PreK for ME

A Preschool Curriculum

Unit 4: *World Of Color*

Maine Department of Education
In collaboration with
Boston Public Schools

Unit 4 Overview: *World Of Color*

In Unit 4, children explore the world of color and the colors in their world. They learn about the functionality of color: color communicates information & ideas and is an identifying feature in art and nature. Children refine their experience with color mixing to include tinting & shading. They learn about permanent and temporary colors, staining and fading, and they dramatize washing and drying by creating a Laundromat. Children learn that color names can be inspired by objects, emotions, and experiences.

Children explore the concepts of same & different, the richness of diversity, and the aesthetic appeal of color. They learn how colors, feelings, attitudes and perspectives can transform.

Basic unit concepts	• Color can carry information. • Different substances create stains of different colors. • Color is an identifying feature of many natural things. • There is an infinite variety of colors. • Colors can be mixed to make new colors. • Paints and dyes are used to color other things. • Vegetables and fruits are often used as a source of dyes. • Color variations provide many different shades and hues. • Sun and washing often bleach colors- make them fade.
Core Read Aloud Texts	• *Max's Dragon Shirt*, Rosemary Wells • *Dog's Colorful Day*, Emma Dodd • *Nana in the City*, Lauren Castillo • *The Lion and the Little Red Bird*, Elisa Kleven • *The Colors of Us*, Karen Katz
Supplemental Texts: SWPL	• *Cat's Colors* by Jane Cabrera • *Bringing the Rain to Kapiti Plain* by Verna Aardema
Supplemental Texts: LFOAI	

Supplemental Texts: Math	● *I Spy Shapes in Art* (2004) by Lucy Micklethwait ● *Is it Red? Is it Yellow? Is it Blue?* (1978) By Tana Hoban ● *Mouse Shapes* (2001) by Walsh ● *Perfect Square* (2011) by Michael Hall ● *Swan Harbor: A nature Counting Book* (2003) by Laura Rankin ● *The Crayola Sorting Book by* Jodie Shepard
Supplemental Texts: Outdoor Learning	● *About Birds by C*athryn Sill ● *Backyard Birds by* Robert Bateman ● *Sugaring by* Jessie Haas ● *Grandpa's Sugar Bush by* Margaret Carney ● *Gilberto and the Wind (unit 3 story)*
Maine Early Learning Standards (MELDS)	*A Note Regarding the Maine Early Learning Standards:* In the course of a quality early learning classroom, every minute of the day is focused on providing support to young children. In *PreK for ME*, intentional activities are designed to address each child's unique development, as well as the development of the classroom community. The MELDS Standards for Social & Emotional Development and Standards for Approaching Learning are embedded in the curriculum design, approach, and pedagogy. While some of these standards may be highlighted in particular lessons, facets of these standards are embedded in all minutes of the day to support each developing whole child.
	Standards for Social & Emotional Development *Emotional Development* ● Emotional Development- Self Concept MELDS.SED.ED.SC.PS.1 Has an awareness of self as having certain abilities, characteristics, preferences and rights MELDS.SED.ED.SC.PS.2 Demonstrates self-direction by making choices among peers, activities and materials MELDS.SED.ED.SC.PS.3 Takes on new tasks and improves skills with practice MELDS.SED.ED.SC.PS.4 Initiates actions or activities with peers MELDS.SED.ED.SC.PS.5 Expresses delight over a successful project and want others to like it too MELDS.SED.ED.SC.PS.6 Demonstrates confidence in own abilities and delights in the

