

# Little Footprint

## Home Connection

Dear Family,

During the last few days, the children planned and built a model of a route that a farmer could use to efficiently deliver food to locations in a town. They acted just like engineers! To make the model, they . . .

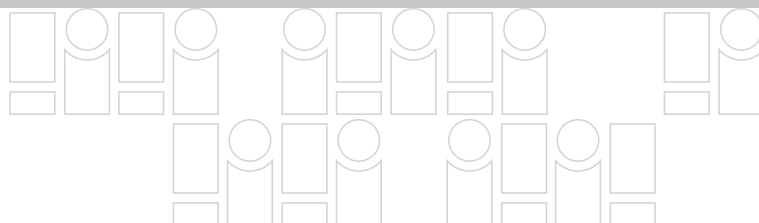
- identified and learned about a problem
- planned ways to solve the problem
- made a model
- tested the model
- thought about their test results and made a new plan

In this exploration, children were introduced to science concepts, such as the sources of air pollution and how choices that people make can affect their environment. Children used maps to plan delivery routes. They used model trucks to find the most efficient way to pack boxes. In addition, they practiced science and mathematics skills, such as counting and measuring, conducting tests, using data to make a comparison, and drawing conclusions supported by evidence.

Let your child tell you about the activities in this engineering project. As your child speaks, listen for science words such as *pollution*, *footprint*, and *map*. If your child needs help telling what happened, ask prompting questions, such as

- What was the problem you were trying to solve?
- How did you find the best route for Farmer Lee?
- How did you decide how to pack the truck?
- How did you know if your delivery route was successful?

This STEM project has been developed in partnership with Texas A&M University.



# Little Footprint

## Home Connection

### Using Resources

Use the pictures below to help your child tell you how different ways of traveling use different amounts of gasoline or fuel. Ask prompting questions, such as

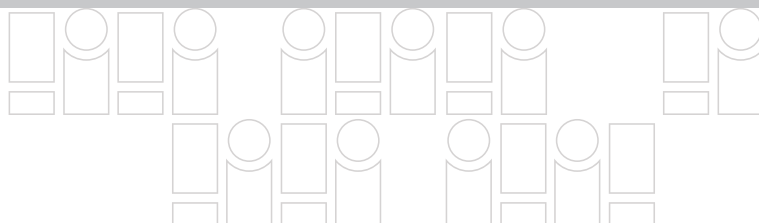
- Which way of getting to school causes the least air pollution?
- Which way of getting to school does not make a footprint?



### Try This at Home: Reduce Your Resource Footprint

With your child, make a list of ways that your family can reduce its energy footprint. Ideas might include:

- Walking to school instead of riding in a car.
- Using reusable cloth grocery bags instead of plastic or paper bags.
- Drinking tap water instead of bottled water.
- Recycling paper, cans, and bottles.
- Replacing incandescent bulbs with compact fluorescent bulbs.
- Turning off lights, televisions, and computers when they are not being used.



# Little Footprint Problem

Name \_\_\_\_\_

## Our route

☒ must stop at 4 places.






☒ must be no more than 20  long.

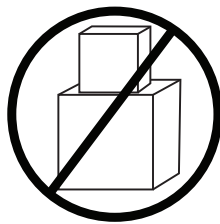
## Our boxes





☒ must be packed for quick delivery.

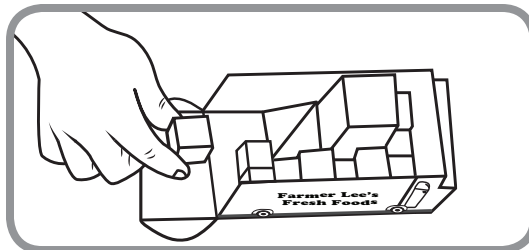
## Our rules:

☒ All 12    must fit in the .

☒ We may not put    on top of each other.








☒ We must slide    out of the back of the .





