



Topic: Transportation

Curriculum Planning Template – Somerville Early Education

Trajectory for Thematic Inquiry: Planning from the Big Idea

Consult ELA Pacing & Curriculum Guides, Big Idea Guides, & Building Blocks Math Pacing Guide

Big Idea(s) about Transportation:

- People need and want to get from one place to another.
- People with different needs and abilities use transportation.
- People have made all kinds of vehicles to travel from one place to another.
- Transportation happens in the air, on the water, overland and underground.
- Vehicles need paths to travel.
- Transportation needs fuel or energy to work.

Project Approach: Working with Big Ideas

(Picturing the Project Approach 2017, Sylvia Chard, Yvonne, Kogan, Carmen Castillo)

- Phase 1: Beginning the Project
- Phase 2: Developing the Project
- Phase 3: Concluding the Project

Anti-bias Education Goals and Outcomes (Derman-Sparks, Edwards and Goins, 2020)

Goal 1: Identity - Each child will demonstrate self-awareness, confidence, family pride, and positive social identities. *Teachers will nurture each child's construction of knowledgeable and confident personal and social identities.*

Goal 2: Diversity - Each child will express comfort and joy with human diversity; accurate language for human differences; and deep, caring human connections. *Teachers will promote each child's empathic interactions with people from diverse backgrounds.*

Goal 3: Justice - Children will increasingly recognize unfairness (injustice), have language to describe unfairness, and understand that unfairness hurts. *Teachers will foster each child's capacity to critically identify bias and will nurture each child's empathy for the hurt bias causes.*

Goal 4: Action - Children will demonstrate empowerment and the skills to act, with others or alone, against prejudice and/or discriminatory actions. *Teachers will cultivate each child's ability and confidence to stand up for oneself and for others in the face of bias.*

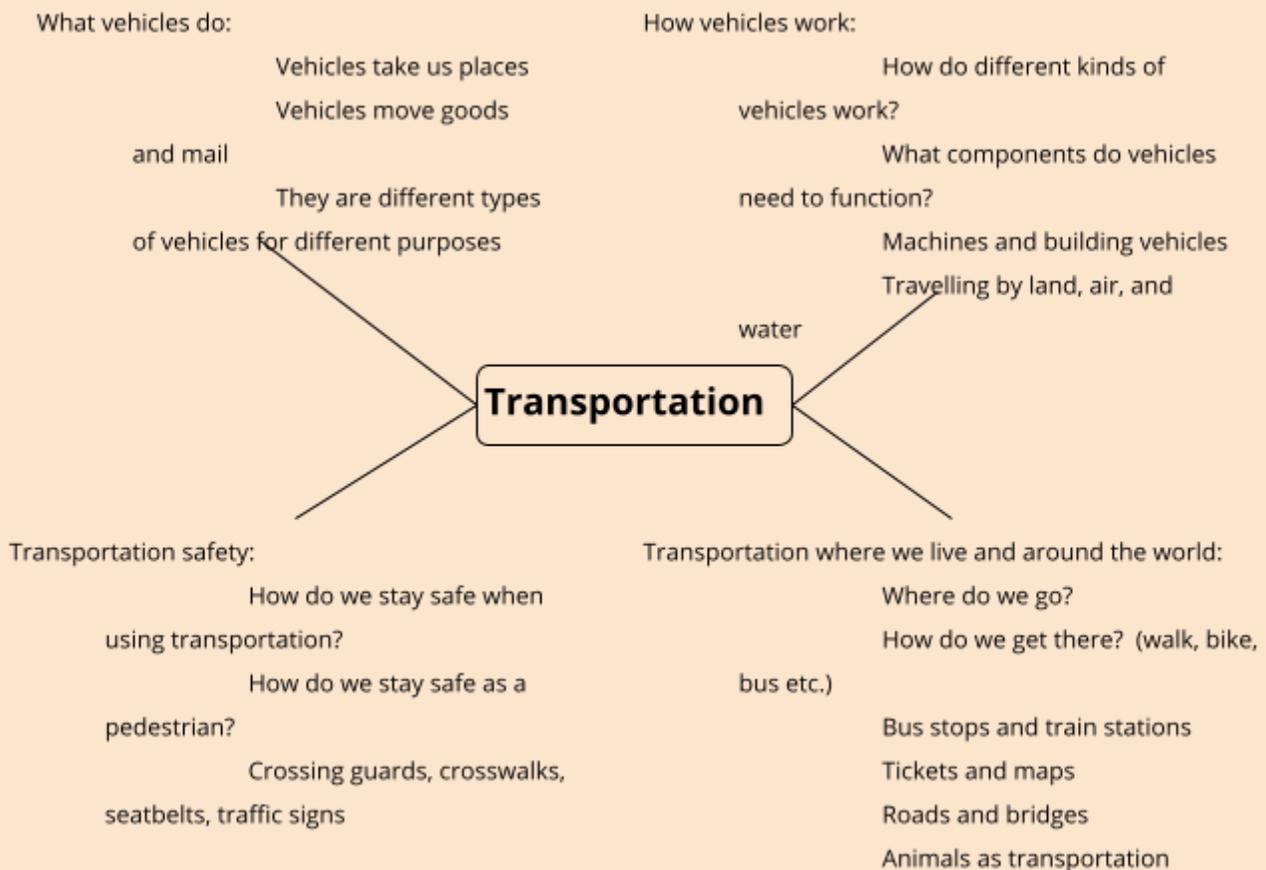
Selected Anti-bias Objectives for Transportation

