

Summary

In this lesson, students learn about different modes of transportation and the benefits of active modes of transportation. They make observations and use critical thinking to evaluate which modes are better for different situations.

Materials

- Observation Worksheet
 - o 1st-4th grade
 - o 5th/6th grade
- Active Modes Worksheet
 - o <u>1st-4th grade</u>
 - o 5th/6th grade

Teacher Background Knowledge

In this activity, students are introduced to active transportation modes. Biking and walking are the most common modes of active transportation but also include riding a scooter or skateboard, etc. In the week leading up to the lesson, students can make observations about any types of transportation they notice in their communities (e.g. cars, bus, bike). Students will be introduced to transportation and energy and learn about the benefits of biking and walking.

Lesson Instructions

PART 0: Student Prep

Inform students that they will be learning about transportation in the coming lesson. Provide them with the observation worksheet to make notes in the week leading up to the lesson.

PART 1: Students observe and discuss transportation modes

- 1. Instruct students to discuss different types of transportation in their communities.
- 2. Help students think about why a specific mode of transport was used (i.e. why did my family drive the car to the grocery store today instead of taking the bus, walking, etc.?).

PART 2: Students learn more about modes

- 3. Students complete the I Spy game on the Observation worksheet first individually, then in groups. BONUS: Older students may complete the Bonus worksheet.
- 4. Students discuss the differences of the modes. Ask: Why would someone use a bus instead of walk? When might it be better to walk? Why/How do you know?
- 5. Students watch a video/read an article from the Resources to learn more about the different transportation modes and their impacts on the environment.
- 6. Students take turns sharing their questions. (This can be done in a whole group, or in breakout groups). Students can decide one or two priority questions to investigate.

PART 3: Students learn the benefits of active modes of transportation

- 7. Students complete the Active Modes Worksheet
- 8. Follow up with further resources, vocabulary, discussion, etc.

Lesson Resources

For All Ages

Observation Worksheet (below: versions 1st-3rd and 4th-6th)

Active Modes Worksheet (below: versions 1st-3rd and 4th-6th)

Video: How Kids Get to School Around the World

Video: Green Ninja: Environmental Impact

Video: Green Ninja: Bike Party

<u>1st-3rd</u>

Video: Blippi's Transportation Song (good for 1st/2nd grade)

Supplemental worksheet: <u>Transportation vocabulary</u>

Supplemental Worksheet: Getting to School Bar Graph (3rd grade)

4th-6th

Video: <u>Transportation 101</u> (good for 5th/6th grade)

Reading: **Energy Explained**

Primary Modifications

- Younger students can use age-appropriate vocabulary such as "air pollution" versus GHG emissions
- Try out hypothetical travel scenarios as a group: What would happen if we all flew on airplanes everyday instead of walking/driving? Etc.
- Whole group instead of breakout groups (asynchronous investigation)

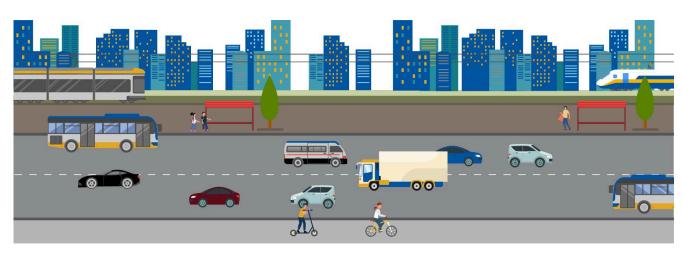
Intermediate Modifications

- Have students hypothesize specific amounts of fuel used by different modes of transport each year in the U.S.
- Have students investigate the history of a specific mode
- Have students create scenarios in which different modes would be ideal (i.e. when would it be most environmentally friendly to use a car versus a plane?)



Let's Get Moving: Observation Worksheet Version 1 (1st-4th Grade)





Transportation is moving people and things.

Types of Transportation: I Spy

I spy transportation...

- -with four wheels
- -that can carry one person
- -that can carry more than 10 people

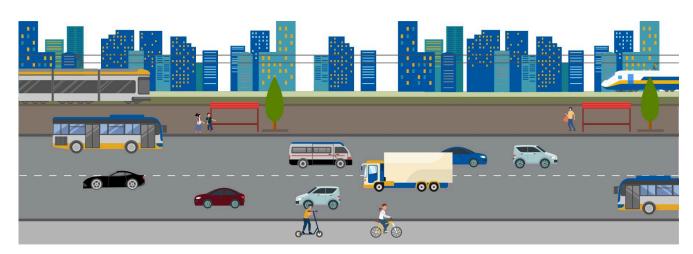
What can you spy?

