

Sustainability

Defined as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.”

(United Nations Brundtland Commission, 1987)

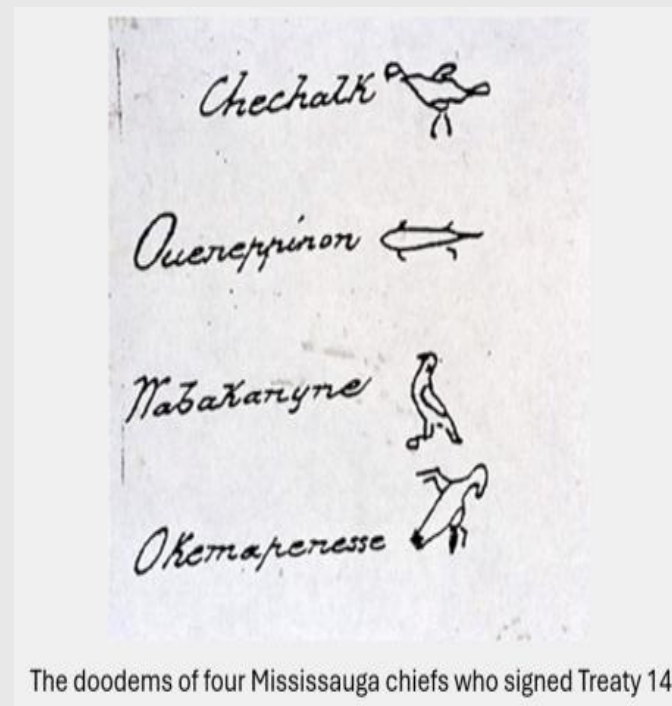


Land Acknowledgement

The land on which I live is the ancestral territory of Treaty 14 the Mississaugas of the Credit First Nation. The Indigenous Peoples and their ancestors have been the stewards and protectors of the waters, the animals, the plants, the trees, and the land for countless generations. Throughout the decades of colonization, the Indigenous Peoples witnessed and experienced the removal of their land, language, family, culture, and traditions. Their dignity and spirit were taken from them.

Recognition and understanding of the Truth and Reconciliation Calls to Action are positive steps towards restoring and upholding our commitment to the Indigenous Peoples' human rights, honouring and exercising their Treaty rights, preserving and sustaining the use of their languages and cultural traditions, and respecting and reclaiming their identities and their grass roots connections. We are all connected to this land and to one another, and we strive to work toward unity and love together.

Written by the author.



The doodems of four Mississauga chiefs who signed Treaty 14

(Ralston, 2021)



How Does Learning Happen? emphasizes children's relationships, inquiry, and engagement with nature, yet it does not identify sustainability as an explicit learning goal. Although the framework promotes curiosity, exploration, and community, it omits clear expectations for environmental stewardship, climate awareness, or sustainable practices. It also lacks reference to Indigenous land-based knowledge and reciprocal relationships with the land, core elements within early childhood education for sustainability.

While documentation, collaboration, and creative expression are encouraged, the framework does not explain how these practices can support children's understanding of ecological issues or everyday sustainable behaviours. Collectively, these exclusions underline the importance of explicit sustainability language, integration of Indigenous perspectives, and intentional pedagogical guidance to strengthen educators' capacity to foster ecological responsibility and children's sense of interconnectedness with the natural world.



Introducing early childhood education for sustainability in the early years is essential, as this is when children begin forming lifelong habits and understandings about their interdependence with the natural world. Experiences that nurture curiosity, empathy, reciprocity, and responsibility help them develop a sense of belonging within their ecological community.

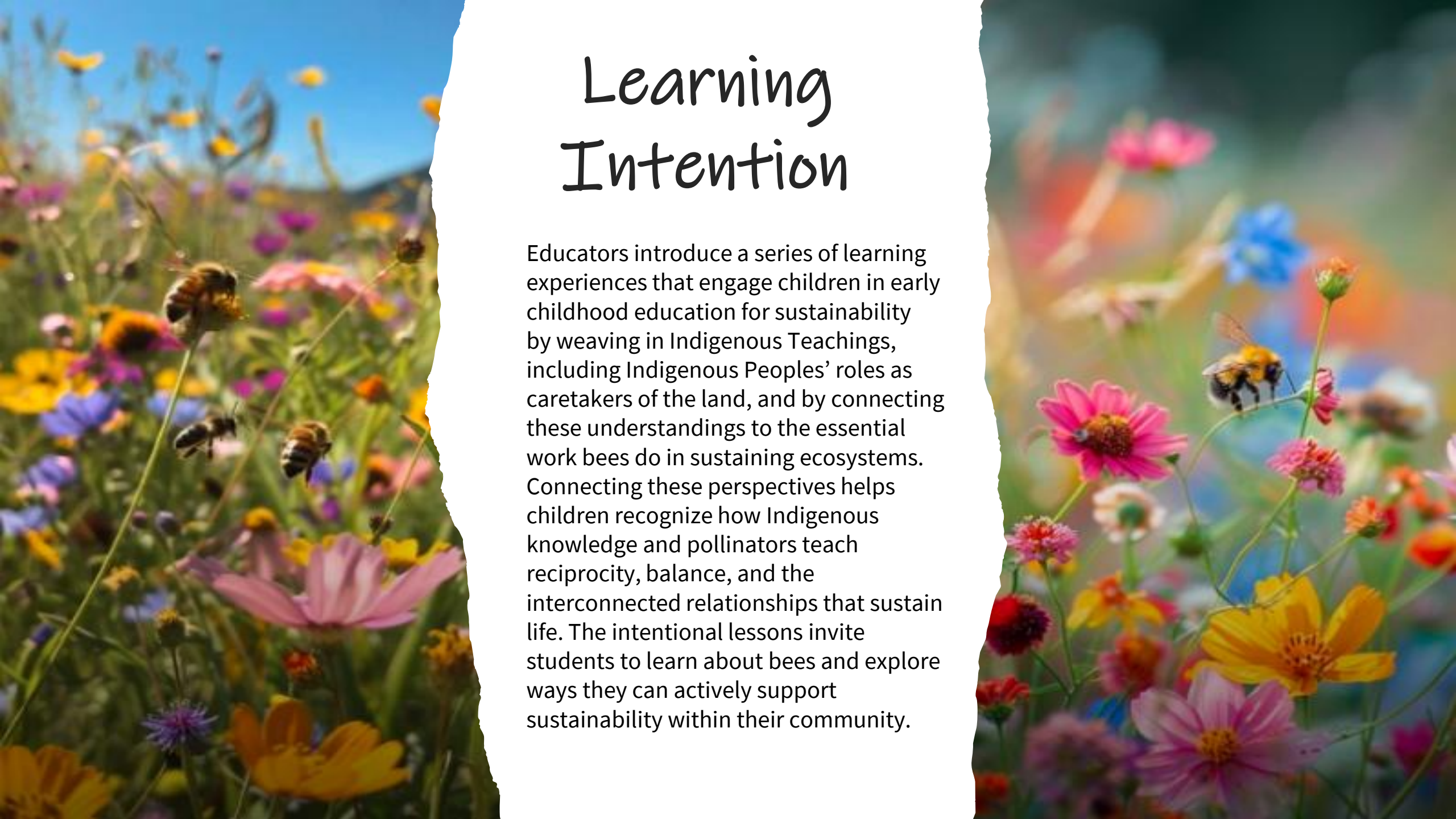


When educators intentionally integrate ECEfS into inquiry-led activities, storytelling, creative expression, and land-based relationships, children learn that their actions matter and that they can contribute to the wellbeing of human and more-than-human worlds. These intentional practices strengthen children's autonomy, agency, and critical thinking, and support their confidence in making positive, sustainable choices.



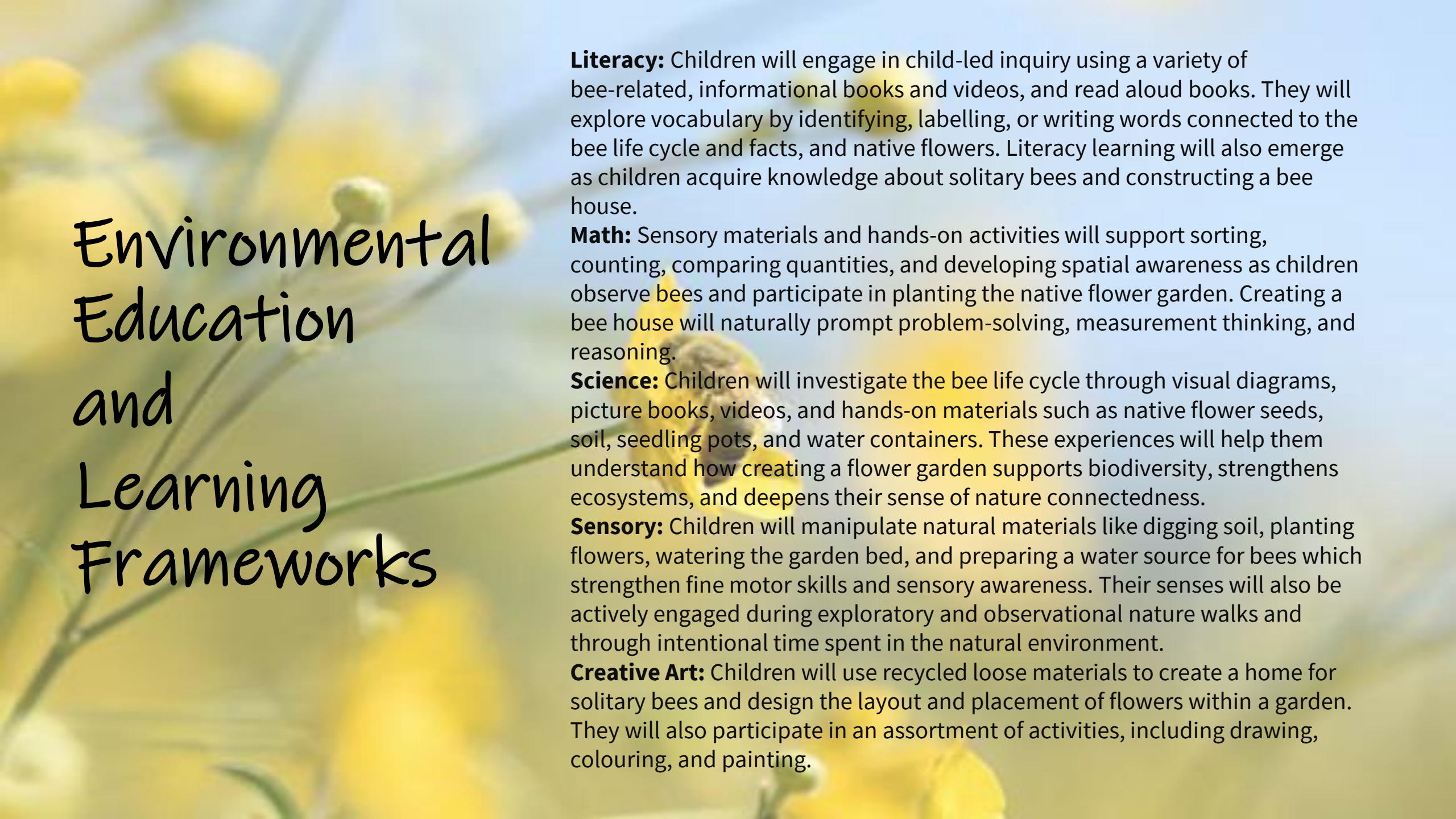
"If children don't grow up knowing about nature and appreciating it, they will not understand it, and if they don't understand it, they won't protect it, and if they don't protect it, who will?"

