Road Safety

Unit Summary

In this study, students focus on a local problem: traffic accidents in their community. After the teacher sets the stage with compelling news articles about road accidents and statistics, students turn their suppositions about the causes of accidents into research questions. With help of the *Seeing Reason Tool*, they think through the complex factors that influence safety, from congested streets to driving habits to traffic patterns. They study, represent their understanding in causal maps, and ultimately write an "action plan" that makes a case for why accidents occur and how to avoid them. Students develop their action plans into public service presentations that inform the community about the problem and offer ideas for personal actions as well as public policy that will improve road safety.

Curriculum-Framing Questions

- **Essential Question**
  How can I understand the world around me?
- **Unit Questions**
  How can I use different kinds of data to understand issues in my community?
  How can I have a voice in my local government?
- **Content Questions**
  What can different kinds of data tell us?
  What are the responsibilities of local government?

Assessment Processes

View how a variety of student-centered assessments are used in the Road Safety Unit Plan. These assessments help students and teachers set goals; monitor student progress; provide feedback; assess thinking, processes, performances, products; and reflect on learning throughout the learning cycle.

Instructional Procedures

Introduce the Project

Pose the Essential Question: *How can I understand the world around me?* Determine background knowledge by asking students how they get information about their community and what kind of information is the most reliable. Ask who is responsible for making their community safe and how they learn about safety issues in their community. Ask what kind of information is available on the topic and where do they get the information (talking to their parents and friends, observation, and the newspaper). Encourage students to think of as many different kinds of information as they can. Ask them to categorize the kinds of information (personal stories of friends and family, incidents from the news, traffic reports from the newspaper, government statistics).

Place students in small groups and ask them to describe the strengths and weaknesses of each kind of evidence. While students are in small groups make anecdotal observations about their understanding of what makes good evidence. Use this information to plan mini-lessons on evaluating evidence throughout the unit.

With the class, read a news article from Israel or a local news story about road accidents, and have students discuss their initial assumptions about the problems of road safety. Explain that they are going to be looking at complex events and thinking about their causes keeping in mind that most events have multiple causes, that events can be both effects and causes, and that just because one event happens after another, the first doesn't necessarily cause the second.

Place students in jigsaw groups to generate factors to be used in their causal maps. In the first phase of the jigsaw, each group is given one main factor (human factors, road factors, or driving condition factors). They will use Post-its* to brainstorm concrete examples contributing to their main factor. Next, they will categorize and generalize their examples into categories for their causal maps. Use the Support for Causal Mapping checklist to provide feedback and prompting to students during this activity. In the final phase of the jigsaw, representatives from each main factor group will meet with their teams to combine all three main factors into the team's causal map.

Use the Seeing Reason Tool
Before proceeding with the next activity, click here to set up the Road Safety project in your workspace. Collect students' thinking and demonstrate the *Seeing Reason Tool* by having students contribute factors to a map you build that reflects on the Unit Question: *What causes our roads to be unsafe?* As students offer ideas, show them how to organize and describe factors relating to the problem. Help students explore the complexities of the topic and guide the discussion to address human, road, and driving condition factors. These might include:

Human factors: Driver inexperience, older drivers, driver distraction, impaired driving, speeding, failing to stop at signals
Road factors: Surfaces, number of lanes, pedestrian and bicycle access, intersections, signage, and straightness
**Driving condition factors:** Time of day, congestion, weather, conditions of vehicles, types of vehicles on the roads, speed limits, and police patrols

As students are working on their maps, provide feedback on their cause-and-effect thinking: *Are they seeing multiple causes and effects? Are they interpreting connecting events correctly?* Provide individual and group feedback or conduct a whole-class mini-lesson, if necessary.

The *Seeing Reason Tool* space below represents one team's investigation in this project. The map you see is functional. You can roll over the arrows to read relationships between factors, and double-click on factors and arrows to read the team's descriptions.

Project Name: Road Safety (Click here to set up this project in your workspace)
Question: What causes roads to be unsafe?
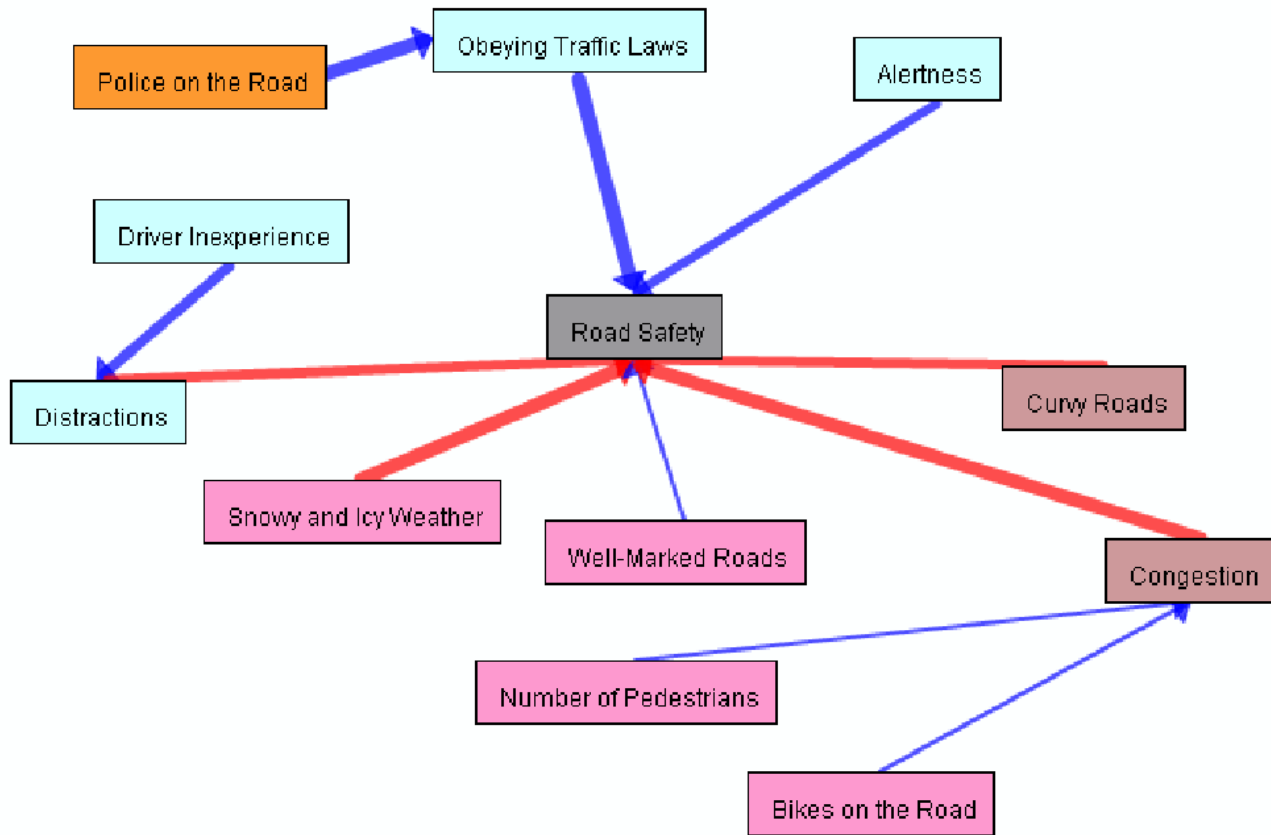
Plan for Research
Ask the Content Question: *How do citizens have input into local government* decisions? Review local government structure and ask the Unit Question: *How can I have a voice in my local government?*

