

Unit 4: Additional Topics for Drivers and Vehicle Owners In Class Resources

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Session 13 Lesson Plan: Emergency Response and Recovery

Session Goals:

1. Demonstrate an understanding of strategies to minimize and respond to emergencies resulting from driver error.
2. Understand and demonstrate the ability to appropriately assess and respond to a vehicle failure emergency
3. Demonstrate an understanding of the practices and procedures required to safely and effectively manage a roadside breakdown or accident scene.

What will students know?

- The potential driver errors that could trigger an emergency response.
- How adverse weather conditions may affect traction and other vehicle controls.
- The proper procedures to effectively respond to driver error and weather-related emergencies.
- The common vehicle malfunctions that may result in a driving emergency.
- The procedures employed to effectively respond to vehicle malfunction emergencies.
- How current vehicle technology can help prevent, or assist drivers more effectively in, a driving emergency.

What will students be able to do?

- Identify driver errors that could trigger an emergency response.
- Identify and assess various adverse weather conditions and how they impact tire traction and vehicle control.
- Discuss and demonstrate the vehicle control and emergency response techniques employed when responding to an emergency involving driver error or adverse weather conditions.
- Identify the common vehicle malfunction driving emergencies.
- Describe the proper procedures used when responding to common vehicle malfunction driving emergencies.
- Properly employ current vehicle safety technology designed to prevent, or assist drivers during, vehicle emergencies.

Key Vocabulary and Topics:

<ul style="list-style-type: none">● Evasive Maneuvers● Skidding<ul style="list-style-type: none">○ Power Skid○ Braking Skid○ Cornering Skid○ Blowout Skid	<ul style="list-style-type: none">● DMV Reporting Requirements● Vehicle Traction Emergencies● Vehicle Malfunction Emergencies● Work Zone Safety Awareness● Move Over Law
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Lesson Presentation:

Session Component	Notes
Sample PPT (41 Slides)	PPT includes the following activities and assessments: <ul style="list-style-type: none">● Skidding Learning Activity (Slide 8-10)● Vehicle Icon Meaning Learning Activity (Slide 17-18)● Small Group Work – Vehicle Malfunctions (Slide 19)● Common Break Downs Discussion (Slide 29)● Creating an Emergency Kit Learning Activity (Slide 34)
Additional Activities and Assessments	Involved in a Collision Quiz Emergency Response and Recovery Assessment

Supplemental Resources:

Suggested Search Terms for Supplemental Videos: “teenagers prepare emergency driving situations”, “stuck accelerator driving emergency”, “how to handle tire blowout”, “how to change a flat tire”, “understanding car crashes”

Name: _____

Involved in a Collision Quiz

Instructions: Place the following steps in order if involved in a collision.

- ___ Get the names of witnesses
- ___ Call for help/notify authorities
- ___ Warn other motorists
- ___ Stay calm
- ___ Stop
- ___ Exchange information

True/False

It is a criminal violation to leave the scene of a personal injury crash.

It is a criminal violation to leave the scene of a fatality crash.

You do not have to stop if collision only involves minor damage to property.

If someone is injured or killed the police must be notified.

Involved in a Collision Quiz – Answer Key

- 5 Get the names of witnesses
- 4 Call for help/notify authorities
- 3 Warn other motorists
- 1 Stay calm
- 2 Stop
- 6 Exchange information

True/False

It is a criminal violation to leave the scene of a personal injury accident. **True**

It is a criminal violation to leave the scene of a fatality accident. **True**

You do not have to stop if collision only involves minor damage to property. **False**

If someone is injured or killed the police must be notified. **True**

Name: _____

Emergency Response and Recovery Assessment

Draw battery jumper cables showing proper placement of them and label which cable is red, and which one is black. (1-4)