David Attenborough
(Teach Early Years, n.d.)



Learning Intention

Educators introduce a series of learning experiences that engage children in early childhood education for sustainability by weaving in Indigenous Teachings, including Indigenous Peoples' roles as caretakers of the land, and by connecting these understandings to the essential work bees do in sustaining ecosystems. Connecting these perspectives helps children recognize how Indigenous knowledge and pollinators teach reciprocity, balance, and the interconnected relationships that sustain life. The intentional lessons invite students to learn about bees and explore ways they can actively support sustainability within their community.



Environmental Education and Learning Frameworks

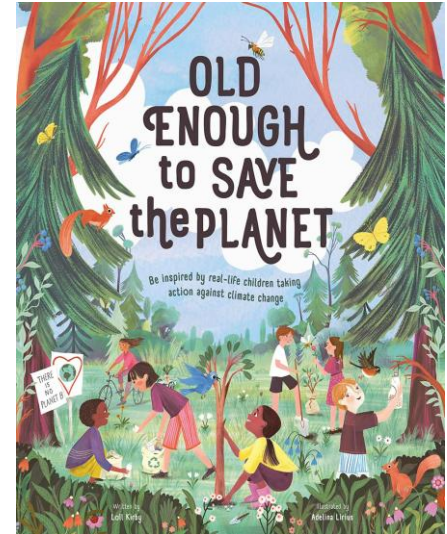
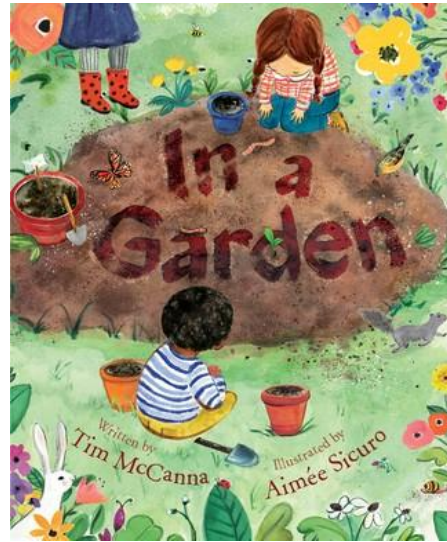
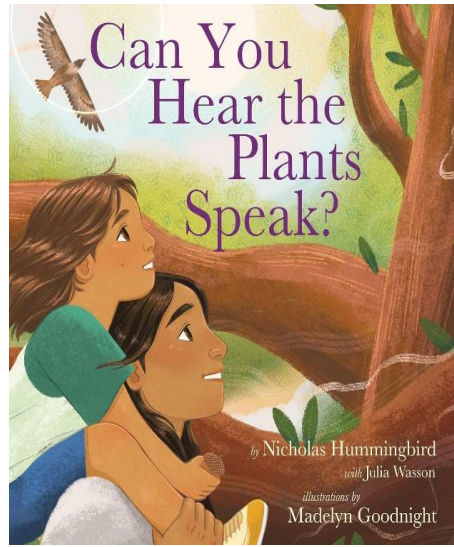
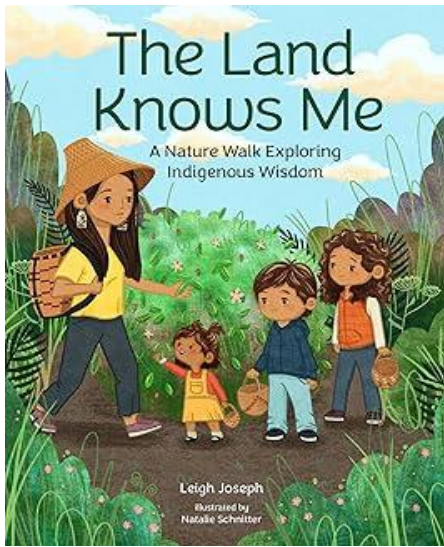
Literacy: Children will engage in child-led inquiry using a variety of bee-related, informational books and videos, and read aloud books. They will explore vocabulary by identifying, labelling, or writing words connected to the bee life cycle and facts, and native flowers. Literacy learning will also emerge as children acquire knowledge about solitary bees and constructing a bee house.

Math: Sensory materials and hands-on activities will support sorting, counting, comparing quantities, and developing spatial awareness as children observe bees and participate in planting the native flower garden. Creating a bee house will naturally prompt problem-solving, measurement thinking, and reasoning.

Science: Children will investigate the bee life cycle through visual diagrams, picture books, videos, and hands-on materials such as native flower seeds, soil, seedling pots, and water containers. These experiences will help them understand how creating a flower garden supports biodiversity, strengthens ecosystems, and deepens their sense of nature connectedness.

Sensory: Children will manipulate natural materials like digging soil, planting flowers, watering the garden bed, and preparing a water source for bees which strengthen fine motor skills and sensory awareness. Their senses will also be actively engaged during exploratory and observational nature walks and through intentional time spent in the natural environment.

Creative Art: Children will use recycled loose materials to create a home for solitary bees and design the layout and placement of flowers within a garden. They will also participate in an assortment of activities, including drawing, colouring, and painting.



Knowledge grows much like a tree, branching into new understandings that are rooted in the natural world. Integrating Indigenous teachings and deep connections to land further strengthens children's literacy and understanding.

The Land Knows Me by Leigh Joseph

Can You Hear the Plants Speak? by Nicholas Hummingbird and Julia Wasson

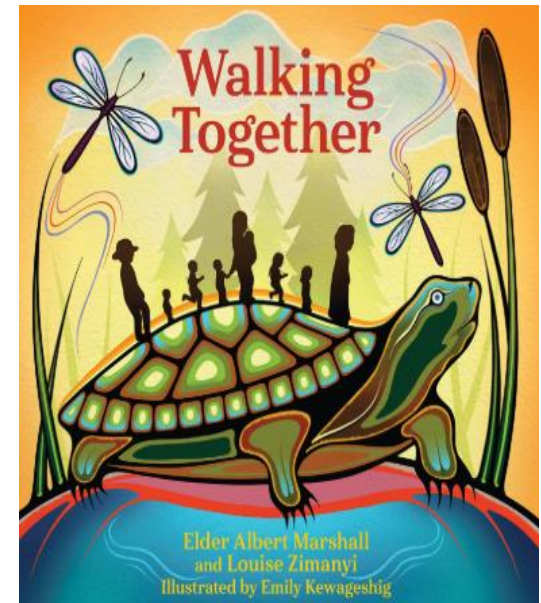
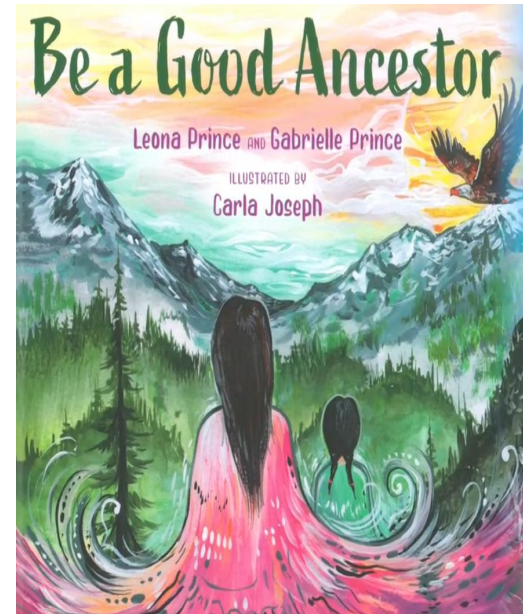
In a Garden by Tim McCanna

