

The Project Approach to Learning at

RisingOaks
Early Learning | St. Matthew

Project Name: Tiny Creatures- A project about Insects

Age Group: Preschool- 2.5years to 4 years

Project Start Date: May 2021

Project End Date: September 3, 2021



RisingOaks
Early Learning

Growing minds through play

Background

This project started early May 2021, and ended at the end of the summer, Sept 3, 2021. Heather, Adeena, Courtney and Rukmanie were the RECEs facilitating this project with the preschool children. For July and August, educator Adeena was in Summer Camp, while other staff assisted with the project research during the summer. The preschool children range in age from 2.5 years to 4 years of age.

Phase 1: Beginning the Project

Early May 2021 the children noticed all the little Insects out on the natural playground. It started with ladybugs climbing up the tree (the first one was observed closely and named "WonderLamb" by the children), to the worms on wet days (these were names Herman1, 2, 3 and so forth by the children), and many "pill bugs" found crawling in the dirt. The children had a variety of questions that were about several little creatures. "How are spider webs made?", They wanted to learn about beetles, spiders and ants. "How do bees sting?", "How do ladybugs fly?", "What kinds and colours are butterflies?", "How do you hold them (Insects)?", "What do they look like?" With all these questions being about a variety of Insects, we then moved forward to learn what we could about these particular ones. By observation, it was noticed that they children were eager to learn how to get up close and even carefully hold the bugs they were interested in. The preschoolers shared with their educators that they already had some Insect knowledge from previous experiences. They listed that they knew "flies are Insects", Insects "crawl on the floor", that "some fly and some don't" and lots more! All the Information can be viewed in the picture of the list below.

Phase 2: Developing the Project

First drawings

At the start of our project, the children created drawings based on characteristics of Insects that they have observed while exploring outside. Mya, Alexis, Colin and Zoe drew their favourites Including ants, centipedes, ladybugs and spiders; describing their characteristics through free hand drawings. When asked what each were, the children described each line and scribble, indicating where the body was located.

Second drawings

As we progressed through the project, the children revisited drawing the insects again. They had the opportunity to think back to their experiences to each Insect they came across and learned about. Lily, Andrea and Emma enjoyed drawing their favourite Insects, which consisted of ladybugs (orange/black ones) and roly-poly bugs. This time, the children were able to clearly depict each Insect by making circular portions of the body as well as adding the limbs and other parts of the body.



How are spider webs made? / Learn about spiders

To answer this question, we watched a video of a spider spinning its web. The children and educators were amazed to see the web come out of the back, but even more so, that the spider used its legs to place the web in the correct position before continuing around and around in a circle to build its full web. During the video, the spider took a break to visit the middle of the web and wrap up a fly that was caught.



The children also made their own spider webs to learn about webs in a hands on approach. Heather provided them with black paper, white paint and marbles. Some rolled the marbles through the paint to make spider web lines, others used their hand to push them through the paint to make the webs.

Learn about beetles. *Field Study*

The children learned about beetles as we walked through the forest and searched for bugs to observe. One day, educator Adeena gave the children paper, crayons, magnifying glasses and paper cups to find, then draw, and count the Insects they discovered. Beetles were some of these bugs. They noticed that some of them were black with a shiny green look on their back. They discovered that they had 6 legs (by counting them), and three body parts. They were especially interested in the shiny green tint on some of the beetles.



How do bees sting? *Expert guest over Zoom*

The children have also shown growing interest in learning more about how and why bees sting us. They explored some other facts about bees during our research on bee stings. Sam began a big conversation about some of his past experiences with bee stings and indicated on his body where he was stung, while mentioned that his mommy had also been stung too and it hurt a lot! To answer our question about why bees sting, educator Courtney came across a video that played a scenario about the reason why. The scenario showed individuals disturbing the beehive and the bees became very protective of themselves and stung the individuals as a result. The children all agreed that bees only sting when it's absolutely necessary, but typically fly away from us if we don't bother them. Lily said, "We just need to stay still and they will fly away!" We made a little chart with the definition of bee stings and why they happen for future reference.