Explain that student teams are going to study different factors more deeply and then develop a plan of action for safer roads in their community. This will take the form of a short paper and associated presentation. Have students meet in teams of two or three to discuss and identify topics they would like to study. Have them determine the audience for their analysis and recommendations. If a group picks "speeding" as an important factor to study, a likely audience would be drivers. If they choose road conditions such as "congestion," their audience might be a city planning commission. (Try to get two teams to study the same problem. After initial research, they combine into one team to synthesize their research into a final report and presentation.) To set the stage for the next activity, have small groups share the problem they want to study.

Define Research Questions
Refer to the steps below to explain and discuss the process for turning problem statements into research questions. Then have teams submit a research plan for your input and approval.
1. Define a factor in measurable terms. Example: Speeding is driving at a rate that's over the legal limit.
2. Pose a research question that can be quantified. Examples: *How many accidents are attributed to speeding each year? Why do people speed?*
3. Plan to address questions in these two ways:
   o Find reputable sources. *Which sources are likely to have this type of information?* For example, to answer, *How many accidents are attributed to speeding each year?,* students might meet with a representative from the local police department and look at department of transportation statistics on a Web site. Encourage students to get information from a variety of kinds of sources.
   o Collect original data to answer the question. For example, to answer, *Why do people speed?,* students could survey drivers they know. To learn, how many bicycles are there on Kaplan Street, they could collect data at different times during the day. Conduct a lesson on collecting reliable data, addressing topics such as the importance of accuracy in measurements, keeping careful records, the identification of variables, and the

uniform use of tools by different group members.

Dig Into Research

Before proceeding with the next activity, click here to set up the Speeding project in your workspace. After you have approved students' research plans, have them study their questions using human and print resources, systematic field observations, and a set of online information resources. Have students record their data in a spreadsheet, separating statistical data from anecdotal data.

As they discuss, read, interview, and conduct field observations, students will start to make sense of the complex factors that influence (increase and decrease) road accidents by identifying patterns within their data. Have them organize their growing understanding in a team causal map. Recommend that they explain and justify their reasoning by supplying quotations, numerical data, and source citations in the factor and relationship description fields. Encourage students to add to and modify their maps as understanding grows and their thinking changes. View the changing maps to gauge research progress. Student work should show both clear understanding of the problem and reasonable solutions. Guide students as they study and map, and use the "comments" feature of the tool to review and comment on their work during off hours. See one team's map on speeding and road safety here.

