
ACTIVITY #4: GETTING FROM A TO B

TIME

Warm-up: 10 minutes
Part A: 30 - 40 minutes
Part B: 30 - 40 minutes

REQUIRED RESOURCES**Warm-up**

- “Personal Transportation” worksheet and answer key

Part A

- “Getting from A to B Student Worksheet: Part A”
- Computer with projector and screen OR overhead projector
- Computer lab with internet access and printer; one computer per student

Part B

- “Getting from A to B Student Worksheet: Part B”
 - Computer lab with internet access; one computer per student
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The Big Idea

1. To illustrate the connections between transportation and air quality.
 2. To identify different types of transportation and alternate routes for getting to school.
 3. To participate in a travel challenge and determine that different methods of transportation can be convenient and also have less of an impact on air quality.
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Curriculum Connections

Curriculum connections are listed by province, grade and subject on the Air Aware website (<http://www.airaware.net>).

Activity**Warm-Up**

1. Project or provide students with the “Personal Transportation” worksheet (page 27). Have them rank the types of personal transportation from what they believe is the highest to lowest energy use. This can be discussed in small groups or as a class.
2. Project the “Personal Transportation” answer key (page 30) to show the actual percentages of energy consumption by transportation type.

Part A

1. Distribute “Getting from A to B” worksheet.
2. Have students go to Google maps (<http://maps.google.ca>) to create and print a map which shows the location of their home AND the location of the school. Have students type in their home address in the search bar at the top of the page and press enter. Once the map is generated instruct students to zoom out until they are able to see the location of their home AND the school. Then they can print the map.
3. Have students mark the printed Google Map according to the instructions on “Part A” of the worksheet and answer all the questions.

Part B

1. Have students refer to “Part B: Air Aware Travel Challenge” on their worksheet.
2. Instruct them to complete the first row in the chart by writing in the typical type of transportation that they take to school and a different type of transportation that they could realistically take to get to school.
3. Next, have students access the Clean Air Achievers (CAA) Trip Tracker which will calculate the Greenhouse Gas (GHG) emissions produced by each method of transportation (instructions for students are also provided on their worksheet).

The CAA Trip Tracker can be accessed at the following link:

<http://www.cleanairachievers.ca/adult/diary/login.asp?strRedirect=/adult/diary/index.asp>

- Students will need to register by creating a username and password

- Next, they will scroll down to the bottom of the page and select “Enter a Pre-CAA Trip.”

- Students will then be prompted to enter their start location (home), end location (school), distance and type of transportation they usually use.

- Once they have entered their usual type of transportation, students will click on the link to “CAA Trips” and enter their different mode of transportation.

- After clicking the “ADD TRIP” button, the amount of GHG’s they have reduced will be calculated and displayed based on kilograms of Carbon Dioxide.

4. Have students complete the chart on “Part B” of the worksheet.
5. As a class, discuss the various experiences, benefits and challenges and ask students how this will affect their choices for getting to school.

Making It Real

- Allow students a few days to come to school using the different method of transportation and discuss the benefits and drawbacks they experienced using this new method.
- Have students use the CAA Trip Tracker to calculate other trips they take regularly (for example, getting to their part-time job, friends house, the mall, gym, etc.) and see how they can reduce GHG emissions by taking alternate types of transportation.

SAFETY NOTE: Ensure students are commuting to and from school safely and that they have received permission from parents/guardians if required.

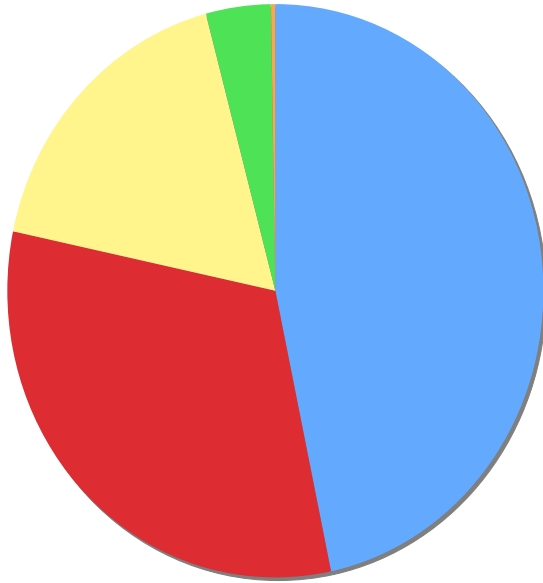
Active Break

1. Work in partners or small groups and count all the stairs in your entire school. See which group can return to class with the correct number the fastest. Caution students to safely conduct this exercise. As groups are returning to class have a discussion on why taking the stairs is a better option for the environment and our health. If you are able to, show your class the video for “Piano Stairs” on www.thefuntheory.com.
2. Refer to “Getting Active for Cleaner Air” for other active games.
<http://www.cleanairchampions.ca/CAC/Ekits.aspx>

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Personal Transportation

The pie chart indicates the overall energy consumed in Canada for personal transportation types. List the transportation types from highest to lowest in overall energy consumption.



Bus

Car

Rail

Air

Light Truck*

Motorcycle

*includes pick-up trucks, SUVs and minivans

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____



Did you know?