	mastery of a skill MELDS.SED.ED.SC.PS.7 Demonstrates an understanding of and follows through with basic responsibilities ● Emotional Development- Self-Regulation MELDS.SED.ED.SR.PS.1 Expresses self in safe and appropriate ways through words and actions MELDS.SED.ED.SR.PS.2 Seeks peaceful resolutions to conflict MELDS.SED.ED.SR.PS.3 Stops and listens to instructions before jumping into activity, with guidance MELDS.SED.ED.SR.PS.4 Follows rules and routines MELDS.SED.ED.SR.PS.5 Respects the rights and property of others MELDS.SED.ED.SR.PS.6 Uses materials appropriately MELDS.SED.ED.SR.PS.7 Is able to share materials or caregiver's/teacher's attention MELDS.SED.ED.SR.PS.8 Can wait for turn in simple game or use of equipment MELDS.SED.ED.SR.PS.9 Accepts consequences of own actions MELDS.SED.ED.SR.PS.10 Regulates own emotions and behaviors MELDS.SED.ED.SR.PS.11 Refrains from disruptive, aggressive, angry or defiant behaviors MELDS.SED.ED.SR.PS.12 Asks what and why questions to understand effects of behavior ● Emotional Development- Sympathy and Empathy MELDS.SED.ED.SE.PS.1 Expresses empathy for others MELDS.SED.ED.SE.PS.2 Comforts physically hurt or emotionally upset child through appropriate words or actions MELDS.SED.ED.SE.PS.3 Labels own emotions and, increasingly, the emotions of others MELDS.SED.ED.SE.PS.4 Demonstrates understanding of the consequences of own actions

	on others MELDS.SED.ED.SE.PS.5 Understands the reasons for rules and routines within the group and accepts them MELDS.SED.ED.SE.PS.6 Asks “what” and “why” questions to understand effects of behavior MELDS.SED.ED.SE.PS.7 Shows progress in expressing feelings, needs, and opinions, in difficult situations and conflicts, without harming self, others, or property ● Emotional Development- Adapting to Diverse Settings MELDS.SED.ED.ADS.PS.1 Demonstrates ability to be flexible or adjust to routine or unexpected changes including physical setting, daily schedule, staffing and group size/ attendance MELDS.SED.ED.ADS.PS.2 Adjusts to transitions from one activity setting to the next during the day with appropriate emotions and behaviors MELDS.SED.ED.ADS.PS.3 Anticipates with assistance what will be needed in diverse settings MELDS.SED.ED.ADS.PS.4 Follows rules in diverse settings *Social Development* ● Social Development- Building Relationships with ChildrenMELDS.SED.SD.BRC.PS.1 Participates cooperatively in large and small group activities MELDS.SED.SD.BRC.PS.2 Participates in classroom and group routines MELDS.SED.SD.BRC.PS.3 Uses different turn-taking strategies MELDS.SED.SD.BRC.PS.4 Shows increasing abilities to use compromise and discussion in play, and resolution of conflicts with peers MELDS.SED.SD.BRC.PS.5 Develops consideration for the needs or interests of peers MELDS.SED.SD.BRC.PS.6 Develops friendships with peers MELDS.SED.SD.BRC.PS.7 Notices and comments on who is absent from routine group settings

	MELDS.SED.SD.BRC.PS.8 Shows concern for personal fairness within a peer group MELDS.SED.SD.BRC.PS.9 Defends own rights and the rights of others MELDS.SED.SD.BRC.PS.10 Gives social support to others MELDS.SED.SD.BRC.PS.11 Demonstrates knowledge that fairness involves a recognition that respects the needs of individuals as well as sharing and turn-taking MELDS.SED.SD.BRC.PS.12 Identifies and expresses self a part of several groups (e.g. family, preschool class, faith community, etc.) MELDS.SED.SD.BRC.PS.13 Uses play to explore, practice and understand social roles MELDS.SED.SD.BRC.PS.14 Joins in the middle of an on-going group activity with friends independently MELDS.SED.SD.BRC.PS.15 Invents and sets up activities that include more than one child MELDS.SED.SD.BRC.PS.16 Gives social support to others ● Social Development- Respecting Similarities and Differences MELDS.SED.SD.RSD.PS.1 Names and accepts differences and similarities in preferences MELDS.SED.SD.RSD.PS.2 Notices that other children might communicate differently or use different words for the same object MELDS.SED.SD.RSD.PS.3 Begins to examine a situation from others' perspective MELDS.SED.SD.RSD.PS.4 Shows concern about personal fairness within a peer group **Standards for Approaching Learning** *Initiative and Curiosity* MELDS.ATL.IC.PS.1 Initiates participation in a widening ranges of topics, ideas, and tasks MELDS.ATL.IC.PS.2 Invents projects and works on them with little assistance MELDS.ATL.IC.PS.3 Wonders and asks questions about change in his/her world MELDS.ATL.IC.PS.4