Project Name: Speeding (Click here to set up this project in your workspace)
Question: What causes roads to be unsafe?
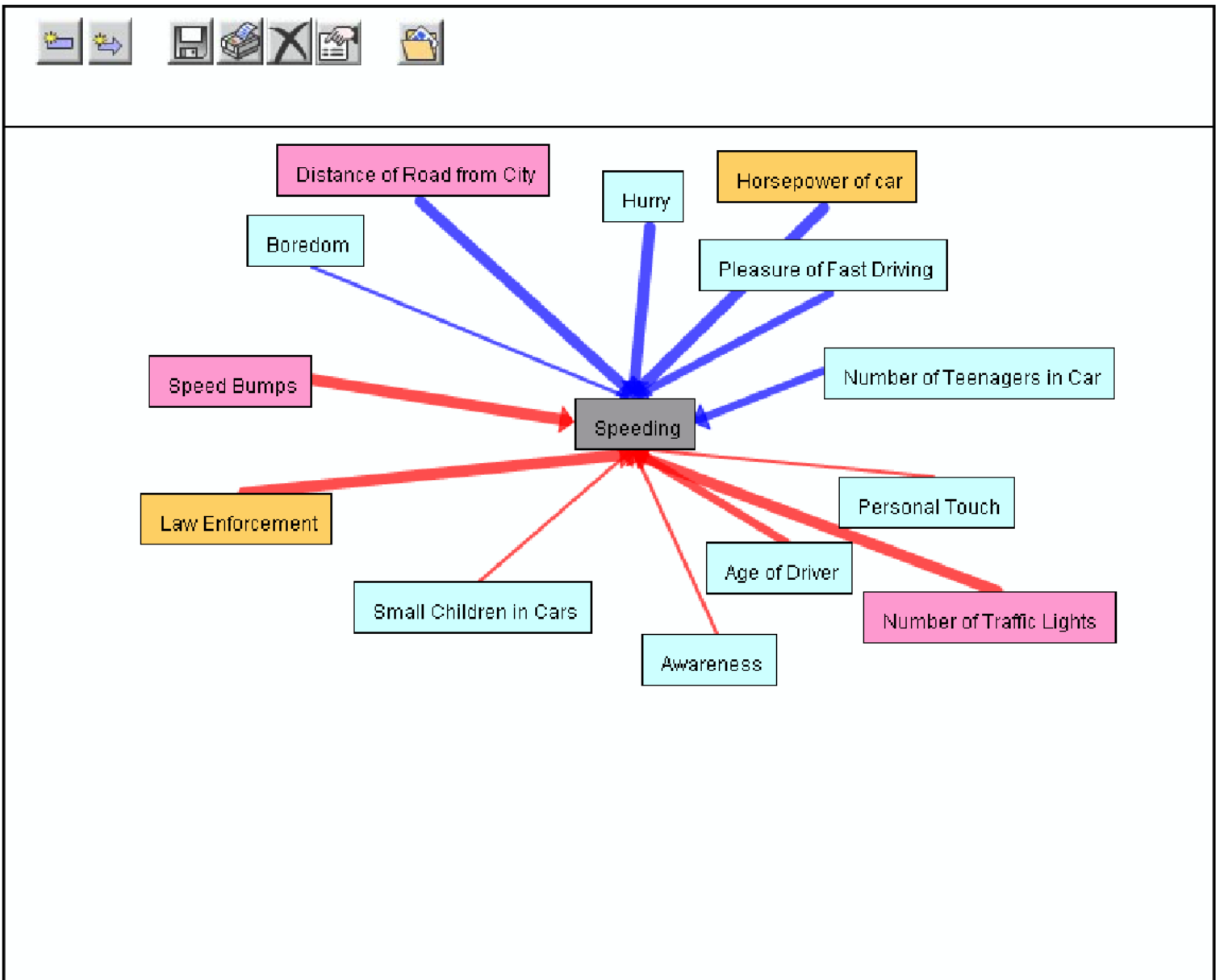
Team Plan of Action

After completing their research, teams that studied the same topic combine into one team to share their research, draw conclusions, and develop a plan of action. Pose the Unit Question: *How can I have a voice in my local government?* Have students generate some possible audiences for their plan of action. Ask each group to choose a specific audience for their presentation.

Ask the Content Question: *What can statistical and anecdotal data tell us?* Conduct a lesson on analyzing statistical and anecdotal data, comparing means and medians, finding commonalities, looking for trends, and identifying outliers. Model drawing reasonable conclusions from data.

Use this example of one team's plan of action and this list of elements to establish requirements for the paper.

- Statement of the problem
- Research and data collection methods and representation of the data
- Representation of the data in graphs or causal maps
- Reasoned analysis of the problem that reflects the research
- Recommendation
- Justification for one recommendation over others
- Practical steps for carrying out their plan

Presentation
Set aside several days for students to plan a culminating public service event, where students present their proposals to classmates and interested members of the community. Give students the project rubric to refer to as they prepare their presentations and papers. Show students an example presentation to model expectations. Have students use plans of action, maps, and other products of their research effort (photos, graphs, taped interviews) to support their recommended course of action. While students are working on their plans, conduct group conferences to determine progress and understanding of cause-and-effect thinking and data analysis. Provide additional instruction and support when needed.

Individual Essay
After students have presented and learned from each other's presentations, assess individuals for general understanding by assigning a one-page essay. Have students write in response to the Essential and Unit Questions: *How can I understand the world around me?* and *How can I use different kinds of data to understand issues in my community?*

Prerequisite Skills
- Proficiency with conducting simple mathematical operations in spreadsheets
- Creating charts and graphs from data

Differentiated Instruction
Resource Student
- Give students with special needs additional assistance and task modifications as needed.
- Allow the students to use compensatory skills to complete assignments, such as oral interview instead of final essay.

Gifted Student
- Consider extensions to the unit, such as comparing statistics from similar locations, writing an opinion piece for the local paper, building a model of an improved road system, or producing a video or audio public service announcement.
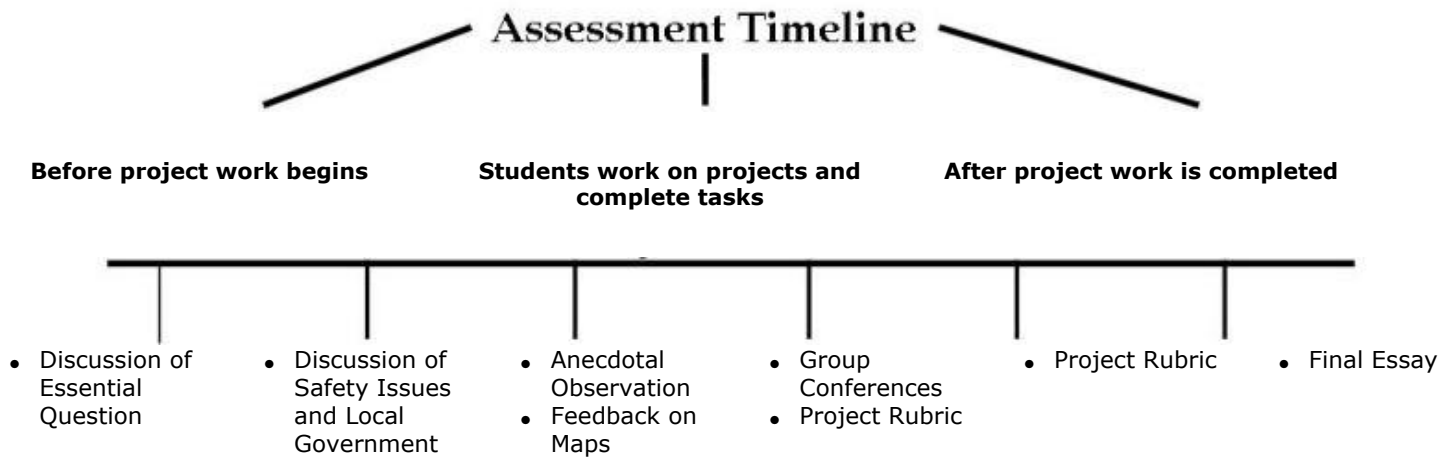
English Language Learner (ELL)
- Prepare all students to interact positively with English Language Learners in small groups by encouraging them to participate with whatever English they have.
- Ask the ELL teacher to support instruction by translating topical terms into an English/native language glossary, explaining difficult concepts, and helping students complete assignments and conduct research.
- Allow students to do research in their native language.

