PreK

Unit 2

Course Title: PreK Science

Course Overview: The World Around Me

Pre-K students focus on experiencing and making observations of the world around them. They are beginning to learn about their own environment as they observe plants and animals, the Moon and the Sun, and the daily weather. They experience their world through their senses and body parts and begin to recognize that animals also use their senses and body parts to meet their basic needs. They investigate pitch and volume, shadow and light, liquids and solids, and how things move. They sort materials by simple observable properties such as texture and color. They share their understanding of these concepts through discussion as they develop their language and quantitative skills. Pre-K students build awareness of the wide variety of natural phenomena and processes in the world around them.

2016 Massachusetts Science, Technology, Engineering Framework

PreK

Stage 1 Desired Results Unit 1: Welcome New Friends PreK-ESS3-1(MA). Engage in discussion and raise questions using examples about local resources (including soil and water) humans use to meet their needs.	 Students will be able to independently use their learning to Develop a working definition for weather. Describe changes in local weather and the tools used to collect weather data. Describe how weather impacts living things. 	
PreK-ESS3-2(MA). Observe and discuss the impact of people's activities on the local environment. PreK-LS1-1(MA). Compare, using descriptions and drawings, the external body parts of animals (including humans) and plants and explain functions of some of the observable body parts. Clarification Statement: • Examples	UNDERSTANDINGS U Students will understand that • Specific tools are used to collect weather data. • Patterns in daily weather change from day-to-day season to season.	ESSENTIAL QUESTIONS Q What is weather? What patterns create weathe
can include comparison of humans and horses: humans have two legs and horses four, but both use legs to move.	110quiotitori	

PreK-LS1-2(MA). Explain that most animals have five senses they use to gather information about the world around them.

PreK-LS1-3(MA). Use their five senses in their exploration and play to gather information.

PreK-LS2-1(MA). Use evidence from animals and plants to define several characteristics of living things that distinguish them from non-living things.

PreK-LS2-2(MA). Using evidence from the local environment, explain how familiar plants and animals meet their needs where they live.

PreK-LS2-3(MA). Give examples from the local environment of how animals and plants are dependent on one another to meet their basic needs.

Unit 2 - Family

PreK-ESS3-1()MA. Engage in discussion and raise questions using examples about local resources (including soil and water) humans use to meet their needs.

PreK-ESS3-2(MA). Observe and discuss the impact of people's activities on the local environment.

PreK-LS3-1(MA). Use observations to explain that young plants and animals are like but not exactly like their parents.

Unit 3 - My Community

PreK-LS2-2(MA). Using evidence from the local environment, explain how familiar plants and animals meet their needs where they live.

PreK-LS2-3(MA). Give examples from the local environment of how animals and plants are dependent on one another to meet their basic needs.

Unit 4 - Life on a Farm

PreK-ESS2-1(MA). Raise questions and engage in discussions about how different types of local environments (including water) provide homes for different kinds of living things.

PreK-ESS3-1(MA). Engage in discussion and raise questions using examples about local resources (including soil and water) humans use to meet their needs.

PreK-LS1-1(MA). Compare, using descriptions and drawings, the external body parts of animals (including humans) and plants and explain functions of some of the observable body parts.

PreK-LS1-2(MA). Explain that most animals have five senses they use to gather information about the world around them.

PreK-LS2-1(MA). Use evidence from animals and plants to define several characteristics of living things that distinguish them from non-living things. PreK-LS2-2(MA). Using evidence from the local environment, explain

how familiar plants and animals meet their needs where they live.

PreK-LS2-3(MA). Give examples from the local environment of how animals and plants are dependent on one another to meet their basic needs. LS3.

PreK-LS3-1(MA). Use observations to explain that young plants and animals are like but not exactly like their parents.

<u>Unit 5 - From Jungle to Dessert</u>

PreK-ESS2-1(MA). Raise questions and engage in discussions about how different types of local environments (including water) provide homes for different kinds of living things.

PreK-LS2-2(MA). Using evidence from the local environment, explain how familiar plants and animals meet their needs where they live.

PreK-LS2-3(MA). Give examples from the local environment of how animals and plants are dependent on one another to meet their basic needs.

PreK-ESS2-1(MA). Raise questions and engage in discussions about how different types of local environments (including water) provide homes for different kinds of living things.

PreK-ESS3-1(MA). Engage in discussion and raise questions using examples about local resources (including soil and water) humans use to meet their needs.

PreK-LS1-1(MA). Compare, using descriptions and drawings, the external body parts of animals (including humans) and plants and explain functions of some of the observable body parts.

