

Katonah Museum of Art · March 17 – June 16, 2019

We welcome you and your students to the fascinating exhibition, *LandEscape: New Visions of the Landscape from the Early 20th and 21st Centuries.* This exhibition considers the genre of landscape, juxtaposing works by early 20th century American modernist painters with contemporary artists from the 21st century. On view are approximately 30 works of art that range in medium, mood, style, and concept.

We encounter numerous, varying landscapes in our everyday world. From the views out our window and the lands and parks that we visit, to the natural and man-made elements that surround us, we move within, observe, experience, and respond to the environments we come across in our ordinary lives. Both the modern and contemporary artists in this exhibition find escape and renewal in the practice of landscape painting, creating artworks that represent, respond to and reimagine natural environments in interesting and thought-provoking ways.

This exhibition provides rich opportunities for connecting to art history, ELA skills, and STEAM curricula. Through inquiry-based discussions, students will engage with the work through many different points of entry, such as:

- Focus on careful observation and detailed description of the foreground, middle ground, and background
- Use our five senses to imagine how the scenes would feel and what moods, feelings, and memories they evoke
- Apply scientific vocabulary, identifying natural elements, geological forms, weather and seasons
- Consider the relationship between people and their environment
- Analyze artistic techniques used to depict space such as perspective and horizon line
- Learn about different art styles and art movements expressed through the artworks
- Imagine narratives and stories that take place within each location
- Experience a hands-on activity that challenges students to respond to nature using unique art materials

Included in this packet are materials to help prepare your students for their visit. Please share with all classroom teachers. They can also be downloaded from our website: www.katonahmuseum.org under "Teacher Resources."

- Introduction to the exhibition
- Three images from the exhibition with discussion questions
- Pre-visit activities: Observing the Landscape, Science Brainstorm, Landscape Collage, and Ten Versions of the Same Place
- Teacher resources: Glossary and Connections to Common Core Standards

Look for this light bulb to indicate ideas for older students!

We are excited to collaborate with you and find ways to connect with your curriculum. We encourage you to reach out with any questions or ideas. Please contact 914-232-9555, ext. 2969 or <a href="mailto:ma

We look forward to working with you and your students.

Margaret Adasko Curator of Education

Yargaret AderKo



LandEscape: New Visions of the Landscape from the Early 20th and 21st Centuries

The landscape has been an independent subject for painting since the Renaissance, yet it was not until the late 19th century that the genre was transformed, removing it from its low pedestal in the hierarchy of the academies and elevating it to a worthy theme in its own right. As the Industrial Revolution altered the traditions of rural life and artists focused on painting outdoors – a practice known as painting en plein air – the landscape was a means for artists to break through conventional painting techniques as well as change the way that we perceive our natural surroundings.

By the early 20th century, American artists approached the landscape with a variety of strategies, initially influenced by European art movements such as Impressionism, Fauvism and Expressionism. American painters absorbed the radical approaches to depicting light and color established by the European avant-gardes, but they also internalized their experience of European art, finding inspiration in the distinctive vernacular of the American geography and topography. Many of them worked outdoors and responded to their local countryside with works that expressed the emotive power of their surroundings rather than merely representing the verisimilitude of the landscape itself.

In the early 21st century the concept of landscape had expanded to include urban and industrial environments. Contemporary artists continue to revisit the genre and often engage with it differently than their forebears. They combine the artificial with the natural, sometimes giving us a tactile as well as a visual experience that doesn't necessarily correlate to what we see in nature. Working from memory in the studio, they combine their recollection of location with an emotional and analytical response to what they have previously experienced. For both the modern and contemporary artists in this exhibition, the depiction of landscape can exist as a way to escape the boundaries of the physical environment. They allow us to relate to the places we know as well as the ones that we imagine.

The exhibition is curated by Olga Dekalo, Assistant Curator, and is made possible through the generous support of Art Bridges Foundation.