Credits
Teachers in Israel and Oregon worked together to develop the idea for this Unit Plan. This classroom project was featured in An Innovation Odyssey, a collection of stories of technology in the classroom, Story 275: Mapping the Road to Safety.

Assessment Plan

Assessment Plan

Assessment Timeline

Before project work begins	Students work on projects and complete tasks	After project work is completed
• Discussion of Essential Question	• Anecdotal Observation	• Project Rubric
• Discussion of Safety Issues and Local Government	• Feedback on Maps	• Final Essay
	• Group Conferences	
	• Project Rubric	

Discussions are used frequently during the unit to gauge students' background knowledge and understanding of the concepts in the unit. While students are working on their maps, teachers use the Support for Causal Mapping to help students categorize and generalize their ideas. Teachers collect observational evidence of students' understanding of quality evidence and use this information to plan mini-lessons adressing student needs during the research phase of the project. Student groups meet with the teacher for feedback while they are developing their action plans, papers, and presentations. A project rubric helps students create their final presentations and papers and is used to assess the final product.

Content Standards and Objectives

Targeted Content Standards and Benchmarks
Oregon State Standards
Social Sciences
- Identify public safety, transportation, education, and recreation as responsibilities of local governments
- Understand how citizens can learn about public issues
- Identify and give examples of how individuals can influence the actions of government.

Mathematics
- Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them

National Educational Technology Standards (NETS)
Performance Indicators for Technology-Literate Students
- Use general purpose productivity tools and peripherals to support personal productivity, remediate skill deficits, and facilitate learning throughout the curriculum.
- Use technology tools (e.g., multimedia authoring, presentation, Web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom.

Student Objectives
Students will
- Investigate and represent complex systems of cause and effect
- Collect, organize, display, and evaluate data to identify local problems
- Collect and organize information from multiple sources
- Synthesize research findings to devise credible solutions
- Classify information, analyze data, and evaluate what data are relevant to the problem
- Summarize findings, reach conclusions, and make decisions based on visual displays of data
- Persuade others of the validity of their position

Resources

Materials and Resources
Internet Resources
Israel Sites
- Anashim Be'adom for Safe Roads in Israel
  www.anashimbeadom.org.il/aba/Section.aspx?Name=Personal+Stories*
  First-hand accounts from the war on road crashes by a volunteer traffic policewoman
- Betts Injury Prevention Project, Hebrew University-Hadassah School of Public Health and Community Medicine, Jerusalem, Israel
  www.md.huji.ac.il/depts/occenvmed/2000before.html*
  A proposal that lists several methods for reducing accidents and predicts the lives that will be saved by their implementation
- Israel Central Bureau of Statistics
  www.cbs.gov.il/lmsrce.cgi?p=!srch&r=0&f=3&o=0*
  A searchable database of statistical information, including data related to traffic accidents
- The National Road Safety Authority
  http://pasimlev.mot.gov.il/RoadSafety/English/Welcome/*
  Road accident statistics

United States Sites
- International Injury and Fatality Statistics
  www.safecarguide.com/exp/statistics/statistics.htm*
  Compare problems different countries have to put our own in perspective
- National Highway Safety Administration's Safety City
  www.nhtsa.dot.gov/kids/*
  Vince and Larry, NHTSA's crash test dummies, are tour guides for Safety City, Cyberstudio, a Challenge Quiz, and more
- Traffic Calming for Communities: US Department of Transportation: Federal Highway Administration www.ite.org/traffic/tcresources.htm*
  Neighborhood traffic management programs around the U.S.
- US Department of Transportation: Federal Highway Administration
  http://safety.fhwa.dot.gov/*
  Many national statistics about accidents, can search by locale
- US Department of Transportation: Federal Highway Administration
  www.fhwa.dot.gov/webstate.htm*
  List of links to state departments of transportation

Technology – Hardware
- Computer(s) for conducting research and creating papers and presentations
- Printer for revising and disseminating products
- Projector for sharing *Seeing Reason Tool*

Technology – Software

- Database/spreadsheet for collecting and analyzing data
- Encyclopedia on CD-ROM for conducting research
- Internet Web browser for conducting research
- Multimedia presentation software for creating presentations
- Word Processing for writing papers

Support for Causal Mapping

The following prompts are to help teachers guide their students' thinking as they organize and generalize their concrete examples into categories.