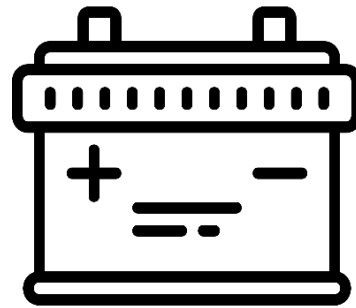
Ground Point



Ground Point



Dead battery



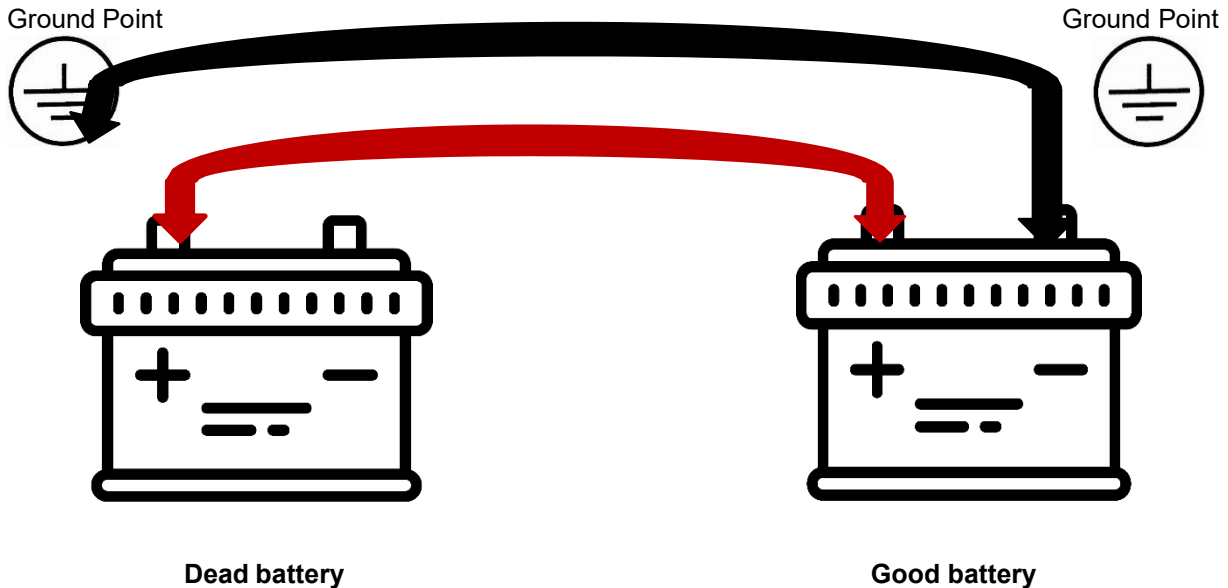
Good battery

(5-20) Match list the 16 steps to safely change a flat tire

- | | |
|-----------|--|
| 5. _____ | a. Completely remove the lug nuts and put them in the centercap. |
| 6. _____ | b. Put spare tire on. |
| 7. _____ | c. Locate jacking point on unibody and raise jack until it makes contact. |
| 8. _____ | d. Replace center cap. |
| 9. _____ | e. Park car in a safe location and set the parking brake. |
| 10. _____ | f. Locate spare tire and jacking along with lug wrench. |
| 11. _____ | g. Tighten lug nuts in an alternating pattern. |
| 12. _____ | h. Remove spare tire and put it under the edge of the car, in case the jack falls. |
| 13. _____ | i. Pick up all tools and spare tire and put them in their designated spot. |
| 14. _____ | j. Chock the opposing tire you are jacking. |
| 15. _____ | k. Finish jacking up the car, so the tire is not in contact with the ground. |
| 16. _____ | l. Lower the jack. |
| 17. _____ | m. Remove the center cap or the hub cap. |
| 18. _____ | n. Snug lug nuts. |
| 19. _____ | o. Take spare tire to a repair shop to get a new tire. |
| 20. _____ | p. "Crack" the lug nuts. |

Emergency Response and Recovery- Answer Key

Draw battery jumper cables showing proper placement of them and label which cable is red, and which one is black. (1-4)



(5-20) Match list the 16 steps to safely change a flat tire

- | | |
|-----------------|--|
| 5. <u> e </u> | a. Completely remove the lug nuts and put them in the center cap. |
| 6. <u> j </u> | b. Put spare tire on. |
| 7. <u> f </u> | c. Locate jacking point on unibody and raise jack until it makes contact. |
| 8. <u> c </u> | d. Replace center cap. |
| 9. <u> m </u> | e. Park car in a safe location and set the parking brake. |
| 10. <u> p </u> | f. Locate spare tire and jacking along with lug wrench. |
| 11. <u> k </u> | g. Tighten lug nuts in an alternating pattern. |
| 12. <u> a </u> | h. Remove spare tire and put it under the edge of the car, in case the jack falls. |
| 13. <u> h </u> | i. Pick up all tools and spare tire and put them in their designated spot. |
| 14. <u> b </u> | j. Chock the opposing tire you are jacking. |
| 15. <u> n </u> | k. Finish jacking up the car, so the tire is not in contact with the ground. |
| 16. <u> l </u> | l. Lower the jack. |
| 17. <u> g </u> | m. Remove the center cap or the hub cap. |
| 18. <u> d </u> | n. Snug lug nuts. |
| 19. <u> i </u> | o. Take spare tire to a repair shop to get a new tire. |
| 20. <u> o </u> | p. "Crack" the lug nuts. |

Session 14 Lesson Plan: Auto Maintenance, Buying and Insuring a Vehicle

Session Goals:

1. Students will know their responsibilities for keeping their vehicle in proper working order and insured.

What will students know?