The Katonah Museum of Art is supported in part by ArtsWestchester with support from the Westchester County Government, the New York State Council on the Arts with support of Governor Andrew Cuomo and the New York State Legislature.



Step inside and use your senses....

Look carefully at this artwork. What do you notice first?

Name the components you see in this picture.

Now, describe the way the artist has depicted them, thinking about the elements of art:

Describe the colors

Describe the lines

Describe the shapes

Describe the textures and brushstrokes

What is the largest component in this painting? What is smallest?

Step inside this painting and stand next to the figure in the foreground. Use your senses to imagine what it feels like to stand among the trees.

What sounds do you hear?

What smells?

What does the air feel like?

What does it look like from the person's perspective?

Consider the relationship between the person and the nature that surrounds them.

Marguerite Thompson Zorach (American, 1887-1968)

Man Among the Redwoods, 1912 Oil on canvas 34 $3/8 \times 28^{3}$ 4 inches Myron Kunin Collection of American Art, Minneapolis, MN

The artist Marguerite Zorach painted this after camping with her family in 1912. Here she transforms the traditional landscape with vivid, saturated colors, dramatic contours, and bold lines, creating a strong work of art that would establish her as one of the most significant modernist artists of her time.



Step inside and tell a story...

Look carefully at this painting.

What do you see in the foreground (the front)?

What kinds of plants, colors, and details do you notice?

What do you see in the way back? (background)

Describe the sky, water and light.

And what do you see in the middle ground?

Do you notice three figures? What do you think they are doing? What could they be saying to each other?

Notice how large the flowers are compared to the small figures. Artists use the technique of adding elements in the foreground, and middle ground and background to create the illusion of depth, distance and space.

What moods and feelings come to mind when you look at this?

If you could walk into this scene and become part of the story, what do you think might happen next?

Vera Iliatova (Russian, born 1975)

The Land of Plenty, 2017
Oil on canvas
60 x 78 inches
Courtesy of the artist and Monya Rowe Gallery

Vera lliatova, who immigrated to America in 1991, creates works of art that have a narrative and autobiographical content. Land of Plenty is one of a group of three works where the emphasis of the landscape is on the depiction of flowers in the foreground with ambiguous figures populating the background. The artist brought fresh flowers into her studio that slowly decayed in order to create an artificial landscape where she could be inspired by a range of colors and species that would not necessarily be found together in nature. She described the positioning of the three figures in the distance as a "transitional arrangement" where they appear to be on the threshold of moving and convey a tension of not quite fitting in, which may have a metaphorical meaning for the artist.



Let's investigate...

Take a few minutes to look at this painting. List everything you see, think, and feel.

Have you ever experienced weather like this? How does looking at this painting make you feel? Would you describe it as exciting or scary or something else?

Now, let's think about what you've learned in science in relation to this picture

Describe the water/earth/sky. What part is liquid, solid, or gas? What is happening to the water and in the atmosphere? What is making that happen? What is going to happen next?

A cloud is a large collection of very tiny droplets of water or ice crystals. The droplets are so small and light that they can float in the air. Can you talk about the earth's water cycle when you look at this picture?

Ask students to think of science words and concepts that relate to this image. Here are some ideas to get you started.

Water words	Earth words	Sky words
ocean	rock	atmosphere
surf	shore	clouds
wave	coast	puffy
foam	cliff	fluffy
breakers	island	cirrus
fluid	land	stratus
tide	craggy	cumulus
bubbling	hills	light
reflection	mountain	sunlight
sea	erosion	vapor
mist	solid	wind
liquid		weather
		stormy
		gas

Is there anything you are wondering about this picture? What would you ask the artist?