Create Categories of Factors

Questioning Strategies	Assessment Checklist
1. Separate the _____ from the _____. 2. What kind of a _____ is this? 3. Which one doesn't belong in this group? 4. What is the relationship between _____ and _____ ? 5. How is _____ like _____ ? 6. How are _____ and _____ different? 7. Distinguish between _____ and_____ . 8. Can you separate these factors into more distinct categories? 9. Ask them to think of names for the categories (intermediary factors) they create. 10. Why are you grouping them that way? For example: Why are you putting the radio and the cell phone together? Why are you putting old drivers and teen-agers together?	Circle the letter of the skill or strategy that is apparent in each group's discussion. 1. Students can identify common features and compare and contrast items. 2. Students can differentiate between general categories and specific examples. 3. Students can generate reasonable categories and explain their reasoning. 4. Students can create appropriate names for categories. **Team 1** 1 2 3 4 **Team 2** 1 2 3 4 **Team 3** 1 2 3 4 **Team 4** 1 2 3 4 **Team 5** 1 2 3 4 **Team 6** 1 2 3 4 **Comments:**

Refine Categories of Factors

Questioning Strategies	Assessment Checklist
1. Are you sure you want to categorize them that way? 2. Are there ways that factors in the same category are different? Are these important differences? Would this make a difference in your categories? 3. Take two factors that could create a new category and put them together and ask them what new category they might belong to. 4. Try recategorizing the factors into different group? Do these groups more accurately reflect their	Circle the letter of the skill or strategy that is apparent in each group's discussion. 1. Students can see flaws in their reasoning. 2. Students can see multiple ways of categorizing. 3. Students can evaluate the best categories and explain their reasoning. **Team 1** 1 2 3 **Team 2** 1 2 3 **Team 3** 1 2 3

characteristics?	Team 4 1 2 3
	Team 5 1 2 3
	Team 6 1 2 3
	Comments:

Finalize Categories

Questioning Strategies	**Assessment Checklist**

1. What is the overall theme of _____ ?
2. What generalization can you make from this information?
3. Think of good names for your categories.
   • Are they short with just a few words?
   • Do they accurately describe the factors in it?
4. Do all of the factors fit in the category or do you need to move some to other categories or create a new one?
5. Now go back and see if you can think of any other concrete examples that would fit in the category.
6. Do your categories show what is important about the concrete examples or what is superficial?
7. Do you need to refine the title of your category to fit the new examples? Do you need to create a new category or eliminate one?
	Circle the letter of the skill or strategy that is apparent in each group's discussion.
	
	1. Students can generalize categories that include multiple items.
	2. Students can prioritize items based on the degree to which their features relate to the category description.
	3. Students can finalize their category descriptions to include all appropriate items and exclude all irrelevant ones.
	4. Students can elaborate the categories by generating additional appropriate items and describing those items in more detail.
	
	Team 1 1 2 3 4
	
	Team 2 1 2 3 4
	
	Team 3 1 2 3 4
	
	Team 4 1 2 3 4
	
	Team 5 1 2 3 4
	
	Team 6 1 2 3 4
	
	Comments:

Team Research Paper and Presentation Rubric
Road Safety

Content	4	3	2	1
Gathering Information	We explain how we carefully collect both statistical and anecdotal raw data in a systematic, objective manner. We use appropriate and varied information sources using text and technical resources, periodicals, databases, and the Internet.	We collect both statistical and anecdotal raw data. We use a variety of search strategies to help us find information. We prefer to limit the types of information sources we use to those we are most comfortable with.	We try to collect raw data, but it may not be as objective or systematic as it should be. We select resources, but they are not always appropriate. We prefer to use one or two types of resources to find the information we need.	We have no raw data or the data we have collected is carelessly recorded. Someone else selects the information resources we need and shows us how to find the information.
Analyzing Information	We determine that the information we've selected from outside sources is relevant and credible. We correctly and carefully use statistical reasoning to draw conclusions about raw, numerical data we have collected. We examine interviews and anecdotal observations carefully and systematically to identify and categorize common themes.	We use sources that are determined by others to be credible. We use statistical reasoning to draw conclusions about our numerical data. We look at interviews and anecdotal observations to find common themes.	We need help determining if a source is credible. We need help to draw conclusions about our numerical data. We need help to identify common themes in interviews and observations.	Someone has to help us decide what information to use. We cannot draw conclusions about our numerical data. We do not find themes in interviews and observations.
Proposed	Our solution is	Our solution is	Our solution has	Our solution is

Solution	creative, practical, and is justified by a careful synthesis of our research. We address several possible objections to our plan in a logical, thoughtful, and respectful manner.	logical and justified by research. We address some objections to our plan.	some good points but may be impractical or not clearly justified by our research. We address very few objections to our plan, and our responses are not logical.	impractical and is not justified by our research. We do not address objections to our plan.
Presentation/Report				
Writing	Our presentation shows an awareness of the background knowledge and attitude of the audience.	Our presentation shows an awareness of the audience.	Our presentation shows some awareness of the audience.	Our presentation does not address the needs of the audience.
	We use headings and subheadings effectively to convey relationships among ideas.	We use headings and subheadings to help the reader understand what we are saying.	We use some headings and subheadings, but they are sometimes confusing and not helpful.	We do not use headings and subheadings to organize our ideas.
	We use bulleted phrases that are parallel in structure to summarize main points using well-chosen words.	We use bulleted phrases to explain our ideas.	We use some bulleted phrases, but they may be wordy or confusing.	We do not use bulleted phrases to explain our ideas.
	We make no errors in spelling, punctuation, capitalization, or Standard English.	We make no errors in spelling, punctuation, capitalization, or Standard English that detract from meaning.	We make some errors in spelling, punctuation, capitalization, or Standard English that detract from meaning.	We have so many errors in spelling, punctuation, capitalization, or Standard English that it is difficult to understand what we are saying.
Slide Design	Our slides are designed to highlight the most important points in an attractive way and with specific purpose. There is a logical flow of graphics,	Our slide design has been done with purpose. Graphics, sound, and text are relevant to the content.	Our slide design makes some sense. Most graphics, sounds, and text relate to content.	Our slide design is confusing and does not relate to content manner. Our choice of graphics, sound, and text detracts from presentation.

