

DISCOVERY ZONE: SUMMER

Study Investigation:

Nature Ambassadors

Toddler and Preschool Edition

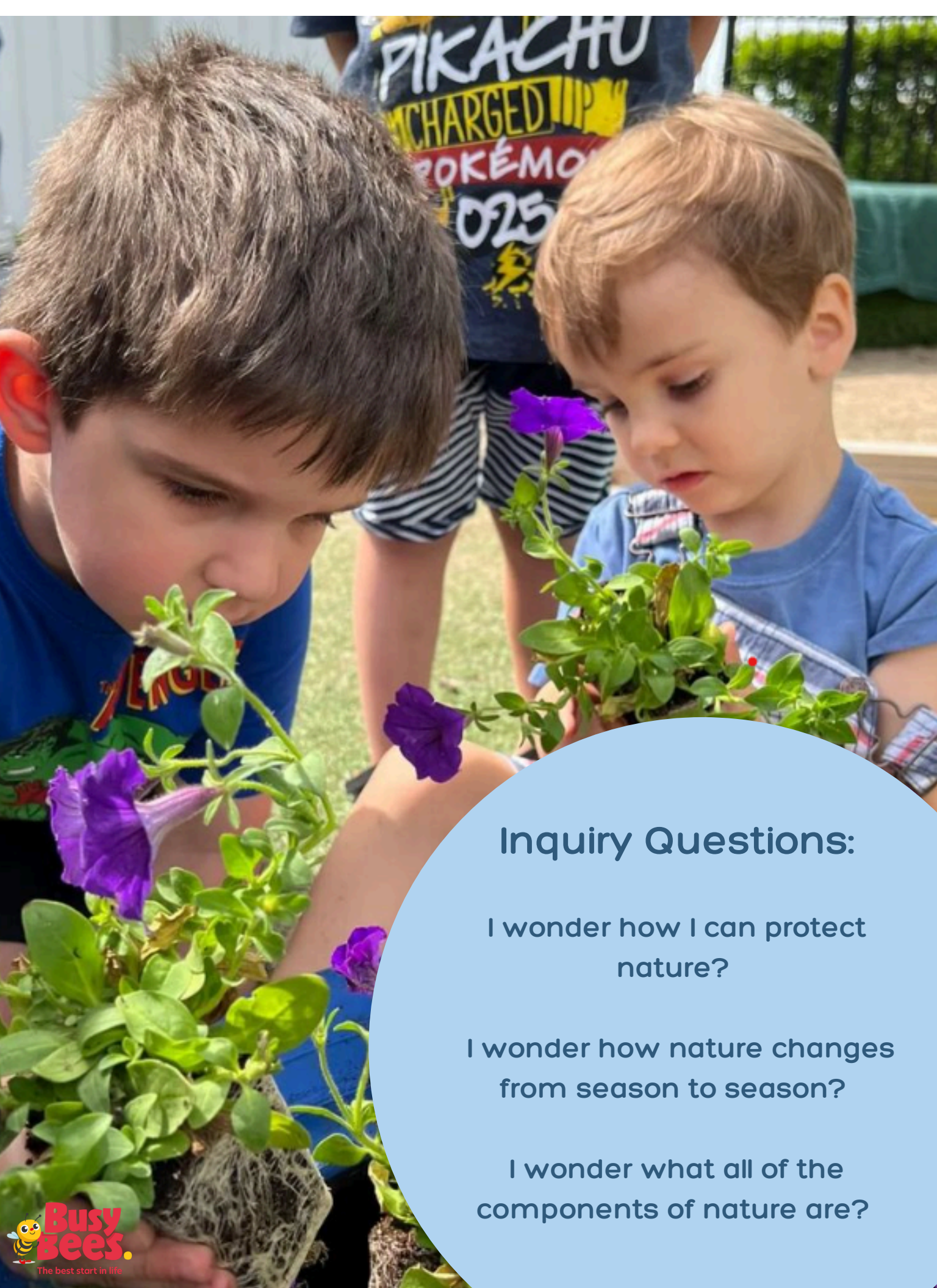


STUDY EXPLANATION

Nature Ambassadors

What does it mean to be an 'Environmental Steward' or an 'Ambassador of Nature'? This study will be about challenging our children to take ownership and responsibility for caring for the Earth. Children will form an understanding of their carbon footprint, and what they can do to preserve natural resources for future generations. From recycling to gardening to the active investigation of nature's attributes, children will get hands-on with activities that showcase their stewardship for the environment.





Inquiry Questions:

I wonder how I can protect nature?

I wonder how nature changes from season to season?

I wonder what all of the components of nature are?

BUILDING CONNECTIONS

Activity One

Title of Activity: Nature Scavenger Hunt

Skill(s) Focus: Collaboration/Critical Thinking/Expression/Engagement

Objectives: Children will work together to use their senses and bodies to investigate, explore, and develop a deeper understanding of their natural environment.

