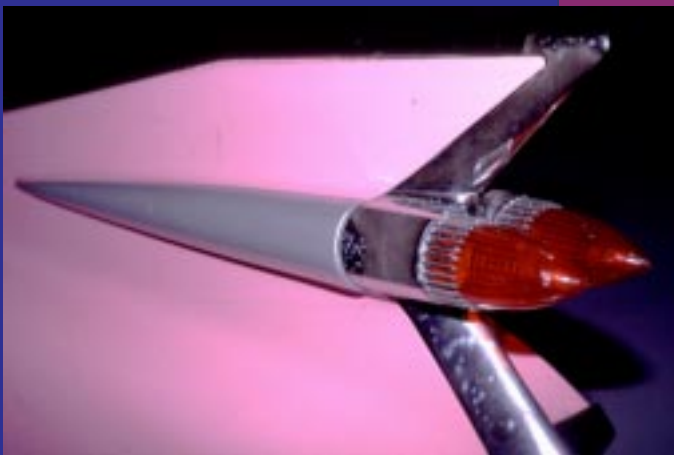




Teacher's Guide



KET

The Kentucky
Network



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Table of Contents

Introduction	3
Educational Design	4
About the Programs	4
Using This Teacher’s Guide	5

Program 1: The Art of Driving

Video Summary	6
Program Segments:	
• Introduction	6
• The Driver	6
• The Car	6
• The Road	6
• Rules of the Road	7
Questions and Activities	7

Program 2: Nature’s Laws

Video Summary	8
Program Segments:	
• Physics and Physiology	8
• How Quickly Can You Stop Your Car?	8
• Collisions	8
• Curves	9
• Weight	9
• The Living Machine	10
• Alcohol and Drugs	10
Questions and Activities	10

Program 3: The Car

Video Summary	11
Program Segments:	
• Maintenance	11
• Tires	11
• Blow-Outs	11
• The Battery	11
• Brakes	12
• Engine Problems	12
Questions and Activities	12

Program 4: The Road

Video Summary	13
Program Segments:	
• The Law	13
• The Road	13
• Rural Roads	13
• Over-Correcting	13
• Expressways	13
• Night Driving	14
• Hydroplaning	14
Questions and Activities	14
Test Your Knowledge (pre-/ post- test)	15
Parent-Teen Driving Contract (courtesy AAA)	16

Be sure to visit the *Street Skills* Web site: <http://www.streetskills.com>



Introduction

Traffic crashes are the leading cause of death for teenagers, claiming twice as many lives as homicides and nearly three times as many as suicides. Most fatal crashes result from drivers’ mistakes—from carelessness and poor judgment. And many could be prevented.

The goal of KET’s four-part *Street Skills* video series is to make teens better drivers by changing their attitudes about driving. The series helps to make them more thoughtful drivers, more aware of dangers, and more capable of avoiding mishaps.

Street Skills uses the strengths of the television medium—its lifelike immediacy, its ability to zoom in close and to stop action—to give teens new perspectives on driving. The series breaks the act of driving into its separate components in order to place driving within a psychological, social, and cultural context.

Educational Design

Street Skills is an instructional television series designed primarily for teens who do not yet have their driver's licenses. Its target viewer is the 10th-grade student in either a health or driver education course. Middle school students and teachers will also find the series helpful in supplying ideas for writing projects, discussions, physics lessons, community service projects, and, of course, instruction to help students prepare for driving.

High school students are a tough audience. They have seen a great deal of television and video, and they tend to be very critical about what they see. At the same time, they are eager for information about driving and other skills associated with the adult world.

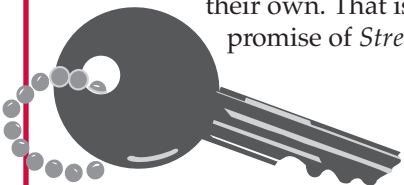
Research suggests that safe-driving appeals based on a fear of death have little effect on teens because of their denial of death. But teens do show a strong dread of disfigurement, as well as a fear of hurting parents and other family members (despite frequent rebelliousness). The development of *Street Skills* was heavily influenced by this research and by the responses of focus groups of teens, driver education teachers, and highway safety professionals who reviewed draft scripts and television footage.

Street Skills avoids parental-style nagging or warnings. The dangers of driving are not presented in an overtly frightening way, and viewers are not assaulted with grisly images of traffic crashes.

On the contrary, *Street Skills* acknowledges the psychological importance of driving to teens. "Car keys are magic," says host Josh Hopkins. "They open the door to all kinds of fun." They also open the door to independence, and the rite of passage they symbolize cannot be minimized. Once this reality is acknowledged, the reality of driving dangers becomes more valid for teenage viewers.

Driving means freedom, says *Street Skills*, but there's another side to it: "Driving means being responsible for a 2,000-pound hunk of steel," says Hopkins. "If you can't control it, you risk hurting yourself and others." Learning to control it means getting information and tips, getting to know yourself, and getting to know the situations that often lead to crashes. Information presented in a way that reaches young drivers helps them see things differently when they start their cars to head out on

their own. That is the premise and the promise of *Street Skills*.



About the Programs

The *Street Skills* series consists of four half-hour programs that address different aspects of driving. The first program is a basic introduction to driving and the rules of the road. The second deals with the natural forces that affect driving. The third program goes into detail about mechanical failures, and the fourth concerns road hazards.

Each program is a blend of documentary footage and scripted presentation. Dozens of experts, including a mechanic, a neurologist, a lawyer, a physics teacher, and a state medical examiner, speak in their own words about different aspects of driving. People who have suffered emotional and physical losses from vehicle crashes also talk about their experiences.

The series host, actor Josh Hopkins, ties these elements together in a viewer-friendly fashion. His personality is non-threatening—more older brother than adult. On-the-scene interviews with teens in high schools add a sense of realism and deepen the empathy of viewers. These teenagers' comments also reveal widespread ignorance about driving.

The *Street Skills* programs are packed with information. They are fast-paced and visually textured, using captions, music, and animation to underscore points and draw interest. Each program includes a recap, to help students remember the most important content areas.

Programs begin with classic stops on the great American highway—a funky roadside diner, a drive-in restaurant, a drive-in movie, and a vintage motel. But the tone becomes progressively more serious, with the comments of experts and crash victims, before returning to a lighter mood to give each program a positive, if sober, ending. Driving can be scary, each program concludes, but it doesn't have to turn out that way for you—not if you have the driving skills you need. Knowledge is the key to gaining those skills.