Catherine from "the Backyard Honey Company" was invited to share her knowledge of bees with the preschoolers over a zoom visit. During the time she spent with the children, she shared information about how bees make honey, where they store it and what they use it for. She answered the question about "why" and "how" bees sting. The children found out that bees only sting when they are scared or upset. If they sting a person then they die, and they typically try to keep doing their work and not bother people. Unlike bees, everyone discovered that a wasp can sting many times, like sweet people food and drinks and will come close to humans because of this.

One of the children's favourite pictures that Catherine shared was a honeybee covered in pollen! The preschoolers described the pollen as "yellow bubbles" that covered the insect. When they saw the pictures of the honey, comments were stated about how the colour almost looked brown.



After the presentation, Catherine gave the children a chance to ask any questions or share comments with her about their discoveries. They learned a lot about bees during this time!

How do ladybugs fly?

Educator Heather shared a short National Geographic video on this subject. The children were curious how ladybugs fly since they seem to be a land insect that had a hard-looking shell. Where are its wings? This seemed to be the underlying question. Dragonflies, Butterflies and many of the other insects that the children have discovered that fly, have wings that are easily identified on the species. The video slowed down the process of how a ladybug flies. It showed the ladybug opening its red shell to then let its wings pop out. The wings were clear, and unfolded themselves to pop out and were almost twice the length of the bug itself! The children were amazed! Later the children painted rocks they had collected from the forest to look like creative ladybugs. Some were red with eyes and black spots. Others were painted half-red and half-black, with googly eyes that the children hot glued in place. Some even turned into beetles after being painted black.



Kinds and colours of butterflies

Over a few weeks in the summer, we had a butterfly habitat in the room for the children to observe. The program room was blessed to even have a monarch caterpillar donated by a previous educator of the Early Learning Centre (Thanks Joanne!). This black, white and yellow striped caterpillar was a hungry, hungry caterpillar! The more he ate, the more these black balls showed up in the cage. The children were curious about these and wanted to know what they were. The educators explained that the caterpillar seemed healthy since he was eating many milkweed leaves. We were able to then identify that the balls were him pooping after he finished his meals. More and more milkweed was added to his habitat, and the children were thrilled to watch him eat so much! Weeks after he joined the class, he made a change. The caterpillar was gone and replaced by a green and gold lined chrysalis! The children marveled at this amazing change! He was again watched each day until one day, the chrysalis turned black and the monarch butterfly's wings were seen through it. That happened two days before the August long weekend. That weekend Educator Heather took him home and on Saturday around noon Lemon, (the name the children voted for this butterfly) came out! As he was released at Heathers house, both video and photos were taken and then shared with the class on that following Tuesday so they could experience this moment too.

To learn more about other butterflies, a video from the Butterfly Conservatory in Cambridge was showed to the children on the iPad. They children watched and listened as someone explained information about Owl butterflies, and they saw one emerge from its chrysalis and pump its wings up with liquid and curl and uncurl its tongue to prepare for its flight.

One day, the children, alongside educator Courtney were still curious about all the various types of butterflies and came across a chart for reference! The chart Included the following: Variegated Fritillary, Queen, Two-Tailed Swallowtail, Zebra-Longwing, Zebra Swallowtail, Spicebush Swallowtail, California Tortoiseshell, Red Admiral, Morning Cloak, Anise Swallowtail, American Painted Lady, Eastern Tiger Swallowtail, Baltimore Checkerspot, Black Swallowtail, California Dogface, Arizona Sister, California Sister, Colorado Hairstreak, Monarch, Gulf Fritillary, Common Buckeye, Karner Blue, Malachite and Orange Giant Sulphur. There are SO many various types and species around the

world! The chart was posted in the classroom, so the children can refer and reflect back to it throughout the duration of the project.



How to hold Insects.

With Insects being a growing interest for the children, they wanted to see and learn all about them. They wanted to get up close to observe, and with that, they wanted to touch and hold them. The educators ensured to explain to the children that with tiny creatures, they need to be handled carefully. The preschoolers were ready for this task! They were also very eager, so unfortunately, there were some small creature casualties in the beginning. They learned quickly that using their pincer grasp to pick them up ended up hurting and squishing them. Instead, they learned to use a more patient approach. Holding their fingers out in front of the crawling bugs sometimes worked to get them to crawl into the children's hands. They also learned that placing a stick or the end of a small shovel would also encourage them to crawl on those items so the children could lift them up and observe them more closely. This became not only a lesson in how to handle small creatures, but also it was about patience, gentleness and kindness. This was practiced throughout the entire project.