Materials:

- Attribute cards:
 - Rough, smooth, shiny, bumpy, crinkled, variety of colours, etc.
- Markers
- Re-usable bags or paper bags
- Clay
- Connecting loose parts:
 - Pipe cleaners, plastic gardening ties, twist ties, etc.
- Poster board
- Glue
- Outdoor space

Process:

- Introduce children to the process of a scavenger hunt and provide them with re-usable bags or paper bags to collect items for their hunt.
- Invite children to decorate their bags prior to going outside.
- Take the children outside, ideally to a local park.
- Challenge children to find and collect items in nature that correspond to the different attributes written/shown on each card.
- Be sure to review safety parameters first with respect to items that are safe to pick up and items that require an extra check.
- Create attribute cards by printing directions such as the following:
 - Find something bumpy.
 - Find something that is red.
 - Find something a squirrel eats.
 - Find something soft.
 - Etc.
- Guide children to collect their items in the brown paper bags or reusable bags brought along.
- Once back at the centre, prepare a large work space to allow children to spread their found objects on and discuss the various pieces.
- Invite children to work together to make nature sculptures out of their materials using the clay and connecting materials.
- Children may also choose to make a nature collage out of their found objects, using glue and poster board.
- Display proudly in the program or lobby, inviting all children, educators and families to view!

Toddler Variations:

- Simplify the nature walk by focusing on a smaller area with easily accessible, chunky, larger natural materials.
- Use larger sheets of paper for toddlers to explore and arrange materials.
- Provide assistance and guidance as toddlers participate in the collaborative collage.

BUILDING CONNECTIONS

Activity Two

Title of Activity: Nature Curtains

Skill(s) Focus: Cooperation/Engagement/Expression/Appreciation for Nature

Objectives: Children will work together to create a curtain from nature, designed with colourful patterns, textures and fragrances

Materials:

- 3 to 5 old, light coloured bed sheets
- Mallets or hammers
- Rolling pins
- Mortars and pestles
- Paint brushes
- Spray bottles
- Natural loose parts: (be allergy safe)
 - Child safe flowers, berries, leaves, etc.
 - Mashed for toddlers
- Spices (minimal amount, be allergy safe)
 - Turmeric, ginger, curry, etc.
- Herbs
 - Sage, mint, parsley, etc.
- Water
- Twine or jute string

Process:

- Divide your group into smaller teams of 4 to 6 children, with each team working together to create their own nature curtain.
- Lay out the plain sheet (s) in an open space.
- Set out the materials as an inviting provocation, placing the natural loose parts in assorted containers along with the tools across the sheet(s).
- Promote excitement and curiosity by asking:
 - "How can we turn this ordinary sheet into a sheet of magical colours and fragrances?"
- Invite children to select the natural loose parts that interest them and hammer or roll them gently onto the sheets.
- Alternatively, invite children to select items and place in a mortar and pestle, and then paint onto the sheet.
- Invite children to explore the spices and consider how the colours and fragrances can land on the sheet.
- Guide children to place a small amount of spice into spray bottles and spritz the sheet with the natural pigment.
 - Keep in mind that turmeric can be very staining!
- Once the sheet is dry, showcase it in your indoor or outdoor learning environment by hanging it up for all to see!

Toddler Variations:

- Prepare some of the nature paint ahead of time to allow toddlers to jump right in and start their painting process.
- Be sure to have some sample, tangible items for display for toddlers to explore intermittently between painting, ensuring careful supervision.
- Avoid the use of spices for painting to minimize stains, but allow toddlers to smell them!
- Ensure the use of smocks for this age group!

BUILDING CONNECTIONS

Activity Three

Title of Activity: Rainbow Ring Collaboration

Skill(s) Focus: Collaboration/Creative Expression/Joyful Engagement/
Appreciation for Nature

Objectives: Children will work together to individually create elements of a rainbow display, forming a collaborative rainbow mobile.

Materials:

- Paper plates or cardboard circles
- Drawing materials:
 - Paint, markers, crayons, etc.
- Collage materials:
 - Pompoms, buttons, sequins, stickers, yarn, etc.
 - Larger size items for toddlers
- Glue or tape
- Scissors
- Hole punch (optional)
- String or yarn

Process:

- Engage children in a discussion about rainbows, encouraging children to describe their experiences.
- Explain that rainbows are created when sunlight passes through raindrops in the air, separating the sunlight into different colours.
- Set up materials thoughtfully on a work surface and invite children in small groups to come to the creative activity.
- Provide each child a paper plate or cardboard circle to represent their part of the rainbow.
- Sing the rainbow song with the children, helping to remind the children of the colours of the rainbow.
- Allow each child to choose what colour they would like to work with and decorate their circle or plate with.
- Encourage children to decorate their circle with their favourite colour using markers, crayons, and colourful collage materials.
- Discuss the concept of collaboration and teamwork, emphasizing that each child's circle contributes to a larger rainbow.
- Guide children in connecting their circles to form a collaborative Rainbow Ring.
 - Hole punch the edges of the circle or plate for threading yarn through to connect the circles.
 - Be sure to connect each circle to form the collaborative Rainbow Ring.
- Hang the completed Rainbow Ring in a visible area as a collaborative art installation.

Toddler Variations:

- Use larger circles and chunky collage materials for toddlers.
- Arrange materials by colour to help engage vocabulary.