Using This Teacher's Guide

This guide is designed to help teachers use *Street Skills* in a classroom setting. It includes a summary of each program, followed by discussion of the main program themes. It also includes suggested questions and classroom activities that allow students to further explore issues raised by what they have seen on screen.

Designed to help students and teachers get more out of the series, the guide does not cover every point made by each program. Instead, it takes a selective approach, emphasizing the most essential information and clarifying points some students may find difficult to grasp.

There are many ways of using *Street Skills* in the classroom. A teacher might show an entire program to capture students' interest, then later use segments from the program to illustrate major points for further examination.

Within each discussion of program themes, key pieces of information are indicated by **boldface type**. Important terms are further highlighted by *italic type*.

The information in boldface is especially important to new drivers because it concerns mistakes and problems they commonly face. Emphasizing these common problems will give students a survival list of smart-driving tips and warning signals, a guide to "driving truths" that will be lodged in the backs of their minds whenever they get behind the wheel.

On page 15, you will find a one-page quiz which may be used both as a pre-test and a post-test. The quiz can help prepare students for watching *Street Skills* (which will increase their retention of the material presented), help them determine how much they have learned, and reinforce key points presented in the programs.



Program 1

The Art of Driving

Video Summary

This program is an introduction to driving, from the rules of the road to the mystique of the automobile in American society. It examines the three components of driving—driver, car, and road—and provides an overview of basic themes that are elaborated upon in later programs in the series.

Program Content and Themes

Introduction (2.5 minutes)

We meet Josh Hopkins as he sips a mug of coffee at a roadside cafe. After heading down the open highway, the program quickly introduces the serious side of driving by making an important statistical point: **Given the number of cars on the road and the number of hours spent driving, it's highly probable that each driver will eventually encounter a dangerous situation.**

This idea is repeated throughout the series. "The road is full of surprises," says Hopkins. "Odds are, you will eventually meet the unexpected."

The program then draws on the knowledge of experts to help prepare for the unexpected. The introduction of experts is reassuring; it tells viewers they are not alone in facing driving dangers. The knowledge shared by these driving mentors, combined with experience, will help young drivers learn to avoid trouble.

"Driving is an art," says Hopkins. "Like any art, it takes time to learn. But driving also has a lot of rules you have to know."

The program then breaks driving down into its three components: the driver, the car, and the road. Special emphasis is given to the driver in this first program.

The Driver (6 minutes)

This section begins with a quick succession of facts about drivers, young and old, new and experienced:

- Traffic crashes are by far the leading cause of death for people 15 to 24 years old.
- Most traffic crashes are caused by drivers' mistakes and carelessness, not mechanical or structural failures or violent weather.
- Drivers can prevent problems more easily than they can get out of trouble once they're in a dangerous situation—and slowing down makes it easier to prevent problems.

- Drivers are not well protected by their vehicles.
- Drivers are affected psychologically by driving.

The program discusses at length the psychological component of driving. Cars can be potent symbols of status and power, and driving is an important means of self-expression. The physical and psychological isolation of drivers in their vehicles encourages them to "act out" while driving, to vent their anger and frustration when behind the wheel.

This psychological element underscores the need to adopt a defensive mindset while driving. "Before you start driving, be aware of how you feel," says Hopkins. "And get the right attitude. When you see other drivers out on the road, always expect the worst. Never assume another driver will do what's logical, safe, or even smart."

The principal element in defensive driving is watching your speed. The faster you're going, the less time you'll have to react to problems. Speed is also the main factor in the severity of crashes. These driving truths are repeated throughout the series.

The higher the speed, the more likely a crash will occur; the higher the speed, the more likely injuries will be serious.

The Car (4 minutes)

This section makes clear that regular maintenance and a thorough knowledge of the owner's manual are the best ways to avoid serious mechanical problems with vehicles. If you "look in the book" and take time to read the owner's manual, says the mechanic, you can save yourself a lot of trouble.

Restrictions on driver visibility are discussed. **Blind spots** are gaps in the driver's vision.

Blind spots on either side of the car can be eliminated only by turning the head. Drivers should never rely only on mirrors.

Drivers should also be especially careful of children and people in wheelchairs because they are below the normal line of vision. People riding bicycles and motorcycles are also easily lost in blind spots.

With experience, drivers develop a sense of the space surrounding their vehicles. This sense of space is the foundation of basic driving maneuvers like backing, turning, and parallel parking.

The Road (3.5 minutes)

This section emphasizes elements of communication in driving. The road is always "talking to you" with traffic signs, lights, and painted lines. As you drive, you should be "talking to yourself," constantly scanning the road ahead, evaluating what you see, and reacting appropriately. You're also "talking to other vehicles" on the road—signaling

turns and other maneuvers well in advance, so that no one will be surprised by anything you do.

Speed limits are discussed and defined. Limits are not there to frustrate you, says Hopkins, but represent the maximum speed you can go on a given stretch of road and still get yourself out of trouble if something unexpected happens.

Drivers' behavior at *yellow lights* is discussed in detail (1.5 minutes) because this is one of those areas of driving that rely heavily on the judgment of each driver.

The purpose of the yellow light is to clear the intersection in anticipation of a red light. Drivers already in the intersection should continue on through when the yellow light appears, but drivers who have not reached the intersection should slow to a stop when they see yellow. Unfortunately, many drivers interpret the yellow light as a "Speed up" rather than a "Slow down" sign.

As documentary accident footage makes clear, drivers and passengers are especially vulnerable in the side collisions that occur in intersections. So it's important to remember this driving truth:

Rushing through on yellow lights is a major cause of collisions.

Rules of the Road (5.5 minutes)

This discussion goes over the basic rules for *right of way*. It includes an interview with a paramedic and a documentary segment taped inside a speeding ambulance to let viewers see what goes on in ambulances. This sequence underscores the reasons drivers must pull over to yield the right of way to ambulances and other emergency vehicles.

Merging into expressway traffic is another driving area that calls for a good deal of individual judgment, and it receives an extensive discussion as part of the rules of the road section. Documentary and animated footage illustrate the proper way to enter the acceleration lane, then gradually build up speed as you look for a gap in the traffic.

The need for showing courtesy in this situation is emphasized—for both merging drivers and drivers already on the expressway. "Give 'em a break," Hopkins advises. "Be respectful. It goes a long way in driving."