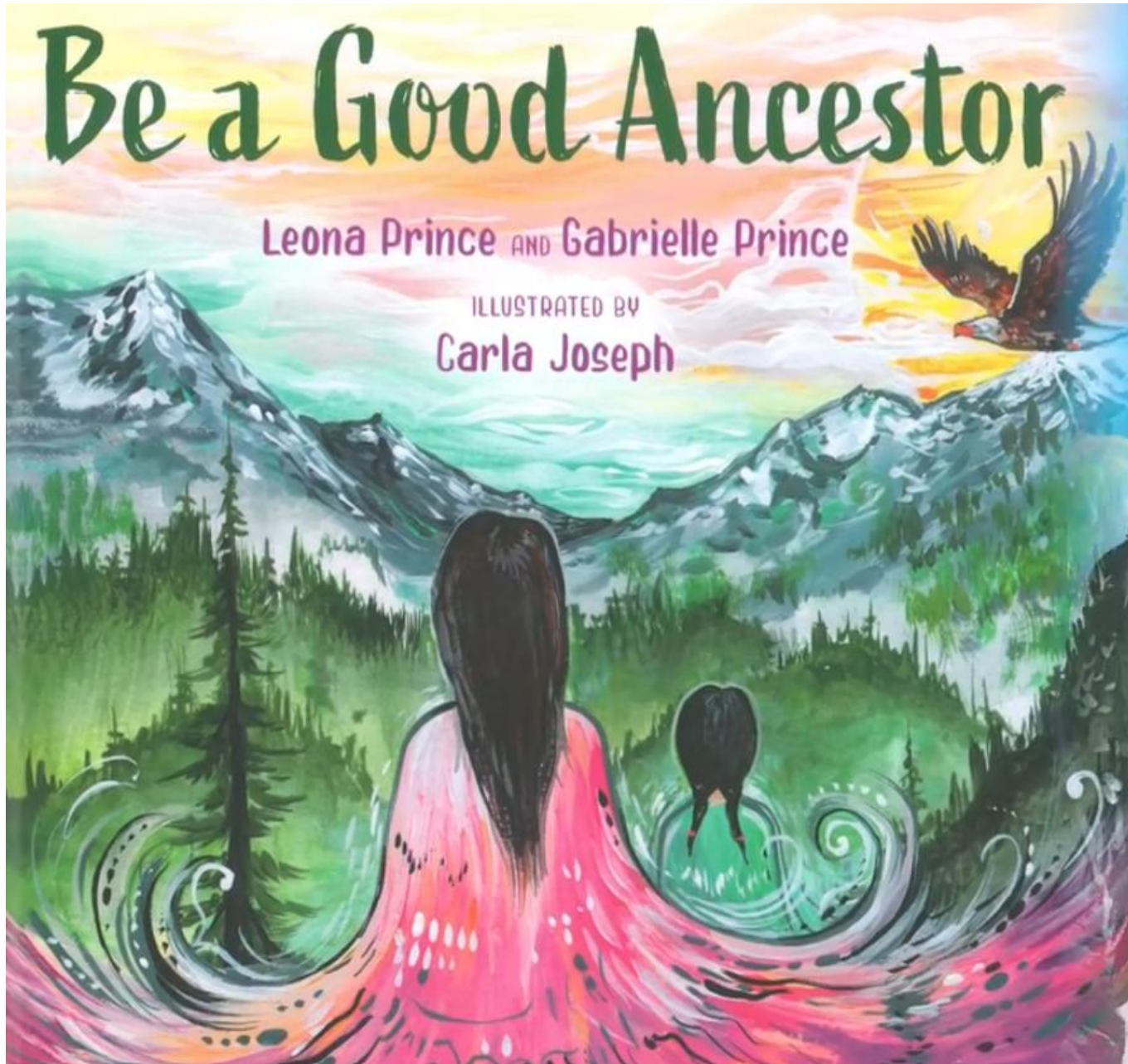
My Friend Earth by Patricia MacLachlan

Old Enough to Save the Planet by Loll Kirby

Be a Good Ancestor by Leona Prince and Gabrielle Prince

Walking Together by Elder Dr. Albert D. Marshall and Louise Zimanyi

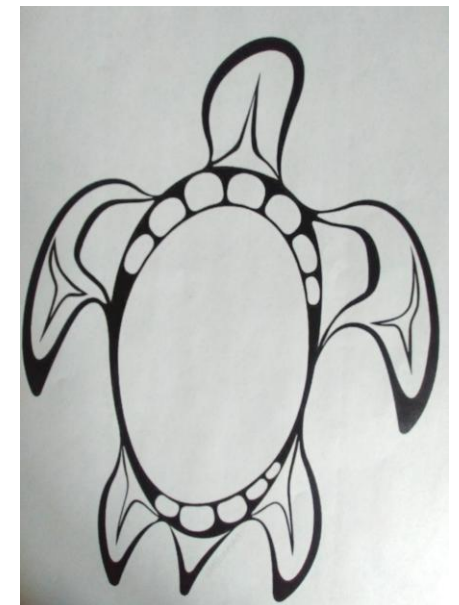




Be A Good Ancestor

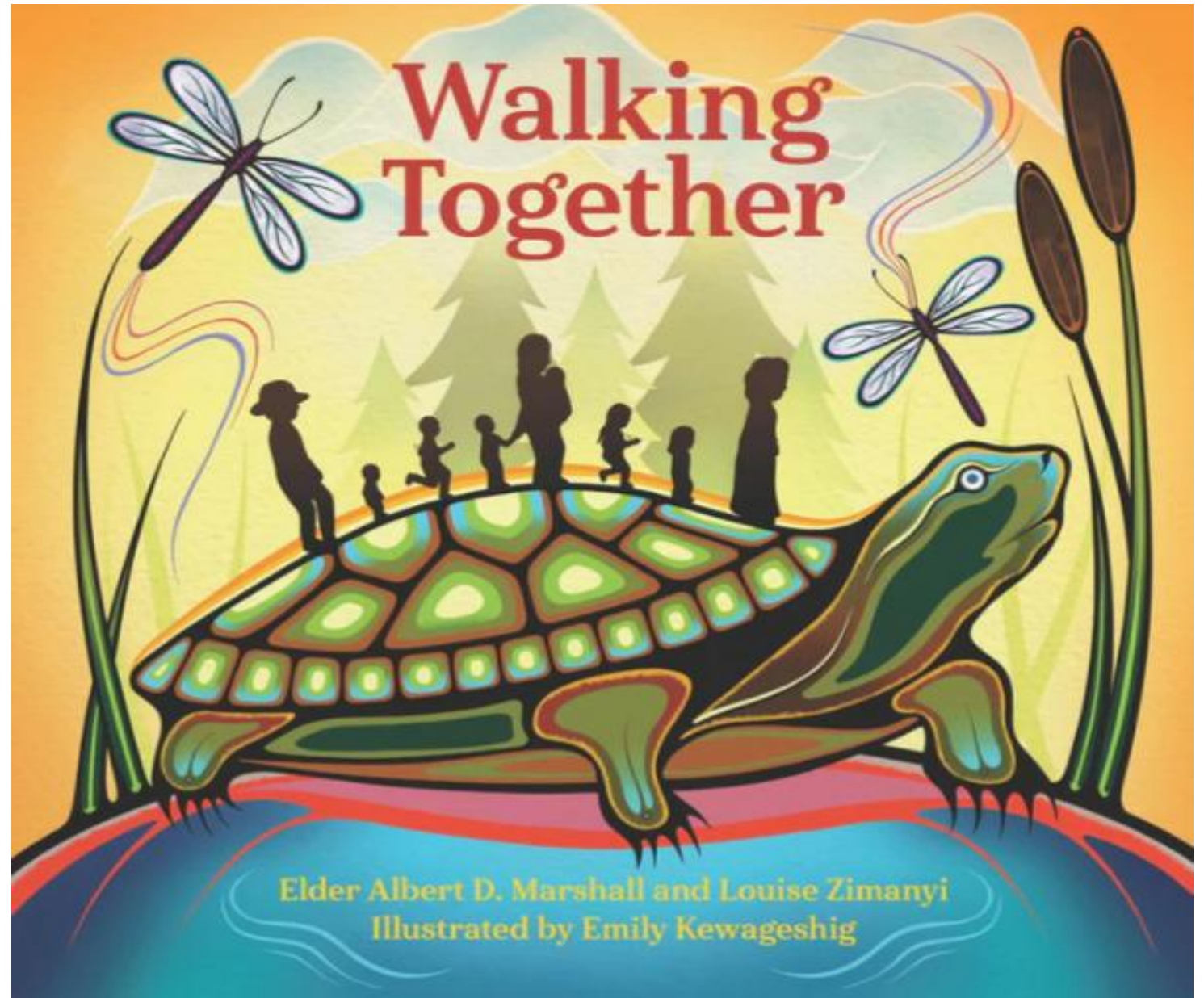
This book shares Indigenous teachings that promote children to think about how their actions, thoughts and relationships have an effect on the world and to future generations. It emphasizes the need to respect and care for the environment, as well as our interconnectedness and responsibility to protect it for a sustainable future.

The Indigenous turtle printout invites children to draw a picture that expresses their understanding of how to care for the environment.



The Importance of Respecting the Land

Children who engage with the book will develop an awareness that “we are all connected” and that learning occurs through shared experiences of respect, reciprocity, responsibility, and relationship (Marshall & Zimanyi, 2023). They will also learn Indigenous practices such as caring for Mother Earth.



The “Three Sisters” Indigenous Tradition

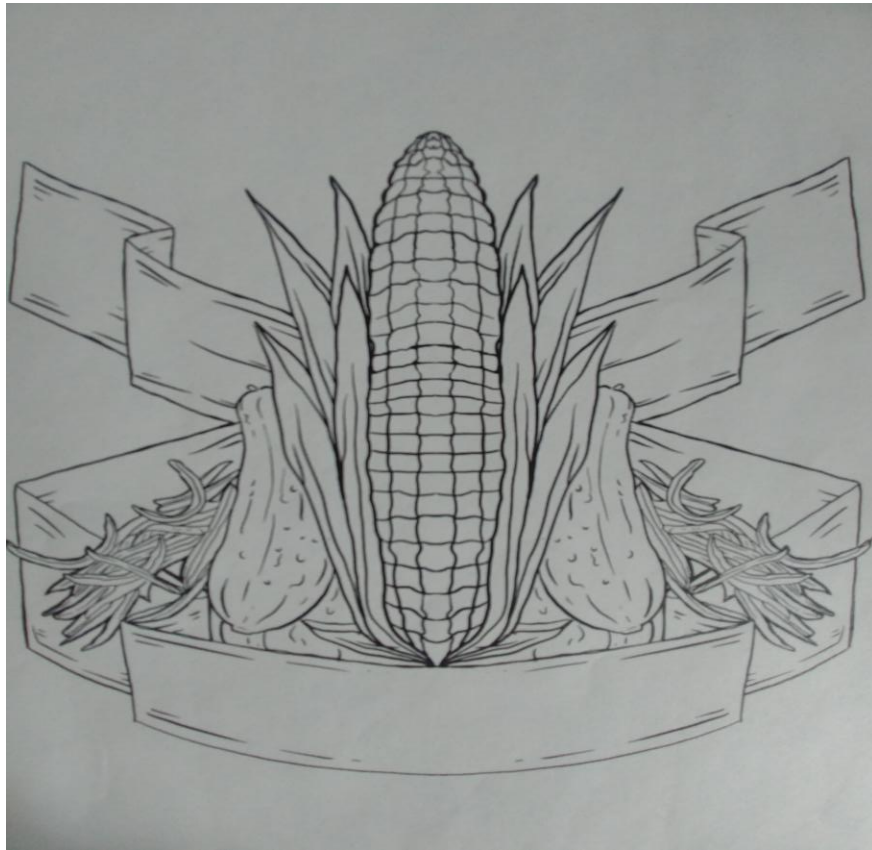


The “Three Sisters” are three plants which culturally support one another and thrive when they are planted together. The beans provide nitrogen to the soil which makes it healthy, the corn stalks act as natural poles which beans can climb, and the squash leaves impart shade which helps with moisture retention and alleviates weeds from growing.