	sound, and text that are relevant to the content.			
Graphics	Our charts and graphs are easy to read, are labeled correctly, and provide important and useful information to the audience. Our graphics explain and reinforce screen text and add to presentation.	Our charts and graphs provide important information to the audience. Our graphics are relevant to text and presentation.	Our charts and graphs are confusing and do not communicate anything to the audience. We occasionally use graphics, but they do not always support the content.	We do not have any charts or graphs OR Our charts and graphs do not make any sense. We do not have any graphics OR Our graphics detract from the content.
Text	We use fonts that are large enough, easy to read, and appropriate. We use text features such as bold, underline, font color, indentations to enhance the understanding of the content. We use an appropriate amount of text on each slide.	We use fonts that are large and easy to read. We use text features such as bold, underline, font color, and indentations appropriately. We use an appropriate amount of text on each slide.	Sometimes our fonts are too small or difficult to read. Sometimes we use text features such as bold, underline, font color, and indentations, but they are not always effective. Sometimes we have too much text on a slide.	We often use fonts that are too small and are difficult to read. When we use different text features, they usually detract from what we am trying to say. We often have too much text on a slide.

News Article: Road Accidents on the Increase
Article taken from *Melabes*, a local paper in Petach Tikva, Israel, summarized and translated by Marsha Goren, a teacher in Israel who co-developed this plan.

Last Thursday the police held an emergency meeting due to the increase in accidents in Petach Tikva.

From January to August there has been a 55 percent rise in accidents in the city compared to statistics from last year. There were 342 accidents with 594 people injured. The head of the police department attended, as well as the head of the municipality. The accidents, according to their findings, were mainly due to poor road foundations. Emergency measures include police commando units in patrol cars and on scooters.

The main reason for the emergency meeting was the increase in casualties as well as deaths among the victims. In August alone, three civilians in Petach Tikva were killed. Another woman was killed in April.

A speaker on behalf of the traffic department in Petach Tikva reported that the problematic places in the city where there are more accidents would now have more manpower to oversee the areas. In addition, the police would recommend solutions to problematic streets with dangerous intersections in cooperation with the municipality.

Online Information Resources

Have students use this set of resources to research traffic statistics and accident prevention. Listed here are both Israel sites and US sites with memorial stories, road accident statistics, and recommendations for prevention of traffic accidents..

Internet Resources
Israel sites
Anashim Be'adom for Safe Roads in Israel
www.anashimbeadom.org.il/aba/Section.aspx?Name=Personal+Stories*
First-hand accounts from the war on road crashes by a volunteer traffic policewoman

Betts Injury Prevention Project, Hebrew University-Hadassah School of Public Health and Community Medicine, Jerusalem, Israel
www.md.huji.ac.il/depts/occenvmed/2000before.html*
A proposal that lists several methods for reducing accidents and predicts the lives that will be saved by their implementation

Israel Central Bureau of Statistics
www.cbs.gov.il/lmsrce.cgi?p=!srch&r=0&f=3&o=0*
A searchable database of statistical information, including data related to traffic accidents

The National Road Safety Authority
http://pasimlev.mot.gov.il/RoadSafety/English/Welcome/*
Road accident statistics

Traffic Department, State of Israel: Accident Statistics
www.police.gov.il/english/AboutUs/Structure/04_en_traffic.asphttp://www.police.gov.il/english/AboutUs/Structure/04_en_traffic.asp*

www.police.gov.il/english/Traffic/Facts_Figures/01_en_tr_4_accidents.asphttp://www.police.gov.il/english/Traffic/Facts_Figures/01_en_tr_4_accidents.asp*
An informational site produced by the Israel police with statistics about road safety

United States sites
Car-Accidents.com
www.car-accidents.com/pages/stats.htmlwww.car-accidents.com/pages/stats.html*
Statistics on accidents, injuries, restraint and airbag use

International Injury and Fatality Statistics
www.safecarguide.com/exp/statistics/statistics.htm*
Compare problems different countries have to put our own in perspective

National Highway Safety Administration's Safety City
www.nhtsa.dot.gov/kids/*
Vince and Larry, NHTSA's crash test dummies, are tour guides for Safety City, Cyberstudio, a Challenge Quiz, and more

Traffic Calming for Communities: US Department of Transportation: Federal Highway Administration
www.ite.org/traffic/tcresources.htm*
Neighborhood traffic management programs around the U.S.

US Department of Transportation: Federal Highway Administration
http://safety.fhwa.dot.gov/*
Many national statistics about accidents, can search by locale

US Department of Transportation: Federal Highway Administration
[www.fhwa.dot.gov/webstate.htm*](www.fhwa.dot.gov/webstate.htm)
List of links to state departments of transportation

Speed Kills: A Plan of Action

By Nurit and Amir

In 2000, 658 people died in car crashes in Israel. 75% of those deaths happened on highways and roads outside urban areas. It is interesting that even though 75% of all accidents happen in urban areas, only 1% of urban accidents result in death.