Simple acts of driving courtesy help to create a reciprocal community of good feeling on the road.

Questions and Class Activities

1. In some states, and in most European countries, you cannot be fully licensed to drive until you reach 18. Discuss the rationale behind systems that don't allow full licensing until the would-be



driver reaches 18. Do you think older teens are better drivers? What is the difference between a 16-year-old and an 18-year-old in terms of emotional control and judgment? If you ruled the world, would you require all teens to take a driving course before they get on the road? What social factors might influence European restrictions on youthful driving? (For example: Most European countries have excellent systems of public transportation, so the need to drive may not be as great.)

2. Interview exchange students about differences between driving in the U.S. and driving in their home countries.
3. Driving is linked to the self-image of drivers of all ages. Imagine an older member of your family—perhaps a grandmother or an uncle—whose driving ability could be affected by age. What signs of age-related problems might you notice? How would you talk to this family member about your concerns over driving?
4. Invite an insurance representative to explain the variables, such as age and driving record, that affect insurance rates. Research accident statistics for male and female drivers of different ages. Debate the question of whether girls should have lower insurance rates.
5. Describe the most frightening thing that has happened to you while you drove or were being driven. It could be something that happened to the car in which you were riding or something that happened to another vehicle. Alternative or additional assignment: Describe the most disturbing driving incident you have ever heard about.

Program 2

Nature's Laws

Video Summary

This program focuses on the physical and biological forces that affect driving—the roles of speed, gravity, and friction in vehicle handling and the effects of fatigue, alcohol, and drugs on the driver.

Program Content and Themes

Physics and Physiology (8 minutes)

Host Josh Hopkins begins the program with a provocative question: How are you at physics and biology? You might be able to ignore these subjects in school, but science and the laws of nature cannot be overruled when you drive.

For example, take the simple and essential act of stopping your car. With the help of a neurologist, we follow an image of danger on the road as it ricochets back and forth in the brain and watch as the brain sends a message along the nerves to the foot, which then hits the brake pedal. The whole process amounts to a **reaction time** of three-fourths of a second (under normal conditions).

That doesn't sound like much time. But as our physics teacher points out, a car going 20 mph can travel about 22 feet in that three-fourths of a second before the foot ever touches the brake. That's roughly equivalent to three spaces in a parking lot. The physics teacher adds that under normal conditions (a dry road surface and good tires), the car being braked will travel *another* 20 feet before it comes to a stop; this is known as the **braking distance**. The total **stopping distance** is the sum of the reaction distance and the braking distance. For a car going 20 mph, it will be about 42 feet, or five parking spaces.

The physics teacher then describes the dramatic effects of increasing speed. If the speed in our example is doubled to 40 mph, the car will of course

travel twice as far—or 44 feet—in the same three-fourths of a second it takes the driver to react. But the **braking** distance will not just double, as is commonly thought, but will increase according to the **square** of the number of times you increased the speed. Since you multiplied the speed by 2, you have to square 2 (multiply it by itself). Two squared times 20 feet—or 4×20 feet—equals a braking distance of 80 feet. Therefore, the total stopping distance will be around 124 feet.

If the speed is tripled to 60 mph, the reaction distance will triple, to 66 feet. The braking distance will equal three **squared** times 20 feet or 9×20 feet—180 feet. The total stopping distance, then, will equal 246 feet.

Because of the distances required to react to problems and to stop, it's important to keep plenty of space between you and other vehicles.

When you increase your speed, the math gets a little tricky.

If you're driving 20 mph, you'll travel 22 feet (the **reaction distance**) between the time your brain registers that you need to stop and the time your foot hits the brake. You'll travel another 20 feet (the **braking distance**) before your vehicle comes to a complete stop.

To find out your stopping distance at 40 mph (2 times 20 mph):

1. Multiply the reaction distance by 2 (since you're going 2×20 mph) $22 \times 2 = 44$ ft.
2. Multiply the braking distance by the **square** of the increase (2 times itself or 2^2) $20 \times 4 = 80$ ft.

Stopping distance at 40 mph

124 ft.*

To find out your stopping distance at 60 mph (3 times 20 mph):

1. Multiply the reaction distance by 3 (since you're going 3×20 mph) $22 \times 3 = 66$ ft.
2. Multiply the braking distance by the square of the increase (3 times itself or 3^2) $20 \times 9 = 180$ ft.

Stopping distance at 60 mph

246 ft.*

* with good tires on a dry road

Drivers should stay a minimum of three seconds behind other vehicles in normal driving conditions, and a minimum of four seconds behind at night or in rain or snow.

To check yourself, note when the vehicle in front of you passes a landmark (a sign, an overpass, etc.) and then count the seconds until your vehicle reaches the landmark.

As the driving expert points out, these are **minimum** recommended distances. Given the speeds vehicles are capable of reaching and the potential of highway miscalculations and mishaps, there is no maximum recommended distance.

Collisions (2.5 minutes)

The grim calculations we encountered in the discussion of speed also hold true for collisions. A vehicle that crashes into a solid object at 40 mph doesn't strike with just twice the energy of a vehicle going 20 mph. Its energy is twice **squared**, or **four times**, that of the slower vehicle.



Think you can stop on a dime? Think again!

Distance Traveled

In a school zone:

You're driving at 20 mph. A student steps out into the road ahead of you.
Your brain sends a message to your foot. You apply the brake.

Reaction distance under normal conditions	22 feet
Braking distance under normal conditions	<u>20 feet</u>
Total stopping distance under normal conditions	42 feet

[reaction distance + braking distance = stopping distance]



On a country road:

You're driving at 40 mph. A dog wanders out into the road ahead of you.
Your brain sends a message to your foot. You apply the brake.

Reaction distance under normal conditions	44 feet
Braking distance under normal conditions	<u>80 feet</u>
Total stopping distance under normal conditions	124 feet



On an interstate highway:

You're driving at 60 mph. The car in front of you blows a tire.
Your brain sends a message to your foot. You apply the brake.

Reaction distance under normal conditions	66 feet
Braking distance under normal conditions	<u>180 feet</u>
Total stopping distance under normal conditions	246 feet



Note: Weather makes the stopping distances even greater. At 20 mph, the braking distance with good tires on a dry road is about 20 feet. On a rain-covered road, that distance increases by a third, to 26 feet. On snow, the distance triples to 60 feet; on ice, it balloons to 150 feet.