- I see that the way my family and I do things is both the same as and different from how other people do things, and I am interested in both.
- I want to know about other people and how our lives and experiences are the same and different.

A TRAJECTORY OF INQUIRY

***Phase 1 – Beginning a Project:* STARTING OUT AND SETTING THE STAGE**

Sample Teacher Brainstorm/Planning Web - Add your own ideas!



Create a new web with children once a direction has been defined

Surfacing Prior Knowledge and Generate curiosity: Pose questions, read a high-interest book, take a field trip.

Questions you might ask children:

- What is transportation? How and why do people move around?
- How is transportation different for different people or in different places?
- What do we do to make transportation safe?
- How do vehicles work?

Make connections to children's lives.

Ask children how they get to school. Create a graph, chart, or list. Discuss the different ways they get to school and what they notice on the journey.

Suggested Book: [The Listening Walk](#) by Paul Showers and Alik

- Engage in a conversation with children about what they heard on their walk.

Go on a listening walk. What did you hear? What did you see?

- Generate a list of the ways you observed people moving around (walking, stroller, scooter, wheelchair, car, bus, etc.)
- Hypothesize-where are people going?

Suggested Books:

- Transportation in My Neighborhood by Shelley Lyons
- [The Bus For Us](#) read by the author and illustrator Suzanne Bloom

Prepare the environment with materials to promote discussion and exploration of different modes of transportation:

- Provide different types of model vehicles showing transportation on land, on water, and through the air.
- Include long flat materials in the block area to create roads and round blocks and ramps for experimentation with wheels.
- Post images of bus stops, train stations, harbors, and airports from both local transportation services and worldwide to illustrate the diversity of travel.
- Provide books that explore how people move around.

Make connections to the different reasons people have for traveling:

- Visiting others (family and friends)
- Going to school or work
- Taking care of your needs, getting groceries, going to the doctors or dentists office

PHASE 1 – Beginning a Project: Define A Possible Investigation Or Direction

Generate KW (Know, Want to know) Chart: What do we know or think we know about _____ ?

- How do you and your family get around?
- How many different ways do people get around?
- What do you know about the bus, subway, train, etc?

Expand Children’s Thinking: *So, now that we know some information and have some ideas about _____, What should we investigate?*

It seems that you are curious about _____?

Brainstorm a list of all the things the children want to know about _____.

Possible Investigations to explore your topic of interest:

- Go on a walking field trip to observe people and vehicles. Engage in a discussion with children about what they noticed and surface questions they have.
- Invite children to draw and label pictures of how they get to school or get around in their community-display children’s work with their stories.