April Gornik (American, born 1953)

Sun and Storm, 2006; Oil on linen, 82 x 64 inches, Private Collection, Dallas. © April Gornik

April Gornik once wrote that she values the ability of art to move her emotionally and psychically, "I make art that is intuitive, that is beautiful." In her practice, she goes beyond mere depictions of landscape and attempts to grasp the enormity of the environment in all its manifestations. In this work she amplifies observed reality to create an intense image in which the sun consumes the clouds that are absorbed into the fierce blue sky. Although the stormy sea reflects the sky and dazzling sun above, we know that this atmospheric pattern is not a natural one since the violent weather that storms generate rarely involves brilliant sunshine. The work exudes an awe-inspiring power that verges on the spiritual.

Observing the Landscape

Landscape is the depiction of natural outdoor scenery.

Find an outdoor space where you can view a natural landscape. Take a moment to appreciate the nature that surrounds you. Using careful observation skills, list and describe everything you can see from your **vantage point**. Look at the **foreground, middle ground** and **background.** Name all the natural elements in your view. Describe **colors, textures, patterns** and **shapes**. Collect sensory words too: what do you smell, feel, hear, etc. Use as many descriptive words as possible.

Use these words to write a short paragraph or poem that captures the landscape you are viewing. Or illustrate your landscape using drawing, painting or collage materials. (Bold words can be found in glossary.)

Collect words here:	
Write a paragraph or illustrate your landscape here:	

Science Brainstorm

Visit an outdoor landscape/natural scene together. Put on your science goggles and brainstorm every natural science word you can think of. Consider these categories: water cycle, weather, landforms, atmosphere, seasons, plant lifecycle. Use these lists to get students started.

Landscape/Science Vocabulary

Land	evergreen	 phases of water 	reflection
geological formation	foliage	- solid, liquid, gas or	sea
shore	tropical	vapor	mist
coast	boreal forest	 surface tension 	liquid
cliff	grasses, scrub	marine ecosystem	
island	tree growth	salt water	<u>Sky</u>
land	canopy level	water gyre	atmosphere
hills	harvest	currents, gulf stream	clouds
solid	forest bathing	salt marsh	- cirrus
boulders	pheromones	- tidal flooding	- stratus
mountain range	seasonal impact	- brackish water	- cumulus
erosion	climate	tidal flow	sun, moon, stars
beach	climate change impact	fresh water ecosystem	illumination
rocks,		fresh water	sunlight
rocky subterrain	fauna	river, stream	reflection of light
soil structure, nutrients	animals	lotic (flowing)	- albedo
mother rocks	habitat	lake, pond, wetland, sea	light wavelengths
rocky bluffs	animal tracks	- lentic (not flowing)	- determine color
terrain	adaptation	ocean	sunset
mountain effect	survival	surf	angle of the sun
	food web	wave	– incidence
flora	seasons	foam	vapor
plants	-	breakers	wind
deciduous	Water	fluid	stormy
	<u>vvatei</u>	tide	gas

Things to think and talk about

leaf cycle

What season are you in? What signs of this season do you see around you?

water cycle

How does the change of seasons change a landscape?

Describe the weather you are experiencing. Do you see evidence of this in the natural scene around you? Talk about the human impact on this environment. What evidence of this do you see?

Teachers! Looking at landscape art opens endless science connections. Please let us know if you would like any of these specific concepts or other STEAM topic emphasized on your tour.

bubbling

weather

LANDSCAPE COLLAGE

When depicting landscape scenes, artists create a sense of space and depth by using these concepts:

Perspective (foreground, middle ground, background) – objects in the further distance are less detailed and smaller compared to ones that are closer.

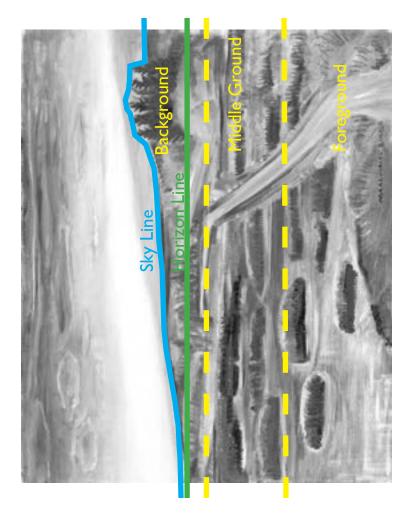
Horizon Line – a horizontal line representing where the sky meets the land/water.