With the help of experts, this section analyzes what happens in a crash. Essentially, three successive collisions occur. The first involves the vehicle, the second its occupants, and the third the internal organs of the occupants.

When a vehicle stops suddenly, the people inside the vehicle continue moving at the former speed. If not restrained by seatbelts or airbags, they crash into dashboards or through windshields.

Even after the body itself has stopped, the organs inside it continue moving at the former speed. When they are finally stopped, tissues can be torn, causing massive bleeding. (In a common occurrence with high-speed crashes, the aorta, the large artery that feeds the heart, is torn away from the heart.)

"It's the sudden *stop* that is fatal to human beings," concludes a state medical examiner. "Our tissues cannot stop at certain rates of speed without exceeding the way we're put together."

The rate of injury increases by 300 percent if you are thrown from your car in a crash. To reduce injuries, **all occupants of a vehicle should be properly secured by seatbelts or by infant car seats.**

The presence of airbags in a vehicle should never be considered a substitute for using seatbelts.

Curves (2.5 minutes)

The discussion of highway curves is important because it underscores how high speed can overwhelm the centripetal force (created by the friction of the tires) that allows the car to maintain its turning course. The message of the physics teacher's classroom demonstration is clear:

Always reduce speed well before entering a curve.

The key word is *before*: Hitting the brake when you're already in a curve can result in a skid. This message is repeated and elaborated on in Program 4.

Weight (2.5 minutes)

The heavier the vehicle, the greater energy it will bring to a collision. For that reason, this section focuses on the dangers posed by trucks, the "heavy-weight champs" of the highway. An expert on trucks takes us inside a truck cab to show how truck

drivers are hampered by a lack of visibility and by the sheer bulk of their rigs. Trucks lack maneuverability and cannot brake quickly, and they happen to be strong where cars collide with them. Therefore:

Give trucks plenty of room, and be especially careful when passing or following them.

The Living Machine (3 minutes)

Hopkins begins this section by suggesting that you think of your car as a machine hooked up to a living machine, the human body.

Like cars, each person's body has its individual quirks and weaknesses, such as nearsightedness, color blindness, or hearing loss. Having your eyes "zapped" by bright headlights while driving at night is an example of how vulnerable the living machine can be. (Faced with this situation, drivers are advised to look to the side of the road until the lights pass.)

The living machine's performance is also affected by emotion. The distracting influences of anger, frustration, or fun-filled fantasies keep drivers from giving their full attention to driving.

Excesses of emotion—both negative and positive—are dangerous factors in driving.

Alcohol and Drugs (2.5 minutes)

Drugs, legal and illegal—including ethyl alcohol in all of its forms—dull perceptions, slow reflexes, and cloud judgment. This section emphasizes the effects of alcohol because of its prominence in traffic accidents. The use of alcohol is a major factor in nearly half of all traffic deaths, and 20 percent of drivers 16 through 20 who are involved in fatal crashes are legally intoxicated. For drivers 21 through 24, the number jumps to 40 percent.

This segment makes clear that *consuming alcohol has a cumulative effect*. It takes one hour for the body to eliminate the amount of alcohol contained in just one cocktail, one mug of beer, or one glass of wine. Nothing will speed up that process, and each additional dose of alcohol adds another hour to the time required to clear the body of alcohol. So the body of a person who has consumed five drinks will require five hours to get rid of the alcohol.

The effects of alcohol begin almost immediately, because alcohol is quickly absorbed into the bloodstream. "Their confidence level goes up," says one expert on drinkers who drive, "but their skill level goes down."

Alcohol is also a common ingredient in over-the-counter medicines and prescriptions, adds another expert. Therefore, you should always check the fine print on containers and modify your driving accordingly. You should also be careful about mixing prescription drugs and alcohol. "Two beers and two

Valiums add up to one dead driver," says the state medical examiner.

For teens, alcohol use is bound up with issues of peer pressure and group acceptance. But as Hopkins makes clear, you have to buck the pressure to drink and drive—and you must help your friends do the same.

"Sometimes it can be hard to go up to a best friend or a buddy and say, 'Hey, you've been drinking too much. You shouldn't drive right now.' But if you're a true friend, you'll do it."

As complicated as social situations can be, the rule is simple:

Never drive when you've had any alcohol, and never let a friend drive under its influence.

Questions and Class Activities

1. Create a list of steps to take at the scene of an accident. (For example: Call the police; exchange names, addresses, and insurance information; do not discuss who is at fault; do not move the vehicles or injured people.) You might ask a local law enforcement officer to talk with the class about appropriate steps to take.
2. Describe your ideas on how collisions between cars and trucks can be reduced. Should trucks be restricted to certain highways? Should major highways be built with "trucks only" lanes?
3. How would you talk to a friend who shouldn't drive because of drinking alcohol or using drugs? What do you think the most effective approach would be? Make a list of arguments and strategies. How might your strategy differ from person to person? Do you think physical force is justified in some cases in order to keep a friend from driving after drinking?
4. Twenty percent of drivers 16 through 20 who are involved in fatal crashes are legally intoxicated. For drivers 21 through 24, the percentage doubles. Why do you think that is true? You can buy alcoholic beverages legally at 21. How much importance would you give to this increased access?
5. Discuss whether drivers should have to take the written driver's license test every ten years. Should they have to take the test regularly after age 70?
6. Discuss graduated licenses. Research the legal driving ages in all 50 states. Should all states raise the driving age to 18?

Program 3

The Car

Video Summary

This program discusses the most dangerous things that can go wrong with the thousands of parts that make up an automobile. It shows what the driver can do when things go wrong, and it stresses the importance of regular maintenance.

Program Content and Themes

The underlying theme of this program is the need to understand your car and to know what it needs to operate smoothly. Getting to know your car requires no great mechanical genius. It simply means reading the owner's manual and taking the car in for regular maintenance.

"You have to know the vehicle you're riding in," Hopkins says. "Pilots are required to know their planes and sailors their boats, but a driver can get a license and get on the road and know virtually nothing about the vehicle he's driving."

Maintenance (3 minutes)

Our mechanic recommends an *oil change* every three months or 3,000 miles. Oil is essential to keeping an engine working safely and efficiently.