Why do fewer accidents result in MORE death? SPEED.
When cars have accidents at high speeds, people are more likely to die.
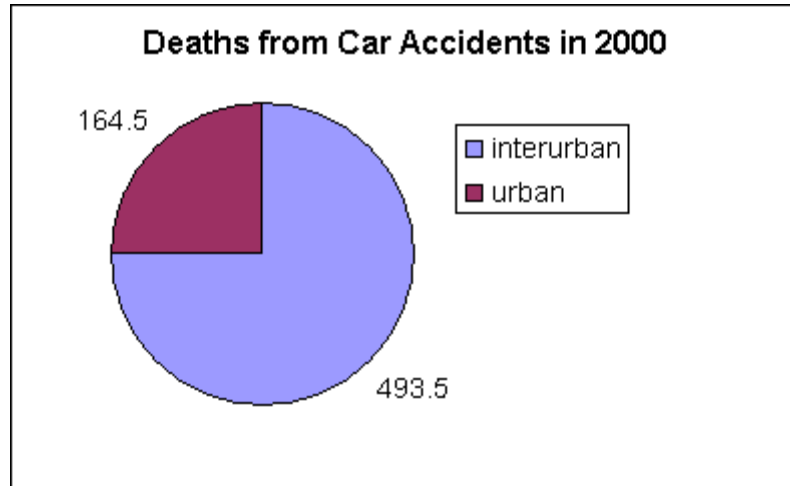
Our plan: Make drivers obey the speed limit!
Speeds limits are planned with safety in mind. We suggest three things to encourage people to drive within the speed limit: enforcement, awareness campaign, and starting at home.

1. Enforcement
   We need more law enforcement patrols on the roads. Increased enforcement would pay for itself if part of each fine were paid to the State of Israel Police Force!
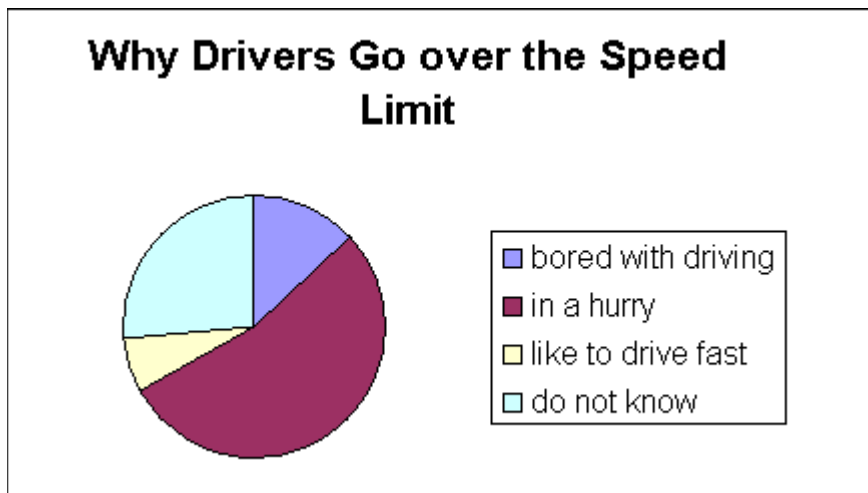
   "In all, the IPF issues tickets totaling NIS 500,000,000. Money from tickets does not go to the IPF, but is paid directly into the treasury coffers. There is no correlation between the number of tickets issued by the IPF and the budget it is allocated. Were this not the case, I would probably not be writing this article; but rather writing tickets instead!"

   from http://www.police.gov.il/english/Traffic/Traffic_Enforcement/xx_en_tr_8_enfor.asp*

   Not all enforcement would have to be done by patrol officers. Half of 300,000 speeding tickets given in 1999 were automatic, caught by cameras. An automatic camera photographs around the clock, never gets hungry or tired, and can photograph about 10,000 speeders per year. This sounds like a better deal, doesn't it?

2. Awareness Campaign
   We asked 24 adults if they speed on the interurban highways and roads. 15 admitted that they do, most saying it's only a few kilometers per hour over the limit. We asked why they speed.

Why Drivers Go over the Speed Limit

- bored with driving
- in a hurry
- like to drive fast
- do not know

We don't think any of these are good reasons. When we talked to people, they said they didn't really think about why they speed, so we suggest that people START thinking about it!

We could ask the transportation ministry to help us post signs that read:

"If you're driving over the limit, ask yourself WHY? (Then slow down!)"

3. Start at home
   One Web site from America asked people what would work to keep them from breaking traffic laws. They said actions such as ticketing have an effect, but do you know what ELSE they said was effective? "Encouraging occupants to say something to the driver." That means having a passenger, a kid like you, ask the driver in a loving way to drive safely. You can do it yourself. Spread the word and save lives, maybe your very own!

Our Sources
National Survey of Speeding and Other Unsafe Driving Actions, Volume III, Countermeasures, United States National Highway Traffic Safety Administration
http://www.nhtsa.dot.gov/people/outreach/traftech/pub/tt187.html*

Traffic, State of Israel
http://www.police.gov.il/english/Traffic/Facts_Figures/01_en_tr_4_accidents.asp*

Speed Kills!

A Plan of Action

Too Many Deaths

In 2000, 658 people died in car crashes in Israel. 75% of those deaths happened on highways and roads outside urban areas. It is interesting that even though 75% of all accidents happen in urban areas, only 1% of urban accidents result in death.

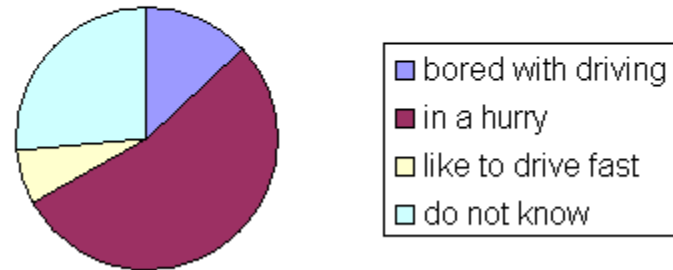# Why do fewer accidents result in MORE death?

