

NATIONAL  
GEOGRAPHIC  
LEARNING

# Imagine

IMAGINE A  
BETTER WORLD



LEVEL 5 - Unit 1

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IMAGINE WORLD

# Imagine Level 5 - Unit 1 - Imagine a Better World

**Project Title: Sustainable Cities & Transportation**

**Essential Question: What are sustainable and effective ways to commute to school?**

**UN Sustainable Development Goal: 11 – Sustainable Cities and Communities**

## Learning Goals & Skills

- Understand the role of transportation in a sustainable city.
- Compare and contrast different types of transportation regarding sustainability and impact on the environment.
- Identify multiple ways to commute in a city.
- Use critical thinking to make conclusions about sustainable ways to commute.
- Collaborate with peers to create a visual way to communicate to the school community sustainable ways to commute to school.

## Final Product

A map or visual aid to be displayed in the school entrance informing different ways to commute to school; pointing out different transportation services around school and the most sustainable and effective ways to get there.

## Project Summary

According to Unesco reports, big cities around the world present a high level of pollution, a large number of people with respiratory diseases, and lack of infrastructure to respond to basic needs due to unstructured growth. Identifying actions to start transforming these cities and finding innovative ways to live, consume, and produce is a key task for this new generation. Throughout this project, students will learn more about sustainable transportation and rethink the way they commute to school. Students will interview the school community, mapping out people’s needs, challenges, and cultures across the population. By the end of this project, we want students to better understand different ways to commute to school, including public transportation and more sustainable options. We also envision students developing more collaboration and critical thinking through the process of researching and creating.

## Lesson by Lesson

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### Lesson 1

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#### Learning Goals:

- Be introduced to the problems of commuting in a city and the footprints left by different means of transportation.
- Understand the main goals of the project.
- Practice critical thinking and collaboration to plan the next steps of the project.

Vocabulary: commuting, public transportation, bus, train, car, bicycle, and other emergent vocabulary related to transportation

## Instructional Routines:

- Students will activate their prior knowledge by being prompted to think about the challenges of transportation in cities around the world.
- Students will be encouraged to explore solutions to these footprints and more sustainable ways of using transportation.
- Students will be introduced to the project's essential question and the action of "creating a map or visual aid to be displayed in the school entrance with different ways to commute to school, pointing out different transportation services around school and the most sustainable and effective ways to get there".
- Students will work actively on what they need and want to know to investigate more sustainable ways to commute.
- At the end of the lesson there will be a reflection for wrapping up the learning of the day.
- Students will explore a map to locate where their school is in relation to their homes and other city landmarks.

## Lesson 2

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### Learning Goals:

- Identify multiple ways to commute in a city.
- Locate themselves on a map, identifying state, city/cities, neighborhoods and regions.

Vocabulary: commuting, public transportation, bus, train, car, bicycle, and other emergent vocabulary related to transportation

Giving Directions (see in the lesson)

## Instructional Routines:

- Students will continue to explore a map to locate where their school is in relation to their homes and other landmarks in the city.
- Students will explore digital maps to identify different transportation services available to commute to school from different points of the city.
- Students will interview other people from their school, identify where they live, how they commute to school, and what challenges they face regarding transportation.
- Students will synthesize ideas by sorting different possibilities of commuting and making predictions on what transports are the most sustainable ones.

At the end of the lesson there will be a reflection moment for wrapping up the learning of the day.

## Lesson 3

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### Learning Goals:

- Understand the role of transportation in a sustainable city.
- Compare and contrast different means of transportation regarding sustainability.
- Use critical thinking to make conclusions about sustainable ways to commute.
- Collaborate with peers to plan a visual way to communicate to the school community about sustainable ways to commute to school.