Beyond that, each oil change gives the mechanic a chance to look at other key areas under the hood. This means checking on the car's *radiator coolant*, the *battery fluid*, the *brake fluid*, the *power steering fluid*, and the reservoir for *anti-lock brake fluid* (if applicable). It's also a good idea to have the *transmission fluid* checked. The *air filter* should be checked, too—and changed every 6,000 miles.

It's also important to check your *windshield washer fluid* and to monitor the rubber inserts of *windshield-wiper blades*. When they wear out, you won't have the visibility you want when you need it most.

You should also regularly take time to check your tires. Our mechanic discusses the *wear indicators* in the tread grooves of tires. When the tread becomes so worn down that it's level with the wear indicators, it's time to get new tires.

Regular vehicle maintenance heads off big problems before they occur and enhances the safety of your vehicle.

Once again, the significance of communication in driving is underscored. The driver has to pay attention to the vehicle—watch its gauges and look for wear and tear. Your car, says Hopkins, "is giving you messages all the time."

Tires (2.5 minutes)

This section elaborates on the importance of tires. They are the most vulnerable parts of the car, and the only parts that touch the road surface—which makes them essential for vehicle control.

Drivers should pamper their tires as much as possible, avoiding potholes, bumps, and sudden stops. Check your *air pressure* once a month. How much air should you have in your tires? Looking at your tires is the simplest and best way to find out. The pressure should be exactly what the number on the side of the tire says it should be. Too much or too little air can reduce control and gas mileage, as well as the life of your tires.

Every 6,000 miles, go to a garage and have the tires rotated and balanced. Read over the section of your owner's manual about changing tires, so you'll know what to do when you have a flat.

Tires are the "Achilles heel" of every vehicle—the part of the vehicle most likely to fail. Keep them well maintained.

Blow-Outs (3 minutes)

A *blow-out*, or the sudden loss of air from a tire, can create a dangerous situation. A blow-out on a front tire will cause the vehicle to swerve in the direction of the flat. A blow-out on the left front tire is especially dangerous because it can pull the vehicle into oncoming traffic. Always steer firmly away from the flat, in the direction you want to go.

A blow-out on a rear tire can cause the vehicle to sway from side to side in a "fishtailing" motion. Steer in the direction you want to go, and the car should straighten up.

When a blow-out occurs, don't panic. Stay off the brake and ease off the accelerator; if cruise control is engaged, turn it off first. Steer firmly away from the flat, in the direction you want to go. Check your mirrors, make your signals, and slowly get off the road.

Changing a tire is not a complicated procedure if the driver has taken time to read the owner's manual for the vehicle and to make sure that all the necessary equipment is on board. When changing a tire, put on your flashers so other cars can see you.

The Battery (2.5 minutes)

Our expert shows how to use jumper cables to charge a battery once it has run down.

Pull a car with a good battery close enough so the cables will reach from one battery to the other, but not so close that the two cars touch. Locate the positive [+] and negative [-] terminals on both batteries. Remove the terminal covers, if necessary. If the batteries have vent caps, lift the caps and cover

the batteries with rags so you won't get splashed with battery acid.

Sequence is critical here! First hook up the red (positive) cable to the positive terminal of the good battery, then attach the other end of the red cable to the positive terminal of the dead battery. Then attach the black (negative) cable to the negative terminal on the good battery. *Do not* attach the other end of the black cable to the bad battery. Instead, attach it to a metal part of the frame (making sure the cable doesn't touch any loose or moving parts of the engine).

Start the engine of the car with the good battery and run at a fast idle. Then start the other car and let it run for a few minutes before disconnecting the cables.

Brakes (5 minutes)

It's important to know whether the car you're driving has manual, power-assisted, or anti-lock brakes.

Anti-lock brakes are designed to let you keep steering moderately even after you've applied your brakes suddenly. (Conventional brakes can lock up, causing the tires to lose traction and sending the car into a skid.) Some drivers panic and stop braking when they hear the thumping sound anti-lock brakes make. Others incorrectly pump anti-lock brakes, when they should apply full, steady pressure.

If you apply anti-lock brakes and start to skid, don't let up on your brakes. Continue braking and steer to get out of the way of danger. But if you go into a skid and you're not already braking, it's best not to apply your anti-lock brakes until you've regained control of the car.

If you do not have anti-lock brakes and you go into a skid, stay off the brake. Ease off the accelerator and steer smoothly in the direction you want to go.

The driver's steering should match the movement of each skidding motion. A sudden skid should be matched with a quick turn of the wheel; a more gradual skid should be matched with gentler steering.

Conventional disc brakes (not anti-lock brakes) work on the same principle as bicycle hand brakes and should be "squeezed" as you would squeeze a hand brake, never "pumped," as drivers were taught to do 30 years ago.

Brake failure is a serious matter. In the event of **brake fade**—the loss of braking power in overworked brakes—pull off the road and give your brakes a chance to recover. If your brakes fail completely, you can use the emergency brake as a brake pedal to slow the vehicle as you get to the side of the road.

Engine Problems (3 minutes)

An engine may **flood**, and fail to start, because its gas-to-air ratio has gotten out of balance. A strong smell of gas tells you this has happened. The driver has two choices. You can try starting by holding the gas pedal down *without pumping* while turning the key. Here's a second, probably smarter, option: Let the vehicle sit for an hour, and then try again.

Driving in hot weather can cause an engine to **overheat**. If your temperature gauge heads into the danger zone, you should take quick action. Though it won't do much for the driver's comfort level, rolling down the windows and turning on the heater full blast can give the engine relief until you can stop, let it cool, and check the radiator.

Questions and Class Activities

1. Use the Internet to learn about the safety features, reliability, and efficiency of different cars. Compare three or four popular models of sports cars, trucks, and sport utility vehicles. Find the safest, most reliable and efficient vehicle in your price range. [Tips: Check out the Edmund's Automobile Buyer's Guides Web site at <http://www.edmunds.com/>. And while you're on the Internet, be sure to visit KET's *Street Skills* Web site at <http://www.streetskills.com/>. Also see the annual *Consumer Reports* car-buying issue for more comparative information about cars.]
2. More efficient vehicles are often lighter, which means less protection in a crash. Can the laudable goals of safety and energy efficiency be reconciled?
3. Discuss the pros and cons of cellular phones in cars. Should they be banned? List and describe ways drivers might be distracted while driving.
4. Invite a car salesperson to discuss the psychology of selling/buying a car. Ask the salesperson to give students advice on how to be wise consumers. Have students write guidelines for buying a car.
5. Research changes in cars over the years. Compare cars of the 1950s, '70s, and '90s. Talk with grandparents and parents about the first cars they drove. How large were they? What kind of gas mileage did they get, and how much did gas cost? How much did those cars cost? How do they compare with cars today in terms of safety, comfort, and economy?
6. Prepare a maintenance checklist for your car. You might want to group items by how often you need to check them.

