15. Discuss pgs. 599 – 605. (LS.2 & 3) 16. Introduce Punnett Squares. (LS.2 & 3) 17. Video: The Human Genome. (LS.2 & 3) 18. Notes: pgs. 599 – 605. (LS.2 & 3) 19. Assign Questions. Pg. 605. (LS.2 & 3) (Formative Assessment) 20. Video: The Human Genome. (LS.2 & 3) 21. Chapter 20 Test. (LS.2 & 3) 22. Ohio State's Test for Science. (Summative Assessment) 23. Semester Final. (Summative Assessment) 	<p>Teacher created/adapted information packets/sheets</p> <p>Teacher created/adapted lab sheets & necessary materials for labs</p> <p>DVD's for given topics</p> <p>PowerPoint presentations from Teacher's Resource Package</p> <p>Teacher created/adapted quizzes/tests</p>	<p>Pretests for given units</p> <p>Follow up questions for activities/labs</p> <p>Review questions for sections of given chapters</p> <p>Quizzes as necessary</p> <p>Review questions at the conclusion of given chapters</p> <p>Post Tests for given units</p> <p>Post Test for Science Gr. 8</p>
----------------------	---	---	---	--

	<p>Life Science (LS)</p> <p>a. Diversity of species occurs through gradual processes over many generations. Fossil records provide evidence that changes have occurred in number and types of species. (LS.1)</p> <p>b. Reproduction is necessary for the continuation of every species. (LS.2)</p> <p>c. The characteristics of an organism are a result of inherited traits received from parent(s). (LS.3)</p>			