LANGUAGE & LITERACY

Activity One

Title of Activity: Shape Seek and Say

Skill(s) Focus: Vocabulary Development/Shape Recognition/ Collaboration/ Joyful Engagement

Objectives: Children will develop shape recognition through an interactive storytelling activity and enhance language development by introducing shape-related vocabulary.

Materials:

- Large cut-out shapes
 - Circle, square, triangle, rectangle, hexagon, etc.
- Story cards or a picture book featuring shapes
- Flower
- Bucket
- Open space

Process:

- Prior to the feature activity, hide shape outlines, or silhouettes around the learning environment, taking care for children not to notice!
 - Be sure to hide as many copies as there are children in the program.
- Introduce a story or picture book that incorporates shapes into the narrative.
- As educators read the story, pause at moments where a shape is mentioned and help children describe its attributes. Educators may wish to count the sides, or refer to its smooth or sharp edges.
- Engage children in a discussion about some of the shapes they see in their indoor or outdoor learning environment.
- Identify the shapes found in flowers, plants and elements of nature. Showcase a flower, and refer to its circular shape.
- Next, inform children they will be going on a shape hunt.
- Refer back to the story and hold up applicable pages that showcase a shape.
- Guide children to listen for the name of the shape and find the corresponding silhouette hiding in the environment.
- Encourage children to verbally identify the shape they found and bring back to deposit in the shape bucket.
- Repeat the activity with each of the different shapes throughout the story.

Toddler Variations:

- Use a simpler story with fewer shapes for toddlers.
- Engage toddlers in a more interactive way by physically guiding them to the shapes.
- Allow toddlers to explore and touch the shapes during the activity.

LANGUAGE & LITERACY

Activity Two

Title of Activity: Shape Sorting Sensory Bin

Skill(s) Focus: Vocabulary Development/Shape Recognition/ Collaboration/ Joyful Engagement

Objectives: Children will develop shape recognition skills through a sensory and hands-on activity, incorporating various textures and materials.

Materials:

- Sensory bin
 - Plastic container or tray
- Assorted sensory materials:
 - Purchased clean feathers, fabric scraps, shredded paper, etc.
- Assorted cardboard shapes:
 - Squares, triangles, circles, rectangles, etc.
- Assorted collage material shapes:
 - Cubes, pompoms, buttons, jewels, beads, pipe cleaners, etc.
 - Larger sized items for toddlers
- Natural loose parts:
 - Child-safe flower tops, petals, shells, pebbles, etc
 - Larger items for toddlers
- Assorted recyclable loose part shapes:
 - Bottle tops, mason jar rings, small packages, etc.
- Tweezers or small tongs
- Baskets

Process:

- Prior to the feature activity, fill the sensory bin with different sensory materials.
- Mix in cardboard shapes of various colors and sizes and include the collage materials and natural loose part shapes.
- Prepare baskets labeled with the corresponding shapes.
- Guide children to use tweezers or small tongs to explore the sensory bin and sort the shapes.
- Encourage them to identify and name the shapes as they sort and place in the applicable basket.
- Discuss the different textures and sensations experienced during the activity.
- Optionally, use descriptive language to compare the shapes (e.g., "smooth circle" or "bumpy square").

Toddler Variations:

- Use larger and easily graspable foam or cardboard shapes for toddlers.
- Select sensory materials that are safe for exploration, such as soft fabric. Use chunky loose parts to eliminate choking hazards.
- Allow toddlers to use their hands for sorting and encourage basic verbal interactions and vocabulary development.

LANGUAGE & LITERACY

Activity Three

Title of Activity: Story Stones Adventure

Skill(s) Focus: Vocabulary Development/Storytelling/Critical Thinking/Collaboration

Objectives: Children will develop storytelling skills by using painted stones to support a plot line through interactive engagement with others.

Materials:

- Smooth, flat stones
- Paint
- Markers
- Glue
- Container for storing the story stones

Process:

- To prepare for the feature activity, invite children on a nature walk to collect smooth, flat stones. Be sure to explain and monitor safety parameters around what is safe to pick up. Collect a stockpile to ensure an ample selection.
- Set the materials out thoughtfully on a work surface and invite children in small groups to engage in the activity.
- Provide each child with a smooth stone and guide them to select their creative tools of choice.
- Encourage children to draw or paint an image on their stone representing an element from nature.
 - Engage in a discussion about some of the elements they may have noticed on their walk, such as flowers, animals, trees, or the sunshine!
 - Each of these elements will become a character or setting for a story.
 - As children are considering what to paint, prompt them accordingly to think of both animate objects and aspects of the natural environment.
- Once stones are decorated, let them dry and apply a layer of liquid glue for optional durability.
- Place the story stones in a bag or container.
- Gather the children and explain that they will be creating stories by drawing stones from the bag.
- Encourage each child to pull out a stone, and incorporate the image into a collaborative story.
- Educators may support with some prompts, such as:
 - "Once upon a time as I was walking through the forest, I came across a big, furry _____ (hold up story stone)! It startled me and made me run through the trees, along a _____".
 - The storyline becomes more entertaining when the stones that are chosen do not match with a typical response.
 - Be creative and have fun!

Toddler Variations:

- Use larger stones for safe and easier handling by toddlers.
- Provide toddlers with prompts of what to paint such as flowers.
- Limit the number of stones to keep the activity simple.
- Facilitate storytelling by starting a sentence and allowing toddlers to complete it with their chosen stone.