Program 4

The Road

Video Summary

This program covers different kinds of driving environments and their special hazards. The impact of adverse weather conditions on driving is discussed in detail.

Program Content and Themes

The deceptive and changing nature of the road is the central theme of the program. Drivers must be alert to changes and to the unique challenges of rural, expressway, and city driving. Drivers must also know how to cope when weather causes driving conditions to deteriorate.

The Law (3.5 minutes)

Driving occurs within a legal framework. This section tells the young driver what to do if stopped by police. Watching a stopped-car situation from the perspective of a state trooper, we learn that troopers tend to be most on edge when they leave their vehicles to approach a strange car. They feel more comfortable if they can see the hands of the driver and the passengers.

A lawyer also offers tips. The driver should stay calm; let the police officer control the situation. The driver is legally required to have along a *driver's license, proof of insurance*, and a copy of the vehicle's *registration*. While a copy of the title is not required, it's a good idea to have one in your glove compartment.

The Road (4.5 minutes)

This section illustrates how weather can affect driving by changing the road surface. At 20 mph, the braking distance with good tires on a dry road is about 20 feet. On a rain-covered road, that distance increases by a third, to 26 feet. On snow, the distance triples to 60 feet; on ice, it balloons to 150 feet.

A tire on ice is like a hockey puck, comments a hockey player—meaning it will go where force and gravity take it, not necessarily where the driver wants it to go.

Reduce speed accordingly when the driving surface is affected by rain, snow, or ice.

Rural Roads (2.5 minutes)

Two-lane country roads look peaceful, but they deserve special attention because they are the most dangerous driving environment. That's mainly

because of speed: Drivers tend to overestimate how fast they can go on these roads.

Rural roads also tend to be poorly marked, and collisions with cars merging from hidden side roads and with deer and other large animals are common hazards.

Drivers injured in crashes on rural roads also have a better chance of dying from their injuries because emergency help can be slow in arriving.

Over-Correcting (2 minutes)

While going down a rural road, a driver can grow careless and allow the car to drift off the road onto the gravel. Drifting onto gravel is a frequent cause of accidents that injure young drivers on country roads.

Having tires on two different road surfaces is an unsettling experience. When it happens, most inexperienced drivers panic and jerk the steering wheel hard to the left. This exaggerated movement, or *over-correction*, can easily pull the car across the road and into the path of oncoming traffic.

If your vehicle drifts off the road, beware of over-correction. Gradually ease back onto the road with a smooth turn of the steering wheel.

Expressways (4 minutes)

Statistically, four-lane highways are the safest roads; they're well marked and planned for efficiency. But drivers still have to be aware of their potential dangers, two of which are speed and monotony.

Speeds are higher on the expressways and interstates, which means less time to react to problems and more damage in collisions. Because of the higher speeds, no driver can afford to get lazy about the basics of driving—signaling, clearing away blind spots, and keeping plenty of space around you.

Be especially careful not to "bunch up" with other drivers in a group of cars moving at the same speed. Let the pack pass by in order to restore a safe distance between you and other vehicles.

Drivers on expressways can lose track of how fast they're going, and that can create dangers when they try to leave the expressway. Excessive speed on an exit ramp can result in loss of control.

Mile after mile, expressways can look very much the same, causing drivers to become overly relaxed, forgetful, and even drowsy. Dozing off at 60 mph can be fatal. Drivers should never push themselves when they sense that fatigue could be overtaking them. The smart choice is to look for a place to rest or sleep and pull over.

On long trips, take regular "stretch" stops every couple of hours to reduce fatigue. Know your limits and don't try to push yourself.

Night Driving (2 minutes)

Darkness conceals road hazards, radically restricting the driver's ability to see well enough to make smart decisions. At night, all you can see of oncoming vehicles is their headlights, and your view of the road itself is restricted to the range of your own headlights. If speeds are too high, a vehicle can easily *outrun its headlights* and find itself in hazards the driver has too little time to avoid.

Be aware of how much darkness reduces drivers' perceptions. Decrease your speed and increase your attention.

Hydroplaning (3 minutes)

When you see rain on the street, says Hopkins, "an alarm should go off in your head. When you see snow, a louder alarm should go off." The alarm signals that you need to reduce speed. If you ignore that alarm, you raise the risk of trouble.

One serious result of excessive speed on a rain-covered road is *hydroplaning*—when the vehicle leaves the road surface and rides on the surface of the water.

The driver has *no control* in this situation. The only option is to stay off the gas, resist the temptation to hit the brake, and wait for the car to grip the road again.

Questions and Class Activities

1. Describe the most dangerous road or intersection you know. What makes it so dangerous? How would you redesign the road or intersection to reduce the danger? Find out where you could send a letter alerting a local community leader or government official about this danger. Write the letter and mail it.
2. Talk about the differences between city driving and driving in the country.
3. Imagine yourself paralyzed from the waist down by a vehicle crash. Describe your daily routine. Have a class member portray a crash victim: In a wheelchair or on crutches, move from the main door of the school through hallways to the classroom, managing books and negotiating doors, desks, and chairs.
4. Write a letter to the parent of a friend (imagined or real) who has died in a vehicle crash.
5. Develop a presentation on road signs to take to elementary schools.