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PreK-LS2-3(MA). Give examples from the local environment of how animals and plants are dependent on one another to meet their basic needs. LS3.

PreK-LS3-1(MA). Use observations to explain that young plants and animals are like but not exactly like their parents.

PreK-ESS2-6(MA). Provide examples of the impact of weather on living things.

Unit 6 - Earth & Sky

PreK-ESS1-1(MA). Demonstrate awareness that the Moon can be seen in the daytime and at

night, and of the different apparent shapes of the Moon over a month.

PreK-ESS1-2(MA). Observe and use evidence to describe that the Sun is in different places in the sky during the day.

PreK-ESS2-1(MA). Raise questions and engage in discussions about how different types of local environments (including water) provide homes for different kinds of living things.

PreK-ESS2-2(MA). Observe and classify non-living materials, natural and human made, in the local environment.

PreK-ESS2-3(MA). Explore and describe different places water is found in the local environment.

PreK-ESS2-4(MA). Use simple instruments to collect and record data on elements of daily weather, including sun or clouds, wind, snow or rain, and higher or lower temperature.

PreK-ESS2-5(MA). Describe how local weather changes from day to day and over the seasons and recognize patterns in those changes. Clarification Statement: • Descriptions of the weather can include sunny, cloudy, rainy, warm, windy, and snowy.

PreK-ESS2-6(MA). Provide examples of the impact of weather on living things. Clarification Statement: • Make connections between the weather and what they wear and can do and the

weather and the needs of plants and animals for water and shelter.

PreK-ESS3-1(MA). Engage in discussion and raise questions using examples about local resources (including soil and water) humans use to meet their needs.

PreK-ESS3-2(MA). Observe and discuss the impact of people's activities on the local environment.

PreK-LS2-2(MA). Using evidence from the local environment, explain how familiar plants and animals meet their needs where they live.

PreK-PS1-1(MA). Raise questions and investigate the differences between liquids and solids and develop awareness that a liquid can become a solid and vice versa.

PreK-PS1-2(MA). Investigate natural and human-made objects to describe, compare, sort, and classify objects based on observable physical characteristics, uses, and whether something is manufactured or occurs in nature.

Unit 7 - Shadows & Reflections

PreK-ESS1-1(MA). Demonstrate awareness that the Moon can be seen in the daytime and at night, and of the different apparent shapes of the Moon over a month.

PreK-ESS1-2(MA). Observe and use evidence to describe that the Sun is in different places in the sky during the day.

PreK-ESS2-5(MA). Describe how local weather changes from day to day and over the seasons and recognize patterns in those changes.

PreK-PS2-1(MA). Using evidence, discuss ideas about what is making something move the way it does and how some movements can be controlled.

PreK-PS4-2(MA). Connect daily experiences and investigations to demonstrate the relationships between the size and shape of shadows, the objects creating the shadow, and the light source.

Unit 8 - Make It Move

PreK-PS1-3(MA). Differentiate between the properties of an object and those of the material of which it is made.

PreK-PS1-4(MA). Recognize through investigation that physical objects and materials can change under different circumstances.

PreK-PS2-1(MA). Using evidence, discuss ideas about what is making something move the way it does and how some movements can be controlled.

PreK-PS2-2(MA). Through experience, develop awareness of factors that influence whether things stand or fall.

PreK-PS4-1(MA) . Investigate sounds made by			
different objects and materials and discuss			
explanations about what is causing the sounds.			
Through play and investigations, identify ways			
to manipulate different objects and materials			
that make sound to change volume and pitch.			
Stage 2 - Evidence			
Evaluative Criteria	Me	aning	
<type here=""></type>	UNDERSTANDINGS U	ESSENTIAL QUESTIONS	Q
	Students will understand that		
	Specific tools are used to collect	What is weather?	
	weather data.	What patterns create weathe	
	Patterns in daily weather change		
	from day-to-day season to season.		
<type here=""></type>	Acqu	uisition	
Stage 3 – Learning Plan			
Summ	ary of Key Learning Events and Instru	ction	
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Unit 1 (also included in year long standards)

