









# Michigan Project Learning Tree PreK-8 Guide

## Michigan Grade Level Content Expectations – Science

X = Addresses/Supports

	37. Reduce, Reuse, Recycle	38. Every Drop Counts	39. Energy Sleuths	40. Then and Now	41. How Plants Grow	42. Sunlight and Shades for Green	43. Have Seed, Will Travel	44. Water Wonders	45. Web of Life	46. School Yard Safari	47. Are Vacant Lots Vacant?	48. Field, forest, and Stream	49. Tropical Treehouse	50. 400-Acre Wood	51. Make Your Own Paper	52. A Look at Aluminum	53. On the Move	54. I'd Like to Visit a Place Where
<b>GRADE 4</b>																		
<b>S.I.P.E.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.</b>																		
S.IP.04.11 Make purposeful observation of the natural world using the appropriate senses.		X	X	X	X	X	X	X	X	X	X	X	X		X		X	X
S.IP.04.12 Generate questions based on observations.		X	X	X	X	X	X	X	X	X	X	X	X		X		X	X
S.IP.04.13 Plan and conduct simple and fair investigations.					X	X						X						
S.IP.04.14 Manipulate simple tools that aid observation and data collection (for example: hand lens, balance, ruler, meter stick, measuring cup, thermometer, spring scale, stop watch/timer, graduated cylinder/beaker).					X		X			X		X						
S.IP.04.15 Make accurate measurements with appropriate units (millimeters centimeters, meters, milliliters, liters, Celsius, grams, seconds, minutes) for the measurement tool.					X							X						
S.IP.04.16 Construct simple charts and graphs from data and observations.		X	X		X		X					X						
<b>S.I.A.E.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.</b>																		
S.IA.04.11 Summarize information from charts and graphs to answer scientific questions.		X	X		X			X				X						
S.IA.04.12 Share ideas about science through purposeful conversation in collaborative groups.		X	X	X	X	X	X	X	X	X	X	X	X		X		X	X
S.IA.04.13 Communicate and present findings of observations and investigations.		X	X		X					X	X	X	X				X	X
S.IA.04.14 Develop research strategies and skills for information gathering and problem solving.		X	X	X	X		X		X	X	X	X	X					X
S.IA.04.15 Compare and contrast sets of data from multiple trials of a science investigation to explain reasons for differences.					X							X						

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<b>S.RS.E.1 Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision-making and the application of science throughout history and within society.</b>																		
S.RS.04.11 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.							X	X										
S.RS.04.14 Use data/samples as evidence to separate fact from opinion.					X						X							
S.RS.04.15 Use evidence when communicating scientific ideas.					X													
S.RS.04.16 Identify technology used in everyday life.																	X	
S.RS.04.17 Identify current problems that may be solved through the use of technology.															X			
S.RS.04.18 Describe the effect humans and other organisms have on the balance of the natural world.		X		X				X	X		X		X					X
S.RS.04.19 Describe how people have contributed to science throughout history and across cultures.												X						
<b>P.EN.E.1 Forms of Energy- Heat, electricity, light, and sound are forms of energy.</b>																		
P.EN.04.12 Identify heat and electricity as forms of energy.			X															
<b>L.OL.E.1 Life Requirements- Organisms have basic needs. Animals and plants need air, water, and food. Plants also require light. Plants and animals use food as a source of energy and as a source of building material for growth and repair.</b>																		
L.OL.04.15 Determine that plants require air, water, light, and a source of energy and building material for growth and repair.					X	X			X									
L.OL.04.16 Determine that animals require air, water, and a source of energy and building material for growth and repair.									X	X								
L.EC.04.11 Identify organisms as part of a food chain or food web.									X		X		X					