Test Your Knowledge

1. What is the leading cause of death for people 15 to 24 years old?
2. Which of these causes the most traffic crashes?
 - a. drivers' mistakes
 - b. mechanical or structural failures
 - c. poor road conditions caused by bad weather
3. True or False: If a car is equipped with airbags, the driver need not wear a seatbelt.
4. True or False: Almost every driver will have to deal with a dangerous situation on the road at some point.
5. True or False: Driving faster allows you to escape danger on the road.
6. When changing lanes, you should always
 - a. check your mirrors.
 - b. turn your head and look around you.
 - c. both of the above
7. Rushing through on yellow lights is a major cause of _____.
8. What is a good minimum "gap," in terms of seconds, to keep between yourself and other cars?
9. About how long, in seconds, does it take the average driver to physically respond to a sudden change of road conditions (the "reaction time")?
10. If you accelerate to twice the speed you were going, how will your braking distance change?
 - a. It will be cut in half.
 - b. It will stay the same.
 - c. It will double.
 - d. It will quadruple.
11. When should you slow down for a curve?
 - a. well before entering the curve
 - b. as you enter the curve
 - c. halfway through the curve
 - d. when the tires squeal
12. Give trucks plenty of room, and be especially careful when _____ or _____ them.
13. True or False: "Road rapture" is just as dangerous as "road rage."
14. Never drive when you've had any _____, and never let a friend drive under its influence.
15. Name six fluids in your car that should be checked regularly.
16. What part is the "Achilles heel" of every vehicle—the part of the vehicle most likely to fail?
17. What do you do when a tire blows out?
 - a. Brake and get off the road as fast as you can.
 - b. Steer in the opposite direction to correct the car's tendency to pull to one side.
 - c. Stay off both the brake and the accelerator and slowly steer off the road.
 - d. Turn on your flashers and proceed very slowly to a service station.
18. If you're caught in a skid, stay off the _____. Ease off the _____ and steer smoothly in the direction you want to go.
19. What's the most important thing for a driver to do if it's raining or snowing?
20. True or False: If your vehicle drifts off the road, you should turn the wheel only slightly and gradually pull back onto the pavement.
21. On long trips, take regular "stretch" stops every couple of hours to reduce _____. Know your limits and don't try to push yourself.
22. If you feel your car hydroplaning, what should you do?
 - a. Apply the brakes.
 - b. Accelerate past the wet area.
 - c. Steer toward the side of the road.
 - d. none of the above

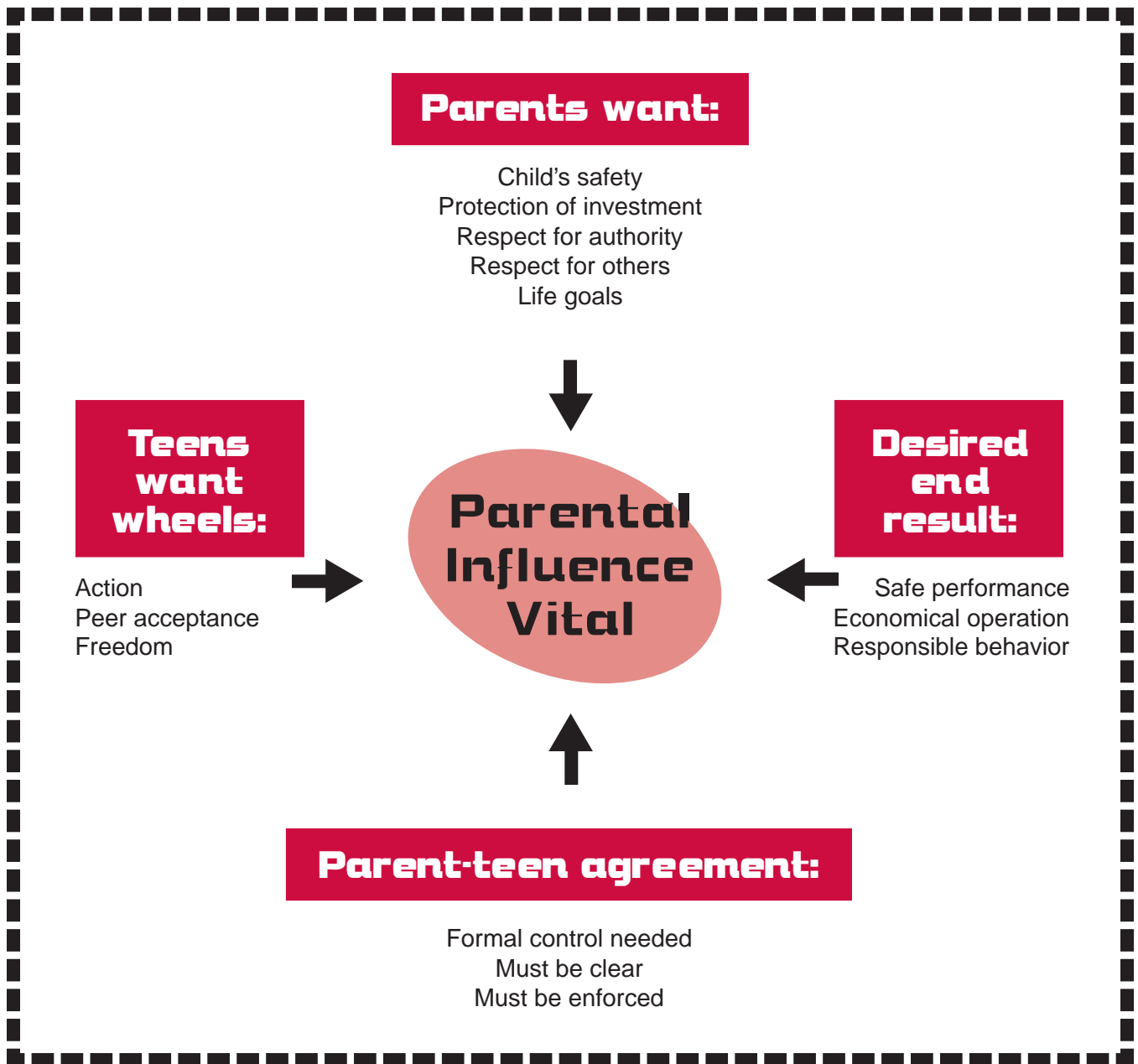
ANSWERS

1. traffic accidents
2. a
3. false—airbags do not replace seatbelts!
4. true
5. false—greater speed makes accidents *more* likely (and more severe).
6. c: mirrors leave blind spots—never rely on mirrors alone!
7. collisions
8. 3 seconds
9. 3/4 of a second
10. d
11. a
12. passing, following
13. true—excesses of positive emotion cause drivers to make mistakes, too.
14. alcohol
15. brake, transmission, power steering, windshield washer, battery, and radiator
16. the tires, because they contact the road
17. c
18. brake, accelerator
19. Slow down!
20. true—"over-correcting" causes many fatal accidents by jerking the vehicle into oncoming traffic
21. fatigue
22. d: in this situation, the driver has *no* control. Let the car "coast" until the tires get a grip.