MATH DISCOVERY

Activity One

Title of Activity: Seed Paper

Skill(s) Focus: Critical thinking/Engagement/Fine Motor Skills/Attribute Recognition

Objectives: Children develop an understanding about the growing cycle, and identify attributes of different seeds and flowers.

Materials:

- Tissue paper or newspaper
- Water
- Blender (educators only)
- Strainer or muslin cloth or silk screen
- Cookie sheet
- Paper towel/rags
- Rolling pins
- Seeds (fast growing and child safe)
 - Sunflower, marigolds, radish, basil, lettuce, etc.
- Scissors
- Child safe soil
- Garden pot
- Popsicle sticks
- Marker

Process:

- Introduce children to the word "germination", explaining it is the process of a seed growing into a new plant.
- Encourage children to tear/cut tissue or newspaper.
- Soak pieces in water for 2 to 3 minutes.
- Educators can then use blender to make a puree.
- Challenge children to use strainer, muslin cloth, or silk screen to drain excessive water.
- Guide children to use a rolling pin to roll out the mixture.
- Place a variety of seeds into containers and invite children to examine them, engaging them in a discussion about the different attributes of the seeds.
- Next, invite children to sprinkle seeds of their choice on top of the rolled out mixture and use their hands or rolling pin to press the seeds into the surface.
- Allow the paper mixture to dry over night.
- Challenge children to cut it in different shapes.
- Use the seed paper for the outdoor environment, and support children to plant in the centre garden or pot.
- Guide children to label their seed paper positioning using a popsicle stick and marker.
- Track the growth of the plants over time, using measuring tools and a journal.

Toddler Variations:

- Guide toddlers to examine some of the seeds secured in sealed plastic bags and use magnifying glasses.
- Allow toddlers to squish the pulp and seeds together in a sealed plastic bag.
- Discuss the attributes of the seed and the pulp.
- Educators can then roll out the seed paper away from toddlers for drying.
- Cut the seed paper into larger squares and support toddlers to plant into pots.

MATH DISCOVERY

Activity Two

Title of Activity: Estimation Station

Skill(s) Focus: Critical Thinking/Active Exploration/Attribute Recognition/Exploration/Problem Solving

Objectives: Children will place their hands in a box, explore its content, and try to guess what the hiding object is!

Materials:

- Box
- Box cutters/scissors
- Larger, child safe loose parts from nature:
 - Fruit, vegetables, bark, pinecones, clean & purchased feathers, seashells, etc.
- Blindfold/scarf
- Whiteboard
- Marker

Process:

- Prior to the activity, cut two holes into the side of a box, large enough for children to insert their arms.
- Place the assorted loose parts from nature in an area of the room where children cannot see, or use a screen to block their view.
- One by one, place the natural loose parts into the box for sensorial exploration.
- Set up the box on a work surface, and invite children to come in small groups to explore its contents.
- Challenge children one at a time to reach their arms into the box, explore the sensorial attributes of the object and try to identify what it is.
- Ask children to articulate the attributes they feel, such as bumpy, smooth, hard or soft.
- Document the responses of each child for each object on a whiteboard.
- When all children have had a turn, reveal the content and count how many children were correct!
- Repeat the process with a new item.
- For added complexity and dramatic effect, place a blindfold on each child and invite them to smell the object for added cues.

Toddler Variations:

- Cover the objects from nature using a scarf with younger toddlers, asking them to feel it and then quickly pulling off the scarf for the reveal.
- Be sure to only use chunkier, larger loose parts for this age group.

MATH DISCOVERY

Activity Three

Title of Activity: Nature Tic Tac Toe

Skill(s) Focus: Representation/Critical Thinking/Collaboration/Engagement

Objectives: Children will engage in a life size version of 'Tic Tac Toe' using two separate sets of natural loose parts to represent the X's and O's.

Materials:

- Cones
- Rope lengths/skipping ropes/chalk markings
- Larger child safe nature loose parts:
 - Rocks, pine cones, shells, leaves, tree cookies, child-safe flower tops
 - Larger items for toddlers
- Baskets

Process:

- Set aside a large space inside or outside and mark off the boundary for play using cones.
- Using lengths of ropes or chalk markings, create the 3 rows and 3 columns display needed for a Tic-Tac-Toe game area.
- Place one set of loose parts in a basket to represent the "X" category and another set to represent the "O" category.
- Partner children and assign one child to be the "X" team and the other to be the "O".
- Guide each child to select the playing tokens from the appropriate basket.
- Play according to the typical rules, with the player making the first three in a row sequence the winner!
- Consider creating a tournament with consistent interest.

Toddler Variations:

- Instead of Tic Tac Toe, incorporate a matching game for toddlers.
- Line up chunky, natural loose parts on a table, and place each of their matches in a basket.
- Guide toddlers to close their eyes, select an item from the basket and place it alongside its displayed match.

STEM DISCOVERY

Activity One

Title of Activity: Composting Experiment

Skill(s) Focus: Science Inquiry/Care for the Environment/Critical Thinking/ Engagement

Objectives: Children will develop a curiosity and interest into how decomposition works, showcasing the value of composting as a way of protecting the environment.