	Uses “wh” questions to get information a variety of topics (why, who, what, where and when) MELDS.ATL.IC.PS.5 Approaches tasks and activities with increasing flexibility, imagination, and inventiveness MELDS.ATL.IC.PS.6 Invents games and new activities *Engagement & Persistence* MELDS.ATL.EP.PS.1 Persists in and completes an increasing variety of tasks, activities, projects, and experiences despite frustrations MELDS.ATL.EP.PS.2 Demonstrates resiliency and coping skills when faced with challenges (i.e. concentrates despite distractions and/ or increasingly manages own level of frustration) MELDS.ATL.EP.PS.3 Chooses to leave a project and returns to it later for completion or elaboration MELDS.ATL.EP.PS.4 Sets goals, develops plans, and completes tasks with increasing independence MELDS.ATL.EP.PS.5 Maintains concentration despite distractions *Reflection & Problem Solving* MELDS.ATL.RPS.PS.1 Predicts when something might be a problem or challenge MELDS.ATL.RPS.PS.2 Makes predictions about what will happen next MELDS.ATL.RPS.PS.3 Looks for more than one solution to a question, task, or problem MELDS.ATL.RPS.PS.4 Applies prior experiences, senses, and knowledge to new learning situations MELDS.ATL.RPS.PS.5 Considers and implements different approaches to carrying out a task MELDS.ATL.RPS.PS.6 Independently alters approach to tasks when initial approach does not work MELDS.ATL.RPS.PS.7 Discusses or documents important aspects of an experience and

	identifies what was learned MELDS.ATL.RPS.PS.8 Solves increasingly complex problems and an increased number of problems

UNIT 4: *World of Color*

Where's the Math

Parts and Wholes

> *The ability to think about a number in terms of parts is a major milestone in the development of number* Van de Walle & Lovin,2006. *Teaching Student Centered Mathematics*. page 48

While fractions and plane geometry are skills for mid to late elementary years, the foundations of part/whole understandings are appropriate to preschool math curricula. Identifying parts of objects, and dividing objects up into parts occur naturally as we observe the world around us. As in many early math concepts, it is important to recognize the beginning stages of parts/wholes understandings, use appropriate math language, and allow experimentation and exploration into the different types of part/whole (also called part-part whole, and parts/whole). Identifying the "hidden" numbers inside of other numbers, for example 2 and 4 are numbers "hiding" within in 6, help children begin to compose and decompose numbers before advancing to using symbols to represent operations.

For young children, learning about parts and wholes is best facilitated through naturalistic experiences, such as when you cut apples up into parts and share them with the children at snack time, or you sort and organize toys. Making and forming groups, such as creating blue, green and red "teams" of children from the entire class is another way of helping children understand parts and wholes. Cooking activities and art activities such as paper folding are also excellent ways to introduce parts/wholes concepts.

Three Types of Parts/Wholes Understandings

There are three major types of parts/wholes understandings. *Math for ME* includes all three types, embedded into activities, and the concepts are featured in the Strategies sections of the selected activities. Here are the 3 types and common preschool activities that illustrate those understandings:

Parts Whole Understandings	Sample Activities
Objects are made up of unique parts.	Identifying parts of a vehicle, the human body, assembling or building toys, block structures, collages or drawing. Example from Unit 4: Mouse Shapes shape collage

Groups of things can be divided	Sorting like objects into color by attribute, making sets based on an attribute, dividing groups into sets Example from Unit 4: Grouping Learning Links into color groups
Whole things can be divided into parts	Cutting an apple or orange, breaking down 2-D shapes into parts, such as dividing a circle into halves Example from Unit 4: [Resource book: Perfect Square by Michael Hall; Grid games, where the entire board is divided into equal parts with 1 object per square.

For additional reading, *see The Big Ideas of Early Mathematics: What Teachers of Young Children Need to Know*. (2014). Early Math Collaborative, Erikson Institute.