PHASE 2 – Developing a Project- Exploring And Learning More:

Continue to add to the knowledge base, add activities and experiences, field trips, find experts, plan class books, family engagement, etc.

POSSIBLE FIELD SITES:

- Neighborhood walks around the school. Take walks to see bus stops, parked vehicles, train tracks, and stations, observe people and vehicles moving around
- Visit a local mechanic or car repair shop
- Take a bus or T ride

POSSIBLE EXPERTS:

- Family member or friend who works in a garage or is a mechanic
- Family member or friend who drives a bus, taxi, or train
- Crossing Guard (focus on safety)
- Interview a bus or T driver

Possible Projects (Use one of the following ideas or co-create an emergent project with your children):

Transportation Around the World:

- Discover how children get to school in other countries. Compare-what is the same, what is different?
- Investigate and compare modes of transportation around the world.

England -double decker bus Guatemala -Chicken Bus Jeepney -Philippines Peru - Moto taxi New York - Yellow Taxi Tram - Boston, Melbourne & Istanbul Subway -Boston T, London Underground	Vietnam - Cyclos China - Rail Thailand - Tuk-Tuk India - Cycle Rickshaw Netherlands - Bicycle Bamboo Train -Cambodia Barco De Totor (boat)-Peru Venice -Gondola Alaska & Australia - Bush Plane	<u>Animals as Transportation</u> Mongolia -Horses Egypt, Morocco, and Ethiopia -Camels Alaska -Dog sled
--	--	--

Choose a mode of transportation to learn more about:

- Children might be interested in bus travel. This could lead to a project about the bus, maps and routes, bus stops and depots, the driver, how to pay, who takes the bus, and why and what accommodations are in place.
- Explore if buses or trains are readily available to get wherever you need or are their barriers such as limited routes and schedules etc. What might you do if you uncover a barrier that affects students and families in your class?
- Investigate the different parts of a vehicle and how they work together to create a machine that helps us move.

Investigate how people with different abilities move around.

- Can all people get where they need to go easily?
- What adaptations are in place to make transportation accessible?

Investigate the animals people use to get around and transport services and goods—for example, camels in deserts and dog sleds in Alaska.

Explore countries where walking or biking is the primary mode of transportation.

- In the book, [Nya's Long Walk](#), set in South Sudan, Nya and her sister Akeer have to walk long distances to get fresh water. Where do you get your water from?
- In South Africa and Mexico, most children walk to school, often more than one hour each way. Is that fair?
- What is needed to make walking and biking safe? (crosswalks, curb cuts, crossing guards, pedestrian crossings, traffic lights, bike lanes)

Goods need to move too:

- Investigate how freight and mail vehicles move in our community and around the world.
- Use a world map and learn where different goods from your home/classroom came from.
- Track a package and see how it moves over time.
- Create a city in the block area and move goods using different modes of transportation (land, air, water)

Create a Transportation Museum

- Learn about different modes of transportation and focus on creating models. What do they look like? What parts must they include to function?
- Investigate what happens at a museum and create exhibits to accompany the models. Make connections to literacy by integrating written and oral components.
- Invite other classes, families, or caregivers to visit the transportation museum and present.

Literacy Connections:

- [Some Kids Use Wheelchairs](#) by Lola M. Schaefer
- [Transportation Around the World](#) by Lindsay Shaffer
- [Transportation in Many Cultures](#) by Martha Elizabeth Hillman Rustad
- [My Librarian is a Camel: How books are brought to children around the world](#) by Margriet Ruus. This non-fiction book has a lot of text, but you can pick through the facts, look at and discuss the photographs.

Resources:

[Global Animal Transport](#)

[Bicycles for Humanity Boston](#)

PHASE 3: Concluding the Project

Reflect on next steps, sharing the work with others, extensions of content, new directions.