Materials:

- 1 compost container per child
 - Jar, bin, or container
- Child-safe soil
- Banana peel or orange peel
- Piece of plastic
- Piece of bread (allergy aware)
- Piece of paper
- Bucket with lid (toddlers)
- Shredded newspaper
- Leaves

Introduction:

- Talk to children about composting and decomposition.
 - Explain that decomposition is the natural breakdown of organic matter. Composting uses the process of decomposition for natural waste products to create rich soil for growing new plants.

Process:

- Guide each child to:
 - Fill the bottom $\frac{1}{4}$ of a jar with soil and place the banana peel on top.
 - Add $\frac{1}{4}$ more soil and place the piece of paper on top so it is visible from the outside of the jar.
 - Add another layer of soil and place the piece of bread on top.
 - Add a fourth layer of soil and place the piece of plastic on top.
 - Cover with the final layer of soil, put the lid on the jar and allow children to develop hypotheses as they observe the contents of the jar over the course of a week.
- Support their learning by asking questions such as:
 - Which item will break down into the soil fastest?
 - What will happen to the piece of plastic?
 - Why is it valuable to limit or recycle the plastic we use?
 - How does composted soil add more nutrients to new plants?
- Guide children to recognize that the plastic material will not decompose. Engage children in a discussion regarding why plastics pose a risk to the environment.

Toddler Variations:

- Work with toddlers to create a classroom compost bin.
- Access a large bucket with a lid, such as an ice cream bucket, which toddlers can decorate.
- Support toddlers to collect child-safe fallen leaves outside, or help them to shred newspaper by ripping up the sheets.
- Place a layer of these items into the bottom of the bucket.
- Guide toddlers to place organic material waste into the compost bin, identifying consistently those items that are organic.
- Support toddlers to keep practicing this essential skill.
- The items can get mixed together intermittently, ultimately used for a classroom garden.

STEM DISCOVERY

Activity Two

Title of Activity: Growing Food from Scraps

Skill(s) Focus: Critical Thinking/Joyful Engagement/Appreciation for Nature

Objectives: Children will develop an interest and inquiry into how food is grown in nature.

Materials:

- Jars, cups, or containers (preferably clear)
- Vegetable scraps of any kind (be allergy aware)
- Various other vegetables (be allergy aware)
- Measuring and exploratory tools:
 - Magnifying glasses, tweezers, measuring sticks, etc.
- Journal
- Child-safe soil
- Planting pots
- Gardening tools
- Tablet
- Large shallow bin (toddlers)

Process:

- Pose some inquiry questions about how children think food is grown.
 - Offer prompts around the need for rich soil, water and sunshine.
- Ask them which foods they think will re-grow if planted or submerged in water.
- Break off the last 2-3 inches or stumps of various vegetables. Consider the following:
 - Romaine lettuce, green onions, celery, leeks, onions, a whole head of garlic, beets, herbs, etc.
- Place the bottom end in a jar or container, ensuring it is submerged in water, allowing only the top bits to pop out of the water.
- Change the water every day and watch your vegetables regrow!
- Guide children to measure the growth of the different vegetables.
- Encourage children to get excited about the process of some vegetables growing visible roots and re-growing fresh produce!
- Challenge children to think about how they can nurture better growth.
- Educators can get creative with this activity!
 - Try submerging the bottom half of a potato in water and watch how the spuds grow.
- Once your vegetable scraps grow roots, try planting them in soil!
- Track the growing process by using the tablet camera, and print out photos for display.

Toddler Variations:

- Allow toddlers to explore one whole carrot and point out the roots, stem, and leaves.
- Next, cut off the carrot top and invite toddlers to look at the inside layers of the carrot. Give the remaining pieces back to the kitchen.
- Support toddlers to plant this carrot top into a shallow bin filled with soil and excite them in growing a new carrot!

STEM DISCOVERY

Activity Three

Title of Activity: Recyclable Treasure Museum

Skill(s) Focus: Critical Thinking/Problem Solving /Collaboration/ /Appreciation for Nature

Objectives: Children will use recycled materials as artistic media to create a unique treasure museum.

Materials:

- Recyclable loose parts
 - Bottle lids, yogurt containers, empty carton boxes, cardboard boxes, straws, empty paper towel rolls, etc.
- Connecting loose parts:
 - Elastic bands, string, pipe cleaners, zip ties, etc.
- Collage materials:
 - Wrapping paper, googly eyes, buttons, pompoms, etc.
 - Larger items for toddlers
- Glue/spreaders
- Tape
- Playdough
- Cardboard base

Introduction:

- Re-introduce children to the words "recycle", "reuse", and "reduce".
- Talk about how recycling and reusing helps our environment.
- Engage children in a discussion by asking the following questions:
 - "What are some of the things we can recycle?"
 - "How can we reuse things around us?"