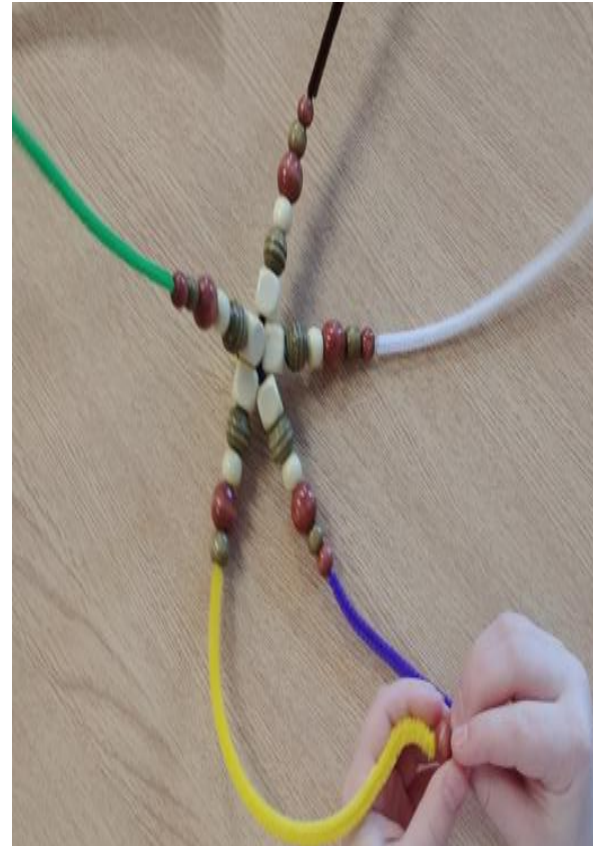
The combination of growing these three crops together is referred to as ‘companion planting’ which was the kind of farming done by the Haudenosaunee People ([Super Simple Sheets, 2024](#)). “When they plant the ‘Three Sisters’, they also give thanks to the earth for its gifts” (Super Simple Sheets, 2024, 2:15).

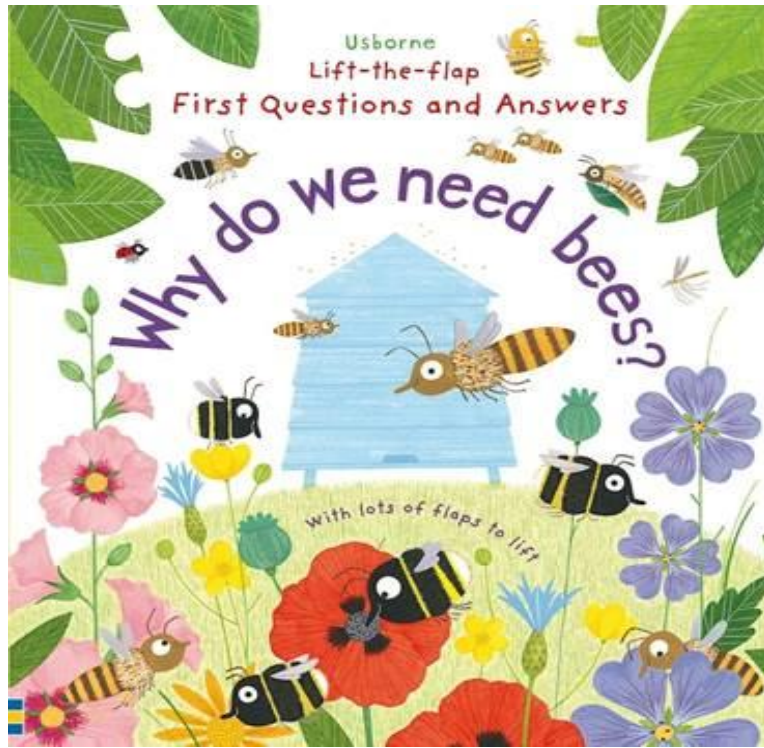
The educational video supports and deepens children’s awareness and understanding of how Indigenous teachings and relationships with the land foster reciprocity and sustainable practices.

Creating an Indigenous Three Sisters Craft



Children are invited to colour a Three Sisters printout and create a corn stalk by threading wooden beads onto pipe cleaners. These activities promote sensory engagement, creative expression, support social-emotional regulation, and strengthen fine motor skills.





Initiate Interest and Inquiry

Children may initially feel skittish or fearful around bees because they have learned that bee stings can hurt. In reality, bees rarely sting unless they feel threatened; they are simply focused on carrying out their essential work. A central goal is to help children understand that bees are not something to fear; they are vital partners in supporting human life, local fauna, and the health of plants and ecosystems.

Through immersive bee-themed books and read alouds, hands-on activities, and creating a native flower garden, children will engage in dialogue and exploration that naturally prompts questions such as:

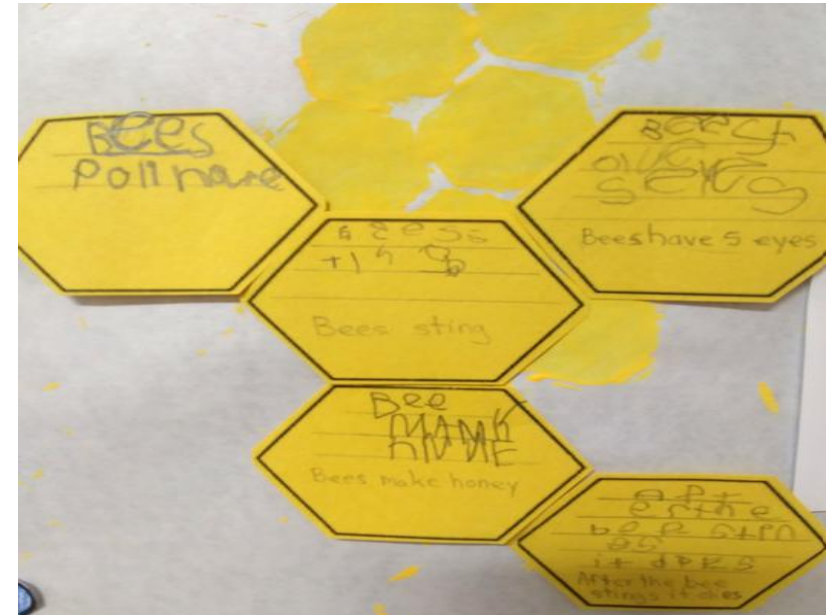
- Are bees all the same? How many kinds of bees are there?
- What do you think bees do? Do you think they are helpful to humans?
- What do you think pollination is? Where do you see pollination happen?
- Why do we need bees? Are they important to humans?
- What is the life cycle of a bee?
- Where can we find bees? Where do bees live?
- How do you think bees affect nature?
- Why do we need to protect the bees?



Facts About Bees



Educators promote a circle discussion to share children's knowledge about bees by creating a KWL with the headings "What we know about bees," "what we would like to know about bees," and "what we learned." With honey comb cut outs, children are encouraged to write a bee fact or draw a picture.

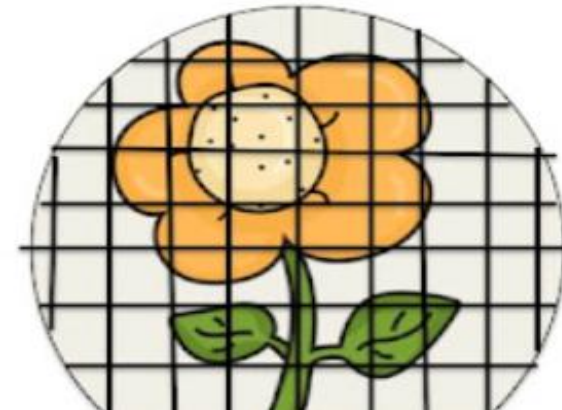


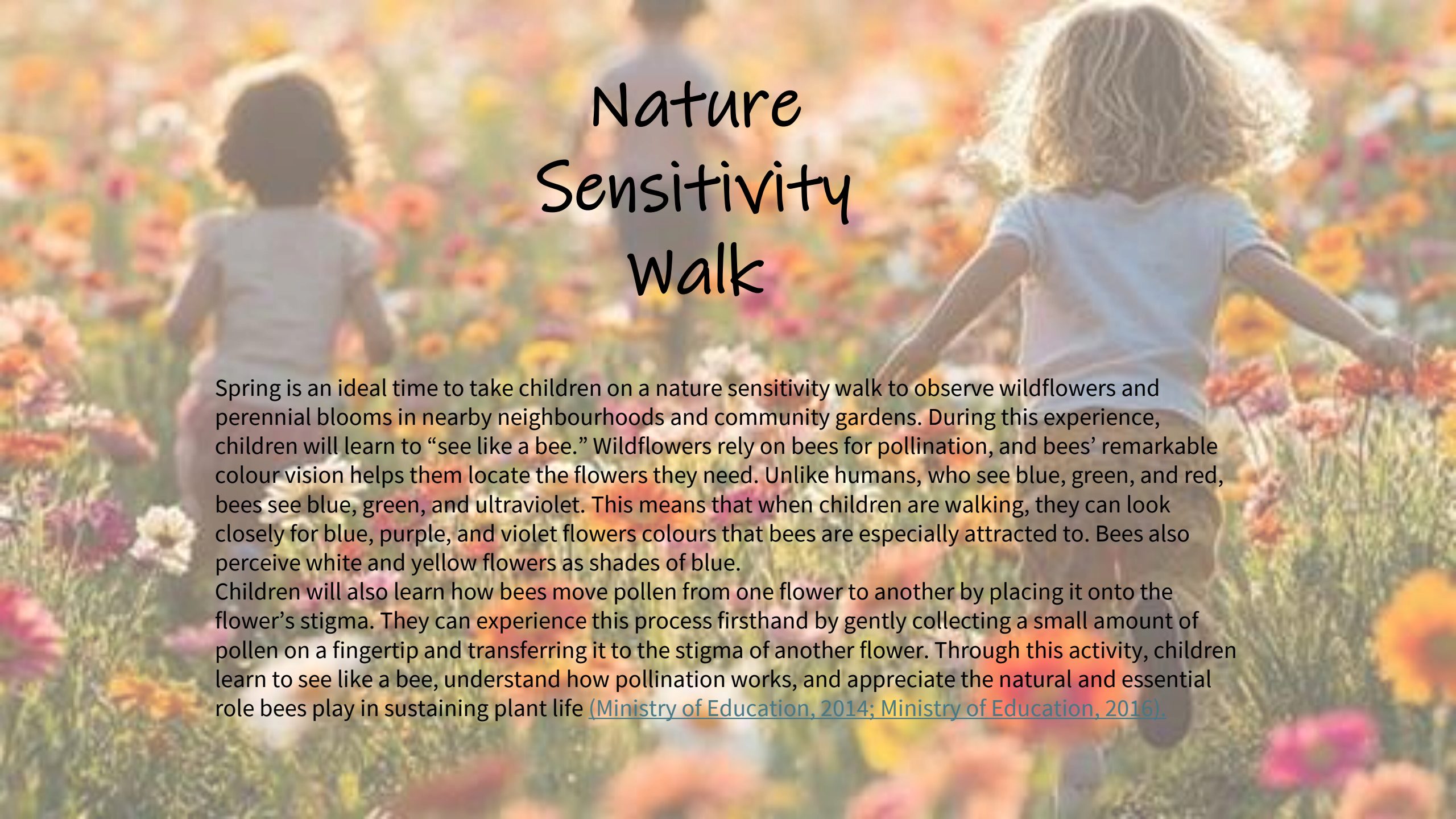
Why Do We Need Bees?



what a Bee Actually Sees

Bees have 2 huge compound eyes. Each compound eye is made up of hundreds of single eyes (called ommatidia). Each of those ommatidia sees a part of the larger image. The bee does not see a lot of little pictures. It sees one overall picture that is pixelated. They see a grid composed of dots of light that together form an image. They see a mosaic of one image, not hundreds of tiny images!