Transportation is one of the biggest contributors to climate change (greenhouse gases) and ground level ozone. Close to 30% of the total energy consumed in Canada is for transportation. It takes almost the same amount of energy to move one person as it does to move all the goods that person consumes. Reducing our use of personal vehicles improves air quality and reduces greenhouse gas emissions that lead to climate change. (GreenLearning, 2009)

ACTIVITY #4: GETTING FROM A TO B STUDENT WORKSHEET

Part A: Getting from A to B

Use Google Maps (<http://maps.google.ca>) to create and print a map that includes your home and your route to school. Type your home address into the search bar at the top of the page and press enter. Once a map has been generated, use the zoom out feature until you are able to see the location of your home AND the school. Print this map. Using the map and resources on the internet, complete the following steps.

1. Locate your home on the map and mark it in red.
2. Locate your school on the map and mark it in blue.
3. Locate public transportation routes on the map (buses, subways, light trains/rail). Mark these routes in green.
4. Locate parks and walking/bicycling paths. Mark these in yellow.
5. Locate any local stores that you or your family might visit. Mark these in orange.
6. Using the “Get Directions” feature on Google maps, calculate the following:
 - a.) Distance by CAR from home to school _____ km _____ minutes
 - b.) Distance by PUBLIC TRANSIT from home to school _____ km _____ minutes
 - c.) Distance by WALKING from home to school _____ km _____ minutes
7. Using your data from question 6, answer the following questions:
 - a.) Which method of transportation takes the shortest distance?
 - b.) Which method of transportation takes the least amount of time?
 - c.) Which method of transportation has the least effect on air quality?

Part B: Air Aware Travel Challenge

Fill in the following chart with the typical type of transportation you take to school and a different type of transportation that you realistically could take to school. To see how many Greenhouse Gas emissions (GHG's) you produce with each method of transportation, you will need to register with the "Clean Air Achievers Trip Tracker" at the following link:

<http://www.cleanairachievers.ca/adult/diary/login.asp?strRedirect=/adult/diary/index.asp>

Upon registering, scroll down to the bottom of the page and select "Enter a Pre-CAA Trip"

You will then be prompted to enter their start location (home), end location (school), distance and mode of transportation (enter your usual mode of transportation).

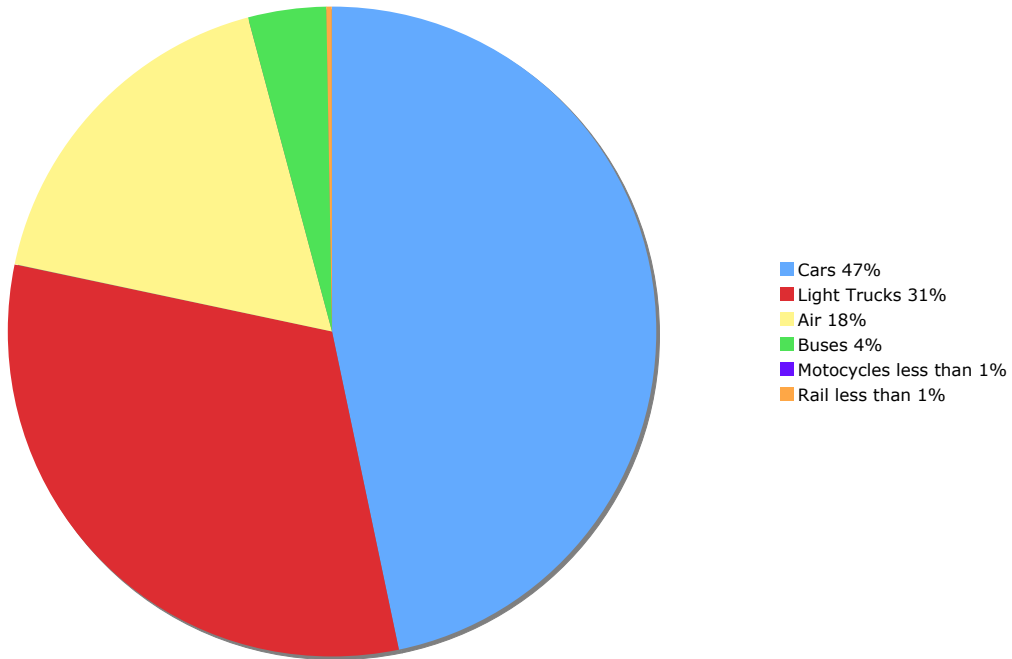
Next, click on the link to "CAA Trips," enter your different mode of transportation and click on the "ADD TRIP" button

	Typical Type of Transportation	Different Type of Transportation
Name of transportation type		
Approximate time it takes to get to school		
What do you like best about this type of transportation?		
What do you like least about this type of transportation?		
How many GHG Emissions are produced using this type of transportation?	/kg of CO ₂	/kg of CO ₂
What are the benefits from using this type of transportation?		
What are the impacts on air quality from this type of transportation?		

ACTIVITY #4: GETTING FROM A TO B TEACHER ANSWER KEY

Part A

Personal Transportation Energy Use by Type in Canada



Source: Office of Energy Efficiency, *Energy Use Data Handbook* (Natural Resources Canada, 2006).



Did you know?

*Per capita car ownership has increased by 300% in the last 40 years
(www.cleanair.ca, 2010)*