Speed

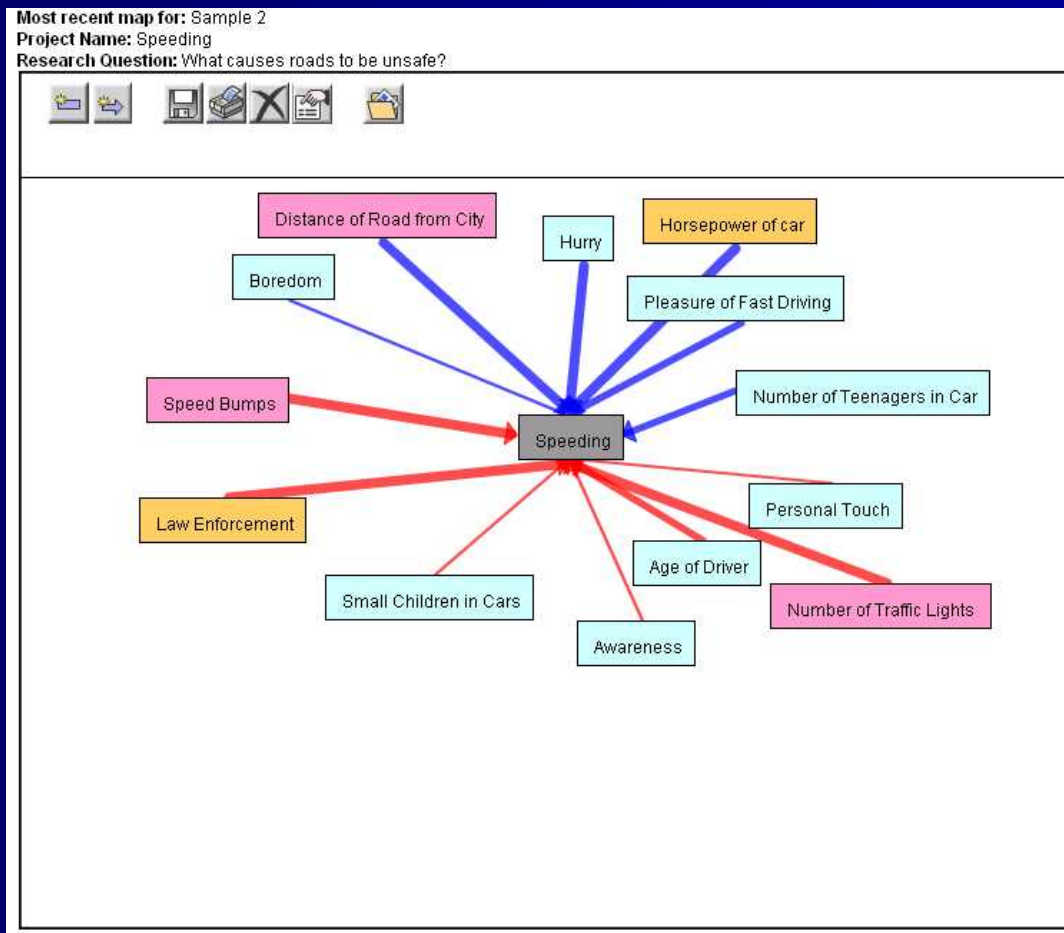When cars have accidents at high speeds, people are more likely to die.

Why Do People Speed?

- Bored with driving
- In a hurry
- Like to drive fast
- Don't know

Why Drivers Go over the Speed Limit

- bored with driving
- in a hurry
- like to drive fast
- do not know

This map shows the factors that increase and decrease drivers' speed.

Most recent map for: Sample 2
Project Name: Speeding
Research Question: What causes roads to be unsafe?

Distance of Road from City

Hurry

Horsepower of car

Boredom

Pleasure of Fast Driving

Number of Teenagers in Car

Speed Bumps

Speeding

Personal Touch

Law Enforcement

Age of Driver

Small Children in Cars

Number of Traffic Lights

Awareness

Our Plan to Decrease Speeding and Save Lives

1. Increase law enforcement with police patrols and traffic cameras.

2. Campaign to make drivers aware of the dangers of speeding.

"If you're driving over the limit, ask yourself WHY? (Then slow down!)"

3. **Start at home.**

You can help reduce speeding even if you can't drive.

When you're with someone who is speeding, gently ask the driver to drive more safely.

Possible Objections to Our Plan

1. More police patrol would be expensive.

Our Answer
- More tickets would bring in money.
- You can't put a price on a human life.

2. People wouldn't really pay attention to signs asking them to slow down.

Our Answer

■ Many of the people we interviewed said they didn't really think about how fast they were going, so a sign might remind them to drive safely.

3. Drivers aren't really influenced by what people in their cars say to them about driving.

Our Answer

- We think that parents <u>do</u> listen to their children and want to set a good example for them.

Steps for Carrying Out Our Plan

1. Write letters to police departments asking for more enforcement of speeding laws.

2. Talk to the Parents Club about sponsoring a billboard about speeding.

3. Write and perform a radio play reminding children to ask their parents to drive safely and ask the principal if we can play it over the intercom.

How can we understand the world around us?

- We talk to people to learn about their experiences.
- We look at statistics and numbers that have been collected by credible organizations.
- We conduct our own observations and collect our own original data.
- We use all kinds of information to draw conclusions about our world.

Remember! Even Kids Can Make a Difference

Our Sources

- Interviews with 24 adults
- National Survey of Speeding and Other Unsafe Driving Actions, Volume III, Countermeasures, United States National Highway Traffic Safety Administration http://www.nhtsa.dot.gov/people/outreach/traftech/pub/tt187.html*
- Traffic, State of Israel http://www.police.gov.il/english/Traffic/Facts_Figures/01_en_tr_4_accidents.asp*