

The Project Approach to Learning at

RisingOaks
Early Learning

Saint John Paul II

Project Name: Cars

Age Group: Preschool 1 (2.5 yrs – 3 yrs)

Project Start Date: February 2022

Project End Date: June 2022



RisingOaks
Early Learning

Growing minds through play

Background

We started the Car project in February 2022 and finished it in June 2022. There were 27 children that took part in the project, who are 2.5 to 3 years old. The educators involved in the project were April Weatherbee RECE, Amy Smith RECE and Emma Andersen RECE

Phase 1: Beginning the Project

The interest in cars really started to pick up after we had added more cars into our room. The preschoolers used the cars to drive on the floors, walls and furniture. The children were excited to explore with the different types of cars, which created an interest in wanting to learn more about the different types of cars. Educator expectations were surrounding the idea of broadening and strengthening the preschoolers knowledge of what cars are, how they work, and how we can investigate all the different aspects of cars.

1. What do we know about cars?

- Trucks- Kiitan
- Wheels- Zoë
- Windows- LilyJo
- Doors- Alicia
- Seats and seatbelts- Ricky
- Steering wheels- LilyJo
- Some are big and some are small- Ella G.
- I have a cars- Wren
- 3 wipers on them. On the back and on the front- Robbie
- You can drive them and stop them- Alicia
- I go in the car to drive home- Kelsie
- They can drive on the road- Wren

2. What do we want to know?

- Windows. How do they work?- LilyJo
- How to drive them?- Robbie
- How does a car stop?- Alicia

3. Who can we ask?

- Kiitan, Robbie and Wren because they use them!- Zoë
- Maybe a friend in Preschool- Zoë
- Teachers- Alicia
- Mommy and Daddy- Zoë
- Kids- Wren

Before we started our investigation portion of our project we creating a learning web of different ideas that we could explore further to learn more about cars. Some ideas we came up with were the different parts of the car and different types of cars.



Phase 2: Developing the Project

We used a variety of activities and experiences as a means to investigate and research cars in more detail. Throughout this process, we explored different parts of a car as well as how they work. To help answer our questions we used resources such as books and the iPad. We also explored small toy cars, real cars in the parking lot and different car parts.

One morning we offered an activity where the children were able to paint using toy cars. Do you drive in cars to come to school every day? The educators wondered. "I drove in my van," Charli said. "I drove in a car," Alicia said excitedly. The preschoolers choose which car they wanted, and drove it on the paint trays. As pictured below, they drove the car on their papers, and saw what tracks they were making. "Tire tracks!" Emerick said, "Cars use those to drive!"



The preschoolers were discussing what you see on the roads while driving, and they thought about traffic lights. April helped the preschooler's google images of traffic lights, and brainstormed. The children discussed all the different lights they knew about, and what they thought it could be. Robbie noticed the picture from google the lights were red, yellow and green. "Red means stop, yellow means

slow and green means go” Robbie explained. The children wanted to make traffic lights for our classroom, so we got some green, red and yellow paper, and they went to work ripping them up, as seen in the photos below. They worked together to create the traffic lights, and remembered what each colour means.



First Drawings

We invited the children to create drawings of cars as a means to show their current knowledge of cars.



Figure 1 First drawing of a car created by a LilyJo

While talking about cars, the preschoolers were very excited to see what real car parts look like. Educator Amy brought in two different parts and put them on the table for the preschoolers to investigate. Amy explained that the bigger part is a brake caliper, and the smaller part is an air vent. The preschoolers got their magnifying glasses, and continued to investigate the parts, as seen in the photos below. The children were unsure what the parts were for, so we tried to google it for some clarification. We learned that the brake caliper goes near the tires and helps the car to stop. We also noticed how heavy the part was when the preschoolers tried to lift it. "It's heavy because cars are heavy!" Robbie said. We investigated the air vent some more, and Emerick said, "it's for oxygen".



The preschoolers often get their chairs in a line, and the child at the front holds their arms up and acts as if they are driving. What do we need to drive? We wondered. "A steering wheel?" some preschoolers said excitedly. To help enhance their imaginative play, educator April brought in a steering wheel for the children to explore while sitting in their chair line, as seen in the photos below. "Can I drive?" Addy asked, "buckle up!" "Seatbelts keep us safe," Emerick stated.