Teaching your teens to drive

A partnership for survival



Parent's Guidelines for Implementing a Parent-Teen Car-Use Agreement

1. Be an example

- Behavior is learned, not innate.
- It is unreasonable to expect your child to behave differently than you do when driving or caring for a vehicle.
- If there are preteens in the family, prepare them to take responsibility as a part of growing up.

2. Be clear

- Go over the contract with your son or daughter.
- Fill in the blanks where applicable.
- Explain the regulations.
- Listen to your child's point of view.
- Link driving privileges to school performance and overall behavior. Emphasize consequences of failure to meet contract provisions.
- Emphasize that you will not accept irresponsible behavior.

3. Be positive and emphasize

- your concern for your child's safety and welfare.
- your hopes for your child's future.
- your expectations concerning responsible behavior.
- that driving is a privilege and a reward for responsible behavior.
- conservation of family resources as an important need.

4. Be vigilant

Let your child know that together you and he or she will be inspecting

- compliance with maintenance requirements.
- tires, for abusive use or inadequate pressure.
- fuel level and mileage, before and after the child uses the car.
- the vehicle, for damage.
- the vehicle, for clues to drinking or other drug abuse.

5. Be prompt

- Act promptly if there is an infraction of the agreement.
- The longer you wait to impose consequences, the weaker the link to behavior.
- Delaying can be perceived as a sign of weakness.

6. Be firm but gentle

- Let the contract do the talking.
- Express disappointment when rules are broken.
- Do not negotiate consequences for infractions.
- Be firm. Do not change your mind.
- Let your anger show, but do not allow it to take over.
- If your child is not accustomed to obeying regulations to the letter, he or she may protest loudly when sanctions are imposed. Do not cave in to the uproar.
- Avoid name calling. Your power lies in enforcement of the agreement.
- Loud accusations cause resentment and alienation.

7. Be consistent

- Punish each infraction the same way each time it occurs.
- Both parents must provide a united front on issues. Do not allow yourselves to be divided and conquered.
- Your credibility and the power of the agreement will be weakened if you are not consistent in your enforcement and application of consequences.

8. Be fair

- Get all the facts before you take action.
- Inform your child that other families are also using the parent-teen agreement and that he or she is not being singled out as an exception.

9. Be flexible

- Zero flexibility could lead your child to drive at breakneck speeds to meet deadlines.
- Be careful not to allow exceptions too frequently; otherwise, your exceptions become the rules, and your agreement loses its power.
- Beware of the tradeoff game: You deny the driving privilege on Friday night, but your child wants to trade for the following Friday instead.
- Avoid the negotiation game in which your child wants to bargain for extra miles or extra driving time.

10. Be in control: be alert for games

- On strike: "I won't study if you won't let me have the car."
- Nobody likes me: "This is the only way I can make it with the group."
- The tickets are bought: "Now you'll make all of us waste money."
- Nobody else can drive: "You're spoiling the fun for all of us."
- The excuse game: "We ran out of gas." "I had to take everybody home."

11. Be forgiving

- Your love must be unconditional.
- The contract provides for withholding privileges, not withholding love.

We, _____

hereby enter into an agreement covering the use and operation of any vehicle used by

You Will Be Required To Pay for the Following *(write in percentage desired):*

- | | |
|--|--|
| <input type="checkbox"/> Cost of vehicle | <input type="checkbox"/> Vehicle registration |
| <input type="checkbox"/> Cost of fuel | <input type="checkbox"/> Maintenance costs |
| <input type="checkbox"/> Damage due to abuse | <input type="checkbox"/> Full insurance coverage |
| <input type="checkbox"/> Under-25 insurance costs | <input type="checkbox"/> Fines and penalties |
| <input type="checkbox"/> Collision damage | <input type="checkbox"/> Under-B-average insurance costs |
| <input type="checkbox"/> Costs due to driving record | <input type="checkbox"/> Other _____ |

You Will Be Responsible for the Following:

- | | |
|---|--|
| <input type="checkbox"/> Check fluids each fuel fill | <input type="checkbox"/> Inspect and check tire pressure |
| <input type="checkbox"/> Report unusual performance | <input type="checkbox"/> Clear or clean all windows |
| <input type="checkbox"/> Report when fuel is less than 1/4 tank | <input type="checkbox"/> Do normal maintenance |
| <input type="checkbox"/> Wash and wax vehicle | <input type="checkbox"/> Keep interior clean |
| <input type="checkbox"/> Have maintenance done | <input type="checkbox"/> Other _____ |

Your User Privilege Will Be Linked to Your Grades in School and Performance at Home:

- Doing duties at home properly and on time.
- Showing proper respect for parents and others.
- Complying with family regulations.
- Attendance, conduct, and effort at school.

The Maximum Number of Miles and the Maximum Number of Times You May Drive Per Week are *(related to grades):*

Grades:

- | | | |
|---|---|---|
| A | <input type="checkbox"/> miles per week | <input type="checkbox"/> times per week |
| B | <input type="checkbox"/> miles per week | <input type="checkbox"/> times per week |
| C | <input type="checkbox"/> miles per week | <input type="checkbox"/> times per week |
| D | <input type="checkbox"/> miles per week | <input type="checkbox"/> times per week |
| F | <input type="checkbox"/> miles per week | <input type="checkbox"/> times per week |

You Will Lose Your User Privileges These Numbers of Days for Each Traffic Offense or At-Fault Crash:

- | | | | |
|----------------|-------------------------------|-------------------|-------------------------------|
| First offense | <input type="checkbox"/> days | Preventable crash | <input type="checkbox"/> days |
| Second offense | <input type="checkbox"/> days | Serious violation | <input type="checkbox"/> days |
| Third offense | <input type="checkbox"/> days | Drugs or alcohol | <input type="checkbox"/> days |

You Will Be Required To Comply with the Following Regulations:

- You will provide destination and time of return.
- Safety belt will be fastened at all times.
- Every passenger must wear a safety belt.
- No drugs or alcohol in the car.
- You may not lend the car or allow others to drive it.
- You will call if more than 30 minutes late.

You Are Legally Responsible for Your Actions as a Driver.

We, as Vehicle Owners, Are Legally Liable for Damages Done by You as a Driver.

Signed on the _____ day of _____, _____

Parent _____ Parent _____

Son/Daughter _____

KET

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