Skyline – the places where mountains, trees, or other tall objects meet the sky and can often be above the horizon line.

Project: Use paper materials to create a landscape collage.

- Choose a horizontal background paper that represents the sky. Consider a range of sky colors such as shades of blue, light pink, yellow, or grey.
- Create "landform shapes" using land colored papers such as shades of green, brown, or dark grey. Cut the paper horizontally with a straight or wavy line that cuts across the length of the paper. Lay the landform shape across the bottom of the sky paper to create a "sky line." Layer more landform shapes with different colors to add depth to your landscape.
- Rip or cut collage papers into natural elements such as trees, plants, hills, clouds, etc. Arrange these elements in the foreground, middle ground and background of your picture.
- **Hints:** Try overlapping shapes. Put larger elements in the front and smaller elements in the back to show depth.
- When you are satisfied with your arrangment, use a glue stick to attach them to the background to complete your collage.
- Add details with drawing materials too!

Marguerite Thompson Zorach, Woolwich Marshes, c. 1935 Oil on canvas Katonah Museum of Art





How many ways to consider a landscape?



Recommended for grades 6 and above.

Based on concepts from *The Beholding Eye: Ten Versions of the Same Scene* (1979) by historical geographer Donald W. Meinig. https://www.uccs.edu/Documents/chuber/ges3980/articles/5-Meinig-BeholdingEye.pdf

Think of a natural place you remember or like to visit. Use the concepts below to think about this place in ten different ways. Write a sentence or phrase to describe your place that responds to each of the prompts below.

1.	Landscape as Aesthetic: Art
2.	Landscape as Habitat: Where we live
3.	Landscape as System: Nature and humans working the land
4.	Landscape as Problem: Smog, garbage, sprawl, etc
5.	Landscape as Nature: Beauty w/out humanity. Nature itself
6.	Landscape as Place: Where we live makes a difference
7.	Landscape as Wealth: How land impacts an economy
8.	Landscape as History: The past impacting the place
9.	Landscape as Ideology: Symbolism ie. freedom/expansion/modernity
10.	Landscape as Artifact: Human shaping of land into "thingness"

"Collage" your words and phrases above to create a poem about this place.

Ten Versions of the Same Place

The renowned historical geographer, Donald W. Meinig, describes the richness of our ordinary surroundings, suggesting at least ten different ways that a single place can be labeled and located. Meinig's ten versions are:

Landscape as Aesthetic: "the power and majesty of nature, the harmony of man and nature, the mark of history upon the land, the detailed character of place" involving the language of art: color, texture, mass, line, position, symmetry, balance, tension. This is based on the belief "that there is something close to the essence to beauty and truth, in the landscape."

Landscape as Habitat: Every place is continuously reworked by humans for living space, a workplace, places for recreation and worship, for business and commerce. Meinig calls this the domestication of nature. We can also call it *the built environment* and *infrastructure* of buildings, neighborhoods, highways, power grids, and other systems that support our lives, play, and work.

Landscape as System: "trees not in terms of species, dimension, color, nor even as major organic features, but as chemical factories powered by sunlight, lifting stations in the hydrologic cycle, biological transformers in the energy exchange between lithosphere and atmosphere," dynamic and interacting. Human activity and structures— "houses, garages, barns, offices, stores, factories are all 'service stations' and 'transformers.'"

Landscape as Problem: a condition needing correction, "eroded hills, flooding rivers, shattered woodlands...dilapidated farms, industrial pollution, urban sprawl, neon strips; garbage and grit, smog and sewage, congestion and clutter...people impoverished in body or spirit." A design and function problem.