What they (Insects) look like (especially ladybugs and beetles)

Through, pictures, books, iPad videos, art, and experience with insects outside, the children gained knowledge on what many bugs look like. The colours they are, the size, whether or not they have wings was discovered during this process. Educator Heather assisted with a chart. This was done to highlight which bugs are "true insects". It was established that a true insect has 3 body parts (head, abdomen and thorax) and 6 legs to differentiate insects from other types of bugs. With cut out pictures, the children sorted them into "true insect" and "other bug" areas on the chart.

Art was also implemented as the medium to demonstrate what the Insects look like. Rukmanie assisted the children with developing their creative and fine motor skills as they used everything from paint, glue, glue guns, paper, and papier-mâché to make a variety of insects. A large dragonfly was made out of paper-mâché. The children used tissue paper and glue/ water mixture to create the layers. When he dried, they worked to add a shiny coat of blue/green paint.

Our Interest in dragonflies continued as we made dragonflies using clothespins, paint, pipe cleaners and a hot glue gun to secure the wings! During this time, the children carefully painted their clothespins with their desired colours and set them away to dry. The next day, educator Courtney demonstrated to the children how to create wings by twisting and stretching the pipe cleaner into a circular shape. Mya, Lily, Phoenix, Max, Zoe and Westley attempted creating their own circular shapes before eventually assembling them. Once our dragonflies were dry, the children used the hot glue gun with supervision to attach their 4 wings!

Bees were made from jars. The preschoolers, with supervision, used a glue gun to add the black stripes across a yellow paper before it was inserted into the jar to show the colours of the bee and then paper wings were added so they could fly!

Little honey bees were constructed from black and yellow pompoms, paper black stripes, and paper wings. They were fully assembled with a glue gun. As the children used the glue gun more often, they continued to build their confidence with this tool and boost their self-esteem with this new capability. A beehive was also assembled for the little bees to buzz around. A large brown flowerpot was painted yellow. Then yellow netting was added to give texture and finally a door was glued in place.

Ants were created from cut plastic containers that the children painted black. They had three body parts to represent the head, abdomen and thorax. Then they used a glue gun to add six paper legs, antenna, googly eyes and a paper mouth. The children were also very intrigued by spiders! Some showed a love of them, while others wanted to see them from afar. They showed curiosity about them, but only some wanted to get close to this creature. In the room a string web was added, Rukmanie helped the children paint a bowl black before adding large paper legs, eight of them of course, and a small bowl was also painted black before features were added. This big spider was hung up in the corner of the room along with several flies trying to escape from him. The flies were plastic jars, also painted black by the children. Hot glue was used again to add the googly eyes of the child's choice, 6 legs, wings and antenna.

After Educator Heather assisted the children create a large sunflower made from gluing brown tissue paper on a brown circle. Yellow petals were painted individually and added to the giant sunflower. What kind of Insects would like to visit the flower? Bees of course! The children painted clothes pins and wrapped them with yellow paper before adding little black wings. These little bees covered the flower! Paper dragonflies, and ants were painted lots of bright colours before also visiting the sunflower. Ladybugs were one of the first Insects noticed by the children, so they could not be forgotten! With Rukmanie, the children painted yogurt containers red and black Paper spots and legs were glued on, as well as googly eyes and happy red mouths.

After the children had created many different kinds of Insects, it was time for them to use their wonderful Imagination combined with the knowledge they learned to create their own bug! Heather provided the children with clay, pipe cleaners, gimp, shiny sequins and more. The children worked hard to imagine their bug, the colors, the features, the design, and then they used their Imaginations and fine motor skills to bring their creature to life! Lily, Emma, Mya, Audrey, Zoe, and Claire made a variety of butterflies. They had wings, legs, and some unique features too! Mya said her butterfly was a monarch. Lucas made a "mixed up centipede" and Alexis made three baby centipedes! Sam and Colin created ladybugs. Sam's had legs, a stomach, head and eyes. Collin's had legs and two spots. Silas started with a worm, and then changed his into two mosquitos! He warned us to watch out for them! Layla made a "special Insect

for Adeena", adding lots of sparkles. Sloane designed a "secret bug", and then decided It was actually a praying mantis! Andrea made a flower; she even mentioned It was "for the bees". Gavin chose to make a "true Insect", Including three body parts, and six legs! Max brought a new bug into existence and named it a "flutter unicorn" bug. He explained that this bug flies, has wings, and of course a purple magical unicorn!