A background image showing three children running through a vast field of colorful wildflowers. The child in the foreground on the right is a girl with blonde hair, wearing a light blue shirt and dark pants, running away from the camera. To her left, another child is partially visible, also running. In the background, a third child is seen. The field is filled with a variety of flowers in shades of orange, yellow, pink, and purple, creating a vibrant and natural setting.

Nature Sensitivity Walk

Spring is an ideal time to take children on a nature sensitivity walk to observe wildflowers and perennial blooms in nearby neighbourhoods and community gardens. During this experience, children will learn to “see like a bee.” Wildflowers rely on bees for pollination, and bees’ remarkable colour vision helps them locate the flowers they need. Unlike humans, who see blue, green, and red, bees see blue, green, and ultraviolet. This means that when children are walking, they can look closely for blue, purple, and violet flowers colours that bees are especially attracted to. Bees also perceive white and yellow flowers as shades of blue.

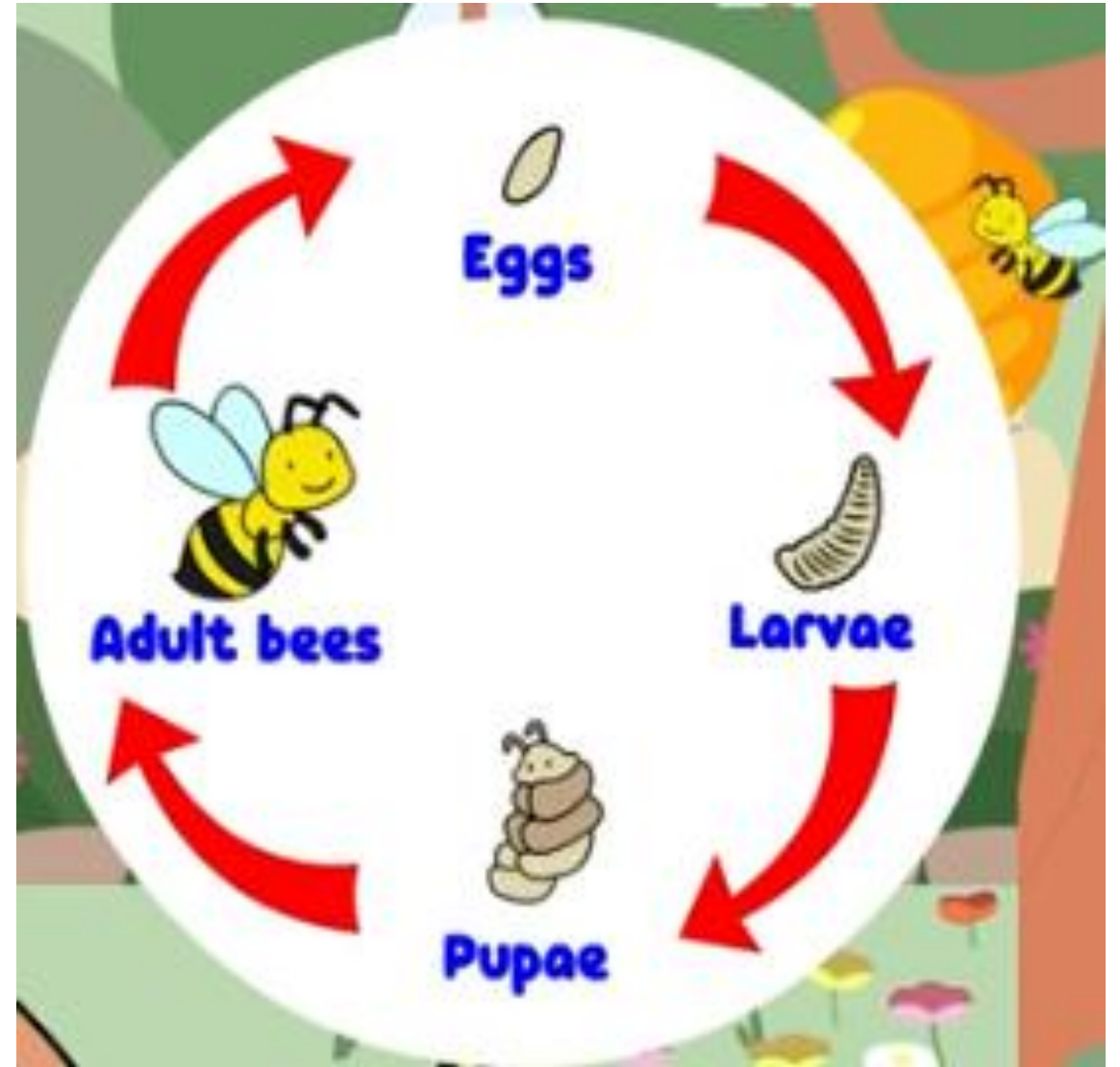
Children will also learn how bees move pollen from one flower to another by placing it onto the flower’s stigma. They can experience this process firsthand by gently collecting a small amount of pollen on a fingertip and transferring it to the stigma of another flower. Through this activity, children learn to see like a bee, understand how pollination works, and appreciate the natural and essential role bees play in sustaining plant life ([Ministry of Education, 2014](#); [Ministry of Education, 2016](#)).

Bee Life Cycle and Anatomy

The bee undergoes a four-stage life cycle beginning with the egg, progressing to the larva and pupa, the bee forms a cocoon that protects it while it transforms. Children will learn to name and sequence each stage (Ministry of Education, 2016). They will also explore bee anatomy through multimodal resources, including books, videos, diagrams, and sensory art activities where children draw, label, and model the bee's body parts using coloured playdough (Ministry of Education, 2014, 2016).



Life Cycle of a Bee





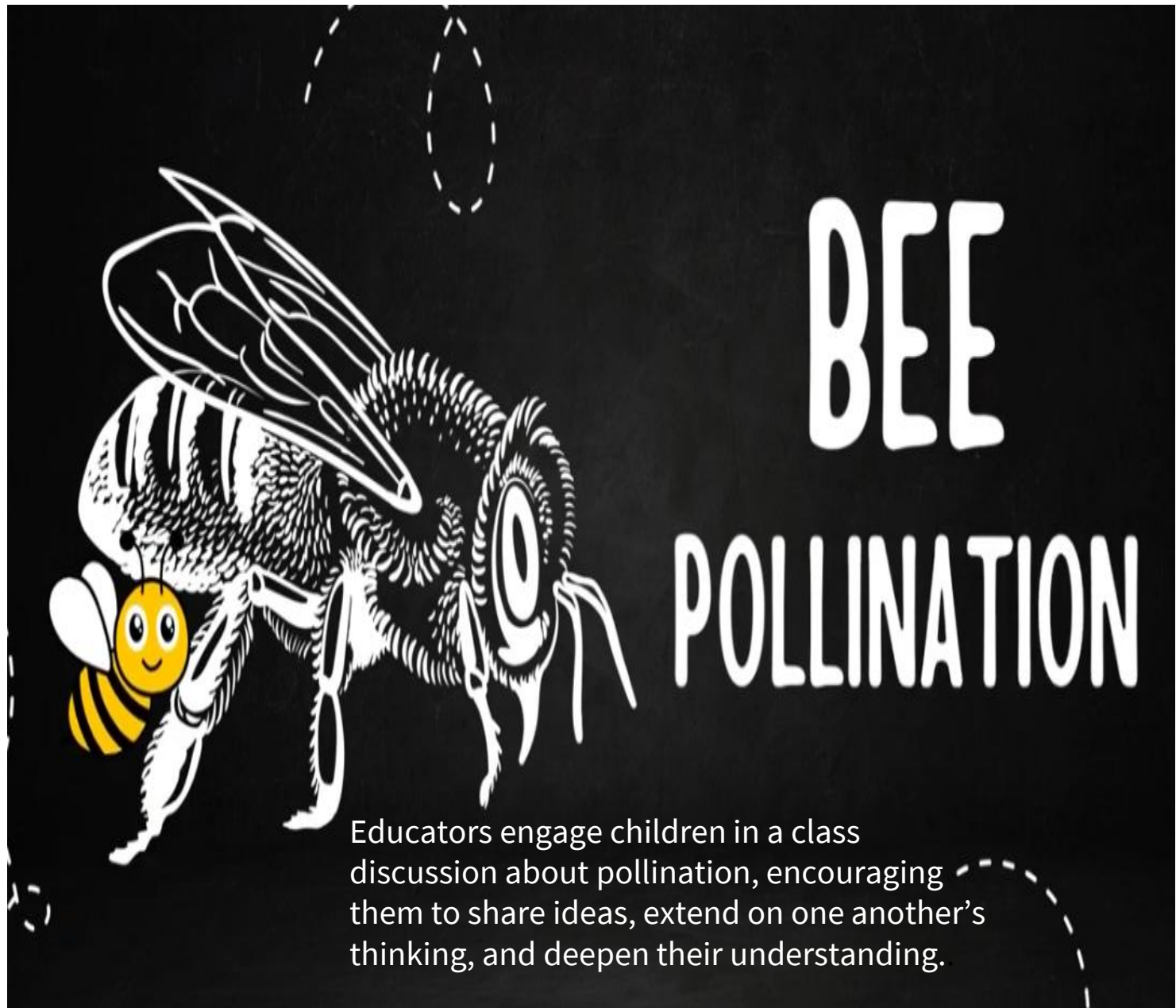
Invitations to Bee Manipulatives, Books and Picture Fact Cards