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<b>L.EC.E.2 Changed Environment Effects- When the environment changes, some plants and animals survive to reproduce; others die or move to new locations.</b>																		
L.EC.04.21 Explain how environmental changes can produce a change in the food web.								X				X						
<b>S.IP.E.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.</b>																		
S.IP.04.11 Make purposeful observation of the natural world using the appropriate senses.	X			X			X	X	X	X	X	X	X	X	X	X	X	
S.IP.04.12 Generate questions based on observations.	X			X			X	X	X	X	X	X	X	X	X	X	X	
S.IP.04.13 Plan and conduct simple and fair investigations.																X		
S.IP.04.14 Manipulate simple tools that aid observation and data collection (for example: hand lens, balance, ruler, meter stick, measuring cup, thermometer, spring scale, stop watch/timer, graduated cylinder/beaker).											X	X	X					
S.IP.04.15 Make accurate measurements with appropriate units (millimeters centimeters, meters, milliliters, liters, Celsius, grams, seconds, minutes) for the measurement tool.											X	X	X					
S.IP.04.16 Construct simple charts and graphs from data and observations.				X			X			X		X				X		
<b>S.IA.E.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.</b>																		
S.IA.04.11 Summarize information from charts and graphs to answer scientific questions.												X				X		
S.IA.04.12 Share ideas about science through purposeful conversation in collaborative groups.	X			X			X	X	X	X	X	X	X	X	X	X	X	
S.IA.04.13 Communicate and present findings of observations and investigations.	X			X						X		X	X			X		
S.IA.04.14 Develop research strategies and skills for information gathering and problem solving.				X							X					X		

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S.IA.04.15 Compare and contrast sets of data from multiple trials of a science investigation to explain reasons for differences.															X			

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S.RS.E.1 Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision-making and the application of science throughout history and within society.																		
S.RS.04.11 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.									X									
S.RS.04.14 Use data/samples as evidence to separate fact from opinion.													X			X		
S.RS.04.15 Use evidence when communicating scientific ideas.																X		
S.RS.04.17 Identify current problems that may be solved through the use of technology.				X														
S.RS.04.18 Describe the effect humans and other organisms have on the balance of the natural world.														X				





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<b>S.RS.E.1 Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision-making and the application of science throughout history and within society.</b>																		
S.RS.04.14 Use data/samples as evidence to separate fact from opinion.					X													
S.RS.04.15 Use evidence when communicating scientific ideas.					X													
S.RS.04.16 Identify technology used in everyday life.	X																	
S.RS.04.17 Identify current problems that may be solved through the use of technology.										X								
S.RS.04.18 Describe the effect humans and other organisms have on the balance of the natural world.								X	X	X					X	X	X	
<b>P.EN.E.1 Forms of Energy- Heat, electricity, light, and sound are forms of energy.</b>																		
P.EN.04.12 Identify heat and electricity as forms of energy.									X									
<b>L.OL.E.1 Life Requirements- Organisms have basic needs. Animals and plants need air, water, and food. Plants also require light. Plants and animals use food as a source of energy and as a source of building material for growth and repair.</b>																		
L.OL.04.15 Determine that plants require air, water, light, and a source of energy and building material for growth and repair.				X	X	X	X											
L.OL.04.16 Determine that animals require air, water, and a source of energy and building material for growth and repair.																X		
<b>L.EV.E.2 Survival- Individuals of the same kind differ in their characteristics, and sometimes the differences give individuals an advantage in surviving and reproducing.</b>																		
L.EV.04.22 Identify how variations in physical characteristics of individual organisms give them an advantage for survival and reproduction.																X		

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<b>GRADE 4</b>						
<b>S.IP.E.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.</b>						
S.IP.04.11 Make purposeful observation of the natural world using the appropriate senses.					X	
S.IP.04.12 Generate questions based on observations.					X	
S.IP.04.13 Plan and conduct simple and fair investigations.						
S.IP.04.16 Construct simple charts and graphs from data and observations.					X	
<b>S.IA.E.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.</b>						
S.IA.04.12 Share ideas about science through purposeful conversation in collaborative groups.					X	
S.RS.04.18 Describe the effect humans and other organisms have on the balance of the natural world.					X	