1. The basics of buying a car.
2. The basics of car insurance.
3. How to perform internal and external checks prior to driving.
4. The required maintenance procedures that will keep the vehicle in proper working order.
5. The different warning symbols and what they indicate about the vehicle.

What will students be able to do?

- Understand the basics of buying a car.
- Understand the basics of car insurance.
- Perform the necessary internal and external checks before driving.
- Follow a routine maintenance schedule and identify when repairs are necessary.
- Respond to different warning symbols while operating a vehicle.

Key Vocabulary and Topics:

<ul style="list-style-type: none"> • Power Steering Fluid • Washer Fluid • Coolant • Radiator Cap • Brake Fluid • Oil Change • Air Filter • Hood Latch • Tire Pressure <ul style="list-style-type: none"> ○ Overinflated ○ Underinflated • Windshield Wipers • Battery 	<ul style="list-style-type: none"> • Battery Terminals • Leasing • Depreciation • Car Insurance • Policy • Premium • Deductible • Collision Insurance • Comprehensive Insurance • Monthly Driving Costs • Preventative Maintenance • Basic Auto Maintenance •
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Lesson Presentation:

Session Component	Notes
Sample PPT (34 Slides)	PPT includes the following activities and assessments: <ul style="list-style-type: none"> • Owning and Maintaining a Vehicle Learning Activity (Slide 6) • Owning and Maintaining a Vehicle Learning Activity Follow-Up (Slide 20)

	<ul style="list-style-type: none">• Basic Maintenance Learning Activity/Worksheet (Slide 33)
Additional Activities and Assessments	Jump Starting a Car Worksheet Owning and Maintaining a Vehicle Assessment

Supplemental Resources:

Suggested Search Terms for Supplemental Videos: “car noises never to ignore”; “basic automotive maintenance”, “changing a tire”, “jump starting a battery”

Name: _____

Basic Automotive Maintenance Worksheet

Fluid/Maintenance Check	Location/ How to Check
Power Steering Fluid	
Washer Fluid	
Coolant	
Brake Fluid	
Check Oil	
Check Air Filter	
Locks/Hinges/Hood Latch	
Check Tire Pressure	
Change Windshield Wipers	

Basic Automotive Maintenance Video Worksheet- Answer Key

Fluid/Maintenance Check	Location/How to Check
Power Steering Fluid	Under hood – labeled with symbol (check driver’s manual). Make sure it is between minimum and maximum level.
Washer Fluid	Under hood – labeled with symbol (check driver’s manual). Check to see if reservoir is full.
Coolant	Under hood – labeled with symbol (check driver’s manual). Make sure it is between minimum and maximum level, not cloudy, no oil.
Brake Fluid	Under hood – labeled with symbol (check driver’s manual), normally near where your feet are. Make sure it is full, add with a brand-new bottle if necessary.
Check Oil	Under hood – labeled with symbol (check driver’s manual). Make sure it is between minimum and maximum, note color (dark = needs change), add if necessary.
Check Air Filter	Under hood (check driver’s manual). Check to see if it’s dirty, replace if necessary.
Locks/Hinges/Hood Latch	Under/around hood Check for rust, lubricate as necessary.
Check Tire Pressure	Around car, check when cold. Using a pressure gauge, check tire pressure, consult owner’s manual/door sill/tire to determine appropriate pressure.
Change Windshield Wipers	On windshield, change approximately twice a year. Check blades for cracks or wear, replace as necessary.

Name: _____

Jump Starting a Vehicle Work Sheet

- ___ Park the working vehicle close to the one that needs to be jumped
- ___ Start working vehicle, let it idle
- ___ Shut off ignition and anything that drains power
- ___ Connect red clamp to dead battery's positive post
- ___ Connect other black clamp to dead vehicle's unpainted metal surface
- ___ Disconnect cables in reverse order so cables do not touch each other
- ___ Connect red clamp to good battery
- ___ Start dead vehicle, let it idle
- ___ Make sure cables are set and not near moving engine parts
- ___ Connect black clamp to good battery
- ___ Drive vehicle somewhere safe before shutting it off

