



6-12TH GRADE: TRAVEL JOURNAL

GREEN GUIDE TRANSPORTATION UNITS

Transportation Location: three lessons, history/science (3-6)

Pollution and Evolution: one lesson, science (6-8)

3-D Bike Maps: one lesson, science (6-8)

Marketing Strategy and Transportation: two lessons, health/art (6-12)

The Cost of Transportation: one lesson, science (6-12)

What Do I Stand For?: one lesson (6-12)

Travel Journal: three lessons (6-12)

History of Transportation: two lessons (9-12)



SAFE ROUTES TO SCHOOLS
CURRICULUM

Find our curriculum online at : http://www.saferoutestoschools.org/green_curriculum.html

UNIT DESCRIPTION

TRAVEL JOURNAL: A THREE-LESSON SOCIAL SCIENCE & TRANSPORTATION UNIT

Grade 4-12, 20-50 minutes, classroom setting.
One lesson per week for three weeks

INTRODUCTION

The Travel Journal challenges students to explore their travel modes and discover how many trips they can reduce by choosing alternatives. They will be asked to keep a Journal for two weeks of their travel choices, using the second week to find new ways to travel. They will also discover how their parents got around when they were young. It is an excellent way to prepare students to promote green ways to school to their peers but taking the first step themselves.

This lesson is an activity that can be combined with *The Cost of Transportation*, which teaches students to explore the hidden costs of driving and the savings in money, health, environmental and social costs that come from choosing to walk, bike, take transit, carpool, or combine trips.

OBJECTIVES

Students will be able to:

- Compare transportation alternatives, their convenience, energy requirements and ability to promote or damage personal and societal health.
- Gain insights into the hidden costs of transportation.
- Take action that reflects personal commitment to balance their own mobility needs with the requirements of personal, social and environmental health.
- Learn additional ways in which they can personally address and impact environmental issues such as global warming.

MATERIALS

- Two copies of the Travel Journal for each student
- The True Costs of the Automobile
- Car Cost Calculator

TEENS GO GREEN



Safe Routes to Schools is a program of the
Transportation Authority of Marin.

Part of the *Marin Safe Routes to Schools Curriculum*. Engaging lessons K thru 12 that include applicable state educational standards.

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LESSON ONE

TRAVEL JOURNAL:

Grade 4-12, 10-20 minutes, classroom setting.



PROCEDURE

1. Ways to Get Around (Brainstorm)

With a blank black board or large sheet of paper ask the students to brainstorm as many as possible “ways to get around.” Answers should include (you can add them if nobody comes up with them) walking, biking, skateboard, roller blades, cars, carpools, buses, planes, boats, trains, etc.

2. The Travel Journal

Pass out the Travel Journal forms (p. 4) and explain to the students that for the next week they will be keeping track and recording the various forms of transportation they use to and from school, to after school activities, to go shopping, meet with friends, etc. Explain how the form is to be filled out, giving the necessary information for each trip made.

3. Parent Interview

The second part of their homework assignment is to ask their parents and/or grandparents how they used to get around when they were middle school age. Again the question should include to and from school, shopping trips, after school activities, hanging out with friends, etc. The students should write the responses down on a sheet of paper and bring it with them to class for the session next week.

TRAVEL JOURNAL

STUDENT NAME _____

WEEK OF _____

DAY **Reason For Travel** **Transportation Mode** **Distance in Miles**

example *Home to School* *Bike* *.75miles*

Monday _____

Tuesday _____

Wednesday _____

Thursday _____

Friday _____

Saturday _____

Sunday _____

WEEKLY TOTALS

Mode	# of Trips	Total # of Miles
Bike		
Walk		
Bus		
Carpool		
Car		
Other (describe)		

LESSON TWO

TRAVEL JOURNAL:

Grade 4-12. One week later. 50 minutes.

Classroom setting.



PROCEDURE

1. Brief Review of Journal Results

Ask the students to take out their Travel Diaries from the preceding week and just get a flavor of the results through a show of hands as to :

- i. How many found that most of their trips were by car?
- ii. How many people biked?
- iii. Did anybody walk? Take the bus? Carpool?

2. Brief Review of Parent Interview Results

Ask for a show of hands to see how many people found that their parents walked to school? Took a bus? Rode a bike? Were driven by their parents? Ask for volunteers to report back anything they found interesting or surprising in what their parents or grandparents told them.

3. The Costs of Transportation

Note: This is an abbreviated version of *The Cost of Transportation*.

Ask the class how they would go about calculating the costs of getting around in an automobile. The chances are they will think of the cost of a car and the cost of gasoline, but these are only a fraction of the total financial costs of driving a car. In addition there are other hidden costs for health and the environment.