Vocabulary: commuting, public transportation, bus, train, car, bicycle, and other emergent vocabulary related to transportation

### **Instructional Routines:**

- Students will actively explore the connections between means of transportation and sustainable cities.
- Students will read texts and watch videos about the topic, and through a *Jigsaw* routine make conclusions about the most sustainable ways to commute.
- Students will discuss and negotiate the most sustainable ways to commute to their school.
- Students will start planning how to display their visuals about sustainable transportation to school. Students can use maps, posters, digital aids, drawings, writing, etc.

At the end of the lesson there will be a reflection moment for wrapping up the learning of the day.

## **Lesson 4**

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### **Learning Goals:**

- Use critical thinking to make conclusions about sustainable ways to commute.
- Collaborate with peers to create a visual way to communicate to the school community about sustainable ways to commute to school.
- Reflect on the learning process.

Vocabulary: commuting, public transportation, bus, train, car, bicycle, and other emergent vocabulary related to transportation

- Instructional Routines: Students will create a visual aid informing their school community about sustainable ways to commute to their school from different regions of the city.
- Students will reflect on the project process by looking back at their learning and actions.

## **Lesson Plan**

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### **Lesson 1**

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Vocabulary: commuting, public transportation, bus, train, car, bicycle, and other emergent vocabulary related to transportation.

### **Instructional Routines:**

- Students will activate their prior knowledge by being prompted to think about the challenges of transportation in cities around the world.
- Students will be encouraged to explore solutions to these footprints and more sustainable ways of using transportation.

- Students will be introduced to the project’s essential question and the action of “creating a map or visual aid to be displayed in the school entrance with different ways to commute to school, pointing out different transportation services around school and the most sustainable and effective ways to get there”.
- Students will work actively on what they need and want to know to investigate more sustainable ways to commute.
- At the end of the lesson there will be a reflection moment for wrapping up the learning of the day.
- Students will explore a map to locate where their school is in relation to their homes and other city landmarks.

### Step 1: Opening & Provocation (15 minutes)

Invite students to join the circle or the tables and have them greet each other in a way that’s meaningful to your group. After the greeting, display a map of the area that the school is on (display on the floor or on the board). Ask students if they know where they live. They can write their name on post-its and tag it on the map. After that, ask students how they commute to school. Students might not be used to the word **commute**. Explain the meaning. Also, offer some vocabulary connected to means of transportation along with some sentence starters: *I commute by car, by bus, by train, on foot, by public transportation, etc.*

Having students share their answers encourages them to think of the most sustainable ways to commute. You might show images comparing, for example, the size of a private car and a train, and ask students which one would be more sustainable. Keep this conversation going. We suggest some research on the subject prior to the lesson as students could come up with very specific questions. However, you don’t need to have answers for everything. Document students’ answers and go back to it later in the project.

### Step 2: Introduce the project and final product (10 minutes)

Tell students that they’ve just explored images that have a common pattern - **the problem of commuting in big cities**. A problem that may lead to high levels of carbon emission, different types of pollution, and on a more personal level, the increase in stress levels, a common issue in big cities. Tell students that according to UNESCO (you may need to explain what UNESCO is) 75% of Carbon Emissions are produced in big cities, and a great share of it comes from vehicles. Besides, due to unplanned city urbanization, many parts of cities don’t have infrastructure for the total number of vehicles circulating on the streets every day. One way of making a city more sustainable is looking for greener ways to commute.

Introduce the essential question to students: *What are sustainable and effective ways to commute to school?* Have students discuss the question and after a while introduce the final product of this project: *A map or visual aid to be displayed in the school entrance describing different ways to commute to school; pointing out different transportation services around school and the most sustainable and effective ways to get there.*

### Step 3: Taking Action (10 minutes)

After introducing the project, tell students that now they’ll do an important part of the project: plan their research. In order to make this an active moment, have Post-its on the tables and ask students to write their answers as you ask the following questions:

1. What excites you about this project?
2. What do you find worrisome about this idea?
3. What do you need to know to create a map or a visual resource showing different ways to commute to school?
4. What are the next steps to move forward with this project?