Educator April brought some tires out for the preschoolers to explore. Zoë and Emerick noticed they were too heavy to lift on their own. We wondered if cars are heavy or light. "Heavy!" Zoë and Emerick said together. With some help from the educators, they were able to lift the tire up, and then started to use their hands to push the tires along the playground, as seen in the photos below. "My tires is making marks!" Zoë said as she looked down to see the tire tracks in the dirt. The educators explained that those are tire tracks, and it happens from the tread in the tire. We used our fingers to feel the different treads in the tires. Zoë thought it felt bumpy. We learns that tires have treads on them to help the car stop when the brake is pressed.



The preschool children created their own license plates. April found an image on google of license plates, and asked the children if they knew what they were. "Letters" Alicia said excitedly. "It's the name", Addy said, while Noah was saying, "it's the sign". After many ideas of what license plates are used for, we learned that it was to help identify each car. The children chose what colour they wanted to use, and what different letters, numbers, shapes, lines and so much more that they would put on their own license plates, as seen in the photos below.



We went on a walk, and along the way, we stopped at the parking lot to look at April, Amy and Emma's cars, as seen in the photos below. We noticed that Amy's car was much smaller compared to April and Emma's. The children were quickly listing off parts of the cars that they were familiar with; "wheels, windows, lights and tires". April pointed out the license plate, "what's this called?" Zoë remembered from the activity we did earlier, and said "license plates!" The preschoolers looked at the letters and numbers that were on them.



Resources

While learning about cars, many resources were valuable to the preschoolers learning, such as Google and books. We used Google on our iPad while looking at the different car parts, to identify what they were. This related back to the "How to stop" question we wondered about. We were able to identify the different parts that allow the car to stop. Books, such as "Police Car on Patrol" by Peter Bently, "Tractor Mac - You're a Winner" by Billy Steers, "Race Car is Roaring" by Mandy Archer and Martha Lightfoot and "I'm your Bus" by Marilyn Singer, were valuable to gaining knowledge on cars as well. The different books about cars and other vehicles provided the opportunity for the preschoolers to explore the similarities and differences between cars and other vehicles. These books also provided different perspectives to give more information on the question, "How to drive". In each of these books, there is a different vehicle, all with different ways to drive them. Through resources the preschoolers questions were able to get close to an answer, and proved insight on the ideas we wondered about.

Second Drawings

We once again invited the children to create drawings of cars to show what new knowledge has taken place. LilyJo did a final sketch of what she thinks a car looks like, as seen in the photos above. She started by drawing brown lines on her paper. She said, "I made a road." She picked a toy car and started to drive it on her paper. She placed the car on the table and used it as a reference for her picture. She drew some circles on the back of her paper and said, "These are the tires." She drew some curved lines and said, "This is the hood of the car." She continued to draw different lines on her paper, as well as scenery.

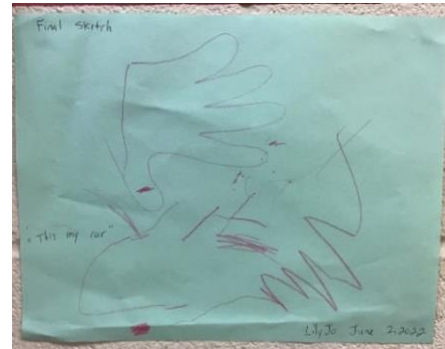


Figure 2 second drawing of a car completed by LilyJo

Survey about Cars:

To involve our families in the project we sent out a short survey to inquire about their cars.

1. What Type of Car Do You Have?

- 4 responses for Van
- 11 responses for SUV
- 6 responses for Hatchback
- 11 responses for Other

2. How Many Doors Does Your Car Have?

- 1 response for 2 Doors
- 31 responses for 4 Doors

Interview with Matthew Hanna (Mechanic/Tool Sales)

On June 1, we had a special guest come to talk to us about the different parts and tools that are used on cars. Matthew placed different tools on the table and explained to us what the function of the tools were. Matthew explained that cars need gasoline, which makes energy for the car, and that is what makes the car go. He talked about how the engine has a motor, which moves different parts around, and that give the car electricity. After he showed us what each tool is used for, he showed us the different parts on his car, as seen in the photos below. He explained that when you push the button on the door electricity makes the motor move and it moves the windows up and down. Ella M. said, "I don't have buttons in my car". Matthew explained that some cars have handles that you turn and that makes the windows go up and down. As we continued to show us different parts on the car, he stopped at the wheels and pointed to a part. We learned that it is called a brake caliper and that it squeezes the brakes to help the car slow down. We learned so much from Matthew that we were excited to pass along the information.