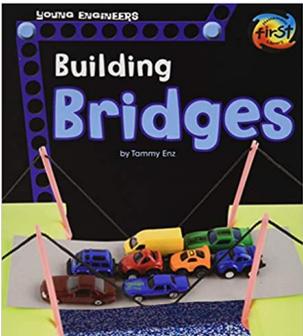
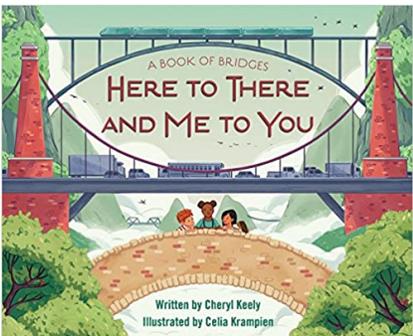
Ideas for Sharing Learning/Work:

- Invite families to your transportation museum.
- Invite people to see the vehicle you made and the process you did to create it.
- Share your transportation class books (animals, goods, getting to school in different countries, etc.) and read them to another class or visitors.
- Share your investigation findings into bus routes, people with different abilities, and how they access travel, challenges, and accommodations.

Possible Extensions:

Machines:

- Investigate how machines make tasks easier.
- Create and use simple machines to perform tasks such as lifting, pulling, rolling.
- Invent a new kind of machine using recyclable materials and describe what task it helps.
- **Forces and Motion:** [Capuano School Forces and Motion Unit](#)

Content and Room Areas	Activities Connected to Big Idea
Blocks	<p>Props/Provocations:</p> <ul style="list-style-type: none">● Incorporate different kinds of wheeled vehicles● Build roads and bridges out of recycled materials● Add ramps● Add signs and signals that children create● Add airplanes and build an airport● Add a large blue mat to serve as a harbor for boats <p>Literacy Connection:</p> <ul style="list-style-type: none">● <u>A Book of Bridges, Here to There And Me To You</u> by Cheryl Keely and Celia Krampien● <u>Building Bridges</u> by Tammy Enz <div></div> <div></div>

Dramatic Play

Generate play props and themes with children:

Turn dramatic play into a mechanic's garage.



Auto Shop menu	
WIRES	\$1
OIL	\$1
FLUIDS	\$1
TAILLIGHT	\$5
HEADLIGHT	\$5
TIRE	\$5
TUNE UP	\$5

Create a menu of repair items with children and build props, such as a cardboard vehicle to repair. **Add or create props such as:**

- Clothing, hard hats, goggles, and gloves.
- Tools, steering wheels, cones, tires, and license plates.
- Car repair manuals. (ask a local car repair shop)
- Walkie-talkies, phones, computer keyboards.
- Clipboards, paper, pencils, stamps, and stamp pads.

You can also create a train station or a bus stop inspired by the local neighborhood.

- Incorporate real Charlie Cards or create your own
- Build and decorate a pay station
- Arrange chairs or mats for a driver and passengers
- Create a map and schedule to include familiar places to go to



Literacy Connection:

- I Want to Be a Mechanic by Dan Liebman
- Bus Route to Boston by Maryann Cocca-Leffler
- All Aboard Trains by Mary Harding and Richard Courtney
- Map My Neighborhood by Jennifer Boothroyd

The Arts

Group and Individual Projects:

- Make traffic signs and signals.
- Build a parking garage out of cardboard and recycled materials.



- Design the illustrations for a Donald Crews inspired book (individual or class project)
- Build a vehicle using cardboard boxes and recycled materials. This vehicle can be used in the mechanic's garage in dramatic play.
- Collect loose parts and recycled materials (tubes, rocks, sticks, bottle caps, q tips, buttons, shells, etc.). Use the items to create a vehicle and a scene.

Extension: tell the story to a teacher to write down.

Literacy Connection:

[The Most Magnificent Thing](#) by Ashley Spires

[If I Built a Car](#) by Chris Van Duden

Sensory

Sensory Table

- Fill with small blocks, pebbles, road signs, and construction vehicles to create a construction site.
- Fill with water, toy boats, corks, bottle caps, and small bowls to investigate how boats float and move in the water.
- Fill with sand and different types of wheeled vehicles to explore movement and create designs using tire tracks.

Literacy Connection: write letters on the pebbles for the diggers to pick up. Challenge children to find letters in their names, the letters of a specific vehicle, and letters that start with a specific sound.