UNIT 4: *World of Color*

Using Games to Teach Math

Using games is one of the most effective ways to teach math to young children. Games are especially helpful in highlighting specific counting skills. When playing games alongside children or observing them during play, one might pinpoint counting competencies and errors. Games can be adjusted for difficulty in order to meet children at their current levels of understandings and scaffold the next steps. Games are also ways to connect with families, and suggesting games or sending home simple games with families encourages parents to see the math skills that their children are learning through play. Games can be used as tools for documentation when paired with a checklist, such as the Rote and Rational Counting Checklists from Units 1 and 2.

In October 2017, *Teaching Young Children* journal ran a series of articles about math and games with numerous ideas about how to create and use math games in the classroom, and how to communicate with families through math games. These articles are open-access on the NAEYC site: https://www.naeyc.org/resources/pubs/tyc/oct2017

The January 2019 *Teaching Young Children* has a free article, *Message in a Backpack* for families about extending math learning at home: https://www.naeyc.org/resources/pubs/tyc/dec2018/backpack/play-math-home

Read these articles for inspiration on using math games at school, and to deepen your understandings of the important math concepts embedded in many common childhood games.

Additional articles on math are available to those with NAEYC memberships. Check with your school or colleagues for access.

Unit 4 Math Games

Math Game	Math Concepts
Lotto- type Games such as Bingo	Matching, sorting, Attribute recognition, counting numbers up to 10, comparisons
Roll and Count Games	1:1 correspondence, subitizing, cardinality
Short Path Games	1:1 correspondence, Number Conservation; subitizing, cardinality, number order
Long Path Games	1:1 correspondence, Number Conservation; subitizing, cardinality, number order, counting on and counting back

Grid Games- 10 and 20 grid versions	1:1 correspondence, Number conversation; subitizing, cardinality, counting on, comparisons, beginning operations
Large Motor Games, Class Walks	Directionality and Orientation, visual discrimination, matching, Part/Whole

UNIT 4 THE WORLD OF COLOR MATH BOOKS AND MATERIALS

Books for the Book Shelf/Reading Area:

The Jacket I Wear in the Snow (1994) by Neitzel (Big Book if possible)

Millions of Snowflakes (1998) by Siddals and Sayles

Any books about shape or color from the school library

Math Materials

Place in a center of your choice for the Unit. (Puzzles/Manipulatives, Discovery, etc.) to ensure that children can play and explore these tools and materials prior to large and small group activities. Materials are from the suggested list of math materials for the *Math for ME* curriculum.

NOTE: This unit uses numerous templates for math games found in the Teacher Resources Folder online. **Ahead of time**, please download and print on cardstock or paper for use during the unit. These can also be laminated if you wish. Games can be placed, along with manipulatives, on the math shelves for children to explore.

Learning Links

Color Stackers (Wooden Peg boards with different colored shapes that fit on the pegs.

1 " Cubes

Dice or Die- 3 Dot, 6 Dot Large

2 Sided Counters or Buttons, suitable for using as game tokens

Foam Geometric Shapes

Color Spinners , such as come in children's games. You may cover a number spinner in color sections if you do not have a color spinner.

Color and Shape Bingo Set

Wooden, Plastic or Magnetic Letters and Numerals

Manipulatives sets of people and/or animals

Trays or Place Mats for designating individual work space, as needed

Number Cards 1-20

Color Name Cards (Teacher Materials)

Large Parachute for group play – Week 1 *See note on Activity Plan for alternative if no parachute available.*

UNIT 4 THE WORLD OF COLOR MATH BOOKS AND MATERIALS

Teacher Materials and Supplies

Every Week:

Flip Chart and/or Large Graph Paper

Markers

100s Chart

Glue Sticks

Tape- plain or double sided

Week 1:

Sticky Dots in assorted colors

2 or 3 Large Photographs or Posters

Magazine pictures with easily identifiable colors OR photographs of the classroom, school, outdoors printed on copy paper

Large squares in colors to match parachute

Double sided or regular tape or butterfly clips for attaching the color squares to children's clothing

Background music

Week 2:

Dog's Day Grid Games, Bath Cards (See Teacher Resources)

Other Long and Short Path and Grid Games (See Teacher Resources

Color cards matching the 9 colors in Dog's Colorful Day (Use from Color and Shape Bingo, old Candyland Game or create