Process:

- Place materials thoughtfully on a work surface, and invite children in small groups to come and explore.
- Invite children to explore the assortment of recyclable loose parts and collage materials and challenge them to consider how they can be combined in different ways to create something new.
- Prompt children to consider how the items can be arranged in unique ways, such as:
 - to create a robot, machine or tool
 - to become a flower pot
 - to form a miniature city.
- Encourage children to be creative, assuring them there is no wrong way for them to execute their artistic expression.
- Invite them to use glue or connecting materials to attach items together.
- Children may wish to use a base of playdough to help secure their creative structures.
- Once children have completed their designs, they can position it on a cardboard base and display it as part of the "Recyclable Treasure Museum".
- Invite families to come and view the displays!

Toddler Variations:

- Provide toddlers with a treasure basket of chunky, recycled loose parts and observe how toddlers use them. Include chunkier loose parts such as napkin rings, berry crates, and paper towel tubes and encourage cause and effect manipulations such as stacking, rolling, and connecting as they are busy creating.

PHYSICAL LITERACY

Activity One

Title of Activity: Sponge Watering Flowers

Skill(s) Focus: Hand-eye Coordination/Foundational Skill of Throwing/
Appreciation for Nature/Engagement/Well-being

Objectives: Children will throw sponges at chalk flower drawings with the goal of erasing them!

Materials:

- Chalk
- Containers
- Paint brushes
- Sponges
- Buckets of water
- Cones or pylons
- Spray bottles (toddlers)

Process:

- Invite children to assist in the drawing of chalk flowers on fencing or other panels.
 - Educators may choose to engage children in hammering assorted pieces of chalk, adding water to the powder to create a chalk paint mixture.
 - Create enough flower drawings to support the size of your group, and minimize waiting for the excited participants.
- For the formal part of the activity, use cones to mark off where children can stand, creating clear boundaries between one flower painting and the next as well as the starting point.
- Divide children into teams of 2-3.
- Place sponges in buckets of water at each starting point and allow children 3 turns to throw their sponge at the chalk flower.
- The first team to "water" all of the flowers is the winner!
- Consider the following variations:
 - Increase the challenge by encouraging backward tosses, under the leg tosses, or even overhead tosses.
 - Adjust the size of your flowers, making them larger for younger children.
 - Consider creating a pattern of flower paintings, challenging children to water all of them before being labeled a winner!

Toddler Variations:

- Create chalk flowers on the fence panels for toddlers, but invite them to come as close as they like and spray the flowers with spray bottles!
- If using sponges, be sure they are large enough for little hands!

PHYSICAL LITERACY

Activity Two

Title of Activity: Bowling with Recyclables

Skill(s) Focus: Hand-eye Coordination/Foundational skill of Rolling/Physical Well-being/Joyful Engagement

Objectives: Children will take turns bowling with goal of knocking down recyclable items!

Materials:

- Large water bottles or milk jugs
- Markers
- Medium sized balls
- Cones/pylons
- Chalk

Process:

- Set up 1 or more bowling alleys in your outdoor space, using cones to mark off appropriate lanes.
- Invite children to decorate the water bottles or milk jugs that will become the bowling pins. Reinforce the concept of re-using materials for new purposes.
- Educators may wish to put some water or sand into the containers to keep them upright and slightly more difficult to knock over.
- Divide children into teams, and challenge them to come up with team names.
- Set up your containers as if pins in a bowling alley.
- Invite children to try knocking the pins down using creative body movements, such rolling the ball backwards and between the legs.

Toddler Variations:

- Create multiple bowling lanes to minimize the need for toddlers to wait. Use limited water or sand in the containers to make knocking them down easier. Allow toddlers to roll, throw or kick their balls in efforts to knock over the pins.

PHYSICAL LITERACY

Activity Three

Title of Activity: Insect Relay Race

Skill(s) Focus: Foundational skill of Running/Physical Well-being/Joyful Engagement/Appreciation of Nature

Objectives: Children will engage in role play, mimicking the movements and appearance of an insect while racing against their peers.

Materials:

- Cones or pylons
- Bucket of "bugs"
- Running pathways
- Dress up props:
 - Scarves, ribbon wands, headbands, etc.
- Photos of insects:
 - <https://unsplash.com/photos/a-red-beetle-sitting-on-top-of-a-green-leaf-IXfKeRezkIY>
 - <https://unsplash.com/photos/macro-photography-of-black-and-yellow-bee-on-yellow-flower-k3GiGKPVanY>
 - <https://unsplash.com/photos/black-and-teal-dragonfly-tGFHDkOGvC0>

Process:

- Engage children in a discussion about their favourite insects, being sure to talk about some of the typical attributes found on an insect such as wings, antennae, thorax, abdomen, and legs.
- Discuss why insects are an important part of nature, helping to control pests by eating them and supporting pollination of flowers.
- Present the printouts of insects referenced above to support their understanding of the parts of insects.
- For the feature activity, set up 2 to 3 running pathways depending on the size of your group. Educators may choose to use chalk to mark the pathways.
- Place 2 cones to mark the start and end of a pathway.
- Separate your children in 2 to 3 teams.
- At "go", invite children to dig into the bucket of bugs and pull one out, with the challenge to of moving like that insect to the end line and back, tapping their next player to go.
- Ensure there is a variety of insects within the bucket to practice different skills such as hopping, slithering, jumping, flying, etc.
- Positive reinforcement should be given to more authentic actions.
- The winning team is that whose players all cross the finish line.