Think about: What are the most common modes of transportation in your neighborhood? Why?



Let's Get Moving: Observation Worksheet Version 2 (5th/6th Grade)





Transportation is moving people and things.

What other kinds of transportation do you know?

Types of Transportation: I Spy

I spy transportation...

- -with four wheels
- -that can carry one person
- -that can carry more than 10 people

What can you spy?

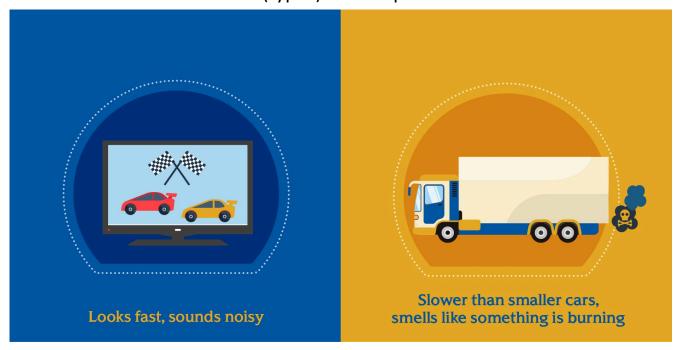


BONUS WORKSHEET:





<u>Instructions</u>: Use your senses (sight, smell, sound, touch, and taste) to notice and observe different modes (types) of transportation.



You can include transportation you use, that you see someone else use, and even transportation you see on TV.

Make a short video with Flipgrid talking about what you saw.

Include information such as:

What is it? What did it look like?
Where did you see it?
How fast was it? What did it smell like?



Let's Get Moving: Active Modes Worksheet Version 1 (1st-4th grade)



What is transportation?

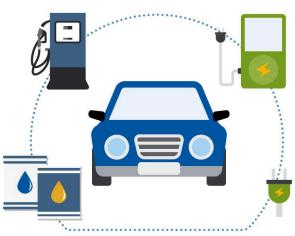
Transportation is moving people and things.

What type of transportation do you use the most?



Active Modes of Transportation (Cont.)





Driving uses fossil fuel or electricity

Do you walk, go in a car, or ride the bus?

We all need transportation.

Some types of transportation, like walking, use your body. This type is called active transportation.

Activities: Draw a picture of yourself using an active mode of transportation.



Let's Get Moving: Active Modes Worksheet Version 2 (5th/6th grade)



What do you know about transportation?

Instructions: Brainstorm with your classmates and fill out the table below to list everything you know about transportation.

<u>Modes</u>	Energy Sources	<u>Effects</u>
EXAMPLE: car	EXAMPLE: gas	EXAMPLE: smog

Active Modes and Energy Sources (Cont.)

Many modes of transportation, including cars and trucks, rely on gasoline, which is a type of fossil fuel. However, fossil fuels like oil and natural gas are non-renewable energy sources, and they will eventually run out. These energy sources also contribute to global climate change. Using sustainable "green" energy sources like solar power and energy from calories burned reduces our carbon footprint and protects the planet. Using active modes of transportation like walking and riding a bike helps us maintain our health, too.

Transportation accounts for almost 30% of all energy used in the United States. The most-used energy source in the U.S. in 2019 was gasoline. Check out the graph on the next page to learn more.





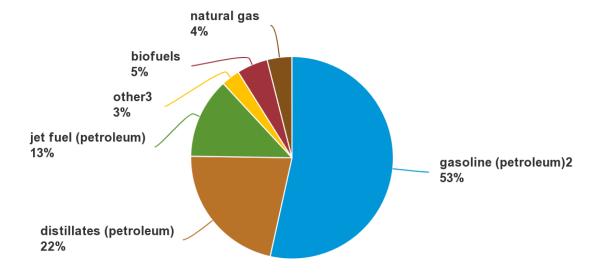
Driving uses fossil fuel or electricity



Let's Get Moving: Active Modes Worksheet Version 2 (5th/6th grade) CONT.



U.S. transportation energy sources/fuels, 2019 1



- 1. Based on energy content
- 2. Motor gasoline and aviation gas; excludes ethanol
- 3. Includes residual fuel oil, lubricants, hydrocarbon gas liquids (mostly propane), and electricity (includes electrical system energy losses).

Note: Sum of individual components may not equal 100% because of independent rounding. Source: U.S. Energy Information Administration, Monthly Energy Review, Tables 2.5, 3.8c, and 10.2b, May 2020, éia) preliminary data



- 1. What is the second most-used energy source according to the graph?
- 2. Which of these energy sources are sustainable?

Brainstorm:

How can we get more people to use sustainable energy sources? What is something you can do to encourage more kids to use an active mode of transportation to get to school?