Stage 1 Desired Results Standards G	Tru	ansfer
Standards	Students will be able to independentl	
PreK-ESS2-4(MA). Use simple instruments	• Develop a working definition for weath	
to collect and record data on elements of daily	 Describe changes in local weather and 	
weather, including sun or clouds, wind, snow or		
rain, and higher or lower temperature.	Describe now weather impacts fiving the	mings.
PreK-ESS2-5(MA). Describe how local	Mo	eaning
weather changes from day to day and over the	UNDERSTANDINGS U	ESSENTIAL QUESTIONS Q
seasons and recognize patterns in those	Students will understand that	ESSENTIAL QUESTIONS Q
changes.	• Specific tools are used to collect	What is weather?
PreK-ESS2-6(MA). Provide examples of the	weather data.	What is weather? What patterns create weather?
impact of weather on living things.	 Patterns in daily weather change 	What patterns create weather:
Pre-K-LS1-1(MA.). Compare, using descriptions	from day-to-day season to season.	
and drawings, the external body parts of	from day-to-day season to season.	
animals(including humans) and plants and		
explain functions of some of the observable	Agar	uisition
body parts.	Students will know and be skilled at.	
Pre-K-LS1-2(MA.). Explain that most animals	Students will know and be skilled at.	•••
have five senses they use to gather information		
about the world around them.		
Pre-K-LS1-3(MA.). Use their five senses in their		
exploration and play to gather information.		
PreK-LS2-1(MA.). Use evidence from animals		
and plants to define several characteristics of		
living things that distinguish them from		
non-living things.		
Pre-K-LS3-2(MA.). Use observations to		
recognize differences and similarities among		
themselves and their friends.		
Pre-K-PS1-3(MA.). Differentiate between the		
properties of an object and those of the materia		
of which it is made.		

things stand or fall. Pre-K_PS4-1(MA.). Investigate sounds made different objects and materials and discuss explanations about what is causing the sound Through play and investigations, identify way to manipulate different objects and materials that make sound to change volume and pitch	ds. ys s	
	Stage 2 - Evidence	
	Assessment Evidence	
Evaluative Criteria		
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Evaluative Criteria <type here=""> <type here=""></type></type>	CURRICULUM EMBEDDED PERFORMANCE ASSESSMENT (PERFORMANCE TASKS)	PT OE

PreK-LS2-3(MA.). Give examples from the local environment of how animals and plants are

Stage 1 Desired Results Standards G **Transfer PreK-ESS2-4(MA).** Use simple instruments Students will be able to independently use their learning to... to collect and record data on elements of daily Develop a working definition for weather. weather, including sun or clouds, wind, snow or Describe changes in local weather and the tools used to collect weather data. rain, and higher or lower temperature. Describe how weather impacts living things. PreK-ESS2-5(MA). Describe how local weather changes from day to day and over the Meanina seasons and recognize patterns in those **ESSENTIAL QUESTIONS UNDERSTANDINGS** O changes. Students will understand that... **PreK-ESS2-6(MA).** Provide examples of the Specific tools are used to collect What is weather? impact of weather on living things. weather data. What patterns create weathe PreK-ESS3-2(MA.). Observe and discuss the • Patterns in daily weather change impact of people's activities on the local from day-to-day season to season. environment. Pre-K-LS1-1(MA.). Compare, using descriptions and drawings, the external body parts of Acquisition animals(including humans) and plants and Students will know and be skilled at... explain functions of some of the observable body parts. Pre-K-LS1-2(MA.). Explain that most animals have five senses they use to gather information about the world around them. Pre-K-LS1-3(MA.). Use their five senses in their exploration and play to gather information. PreK-LS2-1(MA.). Use evidence from animals and plants to define several characteristics of living things that distinguish them from non-living things. PreK-LS2-2(MA.). Using evidence from the local environment, explain how familiar plants and animals meet their needs where they live.

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needs.	
Pre-K-LS3-2(MA.). Use observations to	
recognize differences and similarities among	
themselves and their friends.	
Pre-K-PS1-3(MA.). Differentiate between the	
properties of an object and those of the materi	al
of which it is made.	
PreK-PS2-2(MA.). Through experience, develo	\mathbf{p}
awareness of factors that influence whether	
things stand or fall. Pre-K_PS4-1(MA.). Investigate sounds made l	NY .
different objects and materials and discuss	
explanations about what is causing the sounds	
Through play and investigations, identify ways	
to manipulate different objects and materials	
that make sound to change volume and pitch.	
Englanting Cuitonia	Stage 2 - Evidence
Evaluative Criteria	Assessment Evidence

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	Stage 3 – Learning Plan	
	Summary of Key Learning Events and Instruction	
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Stage 1 Desired Resulting Standards	ts G	Students will be able to independent • Develop a working definition for weath	her. the tools used to collect weather data.	
PreK-ESS2-4(MA). Us to collect and record data weather, including sun or rain, and higher or lower PreK-ESS2-5(MA). De weather changes from da seasons and recognize pa changes. PreK-ESS2-6(MA). PreK-ESS2-6(MA).	on elements of daily clouds, wind, snow or temperature. scribe how local y to day and over the tterns in those	UNDERSTANDINGS Ustudents will understand that • Specific tools are used to collect weather data. • Patterns in daily weather change from day-to-day season to season.	ESSENTIAL QUESTIONS What is weather? What patterns create weathe	Q
impact of weather on living Pre-K-LS1-1(MA.). Compand drawings, the external animals(including human	are, using descriptions al body parts of	Acquisition Students will know and be skilled at		

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Pre-K-PS1-3(MA.). Differentiate between the properties of an object and those of the material of which it is made.