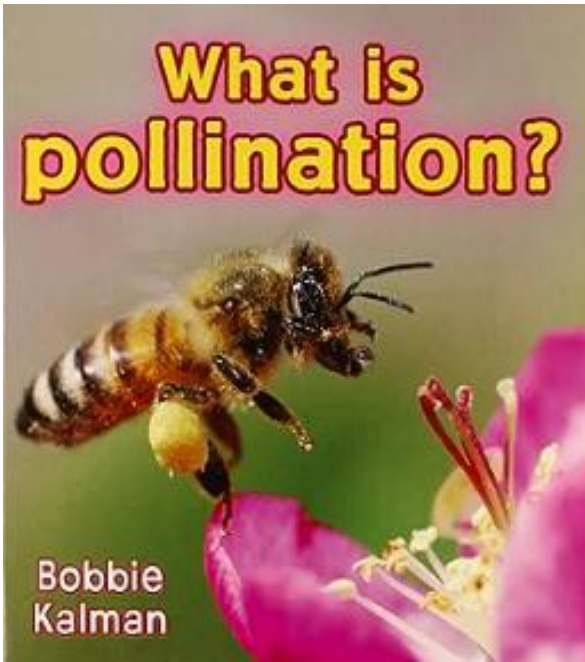




Protecting Our Native Pollinators







Bees Are Pollinators

Children will learn that all pollinators play a vital role in supporting biodiversity, sustainability, and the economy. When crops are pollinated, they become a primary source of human food ([David Suzuki Foundation, 1990.](#)). Pollinators are essential to our food security and overall survival. To deepen this understanding, children will participate in a hands-on experiment that demonstrates how pollination occurs (Ministry of Education, 2016).

Using black paper, yellow and orange paint, and bubble wrap, children will dip small squares of bubble wrap into paint and press them onto the paper to create cone-shaped prints, representing how bees transfer pollen (Ministry of Education, 2014, 2016). This activity can also be adapted using powder to simulate the movement of pollen from one area to another. Through these experiences, children learn how pollination and cross-pollination work.



A close-up photograph of several lavender flower spikes. The flowers are a vibrant purple color. Several bees are visible, interacting with the flowers. One bee is prominently featured on the left, facing left. Another bee is on the right, facing right. A third bee is in the center, facing down. The background is a soft, out-of-focus purple, creating a sense of depth and immersion in the natural environment.

Children will routinely immerse themselves in the natural environment in nearby parks and trails, engaging in sensory-rich outdoor exploration. These experiences will be interactive and foster inquiry, inviting children to use their senses as they investigate the natural world and take part in a quest to identify native flowers and their pollinators through in-the-moment learning (Ministry of Education, 2014, 2016).

These experiences will build the foundation for deeper learning through circle discussions and hands-on activities that strengthen children's understanding of ecosystems, biodiversity, and the essential role bees play in sustaining life and supporting human wellbeing (Ministry of Education, 2016).

The Honeybee: A Reciprocal Relationship

Bees' relationship with their surroundings teaches us of the importance of shared care and responsibility and their pollination work shows how reciprocal connections nurture ecosystems and biodiversity. ([Indigenous Climate Hub, 2024](#)).

Bees adapt to each season and live in balance with the environment's natural cycles, using resources wisely. Their need for blooming flowers and plants reveal how living things are interconnected in supporting life on Earth. (Indigenous Climate Hub, 2024).



(National Geographic Kids, n.d.)

Save The Native Bees



[Save The Native Bees by Bethany Stahl](#)

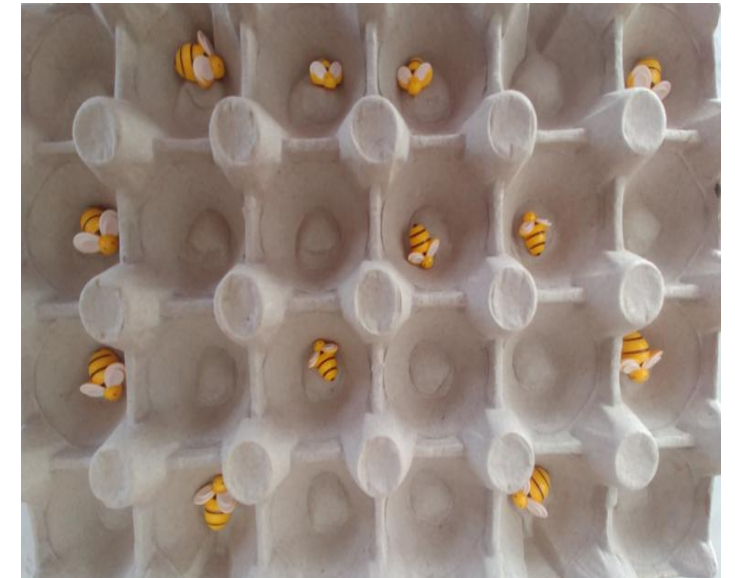
Educators encourage children to discuss and share information about the different types of native bees, where their habitats are located, and why these bees are vital pollinators.



Bee Activities



Additional class activities offer children extended learning opportunities which connect to the kindergarten program expectations in sensory exploration, the arts, literacy, and mathematics. These activities foster mathematical thinking through counting, classifying, sorting, identifying shapes, and patterning. They also support the development of fine motor skills such as using tweezers to grip corn kernels to place into pasta tubes or grasping small cardboard shapes to imprint onto paper (Ministry of Education, 2014, 2016).



Movement Break Activity

Children can dance to this informative video about bees which promotes physical movement, social interaction, and a sense of belonging.



[Busy Bee Song for Kids | Wiggle Waggle Bee Dance](#)

"Bee"ing Creative: Thumb and Footprint Art



Invite children to engage in art opportunities which foster creativity, imagination, and self-expression.

Meditation Time

Bedtime: Robin Wall Kimmerer - Whispers of Sweetgrass and Moss

Robin Wall Kimmerer is an Indigenous renowned botanist, professor of environmental biology, and member of the Citizen Potawatomi Nation.

"Knowing that you love the earth changes you, activates you to defend and protect and celebrate." Robin Wall Kimmerer (2013, p. 124)



Fostering routine meditative time supports children's sense of wellbeing and self-regulation. Whispers of Sweetgrass and Moss by Robin Wall Kimmerer fosters inner calm and encourages children to listen with their senses to how the natural world communicates.

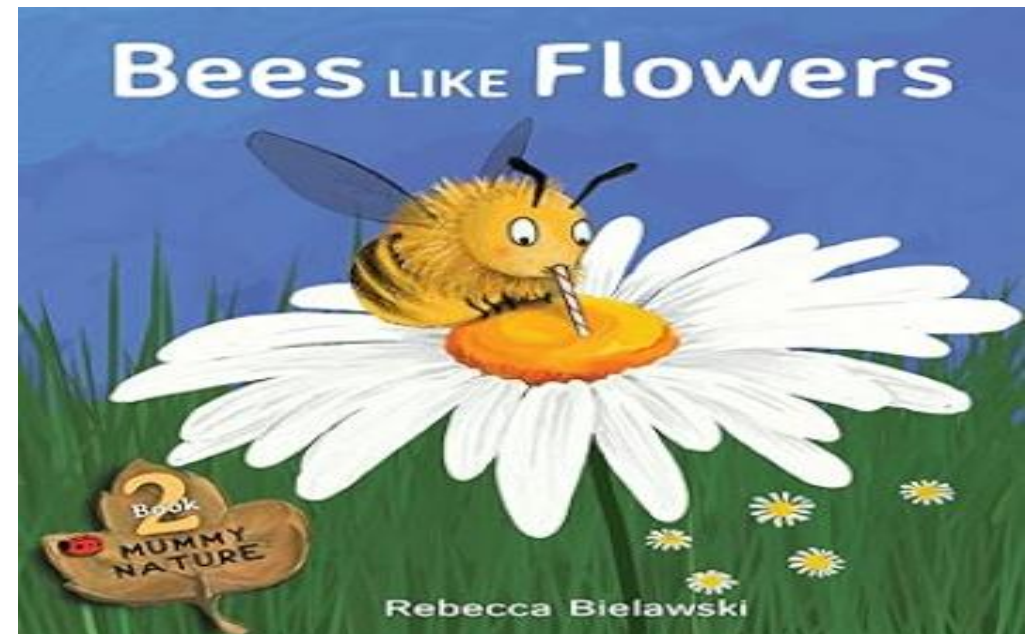
This podcast can be listened to in segments and revisited, which helps children develop a deeper understanding of the narrative.



As children express their thinking and understanding about bees through literary stories, educators can assess their knowledge and determine how to support their learning.



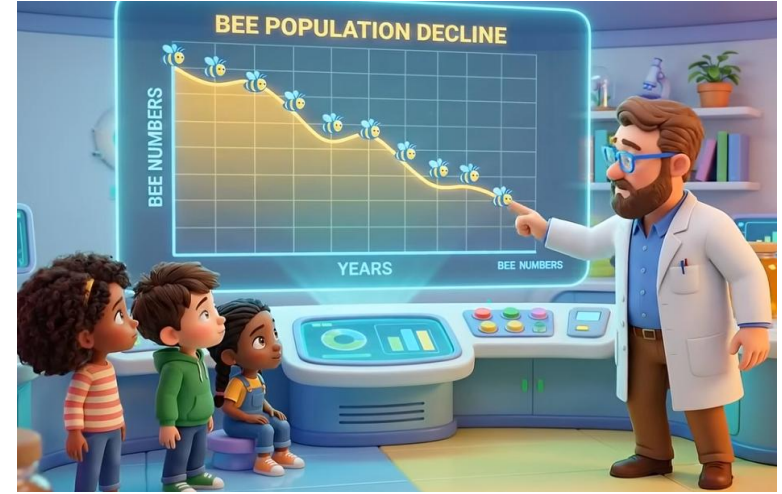
[Home Is Where the Hive Is](#)



[Bees Like Flowers](#)

What If There Are No Bees in the World?

Why Bees Matter to Life on Earth



[What if There are No Bees in the World | Why Bees Matter to Life on Earth](#)



Although honeybees are integral to agriculture and our eco system, all bees gather nectar and pollen and they transfer pollen grains from flower to flower, meaning that they are important pollinators for any garden, and encouraging them into it has huge benefits. One great way to do so is to provide nest sites and you can do this using everyday objects.



Build a Solitary Bee House

Educators will support children as they create their own recycled bee house.