# My Resource Footprint

Name \_\_\_\_\_



1. How do you get to school?

Walk	Bike	Bus	Carpool	Car	Footprint(s)
					
0	0	1	2	3	

2. Do you recycle paper?

Yes	No	Footprint(s)
		
0	2	

3. Do you recycle bottles and cans?



Yes	No	Footprint(s)
		
0	2	

# My Resource Footprint



(continued)

Name \_\_\_\_\_



4. Which do you drink?

Tap water	Bottled water	Footprint(s)
		
0	1	

5. Do you turn off lights when you leave?

Yes	No	Footprint(s)
		
0	1	

6. Which lightbulbs do you use?

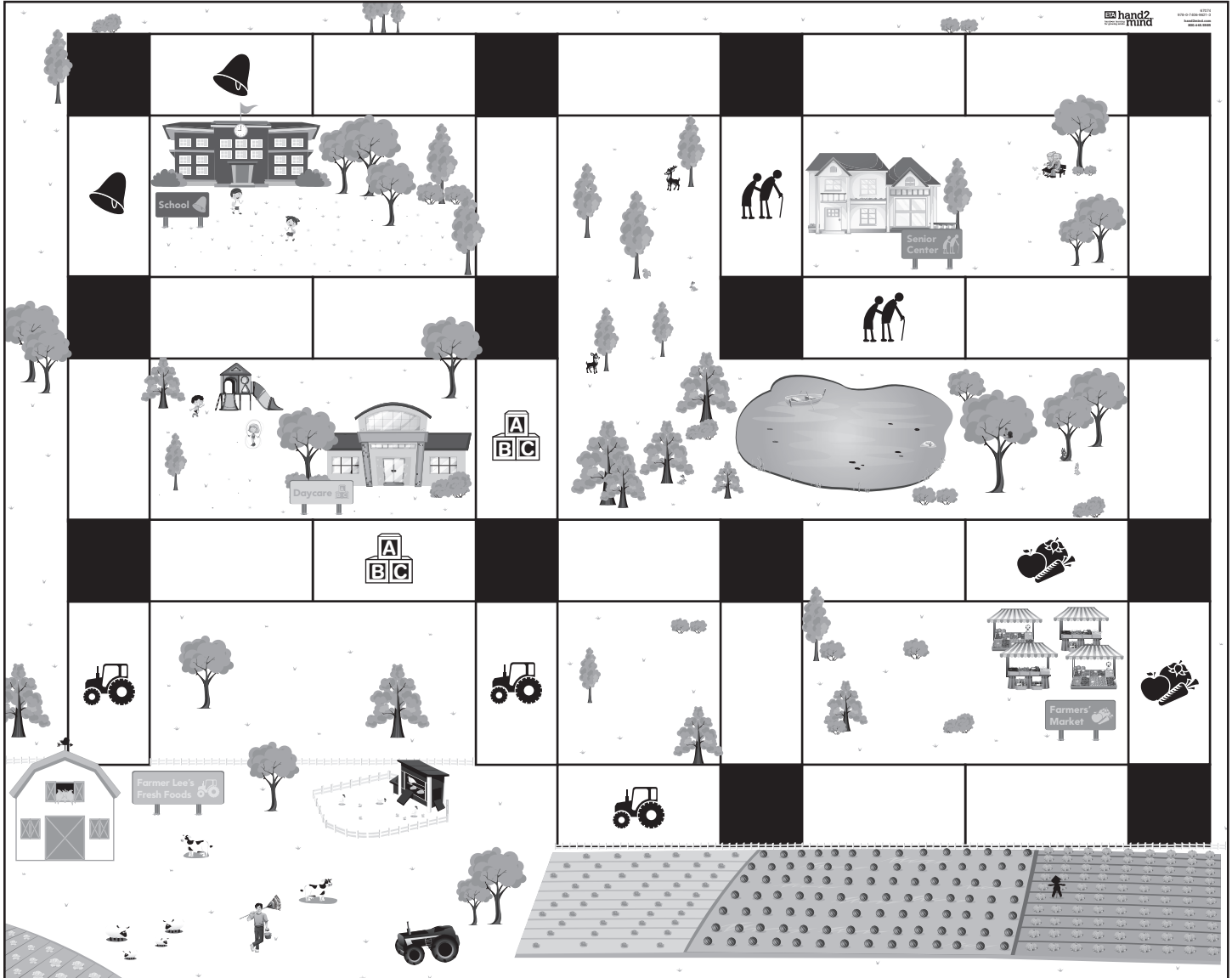
Mostly	Mostly	Footprint(s)
		
0	2	

7. My resource footprint is \_\_\_\_\_.

## Delivery Route

Name \_\_\_\_\_

# Color your route.



This route is \_\_\_\_\_ blocks long.