Toddler Variations:

- Engage toddlers in a game of "bug charades"
- Place a variety of bug photos within a basket, and one by one, pull them out, inviting all toddlers in the group to mimic the actions.
- Educators may wish to have some bug dress up props to take outside with them, such as scarves, headbands, and ribbons that can become the wings, tails, and antennae of bugs!

CREATIVE DISCOVERY

Activity One

Title of Activity: Nature's Paint Brushes

Skill(s) Focus: Joyful Engagement/Appreciation for Nature/Expression

Objectives: Children will engage with natural mediums and tools made from nature to create art.

Materials:

- Natural loose parts:
 - Child-safe twigs, leaves, flowers, grass, pine needles, pine cones, etc.
 - Larger items for toddlers
- Natural pigments:
 - Child-safe flower petals, fruit scraps, herbs, spices, etc. (be allergy aware)
 - Larger items for toddlers
- Mortars and pestles
- Paint
- Water
- Containers
- Canvas
 - Poster paper, easel paper, individual construction paper, etc.
- Clothes pins
- String
- Smocks

Process:

- Prepare an initial invitation to play by showcasing what natural paint brushes can look like, allowing for children to explore and even practice using them.
 - Present a sample in which you have used a twig with leaves tied to the end of it as a mock paint brush.
- Take children outside on a nature hunt, guiding them to look for naturally fallen materials that could be used for the bristles of a 'Nature Paint Brush'.
 - Ensure to articulate safeguarding measures in advance around what is safe to use and what needs to be avoided.
- Guide children to bunch up various items, using string to tie them together.
- Alternatively, a clothespin can be used to pinch them together.
- Place different colours of paint on the table to allow children to freely explore and create using "Nature's Paint Brushes".
- In addition to paint, invite children to use mortars and pestles to grind down natural items into a pigment mixture that can also be used as paint.
- Consider the following variations:
 - A group mural art scape can be set up with butcher paper spread out along a table surface.
 - Set up a painter station at an easel for a more ongoing, individual experience.
 - Final pieces may be presented as an art show, and set up outside for families to view.

Toddler Variations:

- Prepare ahead of time a variety of "Nature's Paint Brushes" for toddlers to use, attaching chunkier loose parts from nature.
- Attach a piece of butcher paper against an outdoor wall or fence panel, and invite toddlers to dip their brushes in shallow pans of watered down paint and make patterns on the paper.

CREATIVE DISCOVERY

Activity Two

Title of Activity: Frozen Creations

Skill(s) Focus: Problem Solving/Creative Expression/Joyful Engagement

Objectives: Children will create designs using melting ice pucks housing flowers.

Materials:

- Child safe flowers:
 - Sunflowers, marigolds, pansies, etc.
- Natural loose parts:
 - Child safe grasses, leaves, sand, etc.
 - Larger items for toddlers
- Muffin tin
- Cookie tray/grater (toddlers)
- Food colouring
- Light coloured paper
- Paint
- Paintbrushes
- Glue/spreaders
- Trays
- Story book: "Flowers are Calling" by Rita Gray

Introduction:

- Present the story "Flowers are Calling" by Rita Gray or a similar story.
- Engage children in a discussion about their favourite flowers, identifying colours, smells, sizes and other attributes.
- Educators may create a poll for children to vote for their favourite flower with the goal of familiarizing children with common flowers and helping them identify them.

Process:

- Purchase or pick a variety of child safe flowers prior to this feature activity.
- Place flower heads or petals in muffin tins. Dilute water with paint or small amount of food colouring and add to the muffin tin to freeze.
- Set out materials thoughtfully on a work surface, and invite children in small groups to explore.
- Provide children each with their own tray, light coloured paper, and their own frozen puck.
- Invite children to select a paint brush and move the puck around to create paint trails.
- As the puck begins to thaw, use the opportunity to talk about the natural processes of freezing and melting.
- Once the puck has melted, and children are satisfied with their creative designs, invite children to glue on their flower petal remnants and other nature loose parts to their paper.

Toddler Variations:

- Freeze sheets of ice for toddlers and grate shavings.
- Mix with chunkier natural loose parts and place on a tuff tray, providing toddlers with water and eye droppers to help explore the melting process.

CREATIVE DISCOVERY

Activity Three

Title of Activity: Perfume and Potions

Skill(s) Focus: Creative Expression/Fine Motor Skills/Joyful Engagement/Collaboration

Objectives: Children will explore the scents, textures and colours of natural loose parts, and combine them into perfumes and potions for dramatic play.

Materials:

- Bottles/mason jars
- Clear jars
- Scissors
- Food colouring
- Child safe flowers:
 - Sunflowers, marigolds, pansies, etc.
- Child safe herbs (be allergy aware):
 - Mint, sage, thyme, rosemary, etc.
- Citrus fruit peels (be allergy aware):
 - Orange, lemon, clementine, lime
- Larger natural loose parts for toddlers
- Mortar and pestle
- Test tubes
- Droppers
- Strainers/coffee filters
- Funnels
- Sieves
- Scoopers
- Spoons

Process:

- Engage children in a discussion about scents, discussing the various scents found in nature.
- Ponder together the smell of the first rain, or the scent you might smell in the deep woods.
- Everything has its own characteristics and scent is key for flowers, plants, or trees.
- Educators and children can work together to experiment with a few recipes to make perfume.
- Set up the table/tuff tray thoughtfully with materials and invite children in small groups to come and explore.
- Encourage children to smell individual items and appreciate their scents.
- Guide children to use scissors to cut and snip flower petals or herbs, and put them in clear jars.
- Invite children to use a mortar and pestle to crush the items and enhance the scent for their perfumes.
- Allow children to explore and engage with all of the ingredients.
- Invite children to explore and investigate with the test tubes, funnels and droppers, and finalize their ingredients to add to their personal scented perfumes and potions.
- Once children have made their perfumes, encourage them to smell their peer's perfumes and challenge them to identify the scents.