You may facilitate this discussion in different ways. You may have students answering one question at a time, sticking their notes on the chart and discussing their answers. Or you may have students answering the 4 questions in a row and then discussing them all. If you feel that your students need more prompting, have them answer and discuss one question at a time.

### Step 5: Closing (5 minutes)

For a wrap-up, agree with students on how they're going to investigate the question in the next lesson, for example, using Google Maps to explore the public transportation options around school, go for a walk around the school looking for bus stops or other types of public transportation, etc.

## Lesson 2

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Vocabulary: commuting, public transportation, bus, train, car, bicycle, and other emergent vocabulary related to transportation

Giving Directions (see in the lesson)

### Instructional Routines:

- Students will continue to explore a map to locate where their school is in relation to their homes and other city landmarks.
- Students will explore digital maps to identify different transportation services available to commute to school from various points in the city.
- Students will interview other people from their school, identify where they live, how they commute to school, and what challenges they face regarding transportation.
- Students will synthesize ideas by sorting different possibilities of commuting and making predictions on what transports are the most sustainable ones.
- At the end of the lesson there will be a reflection moment for wrapping up the learning of the day.

### Step 1: Opening (5 minutes)

Invite students to join the circle or the table groups and have them greet each other. Students revisit the project plan and the following steps that they've decided to take for this lesson. Set the tone of the day and tell students that in order to create the map with local transportation services and sustainable ways to commute to school, they'll research the available transportation services in the school's surrounding area. Ask students if they're used to any apps or digital ways of looking for transportation. Elaborate on students' ideas.

### Step 2: Mini Lesson (10-15 minutes)

Tell students that in order to investigate the essential question "*What are sustainable and effective ways to commute to school?*" they're going to identify different ways of commuting to their school. Have regional maps on the floor or on the board and work with students on locating the directions to school as well as the means of transportation to commute.

## Use 'Giving Directions' vocabulary at this point; here are a few suggestions:

Go along this road

Go straight on/ahead

At the roundabout, take the

Turn left at the crossroads

Turn right at the crossroads

Take the...

It's on the other side of the road

You may also consider having some vocabulary about cities and neighborhood available on a poster or visual:

Crossroads

Roundabout

Street

Avenue

Highway

Tunnel

Bridge

River

Train Station

Subway Station

Bus stop

Taxi Driver

At this point students may also use apps and other gadgets to list ways to commute to school from where they live and other neighborhoods close to their school. Have students trace on the map these directions and flows using markers, threads, or any other materials that make their discovery visible. Students may also use post-its to write the names of the type of transportation they identified.

### Step 3: Taking Action (15 minutes)

Tell students that now that they've identified some ways of commuting to school, they're going to interview the school community to discover the most used ways people commute to school. Have students not only interview other students, but teachers and staff, as this will help them find a different range of possibilities. You may also encourage students to ask people what they find challenging about commuting in their city or any other questions connected to the project. Ask students to take notes of people's answers.

## Step 4: Closing (10 minutes)

Get students back together and have them share what they've noticed around school. For this moment, try to have a chart with the target vocabulary - this will help them explain their findings. Document the big ideas on the board/chart. Document students' answers on a chart or board as a way to keep a record of this conversation for the next lesson. Ask students how today's research is important to their lives.

Tell students that in the next lesson they'll start working on the map.

## Lesson 3

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Vocabulary: commuting, public transportation, bus, train, car, bicycle, and other emergent vocabulary related to transportation

### Instructional Routines:

- Students will actively explore the connections between means of transportation and sustainable cities.
- Students will read texts and watch videos about the topic, and through a *Jigsaw* routine, make conclusions about the most sustainable ways to commute.
- Students will discuss and negotiate the most sustainable ways to commute to their school.
- Students will start planning how to display their visuals about sustainable transportation to school. Students can use maps, posters, digital aids, drawings, writing, etc.
- At the end of the lesson there will be a reflection moment for wrapping up the learning of the day.