The children have enjoyed creating their own Insects a lot, so educator Courtney created all their favourite Insect cutouts. Holes were then added throughout the bodies of each Insect and gimp was secured on tight, so the children could weave through each hole in different ways. The children focused with intent while they ran the gimp through each hole with their fingers, threading It through. This activity strengthens the children's fine motor abilities and their hand eye coordination.



Phase 3: Concluding the Project

To celebrate the end of the Insect project we started the day with a walk to the forest. The children were ready to search for a variety of Insects. Any bug that was found was carefully picked up and brought back to the preschool room for the end of project celebration! We were having an "Insect Petting Zoo"! The Insects were then separated into jars and displayed on the tables, while magnifying glasses were made available. The children moved around the tables and stopped to observe, discuss and hold the different Insects. There were worms, beetles, slugs, spiders, pill bugs and more. The children used their identifying language as the slugs were described as "slimy" and even "scary". The worms were the children's favourite one to hold, and were given names and showed off to others as they were carried in the children's hands. The spider crawled all over hands and even up one child's back and neck! He described the feeling, saying the spider "tickled" him. The children showed incredible patience and gentleness with the tiny creatures. It was a great way to end the project by getting up close with many tiny Insects!



Teacher Reflections

I always enjoy observing the children as they learn through play. They discover amazing things about the world around them. This time their Interest was Insects. Not one in particular, but all the small creatures we refer to as bugs. They picked up Information about them. Learning that true Insects have three body parts (head, thorax and abdomen) and 6 legs. They learned many of the bug names, even some tricky ones that they do not encounter often. Rather than just learn all about a subject, memorizing facts and finding new Information, they ended up with even more growth in the end. Kindness. Gentleness. Patience. Respect. The project started with a love of bugs. It ended with the children continuing to build on their empathy skills. They wanted to learn how to handle the Insects. In the beginning, unfortunately, some tiny creatures were squished as the children attempted to handle them. This happened far less in the end. With some guidance initially, the children learned ways to pick them up. Strategic placing of a small shovel or holding out their finger, the preschoolers waited for the ants, ladybugs, and pill bugs to crawl up on them so they could get a closer look at the little creatures. Sometimes it took several tries, or long waits for this to work. Patience and persistence were demonstrated during this time. When they finally lifted up the Insects, they let them crawl all over their hands and moved their hands around to help the bug find its way and stay balanced. If an Insect was ever hurt in the process. This became a discussion between the children. "Aww, poor little bug", "Be careful. " and "Don't hurt him." were advise shared between the children. The insects were always returned to their "home" to the playground or forest floor where they were discovered. The children showed great compassion in this project. They showed they care about the world around them. Most of them are only 3 and 4 years old, but they demonstrated at a young age you can do so much!

Heather, RECE

I thoroughly enjoy watching the wonder in the children's eyes when they learn about new aspects. What started out as finding various bugs and Insects outside in the dirt during outdoor play, turned into a really cool project! During this time, the children were super interested in the many characteristics of each bug/Insect that they found and wanted to look further into it to gain more knowledge! Gabriel and a few others cared for them by creating "homes" for them and gathered leaves and other things to ensure that they were happy and fed! The children have demonstrated patience and have been very thoughtful, making sure they do not harm the Insects. The children and I discussed why it's important to respect them and gave the children a chance to see things from the perspective of an Insect as we are much bigger and threatening to them. Once beginning the project, the children had so many questions, expanding on their curiosity regarding their purpose in life. The children enjoyed making friends with these little critters and finding different ways to support their living environments through our natural play space! As usual, I always learn several new facts as I progress through projects with children as we learn and grow together!

Courtney, RECE