Toddler Variations:

- Invite toddlers to explore the smells of the natural items presented above.
- Place chunky natural loose parts in a sensory table with scoopers, sieves, and containers and invite them to explore, maintaining vigilant supervision.

Educator Reflections: *optional*

I wonder if I successfully observed, listened and allowed the interests of the children to lead further investigations?

I wonder how I could improve upon my teaching practices in the future?

I wonder what support I may need to better foster child inquiry in my learning environment?

I wonder what went well, and what could be improved upon regarding child-led learning?

Investigation Materials

Building Connections

- Cardstock squares
- Markers
- Recyclable/paper bags
- Clay
- Connecting loose parts:
 - Pipe cleaners, plastic garden ties, zip ties, etc.
- Poster board
- Light coloured bed sheets
- Mallets/hammers
- Mortars and pestles
- Spray bottles
- Natural loose parts:
 - Child safe flowers, berries, leaves, (mixed for toddlers)
- Spices:
 - Turmeric, ginger, curry, etc.
- Herbs:
 - Sage, mint, parsley, etc.
- Twine/jute string
- Paper plates/cardboard
- Drawing materials:
 - Paint, markers, crayons, etc.
- Glue/tape
- Scissors
- Collage materials:
 - Pompoms, buttons, sequins, stickers, (larger items for toddlers)
- Hole punch

Language and Literacy

- Large cut out shapes
- Story cards/picture book of shapes
- Bucket
- Sensory bin
- Sensory materials:
 - Clean feathers, shredded paper, fabric scraps
- Assorted cardboard shapes
- Collage shape materials:
 - Cubes, pompoms, buttons, jewels, beads, pipe cleaners, (large items for toddlers)
- Recycled shape loose parts:
 - Bottle tops, mason jar rings, lids, small packages, (large items for toddlers)
- Tweezers/tongs
- Baskets
- Smooth flat stones
- Paint/brushes
- Glue

Math Discovery:

- Tissue paper/newspaper
- Old blender
- Strainer/muslin cloth/silk screen
- Cookie sheet
- Paper towel/rags
- Rolling pins
- Fast growing seeds:
 - Sunflowers, marigolds, radish, basil, lettuce
- Scissors
- Child safe soil
- Garden pot
- Popsicle sticks
- Marker
- Box
- Box cutter
- Large child safe loose parts from nature:
 - Fruit, vegetables, bark, pinecones, feathers
- Blindfold/scarf
- Whiteboard/marker
- Cones
- Rope lengths
- Baskets
- Nature child safe loose parts:
 - Pinecones, shells, tree cookies, rocks, (large for toddlers)

STEM Discovery

- Jars, plastic containers with lids
- Child safe soil
- Fruit peels
- Pieces of plastic/bread/paper
- Bucket with lid
- Shredded paper
- Leaves
- Vegetable scraps
- Measuring/exploratory tools:
 - Magnifying glasses, tweezers, measuring sticks, etc.
- Journals
- Planting pots
- Gardening tools
- Shallow bin
- Recyclable loose parts:
 - Bottle lids, yogurt containers, cartons, boxes, paper towels rolls, skewers, (large for toddlers)
- Connecting loose parts:
 - Elastic bands, sting, yard, zip ties, pipe cleaners, etc.

Investigation Materials

STEM Discovery Continued

- Collage materials:
 - Wrapping paper, googly eyes, buttons, pompoms, (large for toddlers)
- Glue/spreaders
- Tape
- Playdough
- Cardboard base

Physical Literacy

- Chalk
- Containers
- Paint brushes
- Sponges
- Buckets
- Cones/pylons
- Spray bottles
- Large water bottles
- Milk jugs
- Medium balls
- Toy insects
- Dress up props:
 - Scarves, ribbon wands, headbands, etc.
- Photos of referenced items

Creative Discovery

- Natural child safe loose parts:
 - Twigs, leaves, flowers, grasses, pine cones, (large for toddlers)
- Natural pigments:
 - Child safe flower petals, fruit scraps, herbs, spices (mixed/minimal for toddlers)
- Mortars and pestles
- Paint/brushes
- Containers
- Canvas:
 - Poster paper, easel paper, butcher paper, etc.
- Clothes pins
- String
- Smocks
- Child safe flowers:
 - Sunflowers, marigolds, pansies, etc.
- Muffin tin/cookie trays & grater (toddlers)
- Food colouring
- Light coloured paper
- Brushes
- Glues/spreaders
- Trays
- Story: "Flowers are Calling"