Figure 3 Matthew discussing what the tools are used for



Figure 4 Charli and Emerick examining the tools



Figure 5 Zoë examining the tools



Figure 6 Alicia examining the tools



Figure 7 Matthew checking tire pressure



Figure 8 Group watching as Matthew checks tire pressure

Answering the Question: What Do We Want to Know?

1. Windows. How do they work?

- A motor is in the car that needs electricity to make it work. Once there is electricity, the motor moves the windows up and down when you push the button. Matthew said for cars that do not

have buttons for the windows and have handles instead, when you turn the handle it moves the windows up and down.

2. How to drive them?

- There are many different parts to cars. We know that cars are very big, and with information from our survey, we know that most cars have two or four doors. We have to open the doors to get in the cars. We know that mommies and daddies sit in the front to drive the car. We learned that the cars wheels turn when the steering wheel turns. As the preschoolers were exploring the steering wheel, they discovered how much you could turn it. They observed that there are only two ways it can move. The steering wheel is what changes the directions that the car can move in, while it is driving. When Matthew came in to speak to us, we learned that some cars need gasoline, which makes energy for the car, and that is what makes the car go. He talked about how the engine has a motor, which moves different parts around, and that gives the car electricity.

3. How does a car stop?

- Cars have many parts in them, and by looking at different car parts, and by doing some investigating on Google, we were able to discover that there is a part called a brake caliper. We learned that this part houses the brake pads and pistons, which are the parts used for slowing down and stopping cars. The brake caliper fits like a clamp on the wheels rotor and creates friction to slow down the wheel as it turns.

New Vocabulary Words

- Traffic Light
- Brake Caliper
- Air Vent
- Tire Tracks
- Steering Wheel
- License Plate
- Types of Cars - Van, SUV, Hatchback
- Engine

Children Representing their Learning

To utilize what we have learned about cars we created our own version of one. Connie brought in some cardboard boxes that we could use. We worked together to decide what colour we wanted our car to be. We took a vote and we agreed on painting it red, as seen in the photos below. Once the paint was dry, we used tape to attach the two boxes together. Alicia and Kylie worked together as a team to place the tape in different spots so that it would stick together.



While we were constructing our car, we used the iPad to google what the outside of a car looks like. Wren said, "We need wheels." He went to look around the room until he found some wood circles. We added tape to the back of the pieces of wood and attached them to the box. Alicia said, "We need seatbelts". We found some ribbon and cut off some pieces for the seatbelts. Alicia and Kelsie used some tape and attached them to the box. Emerick found a remote and said, "We can use this to start the car". Once everything was attached; we climbed into the car and we were ready to go to school and the store, as seen in the photos below. We took turns driving each other around to different places.



Phase 3: Concluding the Project

Through literacy resources, media resources, physical car parts, and the guest speaker, the children learned many things about cars. The way cars work, the many different parts of a car, how different car parts work, new vocabulary words and much more. The preschoolers have a better understanding of the different parts that make up cars, and the reasons why cars do what they do. The children will use this new knowledge as they continue to explore their own family cars as they grow, as well as small cars that are in our classrooms.

Teacher Reflections

The preschoolers really enjoyed this project especially when we referenced questions to reflect their parent's vehicle(s) at home! It was fun going on a neighbourhood walk with them as we stopped to see mine, Amy's and Emma's cars in the parking lot as we took a closer look at them to get another visual of what they have on them, such as license plates. It's always fun hearing their vocabulary development as the project goes on too! April Weatherbee RECE

The Preschoolers and I were really excited to explore the topic of cars and learn more about them. When we were exploring the different car parts that I brought in it was fun to watch the children use their imaginations to try to figure out what they were as well as how did they work. My favourite part of the project was when we were constructing our car out of the cardboard boxes. I enjoyed observing them use the knowledge they had gain from the project to help them build the car. When the car was completed, the children showed a sense of pride and were excited to try it. I learned some new words as well as different parts of how cars work. Amy Smith RECE

It was very exciting to see the preschoolers develop a better understanding of cars, and the different aspects that go into cars that they were curious about. It was great to see the different tools that our special guest brought in for the children to see and understand what the uses are, as well as being able to touch and explore the tools themselves. The preschoolers were fascinated by the different tools. As well as being very excited to see the answers to their questions, they were wondering about being demonstrated right in front of them! Emma Andersen RECE