Mathematical Thinking

- Create a cardboard parking lot with numbers. Attach numerals to the cars. Child drives cars to the corresponding numbered parking area.

Extension: line the cars up in order from 1-10.

- Parking lot shape matching. Create a shape version. Add adhesive foam shapes to the cars.
- Graph how children get to school.
- Sort vehicles by size, color, and function. Play *Guess My Rule*
- Build Pattern Block vehicles.
- Vehicle-themed grid games. Wheels from: [//www.prekinders.com/grid-games/](http://www.prekinders.com/grid-games/) You can make your own version with clip art of photos.
- Make a transportation board game. Roll the dice, drive the vehicle that many spaces. Keep going until you reach the bus station, garage, house, etc.
- Compare public transportation in 2 different countries. What is the same? What is different? Use a Venn diagram (2 hula hoops) to compare results.



Places Scene:

Print a transportation-themed scene, laminate, or place it in a sheet protector. Add dice, dot or numeral, and some props (vehicles, people, wheels, animals, loose parts, etc.)

Example:



Roll the dice and add that many items to your scene.

Extension: Tell the story of your scene.

Click here for [Transportation Places Scene](#) images.

Counting Jar: add vehicles to the counting jar. Child tips the vehicles out, lines them up, and counts them. Represent the amount on the [Counting Jar Recording Sheet](#)

Literacy Connections:

- [20 Big Trucks Stuck in the Middle of the Street](#) by Mark Lee and Kurtis Cyrus
- [Transportation Around the World](#) by Lindsay Shaffer

Science,
Technology &
Engineering

Build and Discuss:

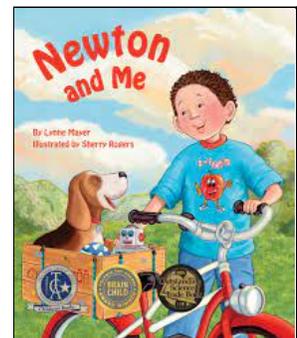
- Wrap ramps from block area with bubble wrap, sandpaper, aluminum foil, etc., to create different terrain for vehicles to drive on.
- Create aluminum foil boats and test how much weight they can hold.
- Learn how to fold paper airplanes and see how far they can fly.
- Build your own mode of transportation using recyclable materials and describe how it works using transportation vocabulary words.

Explore:

- Investigate vehicles that travel on rail, air, or boat. How do they move? What are their components? What impacts how and when they move?
- **Maps** and following directions. How do people know where they are going?

Literacy Connection:

[Newton and Me](#) by Lynne Mayer and Sherry Rogers

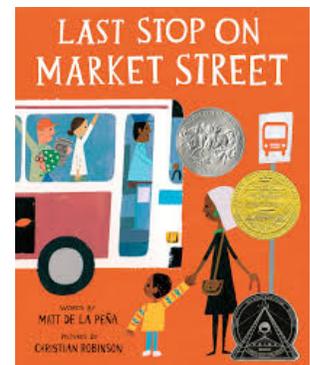


Library/
Read Aloud

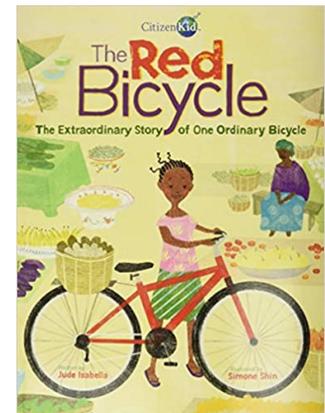
Books:

Fiction:

- The Listening Walk by Paul Showers
- Nya's Long Walk : A Step At A Time by Linda Sue Park and Brian Pinkney
- A Goodnight Walk by Elisha Cooper
- Night Walk by Sarah O'Leary and Ellie Arcscott
- Joseph's Big Ride by Terry Farish and Ken Daley
- [I Really Want to See You Grandma](#) by Taro Gomi
- [Last Stop on Market Street](#) by Matt La Pena and Christian Robinson
- Carmella Full of Wishes by Matt La Pena and Christian Robinson
- Milo Imagines the World by Matt La Pena and Christian Robinson