Color equations (formulas on paper strips- See example in Teacher Resources)

Glue Sticks and Construction Paper

Blank equation strips

Eye droppers

Diluted liquid water color or food color in gradations from dark to light

Small clear containers for paint, such as plastic cups or baby food jars

White paper towels

Absorbent paper such as newspaper

UNIT 4 THE WORLD OF COLOR MATH BOOKS AND MATERIALS

Week 3:

Large paper for 4 seasons

Small 3 X 4 strips of Drawing or construction paper OR Pain sample chips

Pictures of the animals in Swan Harbor

Color Name Cards and Greater Less than Symbols

Regular or double sided tape

Markers

Week 4:

Shape Detective Badges (made from small cut outs of shapes

Chart paper

Sacks/buckets – 1 per Group for LG

Shape Template And Shape Picture Template (Teacher Resources)

Shape Die – or cards with shapes for drawing

Week 5:

Color Data Chart, cumulative from Week 1 (or week of choice)

Photograph of Week 1 Color Data Chart for comparison

Assorted math games from Teacher Resources

Manipulatives, 2 sided counters or other game tokens

Nature Extensions and Outdoor Connections for Individual Lessons In Unit 4

Week 1

Discovery: Washing Stains

- Use old socks or shirts to allow the children to create stains on their clothing outside.
- Encourage the children to experiment making stains of various colors such as dandelions (yellow), clovers (green), mud (brown), etc.
- After the children have each had the opportunity to create their own nature stains allow them to wash the stains following the lesson plan (*Washing Stains)*
- Connect to Outdoor Learning lesson plan for week 1: Colors of Nature – Natural Dyes

Writing & Drawing: Classroom Maps

- Encourage the children to make a map of their playground.
- Once the children have had the opportunity to create their playground map - allow them to share their maps with peers or invite them to use the map outside to further their journey

Blocks: Building a Store

- Add natural items into the block area that could be used as currency or building tools.

Puzzles & Manipulatives: Color Squares

- Go on a walk with your children and encourage them to identify the colors they spot on the way.
- Bring the color squares outside on a color hunt (paint sample cards would also work for this activity)
- Allow the children to search for at least one item that matches the color on their color square.

Week 2

Art Studio: Mosaics

- Provide the children with a variety of seeds that contain different shapes, colors and textures.
- Encourage the children to design their own mosaic art creation using seeds.
- The children could use glue and paper or clay to create their work of art.
- This masterpiece could also use small rocks, little sticks, crushed leaves, rice and much more

Art Studio: Brave Capes

- After the children make their capes encourage them to try them outside.
- Bring the children on a “Brave Cape” walk outside or around the community.

Blocks: Building a Town/City

- Have the children use their imaginations to create an animal town/city using natural materials.
- The children could make their animal city in the block area or in a safe location outside.

Writing & Drawing: Classroom Color Search

- Bring the color search outside on the playground or in the woods.
- Have the children draw about their favorite color they found on their color hunt.

Discovery: Color Mixing

- Allow the children to collect leaves, flowers, berries and other items of color.
- Encourage the children to squeeze or swish the various items in their hands to see if the color will show on their hands (For example, when a child smooshes a red berry the juice will appear on their hands)
- After have the children use the items they collected to create marks or pressings on their paper or fabric.
- Connect to Outdoor Learning lesson plan Week 1: Colors of Nature – Natural Dyes and Week 5: Signs of Spring – Nature's Color Palette

Small Groups: Clay Towns

- During this activity allow the children to use natural items to enhance their cave.

<u>Week 3</u>

Art Studio: Painting The Lion's Cave

- Using large boxes outside, allow the children to paint inside the box as if it was a cave.
- If your school has a limited amount of large boxes tape one piece of paper to the inside of the box and have the children take turns creating their cave painting.

Dramatic Play: The Lion's Cave

- Create a cave by placing a blanket over at least two sides of a small table.

Art Studio: Tinting and Shading

- On a sunny day place a large piece of paper on the ground outside.
- Allow the children to use the white paper to explore the shadows that are cast onto the paper.
- Have the children trace the shadows by drawing lines around the dark marks on the paper.
- Once the shadows have been traced have the children work together to color in their shadows.