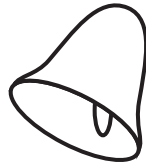
15    16    17    18    19    20    21    22    23

# Delivery Order

Name \_\_\_\_\_

**Use dot stickers to show the order of places on your route.**

Red = School



Yellow = Daycare



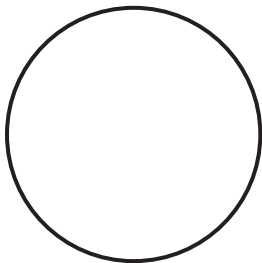
Blue = Senior center



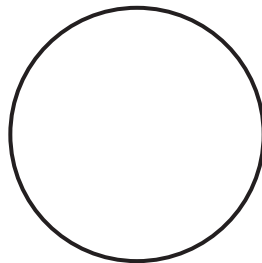
Green = Farmers' market



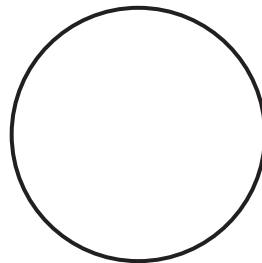
Delivery 1



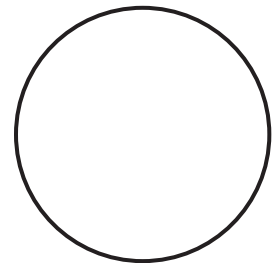
Delivery 2



Delivery 3



Delivery 4

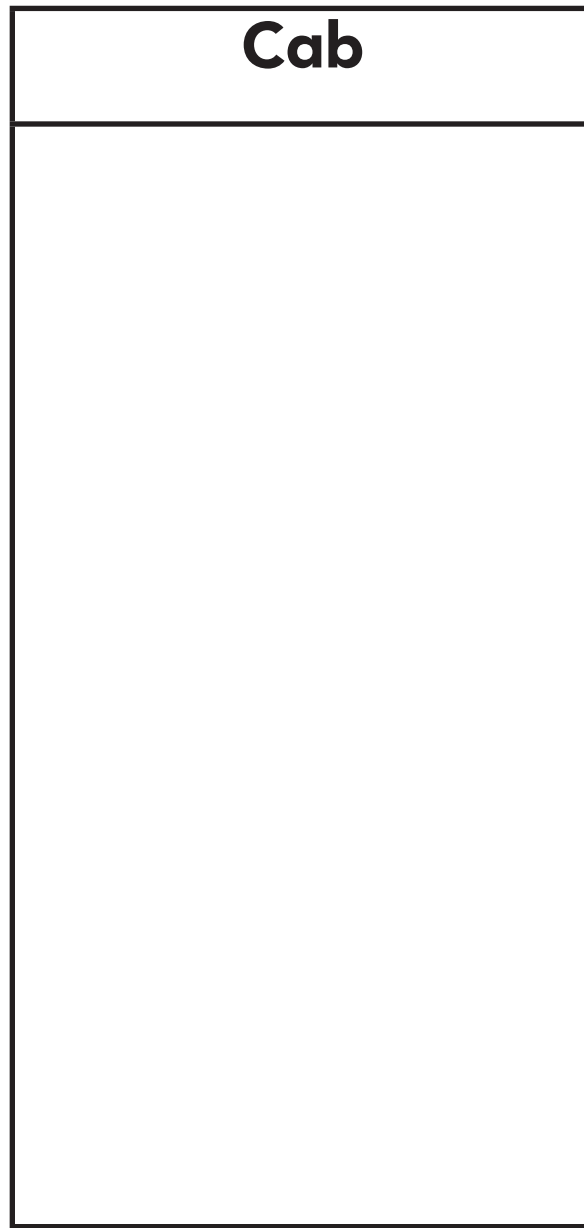


# Pack the Truck

Name \_\_\_\_\_

**How will you pack the truck? Use shapes to plan.**

**Front of truck**



**Back of truck**



# Delivery Plan Test

Name \_\_\_\_\_

**Circle what you did.**

1. How many places did you go?

1    2    3    4

2. How many  long is your route?

15    16    17    18    19    20    21    22    23

3. How many    fit in your  ?





8    9    10    11    12

4. Did you put    on top of each other?

Yes            No

5. How many other    did you have to move?

0    1    2    3    4    5    6    7

6. We moved all    from the  .

Yes            No