



Driving Tactics: Advanced Driving Skills

Teacher's
Guide



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Introduction

This Teacher's Guide provides information to help you get the most out of *Driving Tactics: Advanced Driving Skills*. The contents in this guide will allow you to prepare your students before using the program and present follow-up activities to reinforce the program's key learning points.

This program, the second of a three-part series, introduces young people to advanced driving tactics, including techniques for driving in snow, rain, and on icy roads; controlling a car in a skid, slide, or hydroplane; operating ABS brakes; and effectively maintaining a car.

Learning Objectives

After viewing the program, students will be able to:

- Describe what advanced driving skills entail.
- Explain the benefits of advanced driving skills.
- Describe how to handle potentially hazardous weather conditions.
- Describe how to drive safely at night and on freeways.
- Describe how an anti-lock brake system (ABS) works.
- Explain how drivers should prepare themselves and their vehicles for potential road emergencies.
- Identify ways to effectively and appropriately care for a car.

Educational Standards

National Standards

This program correlates with the National Health Education Standards: Achieving Health Literacy from the Joint Committee on National Health Education Standards. The content has been aligned with the following educational standards and benchmarks from this organization.

- Students will demonstrate the ability to practice health-enhancing behaviors and reduce health risks.
- Distinguish between safe and risky or harmful behaviors in relationships.
- Analyze the short-term and long-term consequences of safe, risky, and harmful behaviors.
- Demonstrate the ways to avoid and reduce threatening situations.
- Students will demonstrate the ability to use goal-setting and decision-making skills to enhance health.

National Health Education Standards, *by the Joint Committee on National Health Education Standards, 1995. Reprinted with permission.*

Technology Standards

The activities in this Teacher's Guide were created in compliance with the following National Education Technology Standards from the National Education Technology Standards Project.

- Technology productivity tools: Students use technology tools to enhance learning, increase productivity, and promote creativity.

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Program Overview

Driving Tactics: Advanced Driving Skills covers strategies for negotiating potentially hazardous driving conditions caused by weather and road terrain. It teaches viewers how to safeguard their vehicles through proper maintenance, and prepare for potential road emergencies. It also discusses the importance of having car insurance.

Main Topics

Topic 1: Driving in Bad Weather

This section provides strategies for negotiating weather conditions that affect driving including rain, snow, ice, wind, fog, and heat. It discusses the benefits of and ways to use ABS brakes, and briefly touches on items drivers should have in order to be prepared for a breakdown, including water, sunglasses, blankets, a flashlight, and a cell phone.

Topic 2: Other Challenging Driving Conditions

This section introduces and describes techniques for maneuvering through other conditions that can make driving dangerous, including night driving, poorly maintained roads, gravel roads, slippery mud on unpaved roads, construction sites, bridges and tunnels, and mountains.

Topic 3: Vehicle Maintenance

Students learn the value of proper vehicle maintenance as a way to reduce on-the-road challenges. This section recommends regular visits to the mechanic, car checkups by drivers, and making sure the car is clean.

Topic 4: Emergencies

This section reminds the driver to be mindful of emergencies and to check certain aspects of the vehicle before getting on the road. It also provides information on changing a flat tire.

Topic 5: Insuring your Vehicle

In this section, students recognize the importance of purchasing car insurance. They also learn how to safeguard a car from theft.

Fast Facts

- A car hydroplanes when water gets between the tires and the road.
- A four-wheel anti-lock braking system offers an important safety advantage by preventing brakes from locking during emergency braking situations.
- Heat will not affect road conditions or driver visibility, but it does affect an engine's performance.
- High crosswinds can make a car harder to control.
- Thick fog can reduce a driver's visibility to almost zero.
- Driving at night reduces visibility and increases a driver's needed reaction time.
- The first line of defense against possible road challenges is scheduled car maintenance.

- Even though a driver takes care of his or her car, there is still a chance of having a breakdown while on the road.
- The most common cause of highway breakdown is an empty gas tank.
- Driving safely and wisely can cut insurance costs.

Vocabulary Terms

anti-lock brakes: A braking system in which a sensor recognizes that a wheel is about to lock up. The sensor sends a message to a computer, which starts releasing and applying the brake, stopping the lock up, and allowing the driver to maintain control or drive around an obstacle instead of sliding toward it.

black ice: A thin, nearly invisible coating of ice that forms on paved surfaces.

centrifugal force: The outward force on a body moving in a curved path.

coolant: An agent that produces cooling, especially a fluid that draws off heat by circulating through an engine.

depression: A hollow or sunken area.

hail: Precipitation in the form of spherical or irregular pellets of ice larger than 5 millimeters (0.2 inches) in diameter.

hydroplane: To skid on a wet surface, such as pavement. This happens when a film of water on the surface causes the tires to lose contact with it.

lug nuts: The nuts securing the wheels to the car.

residue: Matter that remains after something has been removed.

sleet: A mixture of rain and snow or hail.

terrain: The surface features of an area of land.

traction: Adhesive friction, as of a wheel on a track or a tire on a road.