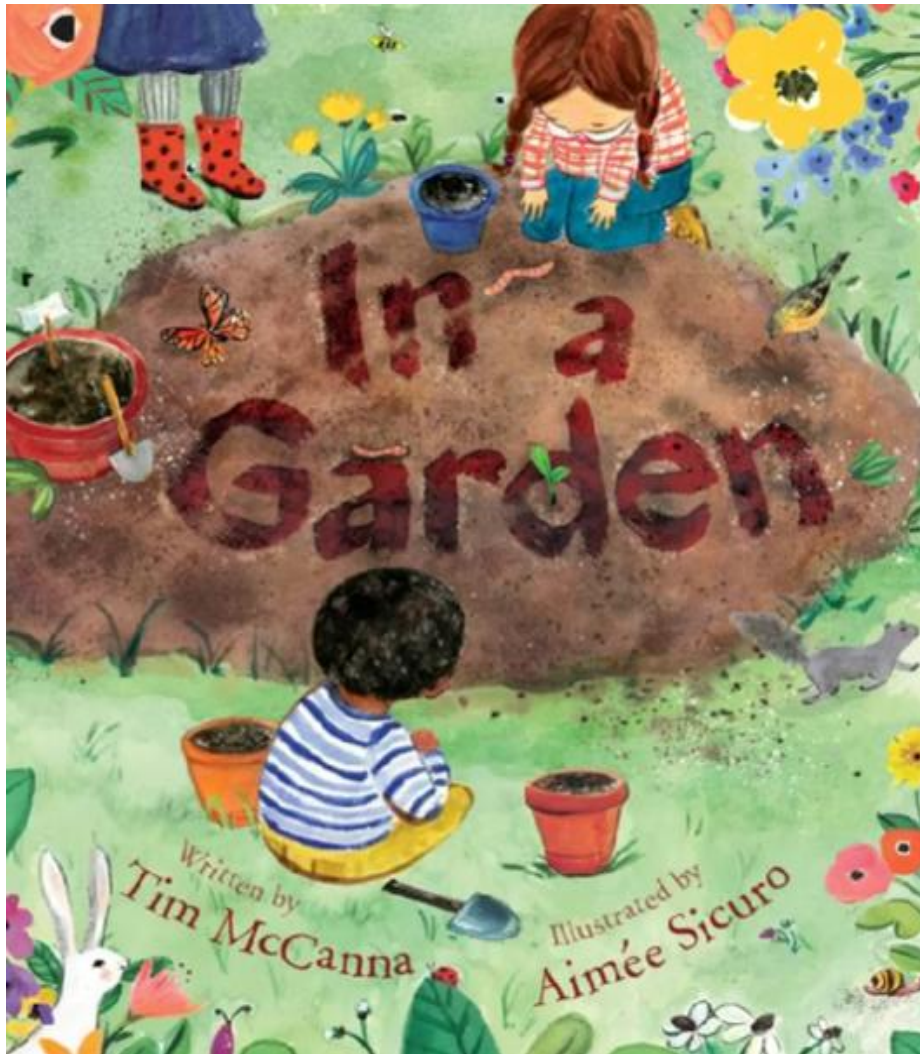
Making a Solitary Bee House

Native bee's nests are found in either in hollow stems, twigs and in wood crevices referred to as cavity nesting and many solitary bees live under the soil, which is known as ground nesting. Children will use recycled and natural loose materials to create their own bee house that they can place near a flower bed in their backyard, where bees can easily find food. This activity fosters learning about an insect's habitat and how we can help protect them from the elements and support their nesting (Ministry of Education, 2014, 2016).

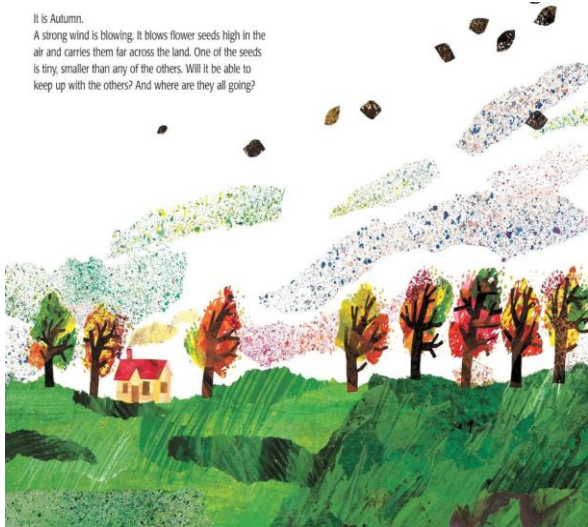
It demonstrates to children a way to help nature's living creatures and support the ecosystem (Ministry of Education, 2014, 2016). Bees get thirsty along with other pollinators; place a shallow water dish with pebbles for them to perch on to prevent drowning (Harries, 2022; Ministry of Education, 2016).



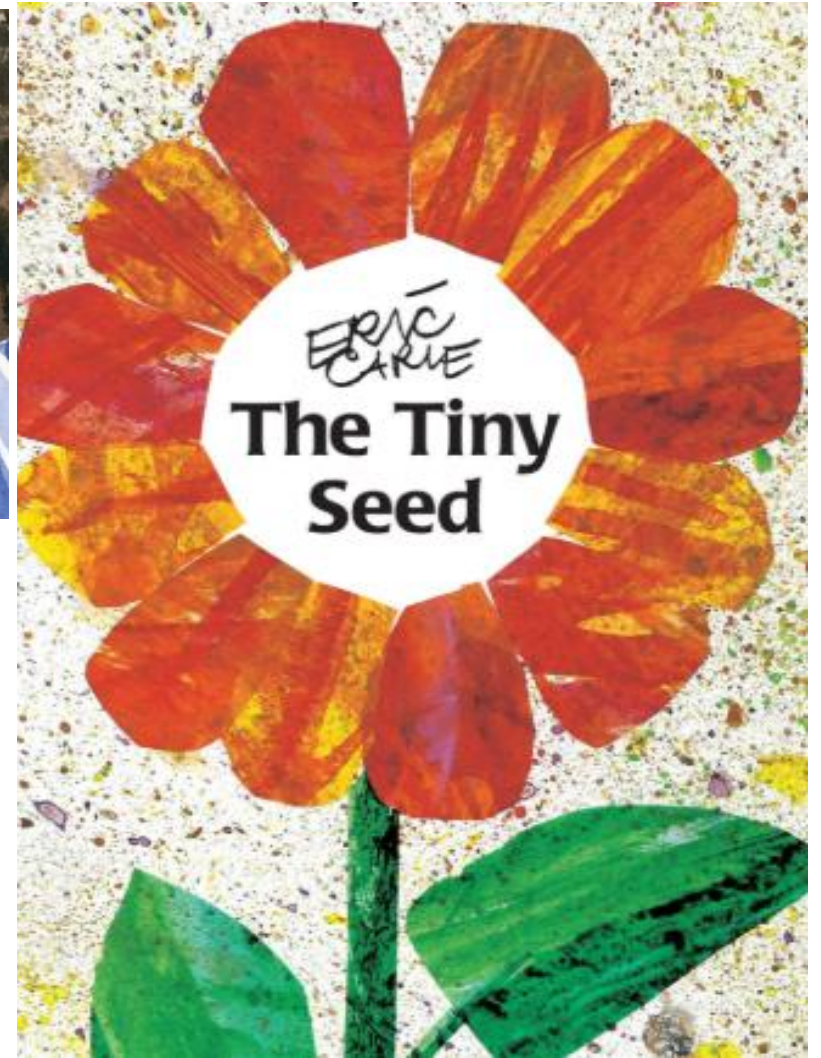
In the Garden: Caring for Nature



[In a Garden](#)



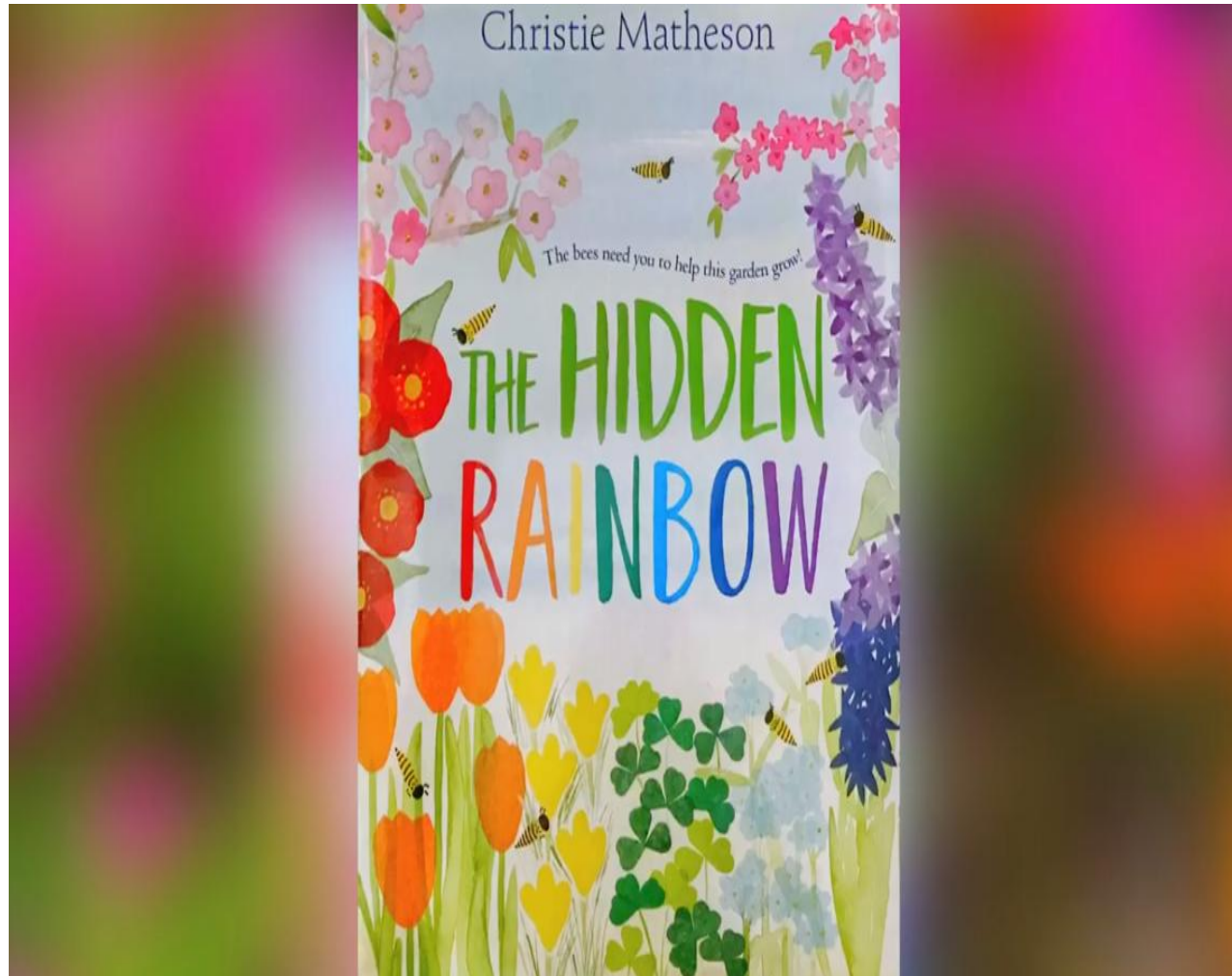
It is Autumn.
A strong wind is blowing. It blows flower seeds high in the air and carries them far across the land. One of the seeds is tiny, smaller than any of the others. Will it be able to keep up with the others? And where are they all going?