- The children could use watercolor, paint, crayons, mud and much more.

Art Studio: Tinting and Shadow

- Tape a leaf or small tree bow onto the table and place a black sheet of paper over the natural item selected.
- Have the children use white chalk or a white crayon to create a nature shadow rubbing.
- This activity can also be done by placing the leaf on top of the black paper and allowing the children to use a spray bottle with watered down white paint in it. The children would spray around the natural item; once the item is removed a shadow will appear on their paper.

Small Groups: Painting Clay Towns/City

- Rather than using store bought paint use mud to paint the clay towns/cities. The children can help create the mud by using dirt, food coloring and a splash of dish soap.

Small Groups: Color Matching Game

- Bring paint chip cards outside for the children to explore and find various colors.

Small Groups: Making Groups with Blocks

- Rather than using blocks to create groups the children could use shells, beans, sea glass or other natural items that can vary in characteristics

<u>Week 4</u>

Art Studio: Self Portraits

- The children glue sticks, rocks and other natural materials to make a self-portrait on a piece of paper.
- Using clay or model magic is another way the children could create their self-portrait.

Blocks: Building a Cave

- Add a variety of different size socks in the block area for the children to create caves.

Discovery: Shaving Cream

- The children can use sticks as a writing tool to create letters in the shaving cream.
- Line the sensory table with shaving cream then allow the children to use the shaving cream as glue to stack rocks, sticks, shells and other items on top of each other.

Small Groups: Partner Portraits

- This activity can be done the same way as the children's self-portraits (Art Studio: Self Portraits for more details)

Outdoor Learning Unit 4

Unit 4: The World of Color – Week by Week Outdoor Learning Ideas

The following chart provides suggestions for outdoor learning ideas by week. The topics suggested correspond to what is occurring outside in Maine during the end of winter/beginning of spring (February/March). As the natural world is always changing, choose those topics that fit best what is available at your site during each week.

Week 1	Week 2	Week 3	Week 4	Week 5
Colors of Nature	Winter Birds & Owls	Maple Sugaring	March Winds	Signs of Spring

Unit 4: The World of Color – Overview

Color can carry information that helps to organize systems.

Nature connection – Colors in nature change with the seasons

Time frame for nature topics – February/March

Guiding ideas

- Colors are found in nature and are important for survival
    - Some insects that are very colorful use this as a defense mechanism warning predators that they taste bad
    - Colorful flowers attract pollinators (insects and birds)
    - Male birds often have colorful feathers that attract females and also steer predators away from the camouflaged females and their nests
- As the weather warms during the day (but stays cold at night), tree sap starts to flow creating an opportunity to tap maple trees, collect sap, and make maple syrup
- Birds that don't migrate are active in the winter

Outdoor learning components and concepts

- Colors of nature
    - Colors are all around us. When we focus on individual colors we notice the details of the flora and fauna
    - Some animals (bees and butterflies) are especially attracted to colors and they see colors differently than we do
    - Colors of nature change with the seasons
    - Some insects have warning colors
    - Camouflage is an important defense mechanism for animals and plants
- Winter birds & owls

    - Some birds do not migrate and stay in Maine through the winter
    - Examples of winter birds are: Great-horned owl, Screech Owl, Barred Owl, Snowy Owl, Black Capped Chickadee, Northern Cardinal, Downy Woodpecker, Goldfinch, Tufted Titmouse, Blue Jay, White-breasted Nuthatch, Bald Eagle, Crow, Red-tailed Hawk, Mourning Dove
    - Birds have special adaptations that allow them to survive in the winter such as changing diet and the ability to stay warm
    - Owls are birds of prey; they hunt for their food and prefer small mammals, insects, fish, and small birds
    - Owls have serrated wings that help them to fly silently
    - Owls have large eyes to help them see in the dark, strong beaks, powerful talons, and are excellent at hiding because their feathers camouflage extremely well with their surroundings
    - Owls don't digest the bones and fur of the animals they eat, thus regurgitating them in the form of an owl pellet
    - Generally male birds have very colorful feathers to attract females
- Maple sugaring
    - Maple syrup is made from maple tree sap
    - Sap is a liquid inside a tree that contains sugar and maple tree sap has a higher percentage of sugar in it than other trees (about 3%)
    - As winter comes to an end and temperatures get above freezing during the day, the sap begins to move up the tree
    - Sap feeds the tree and helps it grow leaves
    - Maple trees have opposite branching
    - Maple syrup is made by heating maple sap until most of the water in the sap has evaporated away
    - Trees are an important resource for people
- March winds
    - Temperature changes in the spring cause the winds to blow more forcefully
    - March winds provide opportunities to fly kites
- Signs of spring
    - As the days get warmer in spring, the hibernating animals start to wake up and the migrating animals return from farther south
    - As spring arrives, the plants start to grow, and seeds start to sprout
    - Plants and animals begin a new season of growth and rebirth
    - Signs of spring can include various colors