Pre-Program Discussion Questions

1. Can you name some advanced driving skills? Give specific examples.
2. What types of challenges do drivers encounter on the road?
3. What mistakes do drivers make when driving in bad weather?
4. Why is car insurance a necessity? What happens if drivers don't have it?
5. What might a driver do to prepare for unforeseen road emergencies?

Post-Program Discussion Questions

1. What are the most common weather conditions that affect driving? For each condition identified, provide an example of its impact.
2. Why is slowing down one of the most important things to do in hazardous weather conditions?
3. Describe how to drive in the snow and rain, and on ice. Have you had a negative driving experience during one or all of these weather conditions? Did you or the driver know how to handle the car? Explain.
4. What is the difference between anti-lock and standard brakes?
5. What should an auto mechanic do to best maintain a car? What should the driver do?

Group Activities

Informational Kit

Students produce an advanced driving skills informational/instructional kit, with inserts on each of the various strategies used to negotiate weather conditions, difficult terrain, etc. Strategy inserts might have diagrams depicting the steps drivers should take in certain situations. For example, drawings can accompany the steps for changing a flat tire. The kit might also include useful emergency phone numbers for motorists, contact information for driving-related organizations such as the "Triple A," local driver education courses, and other similar entities. Students can distribute this to teens in local high schools.

Better Driver Campaign

Students can encourage other teens in their school and/or community to improve their advanced driving skills through a public awareness campaign. They can create provocative posters, brochures, post cards, and PA announcements that emphasize a particular condition a driver faces on the road, support it with data, and then offer advanced driving techniques that help a driver negotiate the condition.

For example, a poster might say: "Did you know that 21 percent of reported car crashes involve skidding? Don't be a statistic." The poster can go on to list steps students should follow if they find themselves in a skid.

Students can post and place their posters and brochures in their school and other local schools, as well as public libraries. They can enhance this effort by running related PA announcements in their school and sending post cards to parents.

Individual Student Projects

Pursuit of Skills

Students create an advanced driving skills version of the game Jeopardy® by writing question cards of various levels of difficulty. When the cards are complete, students can select three classmates to compete for the highest score by answering the questions correctly.

Virtual Test

Design an interactive DVD that tests viewer knowledge and practice of advanced driving skills.

Teaching a Lesson

Students write and present a lesson plan to classmates on one advanced driving skill. When they are done, they check for understanding of that skill by presenting three to five assessment questions.

Internet Activities

The All Inclusive Teen Driver Web Site

Review several web sites dedicated to teen drivers. Determine whether they give teens all the information and strategies they need to master advanced driving skills, and whether the information is presented in a way that will keep teens interested. Create a comprehensive prototype of a teen driver website, improving on those reviewed, and with a section centered on advanced driving skills.

Some Web resources include:

www.teendriving.com
www.drivehomesafe.com
www.roadreadyteens.org

Choosing Car Insurance

Research and compare/contrast car insurance policies that are offered to teen drivers either individually, or on parents' or caregivers' plans. Which offer the best coverage, prices, terms, etc? Create a rating list for teen drivers to use.

Some Web resources include:

www.rmia.org
www.autoinsuranceindepth.com
www.affinity.progressive.com

Safe Cars for Teen Drivers

What are the some of the safest cars for teens? In this activity, students research the qualities of a safe car for teen drivers and create a one-page fact sheet with tips and descriptions, specifically of features that promote easier navigation of weather and road conditions.

Some Web resources include:

www.iii.org
www.insweb.com

Assessment Questions

Q: Water between the _____ and the _____ causes a car to hydroplane.

A: tires; road

Feedback: When cars are hydroplaning, the tires aren't touching the pavement; they are riding on water, sending the car into a dangerous slide. A driver should take his or her foot off the gas pedal and should not brake. The driver should steer the car in the direction he or she wants to go and ride out the slide until the tires have a solid grip on the road.

- Q:** What should a driver do when his or her car slides on ice?
- a) Not hit the brakes and slow down
 - b) Turn the steering wheel in the direction of the slide
 - c) Turn the wheel to regain control once the car straightens out
 - d) All of the above

A: d)

Feedback: Hitting the brakes when a car is sliding on ice only causes the car to slide more.

Q: How does a driver use anti-lock brakes to avoid road hazards?

A: The driver keeps pressure on the brake pedal.

Feedback: With ABS, a driver does not pump the brakes because that disengages the anti-lock system.

Q: Before long trips, a driver should check the car's _____, _____, and _____.

A: coolant system, radiator, and hoses

Feedback: Before going on long trips, it's important to make sure that the car is in good working order. This can prevent situations like mechanical breakdowns and overheating.

Q: Why is fog one of the most dangerous weather conditions?

A: Fog impairs drivers' visibility. They can easily misjudge their speed and distance from other vehicles.

Feedback: Fog causes major multi-car collisions. The best way to drive through fog is to reduce speed and use low beam headlights.

Q: When driving at night, a driver should _____.