Jump Starting a Vehicle- Answer Key

- 1** Park the working vehicle close to the one that needs to be jumped
- 8** Start working vehicle, let it idle
- 2** Shut off ignition and anything that drains power
- 3** Connect red clamp to dead battery's positive post
- 6** Connect other black clamp to dead vehicle's unpainted metal surface
- 10** Disconnect cables in reverse order so cables do not touch each other
- 4** Connect red clamp to good battery
- 9** Start dead vehicle, let it idle
- 7** Make sure cables are set and not near moving engine parts
- 5** Connect black clamp to good battery
- 11** Drive the vehicle somewhere safe before shutting it off

Name: _____

Owning, Insuring, and Maintaining a Vehicle Assessment

- 1) What factors determine cost of your insurance?
 - a. Age
 - b. Driving record
 - c. Gender
 - d. All of the above

- 2) Which type of auto insurance is required in New York State?
 - a. Liability
 - b. Fire
 - c. Theft
 - d. Collision

- 3) All of these are examples of preventative car maintenance:
 - a. Checking tire air pressure and traction
 - b. Changing oil throughout the year
 - c. Leveling off coolant and wiper washing fluid
 - d. All of the above

- 4) When jump starting a car battery with jumper cables the BLACK clamp attaches to the RED terminal on the car battery?
 - a. True
 - b. False

Owning, Insuring, and Maintaining a Vehicle Assessment- Answer Key

- 1) What factors determine cost of your insurance?
 - a. Age
 - b. Driving record
 - c. Gender
 - d. All of the above**

- 2) Which type of auto insurance is required in New York State?
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 - b. Changing oil throughout the year
 - c. Leveling off coolant and wiper washing fluid
 - d. All of the above**

- 4) When jump starting a car battery with jumper cables the BLACK clamp attaches to the RED terminal on the car battery?
 - a. True
 - b. False**

Session 15 Lesson Plan: Trip Planning and Navigation

Session Goals:

1. Know why and how to pre plan a trip.
2. Organize and develop checklists for personal and vehicle needs before starting a trip
3. Understand and be able to read and plot out a route, on a map, whether it be using an electronic app or a paper map/atlas, it's an important skill to have when heading out on any type of trip.
4. Select best route to use depending on agenda; fastest, most economical, scenic, least traffic, rest/text stops, weather and lighting considerations.
5. Weighing the decision to drive a rental vehicle, Uber type services, ride sharing versus using a personal vehicle for a trip and knowing the considerations and costs associated with the choices.
6. Identify safety precautions when towing and understanding the considerations when driving near vehicles doing son

What will students know?

- How to effectively pre plan for travel by preparing a trip plan, developing a driving route, and preparing the vehicle for travel.
- Skills required for safely towing a boat or trailer

What will students be able to do?

- Describe the preparation needed before taking trips and planning considerations of the vehicle, vehicle loading and equipment, and personal considerations when driving to a destination either around town or far away.
- Demonstrate skills needed to read a map, locate destinations on a map and/or app and learn how to plot a route, and determine exits for fueling and restaurants.
- Discuss the skills required for safely towing a boat or trailer.

Key Vocabulary & Topics:

<ul style="list-style-type: none"> • Navigating • GPS - Global Positioning System • Map scale / reading • Jackknifing • Rest /cell phone stops • Mileage markers • Odometer vs trip meter • Secondary streets 	<ul style="list-style-type: none"> • EZ Pass/transponder • Ride sharing • Arterial streets • Safe Packing • Tire Changing • Map Apps • Paper Maps • ETA Estimated time of arrival
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Lesson Presentation:

Session Component	Notes
Sample PPT (29 Slides)	PPT includes the following activities and assessments: <ul style="list-style-type: none"> • Planning Travel Discussion (Slide 2) • Planning is Key Discussion (Slide 6) • Mapping Learning Activity (Slide 11)

	<ul style="list-style-type: none">• Packing an Emergency Bag Discussion (Slide 19)• Road Trip Planning Learning Activity (Slide 21)• Trip Planning Exit Quiz (Slide 28)
Additional Activities and Assessments	Trip Planning and Navigation Assessment Unit 4 Classroom Checklist

Supplemental Resources:

Suggested Search Terms for Supplemental Videos: “how to tow a trailer”

Name: _____

Trip Planning and Navigation Assessment

1. Which of the following is not a suggested piece of emergency equipment that you should have in your car?
 - a. Flashlight
 - b. First aid kit
 - c. Flares or cones
 - d. Air mattress

2. Before embarking on any extended trip, you should:
 - a. Always choose the quickest route
 - b. Choose the route with the least amount of tolls
 - c. Choose the route with the least amount of traffic
 - d. Consider the risks of each route and make the best decision