[The Tiny Seed](#)

Learning about planting a garden supports children in developing an understanding of the steps involved and the materials needed throughout the process.

The Hidden Rainbow and In My Garden Art Activity



[The Hidden Rainbow](#)



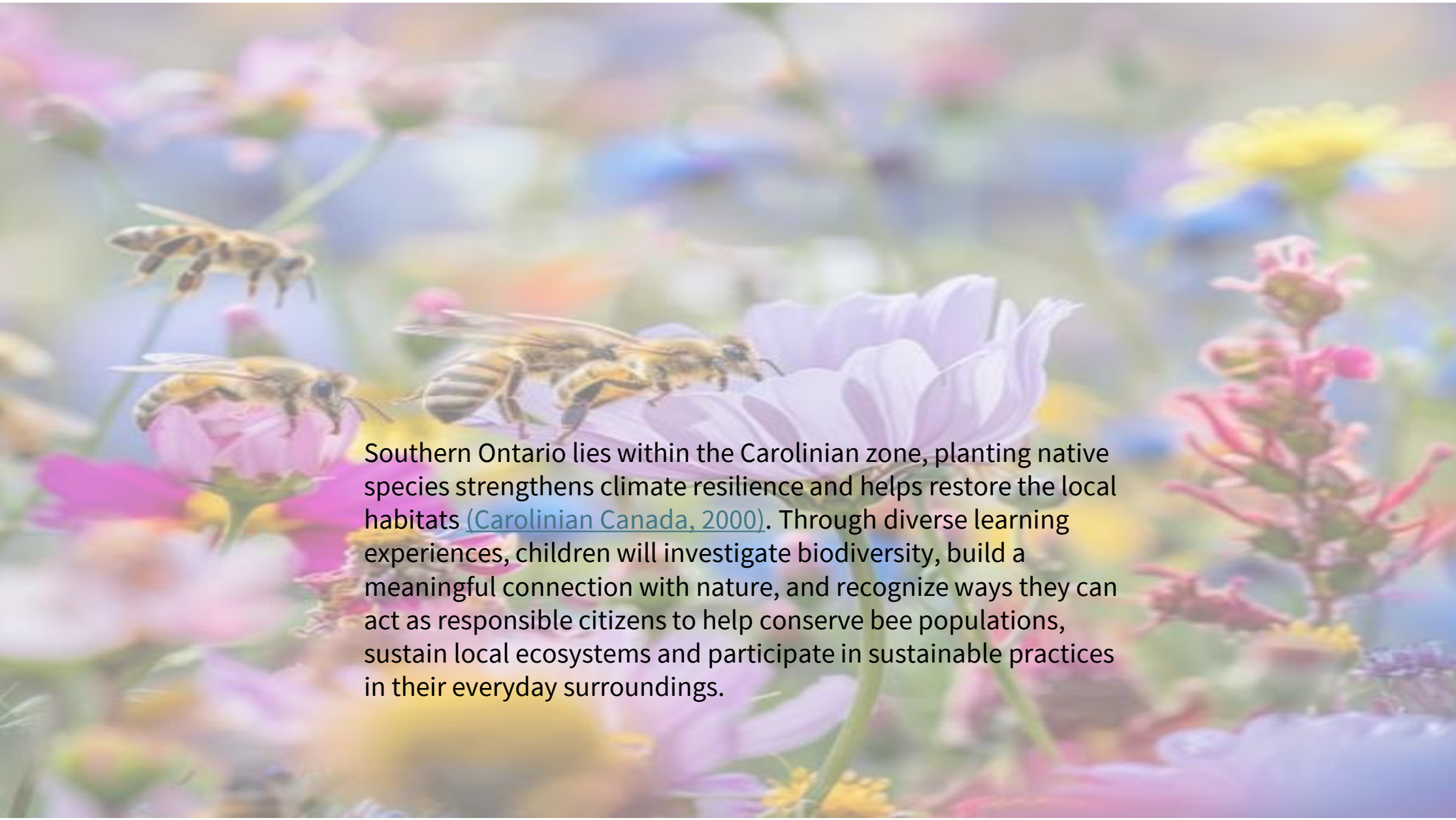
Children will draw their own garden inspired by the ideas and learning from the book *The Hidden Rainbow*.

A collage of various Asteraceae plants, including daisies, asters, and coneflowers, arranged in a grid-like pattern. The plants are shown in various colors (yellow, purple, blue, orange, pink) and forms (single flowers, clusters, seed heads).

A collage of various Asteraceae plants, including daisies, asters, and coneflowers, arranged in a grid-like pattern. The plants are shown in various colors and stages of growth, with some close-up shots of individual flowers and others showing the whole plant.

A collage of various Asteraceae plants, including daisies, asters, and coneflowers, arranged in a grid-like pattern. The plants are shown in various colors and stages of bloom.

A collage of various Asteraceae plants, including daisies, asters, and coneflowers, arranged in a grid-like pattern. The plants are shown in various colors and stages of bloom.



Southern Ontario lies within the Carolinian zone, planting native species strengthens climate resilience and helps restore the local habitats ([Carolinian Canada, 2000](#)). Through diverse learning experiences, children will investigate biodiversity, build a meaningful connection with nature, and recognize ways they can act as responsible citizens to help conserve bee populations, sustain local ecosystems and participate in sustainable practices in their everyday surroundings.



Children work together to design and plant a garden of native flowers that support local pollinators and strengthen the surrounding ecosystem. As they plan and determine the sequence for planting the flowers as well as choosing the tools they need, children engage in meaningful problem-solving while learning how thoughtful choices can sustain the natural world. This experience fosters early stewardship and an understanding of their role in caring for the Earth. (Ministry of Education, 2014, 2016).

After identifying the colours that appeal to solitary bees, specific plants are selected to bloom in succession from early spring to late fall, providing bees with a continuous food source throughout the seasons. When children understand that bees pollinate the plants that feed us and that we can support bees by providing reliable food sources, they begin to see how living things depend on one another within an ecosystem.

This knowledge fosters nature connectedness, respect for biodiversity, and a sense of responsibility as young citizens who contribute to environmental sustainability.

Creating a Native Flower Garden



“Where there are bees there are flowers, and wherever there are flowers there is new life and hope.”

Christy Lefteri

Field Trip

Coordinating a nature field trip will extend and deepen children's understanding of, and connection with the natural world. Children visit the Royal Botanical Gardens and participate in a guided program called *Making Sense of Nature* (Royal Botanical Gardens, n.d.). This experience involves interactive hikes, walking, and observing the surrounding environment, all of which foster a healthy connection to and appreciation for the natural environment. Children will engage in sensory activities; observing new sights, sounds, smells, and textures as they explore nature (Ministry of Education, 2016).



Potential Learning Outcomes

Competencies

- Caring for all living things in the ecosystems
- Cognitive awareness that living creatures help humans
- Understanding how bees support ecosystems and why they are essential to our food resources
- Emotional growth and empathy development
- Creating homes for insects
- Identifying native flowers
- Planting flowers and utilizing garden tools
- Maintaining a flower garden

Conceptions

- Sustainability
- Pollination
- Environmental awareness and protection
- Pro-environmental practices
- Support the growth of local ecosystems
- Biodiversity
- Conservation
- Stewardship

Plant flowers, save bees, change the world.

The Kindergarten Program

Learning Goals

Belonging and Contributing

OE4 Demonstrate an ability to use problem-solving skills in a variety of contexts, including social contexts.

OE 28 Demonstrate an awareness of their surroundings.

OE 29 Demonstrate an understanding of the natural world and the need to care for and respect the environment.

Demonstrating Literacy and Mathematic Behaviours

OE 1 Communicate with others in variety of ways for a variety of purposes and in a varying context.

OE11 Demonstrate an understanding and critical awareness of a variety of written materials that are read by and with the educators.

OE10 Demonstrate literacy behaviours that enable beginning writers to communicate with others.

OE15 Demonstrate an understanding of numbers, using concrete materials to explore and investigate counting, quantity, and number relationships.

Self Regulating and Well Being

OE2 Demonstrate independence, self-regulation, and a willingness to take responsibility in learning and other endeavours.

OE4 Demonstrate an ability to use problem-solving skills in a variety of contexts, including social contexts.

OE8 Develop movement skills and concepts as they use their growing bodies to move in a variety of ways and in a variety of contexts.

Problem Solving and Innovating

OE13 Use the processes and skills of an inquiry stance (ex. questioning, planning, predicting, observing and communicating).

OE14 Demonstrate an awareness of the natural and built environment through hands-on investigations, observations, questions and representations of their findings.

OE23 Use problem-solving strategies, on their own and with others, when experimenting with the skills, materials, processes and techniques used in visual arts.

OE24 Use technological problem-solving skills, on their own and with others, in the process of creating and designing (ex. questioning, planning, constructing, analyzing, redesigning and communicating).
(Ministry of Education, 2016)

A Final Thought

Know the ways of the ones who take care of you, so that you may take care of them.

Introduce yourself. Be accountable as the one who comes asking for life.

Ask permission before taking. Abide by the answer.

Never take the first. Never take the last.

Take only what you need.

Take only that which is given.

Never take more than half. Leave some for others.

Harvest in a way that minimizes harm.

Use it respectfully. Never waste what you have taken.

Share.

Give thanks for what you have been given.

Give a gift, in reciprocity for what you have taken.

Sustain the ones who sustain you and the earth will last forever.

Robin Wall Kimmerer (2013, p. 183)