Landscape as Nature: "If we ponder the landscape, it is nature that controls." Contours of the land, soil and greenery, waterways, weather, light. Meinig adds, "Whatever [humanity] does upon the surface of the earth, even [its] greatest skyscrapers, dams, and bridges, are, by comparison, minute, feeble, and transitory, mere scratchings on the skin of Mother Earth." It is tempting "to remove man from the scene, to restore nature to her pristine condition...clear off the settlements...to imagine what the area is *really* like."

Landscape as Place: "an individual piece in the intimately varied mosaic of the earth...engages all of our senses, the sounds and smells and ineffable feel of a place." Our "living tether." "The individuality of places is a fundamental characteristic of subtle and immense importance to life on earth, that all human events take place, all problems are anchored in place, and ultimately can only be understood in such terms."

Landscape as Wealth: Through the eyes of a property owner, a real estate agent, a speculator, a developer of a mall or condominiums, associate with dollar value in a market economy. "It looks at a house and sees square-footage and the number of bedrooms and bathrooms; it looks at a business building and sees length of frontage, capacity, storage space, delivery access." Future-oriented.

Landscape as History: Every place is "a complex cumulative record of the work of nature and man in this particular place." Organized by chronology. Dates of origin, significant subsequent changes, a visualization of layers of history, "a belief that the past has fundamental significance...life must be lived amidst that which was made before. Every landscape is an accumulation."

Landscape as Ideology: places as symbols of personal, community and national value. How is a landscape a manifestation of American interpretations of "freedom, individualism, competition, utility, power, modernity, expansion, progress?"

Landscape as Artifact: Nature is a platform to be altered by human activity. "The very shape of the land surface has been modified in a thousand ways, by cuts and quarries, excavations and embankments, frills, dams, culverts, terraces, revetments.... So comprehensive and powerful has been man's role in ranging the face of the earth that the whole landscape has become an artifact."

GLOSSARY

Abstract Art: Art that concerns itself with designs, shapes and colors, instead of realistic images.

Abstract Expressionism: A school of painting that flourished in the 1940s and 1950s. Abstract Expressionist artists used bold paint strokes, colors, and marks to convey strong emotions without the need to represent recognizable forms.

Analogous Colors: Colors that are next to each other on the color wheel, sharing a common color.

Atmospheric Perspective (aerial perspective): As space recedes into the far distance in a landscape painting or drawing, the intensity of the color fades and there is less contrast of lights and darks. The further back in space, the lighter the colors appear, often as lighter, cooler, tones of blue to gray.

Background: A term in visual arts that describes the part of a composition that appears to be farthest from the viewer. The background is one of the three zones of recession in linear perspective – foreground, middle ground, and background.

Composition: The careful arrangement of parts in relation to the whole.

Contemporary Art: The art of today, produced by artists who are living in the twenty-first century. Contemporary art provides an opportunity to reflect on present-day society and the issues relevant to ourselves and the world around us.

Depth: The apparent distance from front to back or near to far in an artwork. Techniques of perspective are used to create the illusion of depth in paintings or drawings.

Ecology: The relationship between organisms and their environment (for example people and the Earth)

Elements of Art: The components and techniques an artist uses to create a piece of art, including:

- Color: An important element of art that can affect mood, feeling, balance, energy, and memory.
- **Line**: A continuous mark between points. Lines can be straight, jagged, curvy, horizontal, vertical, diagonal, thick, thin, etc.
- **Shape**: Two-dimensional object in space.
- Texture: The way the surface of an object feels to the touch or looks as if it might feel if one were to touch it

Geology: The science that studies the history, structure and composition of the earth.

Fauvism: The name "wild beasts" was given to the group of early 20th-century French painters because their work was characterized by strong colors and aggressive brushwork

Foreground: A term in visual arts that describes the part of a composition that appears closest to the viewer. The foreground is one of the three zones of recession in linear perspective – foreground, middle ground, and background.