Text 1: Sustainable Transportation - US Gov

Text 2: Sustainable Urban Mobility Plan - UNESCO

## Step 1: Opening (5 minutes)

Invite students to join the circle or table groups and have them greet each other. As a warm-up activity, ask students what they saw on their way to school; ask them to think about what they saw and remember eco-friendly or polluting footprints. Engage students in a discussion on whether they believe there are more or fewer eco-friendly footprints in their neighborhood.

## Step 2: Mini Lesson & Research (25 minutes)

Have images of different types of transportation displayed on the tables or on the board. Here are some suggestions:

- A bus with a great number of passengers
- A car with one or two people
- A street full of traffic and cars
- A bike lane with cyclists commuting
- A train
- A subway
- Electric cars



- Any other vehicle or transportation context that is meaningful to your context

Start a discussion contrasting these vehicles and asking students to infer based on the evidence they have available: *which ones would be the most sustainable?* We anticipate students wondering if a bus would be more sustainable than cars as it can take many people at the same time, while cars would take a few people at a time. Some kids might wonder which one of the vehicles releases more pollutants.

Ask students to write their question on a post-it and have them research sustainable transportation for the next 15 minutes.

You may use texts, websites, videos, etc. Be sure to support students in curating the best reliable resources for their research.

After spending some time reading, have them share in small groups what they discovered in their research.

### Step 3: Taking Action (10 minutes)

Now that you have come to a common understanding of what the most sustainable means of transportation might be, go back to the maps you have available in your classroom. You may say: *“Now, based on your research and discussion, what could be the most sustainable ways to commute to our school?”* Give students some time to discuss. Have students list the most sustainable ways. Then list the most sustainable ones based on where they live and based on where other people from the school community live. Have them identify which means of transportation people can use to sustainably commute to school.

### Step 4: Closing (10 minutes)

**Gather** students in the circle again and ask how they’re planning to represent this in a visual way: are they using a map? a digital board? a slide presentation to be displayed on a TV or monitor. Consider what the school entrance looks like, the resources available, and what could be displayed there. Decide with students all the details for their work, since they have only the next lesson to create it. Also, decide if you’re creating one visual or if different groups will work on different visuals. At the end you would choose only one.

## Lesson 4

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Vocabulary: commuting, public transportation, bus, train, car, bicycle, and other emergent vocabulary related to transportation

### Instructional Routines:

- Students will create a visual aid informing their school community about sustainable ways to commute to school from different regions of the city.
- Students will reflect on the project process by looking back at their learning and actions.

### Step 1: Opening (5 minutes)

Invite students to join the circle or table groups, have them greet each other and tell them to share what different means of transportation they will display on the visual. Use this as a moment to assess which students might need some help. Give them a sentence frame for sharing. Suggestion: *“I discovered that one sustainable way of coming to school is...”*

## Step 2: Taking Action (35 minutes)

For this lesson, there is no Mini Lesson as the goal is having students working on their visual display. Use this time for the creation process. Make it special and purposeful. Remember to restate to students that the purpose is to create a map or visual aid to be displayed in the school entrance showing different ways to commute to school. The resource should point out different transportation services around your school and the most sustainable and effective ways to get there.

## Step 3: Closing (5 minutes)

To close the project, ask students to join the circle and have them discuss what was their favorite part of the project and what they've learned about more sustainable ways to commute to school or around the city. Last thing, set up a date and time with students that they will take the display to the school entrance. This decision should be made according to your teaching context and timeline. Make sure students are present on the day the visual is taken to the school entrance.

## Additional Resources

- Decide one place in the school region to go with students. Use public transportation to do so, and then debrief how the experience was.
- Have students try to commute to school using different transportation and debrief how the experience was.
- Invite families and students for a day without cars, trying to use other modes of transportation.
- Invite specialists or a non-profit organization connected to sustainable transportation speak to students.

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