- The Bus for Us by Suzanne Bloom
- If I Built a Car by Chris Van Dusen
- My Subway Ride by Paul Dubois Jacobs, Jennifer Swender and Selina Alko
- Subway by Christoff Niemann
- Mama Zooms by Jane Cowen-Fletcher
- What Do Wheels Do All Day? by April Jones Prince
- Float by Daniel Miyares
- My Papi Has a Motorcycle by Isabel Quintero
- [Max Speed](#) by Steven Shaskan
- Hiking day by Anne Rockwell and Lizzy Rockwell
- [The Old Truck](#)
- Regards to The Man in the Moon by Ezra Jack Keats
- Franklin Ride a Bike by Paulette Bourgeois
- The Red Bicycle by Jude Isabella and Simone Shin
- B Is For Bicycle by Scott & Jannine Fitzgerald and Kathleen Hanson
- Pedal Power by Allan Drummond
- Lisa's Airplane Trip by Anne Gutman and Georg Hallensleben
- The Little Airplane by Lois Lenski
- Knuffle Bunny Free by Mo Willems
- [Hello Goodbye Dog](#) by Maria Gianferrari and Patrice Barton



Non-Fiction:

- Train by Elish Cooper
- Bicycles by Gail Gibbons
- Engines! How Do Cars Work by Pfiffikus
- Transportation in My Neighborhood by Shelley Lyons
- Transportation Around the World by Lindsay Shaffer
- Transportation in Many Cultures by Martha Elizabeth Hillman Rustad

Some Transportation Books by Donald Crews

<ul style="list-style-type: none">● School Bus● Shortcut● Bicycle Race● Truck	<ul style="list-style-type: none">● Freight Train● Inside Freight Train● Harbor● Sail Away● Flying
--	--

Donald Crews is an American author and illustrator.

You can meet Donald Crews and learn more about him here:

[Meet Donald Crews](#)

[About DonaldCrews](#)



Balanced Literacy

Key Vocabulary

Where do vehicles go?

- Highway, station, harbor, airport, subway, schedule, Charlie Card, MBTA

What are the parts of a vehicle?

- Wheels, axle, gear stick, steering wheel, body, wings

How do vehicles work?

- Engine, fuel, sink, float, gravity, accelerate

How do we get around safely?

- Pedestrian, crosswalk, crossing guard, seatbelt, car seat, street sign

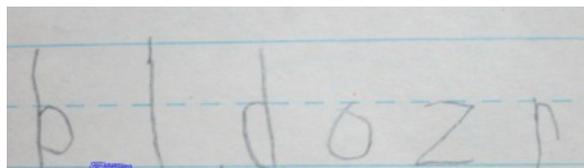
Oral language and Concept Development

- Add a transportation survey or question to your **Morning Meeting** message.
- Share ideas and build understanding about transportation during whole and small groups.
- Create opportunities for group project planning. Encourage children to share ideas, ask questions, and make comments.
- Review relevant vocabulary. Here is an excellent set of transportation word cards from Vanessa Levin at Prekinders [Transportation Words.pdf](#)
- Use [CROWD Strategies](#) during read alouds.

Fine Motor, Drawing, and Writing

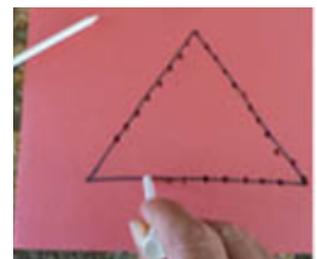
Add vehicle books, images, and picture words cards

- Draw pictures of vehicles and ways of traveling.
- Use Big Idea vocabulary cards for letter and word writing practice and building content knowledge. Encourage inventive spelling.



bulldozer

- **Shape punching:** using a sharpie outline vehicles and shapes onto 5X5 pieces of construction paper. Place on a carpet square or piece of foam. Punch through using a golf tee or toothpick. Pieces can be used for collage.