After presenting, in a general way, these four categories of costs (see attached Cost Analysis), see if you can get the students to brainstorm what costs in each category might be associated with driving. Supplement their suggestions with the factors presented in that analysis. After writing them up on the board, reflect upon which ones are issues (and to what extent) in the case of walking/ biking/car pooling and busing.

LESSON TWO cont.



PROCEDURE CONT.

4. Projections, Possibilities and Probabilities for Personal Change

Ask the students to review the trips listed on their previous week's log and with regard to each trip they made by car; have them note on their forms the degree of difficulty (easy, moderate or hard) of replacing that particular ride with walking, biking, carpooling or taking public transit. Combining different purposes into a single trip also counts as a savings.

Pass out another batch of Transportation Logs and encourage/ challenge them to see how much they can reduce their overall transportation "costs" while promoting their own health as well as that of the environment in the coming week.

5. Family Car Cost Calculator - Dollars/Mile and Hours/Week (5 minutes)

The second part of their homework assignment is to take home the Family Car Cost Calculator and give it to their parents to compute. Parents may prefer to keep the results of their calculations confidential, and that is fine. This is primarily a tool to help families assess the true financial and labor costs involved in driving. Rather than actual numbers ask the students to bring in their parents' comments and observations upon completion of the Cost Calculator (e.g. were they surprised? Did the results inspire them to reflect on possible cost-saving measures with regard to their transportation patterns?)

INDIVIDUAL AND FAMILY CAR COST CALCULATOR

Approximate Miles Driven Per Year	(a)
Average Miles Per Gallon	(b)
Total Gallons Per Year (a:b)	(c)
FIXED COSTS:	
Ownership (monthly payments x 12, or purchase price/yrs owned.	(d)
Regular Maintenance	(e)
Insurance	(f)
Registration	(g)
Smog Test and Certificate (divided in half)	(h)
Total Fixed Costs (d thru h)	Subtotal: (i)
VARIABLE COSTS:	
Fuel at current price/gallon, multiplied by (c)(j)	
Parking (include work, home, meters)	(k)
Unexpected Repairs	(l)
Total Variable Costs (j thru l)	(m)
TOTAL ANNUAL COSTS (i + m)	Total: (n)
Cost Per Mile (n divided by a)	(o)
Hours Worked Per Week to Support Car	
(n divided by \$/hr net = Hours/Year then divide Hours/Year by 52)	(p)

LESSON THREE

TRAVEL JOURNAL:

Grade 4-12. One week later. 50 minutes.

Classroom setting.

PROCEDURE

1. Brainstorm Warm Up

Ask students to brainstorm a list of things which a person could observe, experience, or do while walking or biking which would be impossible or unlikely if traveling by car. Possibilities include such things as smelling the flowers, meeting, greeting and talking to friends or strangers, getting exercise, etc.

2. Review Changes

Ask students to get out their two Journal forms from each of the two weeks under review and scan them for any changes. Were there less or more car trips? Were there additional trips walking or biking? Did they use public transit or carpool. Could they combine trips?



3. Discussion

a. What Changed?

Ask students to share what changed from week one to week two in terms of the above questions. In a small class setting you can go around the room to allow everyone to share. In larger classes use the popcorn method to ask random students to report back.

b. How Were Changes Experienced

As the students share, have them express what was different about their experience given any changes (e.g. “When I rode to school I felt more refreshed and awake by the time school started” or “When I walked to a friend’s house, I ran into another friend and we all three hung out together”).

c. Barriers to Change

After covering A and B above, ask the students to share what are the barriers to making positive, healthy and helpful changes in their patterns of getting around (e.g. parents won’t allow to take public transit or no sidewalks along the road leading to school).

d. Overcoming Barriers

In each case, when barriers are presented, brainstorm along with the students for possible solutions to help overcome barriers to change.

LESSON THREE cont.



PROCEDURE CONT.

4. Parental Feedback

Ask the students if they have anything to report back from their parents' filling out of the Family Car Cost Calculator. They can share either specifics from the calculations or general comments and reactions their parents might have had to the exercise.

If there is not much to report or the conversation lags, this would be a good point to review how much the students have internalized about the various "true costs" of driving, by asking them to recall the categories and specific costs associated with driving from the previous class period.

5. Conclusion

Review the benefits and obstacles of choosing ways to get around besides driving. Ask the students if they will continue to find alternatives to driving? How would they influence their peers to do the same? How can the students promote healthy, environmentally beneficial and cost-effective means of transportation in the near future as well as during their high school years and beyond?

Possible Follow-up

Organize a school-wide challenge to promote green transportation such as a trip-tracking contest.

Use this assignment as part of *The Cost Of Transportation* curriculum.