3. When planning out the cost of any trip it always important to consider:
 - a. Tolls
 - b. Fuel costs
 - c. Meal costs
 - d. All of the above

4. What is the most important factor to consider when buying a new car?
 - a. Gas mileage
 - b. Entertainment system
 - c. Safety features
 - d. The cost

5. Which part of the NY State map uses grid locations?
 - a. The legend
 - b. Mileage chart
 - c. Index
 - d. Scale of miles

6. List 3-5 ways you can check your car before driving on short or long trips.

Name: _____

Trip Planning and Navigation-Answer Key

1. Which of the following is not a suggested piece of emergency equipment that you should have in your car?
 - a. Flashlight
 - b. First aid kit
 - c. Flares or cones
 - d. Air mattress**

2. Before embarking on any extended trip, you should:
 - a. Always choose the quickest route
 - b. Choose the route with the least amount of tolls
 - c. Choose the route with the least amount of traffic
 - d. Consider the risks of each route and make the best decision**

3. When planning out the cost of any trip it always important to consider:
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 - d. All of the above**

4. What is the most important factor to consider when buying a new car?
 - a. Gas mileage
 - b. Entertainment system
 - c. Safety features**
 - d. The cost

5. Which part of the NY State map uses grid locations?
 - a. The legend
 - a. Mileage chart
 - b. Index**
 - c. Scale of miles

6. List 3-5 ways you can check your car before driving on short or long trips.

Possible Answers

- **Keep all the fluids (e.g. engine oil, transmission fluid, coolant, etc.) clean and topped up.**
- **Follow your maintenance schedule, there are a number of things that need to be regularly serviced or replaced at certain intervals (e.g. brakes, air filter, timing belt, spark plugs, etc.)**

- **Check tire pressure regularly.**
- **Change your windshield wipers if they don't clean properly.**
- **Wash and wax your vehicle once in a while to keep the car finish shiny and protected from corrosion.**
- **Deal with problems as soon as they arise, before they become more serious and require expensive repairs.**
- **Use only original or good-quality parts.**
- **At least once a year have your car check out in a garage.**
- **Read your car owner's manual, it has all the information on car maintenance, as well as safety precautions**

Unit 4

(Sessions 13-16) Classroom Checklist

By the end of Session 16, the student driver should be able to demonstrate competency in the following areas. Use the checklist below to keep track of demonstrated competencies.

Competency	Fully Demonstrates Knowledge	Needs Improvement	Not Knowledgeable
Determine methods to prevent traction emergencies			
Illustrate different types of skids and the recovery techniques			
Describe common driving errors that contribute to traction emergencies			
Describe road conditions that affect traction			
Describe ways to minimize risks to the driver and passengers in a collision/crash			
Describe what to do given the following vehicle malfunctions: loss of brakes, overheated engine, vehicle fire, stuck accelerator, tire blowout, steering failure, hood opens, windshield wiper failure, carbon monoxide poisoning			
Describe new technology in vehicles and the benefits of that technology			
Describe driver responsibilities when witnessing a collision/crash			
Explain what the driver needs to be aware of when their vehicle breaks down			
Explain the New York State requirements after a crash			
Explain what to do if involved in a crash			
Explain driver responsibilities in a work zone			

Competency	Fully Demonstrates Knowledge	Needs Improvement	Not Knowledgeable
Describe the New York State Move Over Law and its purpose			
Describe the responsibilities of owning, insuring, and maintaining a vehicle			
Describe the costs associated with owning, insuring, and maintaining a vehicle			
Differentiate the benefits and drawbacks of buying or leasing a vehicle			
Differentiate the benefits and drawbacks of purchasing a new vs. used vehicle			
Describe what to check when purchasing a used vehicle			
Determine the driving costs of different vehicles			
Determine what New York State requires when owning a vehicle (e.g. registration, insurance, inspection)			
Explain what determines insurance rates			
Describe preventative maintenance importance and specific practices			
Describe ways to save on fuel			
Describe how to change a tire			
Describe how to jump start a car			
Identify and distinguish between different vehicle fluids			
Differentiate between planning for a long trip vs. short distance travel			
Demonstrate how to use a road map to plan a trip			
Illustrate how to identify toll roads and the costs			
Use a GPS to map a route			
Describe a trip bag and its contents			
Describe the procedure for getting a rental vehicle			

Competency	Fully Demonstrates Knowledge	Needs Improvement	Not Knowledgeable
Describe other travel choices			
Describe risks associated with recreation vehicles			
Describe risks of towing a trailer			
Determine how to load trailer			