- **Map tracing:** Print out or create maps and trace different routes to build fine motor skills. Can trace it with a finger, or maps can be laminated and traced with dry-erase markers.
- **Trace** the first letter of vehicle words in sand or salt trays.
- **Add nuts, bolts, and washers** to build fine motor, concentration, and reasoning skills.
- **Transfer** nuts, bolts, or tiny transportation erasers into ice cube trays or construction vehicles with fingers or a tweezer.
- **Match** letter clothespins to transportation vocabulary cards.
- **Make license plates.** Children can use letters from their names, some numbers, and stickers to create personalized license plates. Click this [link](#) to see license plates from around the world.



Expressive and Written Language

Author and Illustrator Study: Donald Crews

[BCBA Spotlight: Donald Crews](#)

Use a selection of Donald Crews transportation books to guide children to write and illustrate their own transportation stories.

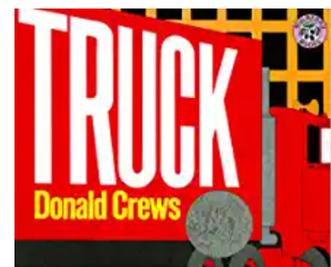
Invent your own vehicle (draw or make with loose parts).
How does it move?

Journaling: invite children to draw and illustrate a story about how they get around (walk, scooter, bike, bus, etc.) Encourage them to label their pictures using vocabulary cards to guide them.

STSA (StoryTelling/Story Acting)

- Act out how you get to school, the grocery store, or the park and visit family and friends.
- Act out favorite transportation stories.
- Add a transportation provocation to children's stories and act them out.

For example: Imagine you took a hot air balloon to school.



Phonological and Phonemic Awareness

Songs and Poems

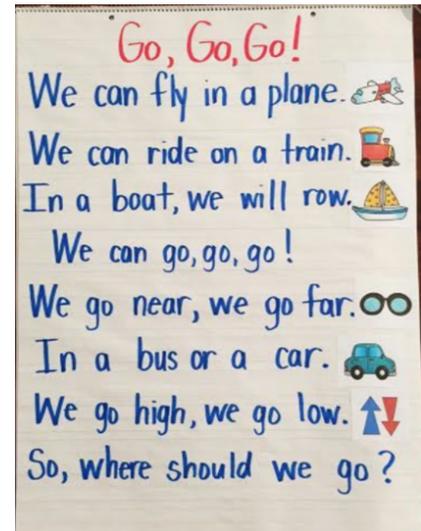
- Make song and poem charts and engage in choral reading.

Add Sound Sorting Baskets:

- Include toy vehicles with different initial sounds (train, car, bus, van, airplane, etc.)

Extensions:

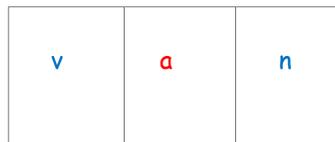
- Match initial sounds with corresponding letters and words.



Word Building and Writing:

Use magnetic letters, letter tiles, or write letters on bottle caps for word building and other games.

- Place bottle cap vehicle words in toy dump trucks, tip out, and put the word back together. Children can sound them out based on letter-sound knowledge or use the picture vocabulary cards.



Resource: [Transportation Word Building](#)

Literacy Connection:

The Construction Alphabet Book by Jerry Pallota and Rob Bolster

**Differentiation/
Modifications**

Balanced Literacy:

- Use props and visuals to support oral language development and storytelling.
- Read and act out transportation stories with simple, repetitive text.
- Make connections between the letters in children's names to their favorite vehicle.

Math:

- Count and sort small collections of toy vehicles.
- Count wheels, doors, and windows on vehicles.
- Play with and count vehicles in waters, sand, and other sensory materials.

Places Scene: use dot cards and modified dot dice (1-3) and a small collection of counters.

Counting jar: count a small collection of vehicles. Use stickers to represent findings on the [Counting Jar 10 Frame Recording Sheet](#) or on a dry erase board.

Science:

Build simple wheeled vehicles out of Duplos, Legos, or another manipulative and explore taking them apart and trying to put them back together. What happens when you remove the wheels from a car?