Outdoor learning ideas by the week

- Week 1 – Colors of Nature

    - Take a color hike in different seasons and make a list of things in nature that the children find. Take pictures so the children can compare the different colors found throughout the year. Provide paint chips (from Hardware stores) for children to use to match to natural objects they find along the way.
    - Take water colors or tempera paint and paper outside and paint En Plein Air. Children can mix colors to match the numerous colors found outside. They can keep the paints created in baby food jars, name the colors, and create a pallet book with their created colors.
    - Have the children spray colored water onto snow.
    - Place freshly trimmed white carnations into clear glasses of water, then add different food colorings and wait for the white flowers to change color.
    - Colorful things to put in the sensory table include: purple or orange sand, water that can change color daily, different colored ribbons, shells & pebbles, silk flowers.
    - Discuss and show examples of warning colors on animals like snakes and insects (e.g. orange Monarch butterflies, yellow and black bees).
    - Show examples of animals that use color to camouflage. Include animals such as the snowshoe hare that changes color from brown to white when the winter comes.
    - Natural fabric dying with various plants and vegetables such as onion skins, red cabbage, black walnuts.
- Week 2 – Winter birds & owls
    - What are the characteristics of birds (backbone, warm-blooded, wings, feathers, hatches from eggs)? Compare to the characteristics of mammals learned in previous units.
    - Visit bird feeders and look at all the different colors of the birds. Why are some birds brightly colored while others are duller shades of brown and gray (males vs. females)?
    - Place different colored sheets of paper or cloth on the carpet and provide photos of different colored birds. Then have the children sort things by color (e.g. place a red cardinal on the red paper, a yellow goldfinch on the yellow. Decide as a group where the multicolored birds will go).
    - Play a trail game where the teacher is the owl and the children are mice. When teacher turns around the children have to freeze so they won't be seen by the owl.
    - Have children dissect owl pellets.
    - Bring in owl parts (wing, talon, pellets, etc.) and talk about their special adaptations.
    - Use the birdcall identiflyer to play different bird songs. Children can learn different songs and begin to identify birds based on the calls. This develops

auditory discrimination skills. They can listen to actual bird calls outside and try calling them back.
    - Have bird identification guides available for children to use to identify birds they see from the window or when outside. Create a bird list with pictures to have at the window for the children to check off the birds that they see.
    - Put up bird feeders outside classroom windows and have the children be responsible for filling them. Have binoculars available for children to use to see the birds better.
    - Look for places that birds might be nesting (shrubs, trees, and holes in trees). Collect sticks, grass and other items to make bird nests.
    - Paint with bird feathers.
    - Children make their own bird field guides with drawings or cutting picture out of magazines.
    - Set up a bird beak adaptation station with different tools to represent types of beaks (straws for hummingbirds, walnut cracker for cardinals, tweezers for woodpeckers, etc.) to show what type of beak is the types of food each bird eats.
    - Make bird feeders our of a container, a half an orange or grapefriut, or a pinecone with shortening and seeds.
- Week 3 – Maple Sugaring
    - How many different kinds of foods can we name that come from trees?
    - Share some of the things associated with maple sugaring with the children such as spiles, maple leaves, twigs with opposite branching, maple syrup bottles, hand drills (to drill hole for the spile), etc. Place these on a black piece of felt and let the children figure out what they have in common.
    - Identify maple trees in late winter by looking for opposite branching. Maple trees are one of a few trees that have opposite branching rather than alternate branching (ash and dogwood trees do as well). Have children act out opposite branching and alternate branching with their arms (straight out across from each other for opposite and one up and one down for alternate).
    - To determine if it is time to tap a tree, look for “sugar snow” (snow made from large icy crystals because snow melts slightly during the day and freezes again at night).
    - Have the children hug the trees to make sure they are big enough to tap (at least 12” in diameter) or big enough around so when they hug the tree their fingers don’t meet or just barely meet.
    - Tap a maple tree by drilling a hole in to the sapwood layer and hammer a spile in the tree. If the sap is flowing the children can taste the sap directly from the tree.

