

**Green Township School District
Grade 4 Marking Period Science Benchmarks**

Report Card Indicators				
4-PS3 Energy		MP #1	MP#2	MP#3
4-PS3-1 Use evidence to construct an explanation relating the speed of an object to the energy of that object	<ul style="list-style-type: none"> Use evidence to construct an explanation relating the speed of an object to the energy of that object 			
4-PS3-2 Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents	<ul style="list-style-type: none"> Make observations to provide evidence that energy can be transferred from place to place by sound 			
	<ul style="list-style-type: none"> Make observations to provide evidence that energy can be transferred from place to place by light 			
	<ul style="list-style-type: none"> Make observations to provide evidence that energy can be transferred from place to place by heat 			
	<ul style="list-style-type: none"> Make observations to provide evidence that energy can be transferred from place to place by and electric currents 			
4-PS3-3 Ask questions and predict outcomes about the changes in energy that occur when objects collide	<ul style="list-style-type: none"> Predict outcomes about the changes in energy that occur when objects collide 			
	<ul style="list-style-type: none"> Ask questions about the changes in energy that occur when objects collide 			
4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.	<ul style="list-style-type: none"> Apply scientific ideas to design a device that converts energy from one form to another 			
	<ul style="list-style-type: none"> Apply scientific ideas to test a device that converts energy from one form to another 			
	<ul style="list-style-type: none"> Apply scientific ideas to refine a device that converts energy from one form to another 			

4-PS4 Waves and their Applications in Technologies for Information Transfer		MP #1	MP #2	MP #3
4-PS4-1. Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move	<ul style="list-style-type: none"> Develop a model of waves to describe patterns in terms of amplitude and wavelength 			
	<ul style="list-style-type: none"> Develop a model to describe that waves can cause objects to move 			
4-PS4-2. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.	<ul style="list-style-type: none"> Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen 			
4-PS4-3. Generate and compare multiple solutions that use patterns to transfer information.	<ul style="list-style-type: none"> Generate multiple solutions that use patterns to transfer information 			
	<ul style="list-style-type: none"> Compare multiple solutions that use patterns to transfer information 			
4-LS1 From Molecules to Organisms: Structures and Processes		MP #1	MP #2	MP #3
4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction	<ul style="list-style-type: none"> Construct an argument that plants have internal and external structures that function to support survival, growth, behavior, and reproduction 			
	<ul style="list-style-type: none"> Construct an argument that animals have internal and external structures that function to support survival, growth, behavior, and reproduction 			
4-LS1-2. Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways	<ul style="list-style-type: none"> Use a model to describe that animals receive different types of information through their senses 			
	<ul style="list-style-type: none"> Use a model to describe how animals process the information in their brain and then respond to the information in different ways 			

4-ESS1 Earth's Place in the Universe		MP #1	MP #2	MP #3
4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time	<ul style="list-style-type: none"> Identify evidence from patterns in rock formations to support an explanation for changes in a landscape over time 			
	<ul style="list-style-type: none"> Identify evidence from patterns in fossils in rock layers to support an explanation for changes in a landscape over time 			
4-ESS2 Earth's Systems		MP #1	MP #2	MP #3
4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.	<ul style="list-style-type: none"> Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water 			
	<ul style="list-style-type: none"> Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by ice 			
	<ul style="list-style-type: none"> Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by wind 			
	<ul style="list-style-type: none"> Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by vegetation 			
4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features	<ul style="list-style-type: none"> Analyze data from maps to describe patterns of Earth's features 			
	<ul style="list-style-type: none"> Interpret data from maps to describe patterns of Earth's features 			
	<ul style="list-style-type: none"> Interpret data from maps to describe patterns of Earth's features 			
4-ESS3 Earth and Human Activity		MP #1	MP #2	MP #3
4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment	<ul style="list-style-type: none"> Obtain information to describe that energy and fuels are derived from natural resources and their uses affect the environment 			
	<ul style="list-style-type: none"> Combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment 			
4-ESS3-2. Generate and	<ul style="list-style-type: none"> Generate multiple solutions to reduce the impacts of natural Earth processes 			

compare multiple solutions to reduce the impacts of natural Earth processes on humans	on humans			
	<ul style="list-style-type: none"> Compare multiple solutions to reduce the impacts of natural Earth processes on humans 			
3-5-ETS1 Engineering Design		MP #1	MP #2	MP #3
3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.	<ul style="list-style-type: none"> Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. 			
3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	<ul style="list-style-type: none"> Generate multiple possible solutions to a problem 			
	<ul style="list-style-type: none"> Compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. 			
3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	<ul style="list-style-type: none"> Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. 			