- a) keep the high beams on at all times
- b) look beyond the headlights at the road ahead
- c) speed up if blinded by oncoming cars' lights
- d) keep the rearview mirror on the daytime setting

A: b)

Feedback: Night driving reduces visibility and increases needed reaction time. It's best to look beyond the headlights to the road ahead. Front headlights should be aimed properly; front and back lights should be working. High beams are used *only* if there is no oncoming traffic, as they can "blind" oncoming drivers. Rearview mirrors can be put in nighttime setting to reduce the glare from lights from cars approaching from behind.

Q: What are some of the things a mechanic should do during scheduled car maintenance?

A: Among the things a mechanic should do are: change the oil; check brake, coolant, transmission, and power steering fluids; and check hoses, belts, and wiring.

Feedback: Scheduled maintenance helps to keep a car in the best shape possible, thus reducing possible challenges on the road. But drivers should not merely rely on the mechanic; they should be aware of what work is being done on the car, and make sure to read the owner's manual to have a complete idea of what needs to be checked, and how often. Drivers can also monitor some maintenance signs, such as wear and tear on the tires and washer fluid levels for the windshield.

Q: What shouldn't a driver do when a tire goes flat?

- a) Change the tire in traffic
- b) Slow down and steer off the road
- c) Use a jack to change the tire

d) Tighten the lug nuts

A: a)

Feedback: A driver should change a flat tire in a spot removed from traffic. If one can't be found, the driver should not change the tire alone, but call for help.

Q: What items should a driver take on a long journey?

- a) A hat and sunglasses
- b) Water and blankets
- c) A flashlight and cell phone
- d) All of the above

A: d)

Feedback: It's important to be prepared for a breakdown on long journeys: drivers might find themselves in isolated areas, so they need to be sure they have some basic items in case they need to walk to find help. And, if that happens, they should stay on the road and if possible, tell someone (a passenger or someone they reach by cell phone) where they are going.

Q: When stuck in the mud, a driver should _____.

A: "rock out"

Feedback: Rain can turn unpaved roads into slippery mud; tires can sink into the mud and get stuck. Drivers can "rock out" the car by moving slightly forward and letting their foot off the gas pedal to rock back. Repeating this rocking motion several times creates a momentum that carries the car out of the depression.

Additional Resources

WEB SITES

Advanced Driving—A Definition

www.driveandstayalive.com

Teen New Drivers' Website

www.teendriving.com

Teens Health: Driving Safety

www.kidshealth.org

Driver's Education Links

Click on "Teen Life"

www.dmoz.org

Drive Home Safe

drivehomesafe.com

Road Ready Teens

www.roadreadyteens.org

ORGANIZATIONS

ABS Education Alliance

www.abs-education.org

American Driver and Traffic Safety Education Association

www.adtsea.iup.edu

Drive For Life

www.safedrivingtest.com

Insurance Institute for Highway Safety

www.iihs.org

National Highway Traffic Safety Administration

www.nhtsa.dot.gov

BOOKS

110 Car and Driving Emergencies and How to Survive Them: The Complete Guide to Staying Safe on the Road

James Joseph

The Lyons Press, 2003

ISBN: 1592280315

Everything You Need to Know About Being a Teen Driver

Adam Winters

Rosen Publishing Group, 2000

ISBN: 0823932877

License to Drive

Alliance for Safe Driving

Thomson Delmar Learning, 1999

ISBN: 0766803023

Safe Young Drivers: A Guide for Parents and Teens

Phil Berardelli

Nautilus Communications; 2nd ed edition, 2000

ISBN: 0967519144

Other Products

Driving in Bad Weather

• VHS/DVD

You're driving along and suddenly hit a patch of glare ice and start to skid. What do you do? You drive into a severe thunderstorm and water is left standing on the road. Do you adjust your driving in any way? You suddenly encounter thick fog on the highway and can't see beyond your headlights. Should you switch on your high beams? These and many other situations are discussed and demonstrated as we watch a new driver experience some unpleasant surprises. An excellent way of experiencing common weather-related driving problems from the point of view of the driver. A MeridianProduction. (17 minutes)

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Driving Safely: Reason on the Road

• VHS/DVD

Viewers will follow a new driver as various situations are encountered. We see common driving behaviors like tailgating, not using turn signals, cutting cars off, and other inconsiderate behavior from inside as well as outside the car. Not only do viewers see how dangerous such behavior can be, but experts also give insight into how some incidents can escalate into violence. Finally, the SAFE process is explained and demonstrated: Scan, Anticipate, Figure, Execute. This is an excellent perspective for all new drivers and a good refresher for experienced ones. A Meridian Production. (15 minutes)

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Practicing Basic Control Tasks Behind the Wheel

• VHS/DVD

Filmed on actual roadways, this engaging video systematically demonstrates low-risk methods of parking, entering traffic, steering, backing up, and turning around. The program's host, a calm and likeable driving instructor, reinforces the techniques while encouraging students to continually practice them. He also addresses a variety of dangerous road conditions and suggests using the Three Seconds Rule to maintain the proper following distance. In addition, he offers tips like coasting before braking and avoiding jackrabbit starts as ways of squeezing the most miles from a tankful of gas...as well as tips on avoiding the kinds of collisions that most commonly happen with an inexperienced driver behind the wheel. A Meridian Production. (17 minutes)

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