    - Collect sap and boil it to make maple syrup. Have it on pancakes. Make sugar on snow by boiling maple syrup to a higher temperature then pour over snow and roll on a popsicle stick to eat like taffy.
    - Sequence game – show pictures of the process of making maple syrup. Have children put them in the correct order.
    - Set up a maple sugar camp in dramatic play by bringing in a tree log and tap it with a spile and bucket. Set up a tent, camp stove, and pretend fire circle. Put water with maple scent and food coloring in a water table and turn it into an evaporator with containers or trays to make four different chambers for the pretend sap to run through. Add scoops, strainers, empty maple syrup bottles, funnels, and syrup ladles so children can pretend to bottle the syrup.
- Week 4 – March winds
    - Catch the wind and fly a kite (children can make the kites)
    - Take a wind hike and notice the things that blow in the wind. Watch dandelion seeds and other plant seeds blow in the wind.
- Week 5 – Signs of spring
    - Colorful wildflowers begin to emerge in the spring. March may be too soon for these to be seen, but on a warm March day, some may be emerging.
    - Go on a “signs of spring” scavenger hunt. Check off the items you find.
    - Take a listening hike and discover new sounds (like birds) that are heard in the beginning of spring.
    - Go on a “green hike” looking for little signs of green and celebrate the new growth. Look for little tree seedlings.
    - Observe buds on the trees. Watch them change over time.
    - Look for the swirls of fern fiddleheads and encourage children to draw them.
    - Paint with mud and look for animal tracks in the mud.
    - Bring some tree buds inside and put in water. Every day notice the changes that take place and watch the buds open.
    - Paint a “still life” of branches with buds in a vase. Or choose to paint a bouquet of flowers.

Recommended Children's Nature Books for Unit 4

Field Guides

- (Scholastic) National Audubon Society First Field Guide – *Birds*
- Take-Along Guide – *Birds, Nests, and Eggs* by Mel Boring

About Books – Guides for Children

- *About Birds* by Catherine Sill
- *About Raptors* by Catherine Sill

Colors of Nature

- *Baby's First Book of Birds of Colors* by Phyllis Limbacher Tildes
- *All the Colors of the Earth* by Sheila Hamanaka
- *Nature's Paintbox: A Seasonal Gallery of Art and Verse* by Patricia Thomas
- *Planting a Rainbow* by Lois Ehlert

Winter Birds & Owls

- *Owl Moon* by Jane Yolen
- *Owl Babies* by Martin Waddell
- *All About Owls* by Jim Arnosky
- *Robin's Winter Song* by Suzanne Barton

Maple Sugaring

- Sugaring by Jesse Haas
- *Grandpa's Sugar Bush* by Margaret Carney
- *Sugar Snow* by Laura Ingalls Wilder (Little House Picture Book)
- *Ininatig's Gift of Sugar: Traditional Nature Sugarmaking* by Laura Waterman Wittstock
- *The Maple Syrup Book* by Marilyn Linton

March Winds

- *The Wind Blew* by Pat Hutchins
- *When the Wind Stops* by Charlotte Zolotow
- *Like a Windy Day* by Frank Asch & Devin Asch

Signs of Spring

- *My Spring Robin* by Anne Rockwell
- *Spring is Here* by Heidi Pross Gray
- *And Then It's Spring* by Julie Fogliano