PreK-PS2-2(MA.). Through experience, develop awareness of factors that influence whether things stand or fall.

Pre-K_PS4-1(MA.). Investigate sounds made by different objects and materials and discuss explanations about what is causing the sounds. Through play and investigations, identify ways to manipulate different objects and materials that make sound to change volume and pitch.

	Stage 2 - Evidence	
Evaluative Criteria	Assessment Evidence	
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	(PERFORMANCE TASKS)	PT
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	Stage 3 – Learning Plan	
	Summary of Key Learning Events and Instruction	
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things stand or fall.

Stage 1 Desired Results		
Standards G		ansfer
PreK-ESS2-4(MA). Use simple instruments	Students will be able to independentl	y use their learning to
to collect and record data on elements of daily	Develop a working definition for weath	ner.
weather, including sun or clouds, wind, snow or	Describe changes in local weather and	the tools used to collect weather data.
rain, and higher or lower temperature.	Describe how weather impacts living to	hings.
PreK-ESS2-5(MA). Describe how local		-
weather changes from day to day and over the	Me	eaning
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PreK-ESS2-6(MA). Provide examples of the	Specific tools are used to collect	What is weather?
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Pre-K-LS1-1(MA.). Compare, using descriptions	Patterns in daily weather change	What patterns eroute weather
and drawings, the external body parts of	from day-to-day season to season.	
animals(including humans) and plants and	ironi day to day season to season.	
explain functions of some of the observable		
body parts.	Acar	uisition
Pre-K-LS1-2(MA.). Explain that most animals	Students will know and be skilled at.	
have five senses they use to gather information	Students will know that be skilled the	•••
about the world around them.		
Pre-K-LS1-3(MA.). Use their five senses in their		
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of which it is made.		
PreK-PS2-2(MA.). Through experience, develop		
awareness of factors that influence whether		
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Pre-K_PS4-1(MA.). Investigate sounds made		
different objects and materials and discuss		
explanations about what is causing the sou		
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to manipulate different objects and materia		
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Evaluative Criteria	Assessment Evidence	
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	(PERFORMANCE TASKS)	PT
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	Stage 3 – Learning Plan	
	ummary of Key Learning Events and Instruction	
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Standards G	Transfer		
PreK-ESS2-4(MA). Use simple instruments to collect and record data on elements of daily weather, including sun or clouds, wind, snow or rain, and higher or lower temperature.	 Students will be able to independently use their learning to Develop a working definition for weather. Describe changes in local weather and the tools used to collect weather data. Describe how weather impacts living things. 		
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PreK-PS2-2(MA.). Through experience, develop awareness of factors that influence whether things stand or fall.

Pre-K_PS4-1(MA.). Investigate sounds made by different objects and materials and discuss explanations about what is causing the sounds. Through play and investigations, identify ways to manipulate different objects and materials that make sound to change volume and pitch.

Stage 2 - Evidence				
Evaluative Criteria	Assessment Evidence			
<type here=""></type>	CURRICULUM EMBEDDED PERFORMANCE ASSESSMENT (PERFORMANCE TASKS) <type here=""></type>	РТ		
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Stage 3 – Learning Plan Summary of Key Learning Events and Instruction <type here> Understanding by Design®. © 2012 Grant Wiggins and Jay McTighe. Used with permission.

Standards	G	Transfer			
	Students	 Students will be able to independently use their learning to Develop a working definition for weather. 			
		2 control changes in rocal weather and the tools about to contest weather data.			
	• Desci	ribe how weather impacts living t	chings.		
		Meaning			
		TANDINGS U will understand that	ESSENTIAL QUESTIONS	Q	
		ific tools are used to collect	What is weather?		
		her data.	What patterns create weathe		
	l l	rns in daily weather change day-to-day season to season.			
			uisition		
	Students	will know and be skilled at	· 		
		Stage 2 - Evidence			
Evaluative Criteria		Assessment Evidence			
<type here=""></type>		CURRICULUM EMBEDDED PERFORMANCE ASSESSMENT			
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<type here=""></type>	OTHER EVIDENCE:	OE				
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Stage 3 – Learning Plan						
Summary of Key Learning Events and Instruction						
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