Horizon Line: A horizontal line representing the division of the picture plane between earth and sky.

Horizontal: Something that is parallel to the horizon; a horizontal line would be lying flat.

Impressionism: A movement in painting that began in late 19th-century France. It stresses a candid glimpse of the subject, spontaneity, and an emphasis on the momentary effects of light on color. Some members of the Impressionist circle were Claude Monet, Camille Pissarro, Auguste Renoir, and Alfred Sisley.

Landscape: An expanse of scenery that can be seen in a single view. The depiction of natural outdoor scenery in art, such as mountains, forests, cliffs, trees, rivers, valleys, etc. The term also refers to the way in which a picture is oriented in space; a landscape picture will have the longer edge lying horizontally.

Middle ground: A term in visual arts that describes the part of a composition between the foreground and background. The middle ground is one of the three zones of recession in linear perspective – foreground, middle ground, and background.

Minimalism: A school of abstract painting and sculpture that celebrates the visual impact of simple forms, shapes, lines, and colors, without the need to tell a story.

Modern Art: An artistic movement or style that arose in the late 19th century and early 20th century, which sought to break with tradition in favor of experimentation and expression. It is characterized by interest in new types of paints and other materials, in expressing feelings and ideas, in creating abstractions and fantasies, rather than representing what is real.

Monochromatic: A color scheme based on only one, single color tint. It uses only variations (shades) of a single hue, made by altering the saturation and brightness of the base color.

Movement: The path the viewer's eye takes through the artwork, often to focal areas. Such movement can be directed along lines, shape, and color within the artwork.

Overlapping: The placement in a composition of one object in front of another in order to create the illusion of depth.

Perspective: The representation of three-dimensional depth and space on a flat surface.

Pattern: A series of lines, shapes, or pictures that create a repeated design.

Plein Air Painting: French for "open air." The term most often refers to the practice of painting outdoors rather than in the studio and represents a direct response to the scene or subject in front of the artist. The term came into use in France in the mid-19th century.

Representational Art: Refers to images that are clearly recognizable for what they purport to be.

Realism: A mid-19th-century style of art based on the belief that the subject matter should be shown true to life in the most straightforward manner possible without idealization. The accurate, detailed depiction of nature or life.

Rhythm: This principle is created when one or more elements of design are used repeatedly to create a feeling of organized movement. Variety is essential to keep rhythm exciting and alive, and moving the viewer through the artwork.

Scale: The size of an object relative to something else, or the relative size of an object in a work of art in relation to the whole work of art. For example: a tree in the foreground would be painted much larger than a tree in the background.

Space: The term defining the area between and around objects. The space around objects is often called negative space; negative space has shape. Space can also refer to the feeling of depth. Real space is three-dimensional; in visual arts, when we can create the feeling or illusion of depth, we call it space.

Vantage Point (point of view): A position from which an object is observed.

Vertical: Something that is at a right angle to the horizon; a vertical line would be standing up straight.

KMA Museum Visits and the Common Core standards

Class visits to the KMA enable you and your students to expand on the critical thinking skills emphasized in your classroom learning. Museums provide an alternative environment for students to strengthen skills supported by the Common Core Standards. Using art objects and installations as **visual text**, we lead students in inquiry-driven discussions requiring close observation, integrating content, and analyzing what they see (CCRA.R.I, 6, 7, 9). These conversations encourage students to make connections, communicate, and support their ideas using evidence and acquired vocabulary (CCRA.SL.I, 2, 3, L.4, 6). Tours also include an opportunity for your students to create their own artistic work based on the ideas and concepts of the exhibition. (CCVA.Cr.I)

Some of the Common Core standards addressed on a school tour include:

English Language Arts Standards:

Key Ideas and Details:

<u>CCSS.FLA-Literacy.CCRA.R.I</u>: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

<u>CCSS.ELA-Literacy.CCRA.R.2</u>: Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

CCSS.ELA-Literacy.CCRA.R.3: Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Comprehension and Collaboration:

<u>CCSS.ELA-Literacy.CCRA.SL.I</u>: Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

<u>CCSS.ELA-Literacy.CCRA.SL.2</u>: Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

CCSS.ELA-Literacy.CCRA.SL.3: Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas:

<u>CCSS.ELA-Literacy.CCRA.SL.4</u>: Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

Vocabulary Acquisition and Use:

<u>CCSS.ELA-Literacy.CCRA.L.4</u>: Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.

<u>CCSS.ELA-Literacy.CCRA.L.5</u>: Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

CCSS.ELA-Literacy.CCRA.L.6: Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

Visual Arts Standards:

CCVA.Cr.1: Generate and Conceptualize artistic ideas and artwork

CCVA.Re.7: Perceive and analyze artistic work

CCVA.Re.8: Interpret intent and meaning in artistic work

CCVA.Re.9: Apply criteria to evaluate artistic work

The LandEscape exhibition will also connect to these New York State Science Learning Standards:

INQUIRY AND PROCESS SKILLS BASED ON ALL STANDARDS

The application of these skills allows students to investigate important issues in the world around them.

Gathering and organizing data – collecting information about objects and events which illustrate a specific situation

Communicating – giving oral and written explanations or graphic representations of observations

Comparing and contrasting – identifying similarities and differences between or among objects, events, data, systems, etc.

Inferring – drawing a conclusion based on prior experiences

Observing – becoming aware of an object or event by using any of the senses (or extensions of the senses) to identify properties

Elementary Science, Core Curriculum Grades K-4 STANDARD 4: The Living Environment & The Physical Setting

Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

Key Idea 1: Living things are both similar to and different from each other and from nonliving things.

There are basic characteristics, needs, and functions common to all living things. Nonliving things are present in nature or are made by living things. Younger students' ideas about the characteristics of organisms develop from their basic concepts of living and nonliving things. As students are given opportunities to observe and classify living and nonliving things, they should be reminded that living and nonliving things are sometimes given attributes they do not really have. Understanding the variety and complexity of life and its processes can help students develop respect for their own and for all life. It should also lead them to better realize the value of all life on this fragile planet.

- Plants require air, water, nutrients, and light in order to live and thrive

Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land.

The water cycle, weather, erosion, deposition, and extreme natural events involve interactions among air, water, and land. Students should observe and describe naturally occurring changes in their world involving these phenomena. They can also investigate these phenomena in classroom experiments. Younger students should be engaged in observation of their immediate surroundings with emphasis on recognizing change around them. As students mature, they can begin to recognize cycles and identify the processes and natural events which are causing the changes they are observing.

Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.

Students should describe, categorize, compare, and measure observable physical properties of matter and objects. Students' initial efforts in performing these processes may yield simple descriptions and sketches, which may lead to increasingly more detailed drawings and richer verbal descriptions. Things can be done to materials to change their properties, but not all materials respond in the same way to what is done to them. Younger students emphasize physical properties while older students will recognize chemical changes. Appropriate tools can aid students in their efforts.

- Some properties of an object are dependent on the conditions of the present surroundings in which the object exists. For example: • temperature - hot or cold • lighting - shadows, color • moisture - wet or dry

Key Idea 7: Human decisions and activities have had a profound impact on the physical and living environments.

Humans are dependent upon and have an impact on their environment. Students should recognize how human decisions cause environmental changes to occur. Students should be given opportunities to identify and investigate the factors that positively or negatively affect the physical environment and its resources; identify ways in which humans have changed their environment and the effects of those changes.

- Over time humans have changed their environment by cultivating crops and raising animals, creating shelter, using energy, manufacturing goods, developing means of transportation, changing populations, and carrying out other activities